**Disaster Reduction in AFRICA**
**ISDR INFORMS**

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## From the editor

### Our initiative, *your* publication

"*Strictly speaking, there are no such things as natural disasters, but there are natural hazards...*" Thought provoking. Enlightening. Yet, this single line also divides the "world" of natural disasters into two camps: those who are familiar with this statement, and those who are less familiar with it.

Published by ISDR Africa, the present publication called "Disaster Reduction in Africa" seeks, in its own little way and in its own area of activity, to narrow the gap between the two camps in Africa*: between those who "can" help to prevent and those who "cannot" circumvent; between those who "can" help to avert and those who "can't" help being hurt.*

Therefore ADR Review is meant not only for disaster scholars, scientists, experts, policy makers, but also for grassroots "practitioners", NGOs, communities and citizens, especially the vulnerable ones.

On the same ground, it is not only *published for* all the above, but also *owned by* all the above. They are called upon to contribute to and shape, actively, ADR Review. The publication is theirs.

In the process, ADR Review will also strive to reduce the gap between *instant* aspects of disasters (as reported by the media and known to the general public in Africa and elsewhere) and their *lasting* causes and effects - as known to experts and experienced by economists, development planners, business communities, rural farmers, disaster victims, etc.).

Published under the "ISDR Informs" series, ADR Review will initially be available on biannual basis. This first issue is a "tentative" one. A more definitive format will take shape gradually. More sections and information are expected in the next issues.

We welcome your suggestions, articles, items, letters, etc., but as suggested by its name, ADR Review focuses on matters pertaining and relevant to *disaster reduction in Africa*.

Seeking and providing information on disaster reduction is part of *sustainable* development efforts. Already in some areas in Africa, a single disaster was enough to wash away, overnight, decades of dedicated development efforts. Yet, something could have been done, somewhere, to *sustain* whatever little progress has been achieved.

*"Disasters increase vulnerability, but vulnerability also increases disasters…"* A spiral: the "disaster spiral". But together, in this publication, we can add our own contributions, and help reverse the spiral.

**Alain Valency R.**
ISDR-Africa@unep.org

Dear Readers,

Welcome to the first issue of ISDR Informs: Disaster Reduction in Africa!

Disaster Reduction in Africa is designed to provide a forum to share experiences, ideas and major developments in the field of reducing risk and vulnerability to natural, environmental and technological hazards in Africa. We seek to further enhance efforts of African institutions, experts and practitioners toward the achievement of ISDR objectives such as increased public awareness, the expansion of risk reduction networks and the facilitation of information exchange, in a user-friendly magazine. Disaster Reduction in Africa will be published bi-annually, available from the UN/ISDR Africa office in Nairobi, Kenya.

We would like Disaster Reduction in Africa to reflect our readers' interests and activities, and we welcome your contributions, ideas and feedback to enable us to serve you better. Thank you and we look forward to hearing from you...

**Sálvano Briceño**
**Director, UN/ISDR**

*Mr. Salvano Briceno, Director of UN/ISDR (on the left) and Mr. Donald Kaniaru, Former Director of UNEP/DEPI (on the right), Standing from the right: Mr. Stefan Micallef, Chief, Disaster Management Branch - UNEP/DEPI; Mr. James Kamara, Programme Officer, Disaster Management Branch - UNEP/DEPI, Ms. Veronica Waiharo, Administrative Assistant - UNEP/DEPI and Ms. Feng Min Kan, Senior Regional Officer for UN/ISDR Africa (During the signature of Memorandum of Understanding between UNEP and ISDR)*

Issue 1, June 2003

# IN THIS ISSUE

# Who are we ?

## ISDR

ISDR stands for International Strategy for Disaster Reduction.

The ISDR was launched by the UN General Assembly in 2000:

(1) to build on the vital work done by the "International Decade for Natural Disaster Reduction" (IDNDR) 1990-99 in response to the acute rise in natural disasters worldwide; and
(2) to promote the incorporation of disaster risk reduction into the broader context of sustainable development and related environmental considerations.

The IDNDR's main achievement was to generate awareness of disaster reduction worldwide, UN/ISDR's task is now to translate this awareness into reality.

The UN/ISDR combines the strengths of many key players through two structures: the *Inter-Agency Task Force on Disaster Reduction (*IATF/DR) and the *Inter-Agency Secretariat of the ISDR (UN/ISDR).*

**Inter-Agency Task Force on Disaster Reduction (IATF/DR):** principal body for the development of disaster reduction policy.

Headed by the UN under secretary-general for humanitarian affairs, it consists of 25 UN, international, regional and civil society organizations.

Working groups reporting to the IATF/DR bring together specialists and organizations to discuss issues of common and global relevance to disaster reduction (climate variability, early warning, vulnerability and risk analysis, wildland fires and drought, etc.)

**Inter-Agency Secretariat of the ISDR (UN/ISDR):** this is the body generally described as UN/ISDR, and of which we, ISDR Africa, are part.

It is the focal point in the UN System to promote links and synergies between and the coordination of disaster reduction activities in the socio-economic, humanitarian and development fields, as well as to support policy integration.

It serves as an international clearing house disaster reduction, developing awareness campaigns and producing articles, journals and other publications and promotional materials related to disaster reduction.

It conducts outreach programmes through its regional offices in Costa Rica (covering Latin America and the Caribbean) and Kenya (for the entire African continent).

Plans are under way for cooperation with additional regional institutions in the Asia and Pacific regions.

The UN/ISDR headquarters is at Palais des Nations in Geneva, Switzerland.

## UN/ISDR Africa

UN/ISDR Africa is the African regional outreach programme of the Inter-Agency Secretariat of the ISDR - which is also known as UN/ISDR.

### Background

Africa is prone to a wide variety of disasters, especially large-scale floods, drought, tropical storms and volcanic eruptions, with widespread poverty and high HIV/AIDS prevalence leaving a large number of Africans even more vulnerable to disasters.

National authorities in Africa have established various mechanisms for disaster management, but results have been very limited. In the last two decades, African countries were very much overstressed by large-scale social, political and economic problems.

Data from the World Bank and UNDP show that 43 of the total of 53 African countries are heavily indebted. 35 out of the 45 countries listed as having low human development are in Africa. 52 per cent of the population in sub-Saharan Africa live below the poverty line of 37.5 US dollars per person per month. All the countries most affected by HIV/AIDS are in Africa, and nearly half of African countries have been involved in armed conflicts since 1990s.

Therefore, disaster management has focused on disaster response, and progress in disaster reduction has been very slow throughout the continent. Compared with other social and economic issues, disaster reduction has not yet received adequate official attention, and is still dealt with in isolation from the overall socio-economic development process.

The UN/ISDR Secretariat is of the view that the goals of the International Strategy for Disaster Reduction are very relevant for Africa. In 2002, the UN/ISDR Secretariat set in motion a two-year African Regional Outreach Programme, with the financial support of the Government of Germany and in cooperation with the UNEP in Nairobi.

### Objectives

In line with the vision set forth in the Strategy for a Safer World in the 21st Century: Disaster Reduction, the overall objective of UN/ISDR Africa is to contribute to saving lives and assets through improved risk management and disaster prevention culture. The programme focuses on three areas:

- Establishing an UN/ISDR outpost in the region – for support to the WSSD preparatory process and follow-up – and support to African sub-regional disaster management processes;
- Strengthening public awareness and disaster information access, with a focus on life-saving, environmental vulnerability and human settlement, including development of disaster reduction education materials;

- Extending the coverage of UN/ISDR Africa to other sub-regions (ECOWAS, UMA, CILSS, IOC) and languages (Portuguese, Arabic and French), and developing joint initiatives with the relevant UN conventions on desertification, climate change and other topics (CBD, RAMSAR, etc….).

**Activities**

To achieve these objectives, UN/ISDR Africa has carried out its activities through outreaching, networking and collaboration with major national and international stakeholders in both disaster reduction and sustainable development.

UN/ISDR Africa will work closely with UN agencies, regional and sub-regional organizations, civil societies and national authorities in Africa to promote implementation of a disaster reduction framework, including disaster reduction and integration of disaster risk reduction into development policies, planning, strategies and undertakings. Capacity building and partnership building will be emphasized in each programme activity, by consolidating the existing competence and supporting ongoing disaster reduction-related initiatives by regional or sub-regional institutions. New joint activities with UN agencies will also be initiated, based on the consensus reached through extensive consultations with major stakeholders engaged in disaster reduction in Africa.

**Principles**

The principles guiding the work of UN/ISDR Africa are reflected by the concepts embodied in the terms "needs-oriented", "consensus-driven", "value-added", "cost-sharing" and "sustainability".

**Achievements (Oct 02–April 03)**

In 2002, tangible progress was made in the implementation of the UN/ISDR's African Regional Outreach Programme.

In August 2002, the UN/ISDR Secretariat recruited a Senior Regional Officer for the implementation of the programme, and UN/ISDR Africa assumed its functions in October 2002. A Memorandum of Understanding (MOU) between the UN/ISDR Secretariat and UNEP was signed in December 2002.

UN/ISDR Africa, under the guidance of the Director and with the support of colleagues in Geneva, was able to build a constructive working relationship with regional organizations. The following activities were carried out in cooperation with regional experts and organizations:

- Two sub-regional reviews of disaster reduction, in close co-operation with the secretariats of IGAD and ECOWAS;
- Development of two project proposals, based on the reviews and consultations for resource mobilization;
- Development of a project entitled "Strengthening Disaster Information Management in Africa" in collaboration with the Southern African Regional Research and Documentation Centre (SARDC);
- Development of a joint initiative between UN/ISDR Africa and the African Development Bank (ADB), in order to promote integration of disaster risk management into sustainable development planning and implementation in Africa ;
- Organization of a regional workshop – Application of Space Technology in IGAD countries, in cooperation with IGAD Secretariat and the Regional Centre for Mapping of Resources for Development (RCMRD), scheduled from 17 to 21 February 2003;
- Organization of a two-day workshop – Establishment of ISDR National Platform, in cooperation with national government, UNOPS and UNDP Djibouti, on 15 and 16 February 2003;
- Construction of an UN/ISDR Africa web site (for information on its progress, please see www.unisdrafrica.org)
- Development of three databases: (1) Organizations' Profile; (2) Contact Persons, and (3) Roster of Experts.
- Development of public awareness materials on floods, drought and landslides, together with the Drought Monitoring Centre based in Nairobi and local experts.
- Coordination of an Africa Regional Consultative on Early Warning – part of the preparation for the Second International Conference on Early Warning to be held in October 2003 in Bonn, Germany.

**Priority areas in 2003**

UN/ISDR Africa will focus on the following priority areas in 2003:

- Advocate integration of disaster risk reduction into sustainable development;
- Support institutional and human capacity building;
- Promote networking and coordination;
- Enhance public awareness and access to information on hazards, vulnerability and disaster risk reduction;
- Support capacity building and coordination in early warning;
- Encourage application of science and technology. **o**

# Living with Risk

## Turning the tide on disasters towards sustainable development

2003

## World Disaster Reduction Campaign

WATER

United Nations
International Strategy for Disaster Reduction

***Water and disasters***
At any time throughout the world a river somewhere is in flood and its waters are threatening communities, their properties and even their lives. At the other end of this extreme water overload are droughts that have been and are still occurring around the world at the same time.

Today, hydrometeorological hazards are having a greater impact due to human activities that increase vulnerability and change the natural balance of ecosystems, interfering more than ever with the natural surroundings that make our world a liveable home. In addition to this worrying trend, water related disasters are predicted to increase both in frequency and intensity due to climate change, environmental degradation, and phenomena such as the El Niño Southern Oscillation, affecting the patterns and intensity of natural hazards.

This is precisely the reason why sustainable development, along with the international strategies and instruments aiming at poverty reduction and environmental protection, must take into account the risk of natural hazards and their impacts. Sustainable development is not possible without addressing vulnerability to natural hazards; it is in fact a crosscutting concern related to the social, economic, environmental and humanitarian sectors.

Water related disasters – too much or too little water – have major impacts on the well being of countries in all of these sectors, and appropriate policies for the assessment of risk and vulnerability, strategies to reduce and share risk, as well as strengthened preparedness, early warning and response measures are essential for the successful incorporation of disaster reduction into sustainable development. Disaster reduction includes the activities taken to assess and reduce both vulnerable conditions and, when possible,

***The International Year of Freshwater***
In December 2000, the United Nations General Assembly proclaimed 2003 to be the International Year of Freshwater. Supported by 149 countries, the UN resolution encourages increased awareness of the importance of sustainable freshwater use, management and protection. The International Year of Freshwater is a platform for promoting activities and spearheading new initiatives in water resources at the international , regional and national levels.

The International Year of Freshwater is expected to follow up on agreements reached at the World Summit on Sustainable Development (Johannesburg, August-September 2002) and the World Water Forum (Kyoto, March 2003), and should have an aimpact far beyond 2003.

The activities for the Year are being coordinated by the UN Department of Economic and Social Affairs (UN/DESA) and the UN Educational, Scientific and Cultural Organization (UNESCO).

***Call for contributions***
UN/ISDR will produce various supporting information materials for the World Disaster Reduction Campaign available in English, French and Spanish for dissemination worldwide, including an information kit comprising facts and figures, definitions of key concepts, success stories and lessons learned and resource and website listings.

We invite you to contribute to the information kit in the form of feature articles addressing the Campaign theme Living with Risk – Turning the tide on disasters towards sustainable development. Please provide us with stories, examples from local, national or transborder integrated management of floods, of drought or other water-related hazards, briefs on methodologies or specific risk reduction projects or policies that have proved successful (or unsuccessful) in approximately 500 words, accompanied by images and/or graphics and with relevant contact details for those who would like to seek further information.

## Too much water…

The increasing extent of disastrous flooding can be explained by various factors, including growing urban populations, denser occupancy of flood plains and other flood-prone areas, as well as the expansion of unwise forms of watershed land use. In the period 1980-2001 a total of 163,471 deaths were associated with the occurrence of floods worldwide.

*In Mozambique, more than 80 per cent of the population live off the land.*
*During the 2000 floods – the worst for over a century – almost all of that land was under water.*
*Nearly one million people were forced to flee their homes, seeking refuge in trees. Floodwater levels were said to have risen from four to eight metres in a matter of days.*

## Too little water…

The nature and impact of drought is difficult to assess, due to its slow-onset character and pervasive effects lasting over many months and even years. In the above mentioned period 1980-2001 a total of 560,300 people were reportedly killed by drought, representing nearly half of the casualties triggered by natural hazards.

*In southern Africa, the current drought affecting some 15 million people covers several countries around the Zambezi River basin which is one of the most overused river systems in the world.*
*Communities in drought-stricken areas have suffered greatly from failing crops and malnourishment, forcing local industries to close down and villagers to head for the towns in search of work.*

## What can you do?

As the slogan suggests – "Turning the tide" – the 2003 World Disaster Reduction Campaign aims at changing our perceptions and attitudes towards hydrometeorological disasters through the involvement of as many sectors as possible. While its culminating occasion will be the **International Day for Natural Disaster Reduction** – to be held on 8 October 2003 – the Campaign itself will in fact extend beyond the year 2003 until **World Water Day** on 22 March 2004. On that day UN/ISDR and the World Meteorological Organization (WMO) will together take the lead within the UN system in the international celebrations focusing specifically on water-related disasters. Both of these days represent an opportunity for national institutions, schools, community groups, media at the regional, national and local levels to highlight the subject and draw attention to lessons learned and best practices on how to reduce the vulnerability to water related hazards, organize round-tables, festivals, community contests and other events to raise awareness on disaster reduction.

In line with the International Strategy for Disaster Reduction's (ISDR) mandate of increasing public awareness to understand risk, vulnerability and disaster reduction globally, the dissemination of clear messages is crucial for the development of disaster reduction programmes at global, regional, national and local levels. International agencies, non-governmental organizations, government representatives, local decision makers, scientists, educators and local communities all have the opportunity to participate in the World Disaster Reduction Campaign, bringing each of their complementary roles and responsibilities, generating more widespread commitment and understanding to disaster reduction.

## The ISDR World Disaster Reduction Campaign

Organized by the Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), the overarching goal of the annual World Disaster Reduction Campaign is to raise awareness through an interactive movement in which different parties are engaged, to create social pressure and change peoples' perceptions towards reducing the risks and vulnerabilities to the negative impacts of natural hazards.

By bringing together diverse experiences and initiatives taking place worldwide, more people learn about disaster reduction, which can ultimately lead to changed perceptions and behaviours, such as the organization of educational community gatherings to design risk maps, school classes on what to do in the event of a disaster, training opportunities for disaster reduction practitioners and the development of national disaster management policies.

The Campaign builds momentum throughout the year, culminating in the International Day for Natural Disaster Reduction, whereby it is celebrated internationally by global organizations, regional institutions and local communities alike. Celebrations of the Day bring together representatives of all facets of society, such as national governments, local emergency volunteers, school children and journalists. Natural disasters can affect us all, wherever and whoever we may be.

## About the International Strategy for Disaster Reduction (ISDR)

Recognising that natural hazards can threaten any one of us, the ISDR builds on partnerships and takes a global approach to disaster reduction, seeking to involve every individual and every community towards the goals of reducing the loss of lives, the socio-economic setbacks and the environmental damages caused by natural hazards. In order to achieve these goals, the ISDR promotes four objectives as tools towards reaching disaster reduction for all:

1. Increase public awareness to understand risk, vulnerability and disaster reduction globally
2. Obtain commitment from public authorities to implement disaster reduction policies and actions
3. Stimulate interdisciplinary and intersectoral partnerships, including the expansion of risk reduction networks
4. Improve scientific knowledge about disaster reduction

# UN/ISDR Africa revives disaster information project

**C. Mafuta,**
Southern African Research and Documentation Centre (SARDC),
*Harare, Zimbabwe*

Southern Africa's Disaster Management Information Project (DMIP) has been revived after being dormant since the end of its first phase in 1998. The revival process is part of a recent agreement between the Africa office of the UN-ISDR (International Strategy for Disaster Reduction) and SARDC (Southern African Research and Documentation Centre).

The DMIP project was launched in 1995 to provide accessible and accurate information on disasters in the southern African region, focusing on hazards shared by the entire region. The information gathered was for use by policy makers, academics, researchers, relief agencies, development agencies, NGOs, the private sector and the media in the region, and internationally as a resource for training and policy planning.

## Successful beginning

The first phase of the project sought to contribute to the UN-proclaimed International Decade for Natural Disaster Reduction (1990-99) by improving the information and knowledge base of disaster management in southern Africa.

This was achieved through documentation and dissemination of existing and new technical and non-technical information on measures related to the assessment, prediction and mitigation of both natural and human-caused disasters.

A library with computerized bibliographic and contacts databases and published and non-published information dating back to 1960, was set up. DMIP's literature holdings number over 2,400 books, scientific papers, disaster plans and profiles, etc. Its contacts database holds about 500 entries.

## Suspended for lack of funds

At its inception, the project was implemented jointly by SARDC, Musokotwane Environment Resource Centre for Southern Africa (MERCSA) and the International Federation of Red Cross and Red Crescent Societies, with funding from the Canadian International Development Agency (CIDA).

However, due to lack of funds, the DMIP project was suspended after completion of its first phase in 1998, even though its results were highly appreciated and are constantly used by individuals and agencies in disaster reduction and response today.

## The ongoing revival process

Following some consultations in late 2002, UN/ISDR-Africa and SARDC agreed to promote disaster information management and widen access to disaster information in Africa in general, and in the SADC (Southern African Development Community) sub-region in particular

As part of the agreement, the two institutions resolved to revive the DMIP through a three-month bridging phase during which activities of Phase I of the project are being revived, and ideas for development into a second phase consolidated.

The disaster-related information missing since the end of the first phase in 1998 is being collected and catalogued, and the bibliographic database established in phase 1 updated using the new information.

The project focuses on hazards shared by the southern African sub-region, such as drought, floods, epidemics (cholera, dysentery, HIV and AIDS, etc.), civil conflicts, storms and cyclones, internal and cross-border displacements, and factors increasing household vulnerability.

## Initial results

- Expanded Bibliographic Database, clipping Database, Periodical Database;
- Compiled list of web addresses, acquisition lists.

### SARDC's profile

SARDC (Southern African Research and Documentation Centre) is an independent regional institution established in 1987.

It seeks to enhance the effectiveness of key development processes in the SADC region, through the collection, production and dissemination of information, and enabling capacity to generate and use information.

With two offices in Maputo (Mozambique) and Harare (Zimbabwe), SARDC has been active in five areas, including regional economic development and integration, human development, governance, gender and environment.

In the last 15 years, the Centre has provided information and analysis of policies and issues through special reports and news features, books, fact sheets and a web site. SARDC has an extensive network of partner organizations and contacts in the southern African sub-region and beyond.

# Newly-formed ISDR national platform "very active" in Djibouti

***Disaster management capacity is needed badly in disaster-prone Djibouti. National and international key players say they are ready to work together. UN/ISDR steps in. A workshop is held. An already "active" yet informal national platform is at work.***

Prone to various kinds of natural hazards, Djibouti has, since its independence in 1977, experienced sub-regional conflicts, internal conflicts and disasters triggered by drought, earthquakes and floods, causing death, threatening lives and livelihoods and destroying the fragile economy. The most recent unprecedented floods have caused economic damage equivalent to the country's annual income.

To protect people and their livelihoods, the Djibouti government and UNDP/UNOPS have worked closely to strengthen the national capacity in disaster prevention and disaster management. The main objectives of the joint efforts are to assist the government in improving national capacity and competence in (1) coordination in disaster prevention, (2) competence and skills required for disaster management, (3) networking between disaster management institutions.

## Working together, fostering synergy

In this context, the UN/ISDR Africa based in Nairobi - Kenya, visited the country in October 2002, and held consultations with key players in disaster management, including the Interior Ministry, the National Agency for Civil Defence and UNDP/UNOPS. All the above parties expressed interest in working together and fostering synergy to improve disaster management in the country.

The interior minister expressed willingness to establish an ISDR national platform, and UNDP showed interests in piloting the integration of disaster risk management into its poverty alleviation or environmental protection programmes - if guidance was provided. ISDR Africa, for its part, said it wished to deploy joint efforts with UNDP/UNOPS to assist the government of Djibouti to build capacity and competence in disaster prevention.

Based on the consensus reached during the visit, UN/ISDR Africa and UNDP/UNOPS agreed to co-organize a workshop on disaster risk and disaster management.

*Participants during the workshop*

## Workshop on disaster management capacity

Called *"Enhancing national capacity in disaster management"*, the workshop was held in Djibouti town on 15 and 16 February 2003, with the general objective of enhancing national capacity and competence in disaster prevention, response and coordination.

Its specific objectives were (1) to enhance the understanding of disaster management cycle, (2) to enhance the understanding of disaster risk management, (3) to enhance the understanding of roles and responsibilities of the proposed ISDR national platform, and (4) to introduce alternative tools and methods for enhancing coordination.

The workshop was attended by 24 participants from the Interior Ministry and other ministries with clear and well-defined roles and responsibilities in disaster prevention and response and in development matters.

The participants were divided into 2 working groups focusing on disaster prevention, mitigation and preparedness, the existing gaps and suggested solutions to such gaps. After several hours of debating, the following weaknesses were identified and the following recommendations issued:

*(Continued on next page)*

### Existing gaps in disaster management

- Existing ORSEC (Relief Coordination)» and POLMAR ( Marine Pollution) not implemented.
- Prevention mechanisms and policies not implemented for being not applicable on the ground.
- Gaps noted in the following fields as a result of overdiversified efforts and resources: capacity; human resources; logistics - especially in districts located in the inland part of the country where logistical facilities are available but only in district capitals; technical performance).
- Lack of training and sensitization on disaster risk and situations.
- Lack of hazards and vulnerability evaluation systems.
- Lack of information: 600 people from various sectors had been trained without any impact on local population.
- Lack of accountability and initiatives from government departments.
- Lack of civic education and sensitization, hence citizens' lack of interest in matters pertaining to disaster risks.
- Equipment needed for disaster relief available but more rehearsals and simulation exercises needed.
- Limited food security and absolute lack of strategic supplies in the event of drought.
- Lack of compensating water reservoirs in rural areas.

### Workshop's recommendations

- Existing structures should handle all types of disaster.
- Review of ORSEC (Relief Coordination) and POLMAR (Marine Pollution) plans which might even be combined together in view of a national platform for disaster risk management.
- Definition of a national strategy and national policy for disaster risk and disaster management.
- Setting up hazards and vulnerability assessment systems.
- Developing, under civil education, « Training For Trainers » sessions without further delay (at school, family and public levels).
- Decentralization: establishing, within the Interior Ministry, secondary risks management units that coordinates all matters pertaining to disaster risk management involving the national platform.
- Implementation of a town planning strategy regarding rain water drainage, water catchment and soil conservation.
- Enhancement of review and forecasting processes: reinforcing barriers within the framework of town planning and sanitation, and rehabilitate some neighbourhoods for life saving purpose.
- Promotion of disaster prevention and early risk cultures among the public to enable them to remain constantly vigilant and take prevention and risk-related action: for instance, introducing topics such as « How to act in the event of a disaster? » in school curricula.
- Creation of strategic natural conservation areas in zones that are vulnerable to hazards: artificial reforestation, protecting some areas to allow vegetation to regenerate.
- Mobilization of financial resources.
- Empowerment of National Meteorology Department for adequate forecasts.
- Enhancement of State Observatory's capacity.
- Finalizing of applied geology techniques that are under completion.
- Communication and logistics: enhancement of logistics systems in rural areas.
- Rehearsals and simulation exercises to be carried out regularly within the framework of disaster preparedness.
- Emergency and relief: enhancement of ORSEC (Relief Coordination) Plan, civil defence, relief squads and road infrastructures.
- Thorough examination of recommendations made by the workshop.


*Mr. Ahmed Mohamed Madar, The National Coordinator, ISDR National Platform (on the left)*
*Mrs. Mbaranga Gasarabwe, The UN Resident Coordinator, Djibouti (on the right)*

### National platform set up

The national platform was set up during the workshop. Mr Ahmed Mohamed Madar, director in the Interior Ministry, was appointed national coordinator of the national platform as he had invariably been ISDR's focal point. Members of the national platform pledged to urge the government to proceed on recognizing the national platform legally.

The national platform asked the Interior Ministry to hire or transfer a librarian who will be handling all documents relating to disaster management within the national platform. For the sake of capacity building and effective communication (between the ISDR Secretariat and the national platform, among other things), ISDR Africa donated to the national platform a photocopy machine, a fax machine (and fax connection fees), three glass shelves and office stationery. The donation was made in the presence of the interior minister.

For a thorough study of the above recommendations, the national platform contemplated holding monthly meetings. However, latest reports from Djibouti say the still informal national platform has turned out to be very active: instead of the planned monthly meetings, it has held… weekly meetings.

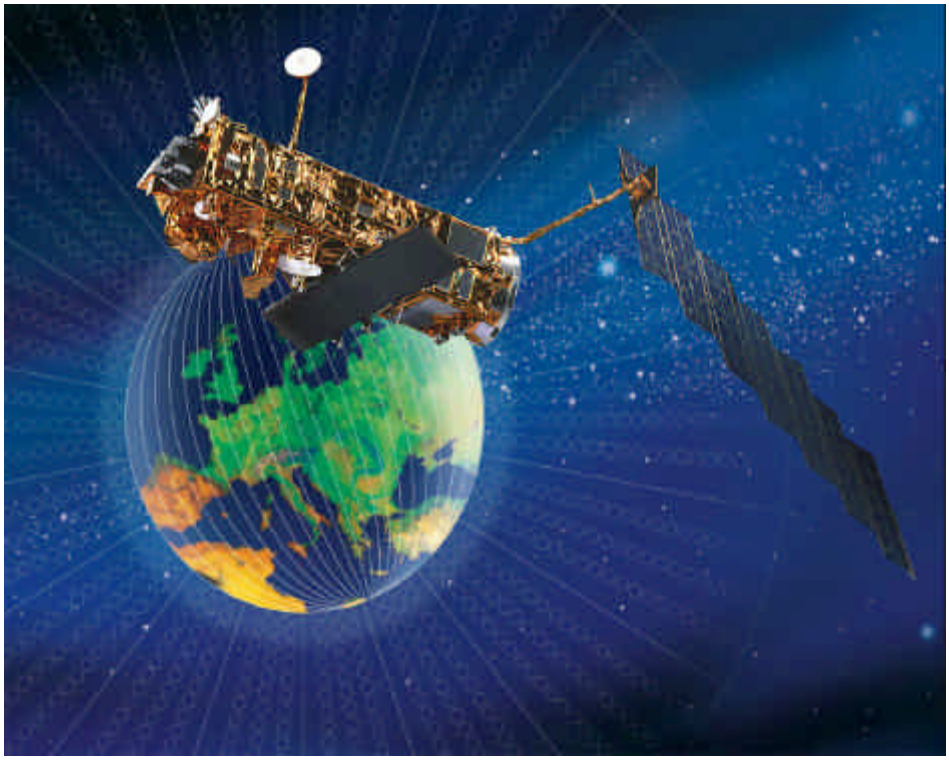
## They said


*For the sake of joint, multi-sectoral and inter-disciplinary implementation of disaster prevention and management, a platform is to be created [in Djibouti], involving all entities concerned, including UN agencies operating in our country. This is the spirit prevailing throughout the present workshop which is organized by the ISDR and UNDP."*
**Djibouti Interior and Decentralization Minister Mr Abdoulkader Doualeh Waiss (**during the opening ceremony of the disaster management workshop held on 15 and 16 February 2003 in Djibouti).

*"Such an initiative is expected to promote a development approach that incorporates preparedness for natural and man-made disasters. This prompts us to acknowledge the necessity of achieving the sustainability of development programmes by mobilizing all development partners."*
**UNDP Djibouti Resident Representative Mrs Mbaranga Gasarabwe (**during the opening ceremony of the disaster management workshop held on 15 and 16 February 2003 in Djibouti).

# IGAD countries' disaster managers say space technology "handy", "useful"

***"Our region is prone to various disasters, where space technology and remote sensing are handy and useful to provide timely disaster risk management information." This comment was made by disaster managers and... senior planners from East Africa and Horn of Africa.***



A "Regional Workshop on Application of Space Technology in Disaster Risk Management" was held from 17 to 21 February 2003 in Nairobi, Kenya, jointly organized by the IGAD (Inter-Governmental Authority on Development) Secretariat, the Nairobi-based RCMRD (Regional Centre for Mapping of Resources for Development) and UN/ISDR Africa.

The workshop was attended by 21 disaster managers and senior planners from the following IGAD member countries: Djibouti, Eritrea, Ethiopia, Kenya, Uganda, Somalia and Sudan. Representatives from South Africa's National Disaster Management Centre Nairobi and the Nairobi-based UNDP Regional Office, UNEP, OCHA, FEWS-NET and DMC (Drought Monitoring Centre) were also invited to share their experience in applying space technology in disaster management.

### Information sharing

The workshop provided a forum for participants to share information on disaster management among IGAD member countries.

Most importantly, the workshop provided government officials with a learning opportunity on hazard mapping with rapid and low-cost methodologies, vulnerability and risk assessment (or analysis), fundamentals of space technology, and the application of space technology in disaster risk management and early warning systems.

The main objectives of the workshop were to introduce senior planners and disaster managers to (1) hazard mapping, (2) vulnerability and risk assessment, and (3) the application of modern technologies to complement their daily efforts in disaster reduction and disaster response.

### Major constraints in disaster reduction

The participants noted the following major constraints in disaster reduction:

- Limited/lack of capacity and capability to use space technology and GIS (Geographic Information System) in disaster risk and environmental management.
- Disaster and environmental issues are not adequately incorporated into national development planning.
- Weak national and regional institutional frameworks to facilitate disaster risk related information management and sharing.
- Weak coordination on different disaster risk management initiatives at regional and national levels.

### General conclusions

The workshop participants expressed their appreciation, noting that :

- The workshop was very relevant and timely.
- The objective of creating space technology/GIS awareness among the participants was achieved.
- All member countries expressed their determination to move further towards utilizing space technology in disaster risk management.
- The IGAD region is prone to various disasters, where space technology and remote sensing are handy and useful to provide timely disaster risk

management information for national and regional applications.

- Focus on the sustainable implementation of integrated space and information technology to improve hazard, vulnerability and risk analysis in environmental and disaster management.
- Space technology facilitates the link between disaster risk management and environmental and development programmes in the IGAD region.
- In short, there was consensus among participants that this type of regional workshop was their efforts in disaster risk reduction

Recommendations for future action

- valuable, as it provides the opportunity to learn more about how modern technology can be used as a tool to complement Member countries need to join efforts towards development and implementation of integrated space technology and GIS in sustainable disaster risk and environmental management.
- Member states' joint efforts should be coordinated by the IGAD Secretariat and supported by regional and international partners.
- The following activities should be formulated or initiated in harmony with the ongoing IGAD disaster risk management programme:
- Training/education/capacity building.
- Development and implementation of an integrated database and tools to improve and enhance hazard, vulnerability and risk reduction (analysis) in environmental and disaster management in the region ("IGAD ATLAS").
- Coordination of the regional/national disaster management policy framework initiative.
- Integrate disaster risk and environmental management in development planning at national and regional levels.
- Speed up the establishment of the IGAD Disaster Risk Management Coordinating Unit/Body.
- Assess and analyze member states' capacity and capability in terms of personnel, equipment and the existence of data -— as well as user needs — in the use of space technology and GIS.
- IGAD should ensure the establishment of mechanisms to monitor the progress of activities in space technology and GIS.

**Summary of proceedings**

**Day 1**: *Plenary Sessions* – Presentation of report on disaster management by each country, followed by presentation by ISDR Nairobi.

**Day 2**: *Plenary Sessions* - Space technology introduced, as well as its applications in hazard mapping, environmental monitoring, vulnerability assessment, early warning and disaster response.

**Day 3**: *Plenary Sessions* - Presentations on application of space technology continued in the morning, followed by presentations by UNDP, UNEP and South Africa.

**Day 4**: *Group Sessions* - Participants divided into 3 working groups in the morning to identify constraints and way forward in disaster reduction. Participants' visit to Regional Centre for Mapping of Resources for Development (RCMRD and its programmes in the afternoon.

**Day 5**: *Plenary Sessions* - Summary of the workshop, followed by final wording of three working groups' synthesis. Workshop wrapped up at 13:00 with closing statements by representatives of workshop participants, IGAD Secretariat and ISDR Africa.

# European, African women executives poised for partnership with UN/ISDR Africa

**Pamela Mubuta,**
***UN/ISDR Africa,***
***Nairobi, Kenya***

European and African women professionals and business executives have hailed UN/ISDR Africa's proposals for cooperation in disaster reduction from a gender perspective,

This emerged from a Soroptimist International/Europe (SI/Europe) Pan-African Women's Conference held in Nairobi, Kenya, on 2 May 2003.

SI is the world's largest women's service organization. Founded in 1921 Oakland, California, USA, and now composed of over 100,000 members in 122 countries, it was established mainly to promote help and support for their sisters throughout the world. Deriving its name from the Latin words *soror* (sister/woman) and *optima* (best), the word "*soroptimist*" is interpreted as "the best for women".

## African women has less access to disaster risk reduction

The Nairobi conference was attended by 270 participants from 53 European and African countries (African members are affiliated to SI/Europe), with its main theme being *The African Women in the 21st Century*, and its objective "to share experiences and identify issues of priority for promoting gender equality and empowering women in Africa".

As the conference blended well with one of the UN/ISDR themes (*Mainstreaming Gender Concerns in Disaster Reduction)*, UN/ISDR accepted an invitation from the conference organizers. Two UN/ISDR Africa staff members attended the conference.

UN/ISDR took the opportunity of the conference to network with African women activists, and advocate for gender concerns in disaster reduction among the participants. It is to be noted that even though African women have been compelled generally to live in areas more prone to disaster risks - because of their poor socioeconomic conditions, they have less access to information on disaster risk reduction.

## Soroptimists eager to learn about disaster reduction

UN/ISDR Africa, represented by Mrs Noro Rakotondrandria, presented a letter from UN/ISDR Africa to the outgoing and incoming chairpersons of SI/Europe, but also shared the contents of the letter with all the African participants.

In the letter, UN/ISDR Africa presented three proposals for cooperation between SI/Europe and UN/ISDR Africa. They are: (1) joint review/study on early warning from a gender perspective, (2) SI/Europe joining UN/ISDR's annual campaign on disasters, and (3) co-organizing a regional conference on disaster reduction and sustainable development from a gender perspective.

The proposals were very well received, and the participants expressed eagerness to learn more about disaster risk reduction. In response, UN/ISDR Africa provided copies of the two following documents: (1) *Gender Mainstreaming in Disaster Reduction*, and (2) *Environmental Management and the Mitigation of Natural Disasters: A Gender Perspective*.

## Partnership with a "global voice" for women

The conference was a unique opportunity for UN/ISDR Africa to initiate partnership with the global voice for women that is SI.

SI has a Category 1 (the highest category) Consultative Status with the UN Economic and Social Council (ECOSOC) - under which some UN specialized agencies, like WHO, UNICEF, UNESCO, etc., work. It is the only women's organization in that position.

Not only SI's approach consists, among other things, in "contributing not only to the solution of problems, but also to the elimination of their causes", but also, with the above status, it has the opportunity to make its voice heard directly, on world issues.

*Photo above:*
*ISDR Africa's Representative, Mrs. Noro Raktondrandria, sharing the content of the letter to the participants at the conference.*

# NEPAD urged to develop disaster management strategy for Africa

**Dr. Hesphina Rukato**
***Environment and Tourism adviser,***
***NEPAD Secretariat***
***Johannesburg, South Africa***

***African and international experts have discussed disaster management and food security in Africa. They want the New Partnership for Africa's Development, NEPAD, to develop a disaster management strategy for the continent, and organize a donor meeting for disaster reduction projects.***

The NEPAD Secretariat has organized a disaster management workshop to enable African and international experts to work with the Secretariat and Regional Economic Communities (RECs) to develop a comprehensive programme on disaster management and food security. The World Bank donated funding for the workshop.

The group of African and international experts met in Johannesburg, South Africa, on 23 and 24 April 2003, including two representatives of UN/ ISDR Africa.

Risk reduction, food security needed for sustainable growth
The Johannesburg workshop was held at a time when a consensus is emerging for the establishment of disaster and emergency preparedness systems, longer-term risk reduction approaches, and policies on agriculture and agricultural exports and imports in Africa.

Another consensus is also emerging: improving food security is a prerequisite for human development and sustainable growth on the continent; Africa cannot develop economically if its most precious resource (human capital) is starving.

Meanwhile, the group, which met recently in Johannesburg, identified strategic intervention areas for which projects will be developed.

### Experts' recommendations

At the strategic level, the group of experts recommended the following:

- The NEPAD Secretariat should take the lead to develop the proposed interventions into implementable programmes;
- The Secretariat should further develop a directory of African institutions undertaking disaster reduction activities;
- The Secretariat should develop a comprehensive food security monitoring programme for Africa;
- The NEPAD Secretariat should develop a disaster management strategy for Africa;
- Ensure there is no duplication, especially with the agriculture sector interventions and between development partners;
- NEPAD should bring together all relevant stakeholders for participatory decision making, and outcomes should be analyzed from a national, sub-regional and international perspective. Africa should move as a continent, and not as individual countries;
- All activities at country level should be linked through the RECs;
- Capacity building should cut across all sectors, coupled with awareness raising;
- Organize a donor meeting for disaster reduction projects.

### The next steps

The NEPAD Secretariat will be working with a smaller group of experts to develop detailed area specific projects for implementation.

The RECs have a big role to play in both the development of these projects, and their implementation.

The RECs, together with the NEPAD Secretariat, will also develop a strategy for working with member countries to integrate the outcomes of this process into their development planning policies and budgets.

A strategy to improve capacities (of member countries and the RECs themselves) to implement this programme will also be developed and implemented as an integral part of "*Nepadizing*" the work of RECs.

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# Sahel region seeks enhanced adaptation to climatic change

**A. A. Diallo, M. Badolo, H. N'Djafa Ouaga, B. Sidibé, S. Sankung**
***Niamey, Niger***

***Climatic change has become a serious threat to people and environment in the Sahel region. Hence the need for a « climatic change » component in sustainable development policies. A regional project on adaptation to climatic change is under way.***

Even though the impact of climate change on agriculture, food security, water resources, health, energy, etc., may differ from one place to another, the fact remains that climate change has become a global phenomenon.

## "Greenhouse effect" getting worse

Climate change is the result of an ongoing intensification of the « greenhouse effect » phenomenon. Greenhouse-effect gas (namely carbon dioxide) have been discharged into the atmosphere through human activities like energy production and consumption, especially fossil fuel combustion, agriculture, land reclamation (carbon-filled forests turned into agricultural and urban areas) and waste management (biological decomposition of waste).

The situation is such that it has become one of the major concerns of the world community. Hence the adoption of the *UN Framework Convention on Climatic Change,* among other initiatives.

## Sahel's vulnerability to climatic change

In the Sahel, climate change is expected to intensify the already existing threats against people and the environment, and undermine development efforts. Therefore a « climatic change » component - based on appropriate scientific knowledge – needs to be incorporated into national and regional development policies.

Because of several factors like widespread poverty, periodical drought, over-dependence on climate-sensitive agriculture and livestock, high population growth, poor infrastructure and serious deforestation, a common high-vulnerability profile has been shared by all the 9 countries (Burkina Faso, Cape Verde, Gambia, Guinea Bissau, Mali, Mauritania, Niger, Senegal, Chad) that are members of the CILSS (*Comité permanent inter-Etats de lutte contre la sécheresse dans le Sahel* – Inter-State Permanent Committee for Drought Control in the Sahel - *www.cilssnet.org*).

To reduce such vulnerability, the CILSS sought and secured funding (worth 5 million Canadian dollars) from the Canadian government towards the implementation of a project enhancing *adaptation* to climate change.

## *Mitigation* strategies, *adaptation* strategies

It is to be noted that the word « adaptation » has been used purposefully. Indeed combating climatic change involves mainly mitigation and adaptation strategies. *Mitigation* strategies consist in reducing the emission of greenhouse-effect gas by altering some production and consumer behaviours, and embracing « clean » technologies, and/or trapping carbon in carbon collectors like forests; *mitigation* strategies are linked to technological advance, institutional arrangements, and financial, production and information exchange capabilities.

The CILSS project in fact is seeking, among other things, to develop *pilot* adaptation strategies *with grassroots communities…*

Again the words « pilot » and « with grassroots communities » are worth to be highlighted. The reason is that because of their limited technological advance, institutional arrangements, and financial, production and information exchange capabilities, the challenge, for developing countries, is to develop adaptation options by appealing to reinforced traditional practices.

## Involvement of village communities

The 5-million (Canadian) dollar funding was sought and secured by CILSS through its AGRHYMET Regional Centre (Regional Application Centre for agrometeorology and operational hydrology – *www.agrhymet.net*). The project covers a period lasting over three years, and its launching meeting was held in Niamey, Niger, from 15 to 18 October 2002.

Its expected results include (1) Sahel countries and peoples' enhanced capacity to minimize the harmful effects of climatic change, and (2) indicators for the monitoring of vulnerability and adaptation to climatic change.

Canadian experts will contribute, through « Environment Canada », to the project to be implemented by experts from the Sahel and AGRHYMET Regional Centre, as well as NGOs and village communities.

In a nutshell, the project reflects Sahelian peoples' and decision makers' determination to take responsibility for themselves against the threat of climatic change, and contribute to the ongoing global efforts against the harmful effects of climatic change.

## CILSS project on climatic change – Main objectives

- Building AGRHYMET Regional Centre's capacity to face what is at stake in climatic change (by acquiring equipment and computer codes, training its experts to be able to assess the impact of, vulnerability and adaptation to climatic change in the Sahel) ;
- Promoting and building Sahelian countries' and peoples' capacity to face what is at stake in climatic change ;
- Develop pilot adaptation projects in cooperation with communities. The projects will cover sectors that have been affected by past climatic variability (water resources, water-related erosion, pastoralism, agricultural production, soil fertility). They will enable to identify past and current levels of relationship between the communities and the climate in order to assess and possibly adjust the pace at which an adaptation strategy is implemented in the communities.

## CILSS project on climatic change - Scientific content

The scientific content of the project is made up of mainly scientific activities which include the collection of biophysics data within the Sahel (building regional operational databases), and studies and survey on:

- The climate's physical aspects and past and future climatic variations in the Sahel;
- The development of climatic scenarios for the Sahel;
- The variability and impacts of climate in the Sahel (on the basis of the analysis and modeling of collected climatic data);
- The biospher's and socio-economic system's vulnerability to risks of climatic change;
- The identification and measurement of possible impacts of climatic scenarios on various sectors (agriculture and food security, coastal zones and sea water levels, biological diversity and ecosystems, water resources, health, human settlements, energy, industries);
- The development of a communications strategy and communications tools relating to climatic change - for Sahelian people, civil society organizations and decision makers.

## CILSS project on climatic change – Expected results

In general terms, the project is expected to provide AGRHYMET Regional Centre and Sahelian peoples with the following main benefits :

- Improved knowledge of the impacts of climatic change on natural resource management and environmental protection in the Sahel ;
- Sahelian countries and peoples' enhanced capacity to minimize the harmful effects of climatic change;
- Reinforced information systems on food security in the sub-region and in each and every country;
- indicators defined for the monitoring of vulnerability and adaptation to climatic change;
- technology transfer that is useful against climatic change;
- new knowledge relating to climatic change provided to CRA's (AGRHYMET Regional Centre's) information and training programmes – in the prospect of future research activities applied to climatic change;
- adaptation strategies to climatic change developed, strategies to be incorporated into national strategies for sustainable development;
- pilot adaptation strategies with grassroots communities developed, strategies which may be incorporated into concerned States' future development strategies, policies and programmes;

scientific partnership built with at least one Canadian institution in the field of climatic change.

# Disaster "unpreparedeness" in Kenya's flood-prone communities

**Florence Zawadi Mawanda**
***Student,***
***University of Nairobi, Kenya***

***Floods and droughts are the most common disasters in Kenya. Yet, floods still happened to leave up to 600 people dead in 1998. A study was conducted on the issue.***

In Africa, epidemics and floods caused the highest number of disasters between 1990 and 1999. Even though epidemics (excluding HIV/AIDS) were the biggest killer, causing the death of more than 57,082 people in the same period, floods also reportedly killed 9,487 people and affected over 13 million others.

## Drought management organized, flood preparedness lacking

Meanwhile, the World Disaster Report 2002 says that despite preparedness programs, there has been, since the mid-1990s, a gradual increase in the number of disasters in Africa and Asia, adding that the increase is attributed to setbacks in development and also to conflicts.

However, in Kenya, where droughts and floods are classified as the most common natural disasters affecting the country, setbacks in development and conflicts may not be the sole culprits, at least as far as floods are concerned.

Indeed, whereas there is an elaborate drought management strategy in place, a flood preparedness policy seems lacking. Yet, the damage caused by floods has invariably been substantial. In the 1998 El Nino floods, for instance, an estimated 600 people were killed in just two weeks and 50,000 others forced to flee their homes.

## Flood disaster preparedness study

Such a high death toll prompted a study on disaster preparedness for floods in the year 2000. The study targeted two of the most vulnerable communities, Garissa and Tana River districts, with the following objectives:

- To review the district administration's emergency preparedness strategy ahead of excessive floods ;
- To identify factors that call for rapid reaction in the immediate aftermath of excessive floods ;
- To see how to structure the response to floods in both emergency and long-term situations;
- To see how communities handle the transition from emergency assistance to rehabilitation and reconstruction.

It is to be noted that Garissa and Tana River districts do have great agricultural potential. However, due to periodic floods, such a potential has never been fulfilled even though River Tana could be harnessed for irrigation, in both districts, in dry seasons (see photos below).

## Kenyan disaster management structure still "centralized"

The major findings of the study were:

- The district authorities' preparedness strategy, ahead of excessive floods, include oral-based vulnerability assessment with information mainly sourced from village headmen.
- Local authorities are ill equipped to handle emergency situations caused by floods, and locally-based NGOs' mandates relate to drought relief and rehabilitation.
- Factors that call for rapid reaction in the immediate aftermath of flooding include population displacement, the extent of flooding, and increased threats of disease;
- The disaster management structure in Kenya is still centralized, thereby making it difficult for local emergency management groups to put in place an effective response strategy.

## Need for clear, "proactive" national policy

Regarding the handling of excessive floods in the two districts, it emerged from various interviews that residual approach was still far more effective than institutional approach. Indeed, because of the unfortunate impact of centralization, the local communities have developed a negative perception of institutions, considering them as ineffective.

In fact, the two communities are of the view that they cannot count on the district authorities and local county councils in case of emergency.

Such a lack of confidence on the district administration points to one single fact: that a clear and proactive national policy on how to handle floods is strongly needed in Kenya.

# UN support to disaster management in Kenya

**Fernando Larrauri,**
**Head of UN Disaster Prevention Management and Coordination Unit for Kenya,**
***UN Resident Coordinator Office in Kenya***

Kenya has been periodically plagued by various natural and man-made disasters, including floods, drought, landslides, fires and disease epidemics. In terms of man-made disasters, ethnic conflicts, industrial hazards and traffic accidents are still affecting the country.

In 2002, the government of Kenya, through the Office of the President, sought to formulate a National Policy for Disaster Management. The latest, and hopefully final, draft was completed in June 2002 and is still pending for cabinet approval.

## Highlights of proposed national disaster management policy

The draft policy says a National Disaster Management Authority (NADIMA) should be set up to oversee disaster management, and to review and update the policy when necessary.

The proposed NADIMA secretariat shall, among other duties, (1) coordinate information relevant to disaster management, (2) establish a national early warning system, (3) prepare disaster management plans, including contingency plans, (4) provide linkage with districts, local authorities and community-based disaster management structures.

The key policy elements highlighted are preparedness, prevention and mitigation, response and recovery.

It is to be noted that some governmental institutions *(see Box)* are dealing with disaster activities in the country. Several ministries do also have specialized units dealing with disaster management. However, all these structures do not function within a coordinated framework.

## UN involvement

***Drought***. In 1999-2002 period, Kenya suffered a serious drought. To respond to the emergency, the UN system was pushing a coordination structure where government line ministries, UN Agencies, relief NGOs, donors and bilateral partners came together to establish a number of ad hoc coordinating bodies *(see Box)* that sought to address some of the most significant disaster management gaps.

***Ethnic clashes***. In April 2001, due to the increase of ethnic clashes all around the country, causing deaths, assets destruction and population displacements, a National Steering Committee on Conflict Management involving government, donors, UN Agencies and NGOs was established. However, after developing its framework, mandate, membership and a tentative strategy, the committee collapsed, dragged-down by political interests and controversies.

***Floods, landslides, population displacements***. In April 2002, when a very heavy rainy season started provoking floods, landslides, and population displacements in several districts, an ad hoc Disaster Management Group involving the government, donors, UN agencies and relief NGOs was established, tasked with the coordination and response to the emergency situation. Since then, the group, which is co-chaired by the Office of the President and the Kenya Red Cross, meets on regular basis, its two priority areas of work being Early Warning/ Prevention/Preparedness and Mitigation / Response /Recovery.

***Disaster Management Group operations***. As part of its one-year national strategy, the Disaster Management Group has developed a programme including a series of workshops in capacity building in disaster management at national, provincial, district and community levels, in the field of early warning. The national workshop on disaster management, which was destined primarily to government officials, UN officers and relief NGOs staff involved in disasters, took place in October 2002. At the same time, the group developed a form - dispatched to all district commissioners and NGOs – to complete an inventory of all resources (human, etc.) by districts and divisions that are ready to respond to emergencies. Eleven provincial workshops have also been scheduled for the first half of 2003, funded from a common pot contributed by several UN agencies and NGOs.

### Recommendations on draft national policy

As it stands, the proposed National Policy on Disaster Management still has certain weaknesses. Its scope is very wide - HIV/AIDS is included as a disaster - and it features no distinction between rapid and slow-onset disaster management. It would be appropriate that the NADIMA is the umbrella for all kinds of disasters and focuses on the two areas of prevention and response.

This would include the KFSM structure to deal with slow-onset disasters and the parallel structure of the Disaster Management Group to address rapid-onset disasters.

Also taking into account that access to resources like land and water remain the main cause of ethnic clashes/man-made disasters which, only last year, left more than 250 people dead, the National Steering Committee on Conflict Management should be revitalized. It should have a very strong linkage with the NADIMA, and provide information to and collaboration with both slow and rapid-onset disaster

### UN role crucial

The role of the UN system as a whole, in facilitating coordination and helping to develop strategies and define policies during that period, has been crucial. It is also a clear example of inter-agency collaboration and partnership with NGOs and government counterparts with the view to minimizing the impact of disasters in Kenya structures. It should also set priorities, and recommend preventive and response measures.

*Floods in Kenya, January 2003*

Governmental institutions, units dealing with disaster activities

- ***National Disaster Operations Center*** (NOC), mainly involved in rapid-onset disasters response
- ***Arid Lands Resource Management Project*** (ALRMP), working on early warning and contingency plans in the drought prone areas
- ***Department of Relief and Rehabilitation*** (R&R) more concerned with long term recovery programs
- ***Specialized units*** dealing with disaster management within several ministries
- ***National Steering Committee on Conflict Management (defunct):*** established in April 2001 - following the increase of ethnic clashes all around the country, involving government, donors, UN Agencies and NGOs. After developing its framework, mandate, membership and a tentative strategy, the committee collapsed, dragged-down by political interests and controversies.

**Ad hoc coordinating bodies, UN involvement**

- ***(Ad hoc) Kenya Food Security Meeting*** (KFSM): established in mid-1999 as serious drought started prevailing in some parts of the country. Forum in charge of assessing humanitarian needs and raising funds for food and non-food interventions. Initially co-chaired by the Office of the President and World Food Programme (WFP).
- ***(Ad hoc) Kenya Food Security Steering Group*** (KFSSG): established in mid-1999 as serious drought started prevailing in some parts of the country. Kind of secretariat to the KFSM. Chaired by the Office of the President.
- ***(ad hoc) Sectoral Working Groups***: established during the severe drought period under the co-chairmanship of line ministries and the incumbent UN agency, to deal with:
- *livestock* (co-chaired by Ministry of Agriculture and Livestock Development and FAO);
- *health and nutrition* (co-chaired by Ministry of Health and UNICEF);
- *agriculture* (co-chaired by Ministry of Agriculture and Livestock Development and FAO);
- *water and sanitation* (co-chaired by Ministry of Environment, Natural Resources and Wildlife and UNICEF);
- *emergency education* (co-chaired by Ministry of Education, Science and Technology and UNICEF);
- *food estimates* (co-chaired by the Office of the President and WFP).
- ***(ad hoc) Geolivelihood Review Teams*** (GRTs): established during the 1999-2002 severe drought period to report about the situation in the *pastoral*, *agro-pastoral* and *agricultural* areas of the country. Meets on a monthly basis and reports to KFSM
- ***(Ad hoc) District Steering Groups:*** established during the 1999-2002 severe drought period to replicate the KFSM structure at district level, providing it with significant information and putting in place a new concept, the "*Community-Based Target Distribution System*", whereby a selected committee including six men and six women establishes the level of poverty to be entitled to receive free food.
- ***(Ad hoc) Disaster Management Group***: established in April 2002 when very heavy rains started provoking floods, landslides, and population displacements in several districts. Involving government, donors, UN agencies and relief NGOs participation), it was tasked with the coordination and response to the then emergency situation. Since then, the group, co-chaired by the Office of the President and the Kenya Red Cross, has met on regular basis. Its two priority areas of work are (1) Early Warning/ Prevention/Preparedness and (2) Mitigation/Response /Recovery.

# Disaster risk management in Madagascar

**Michel Matera,**
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Madagascar is exposed periodically to natural hazards such as cyclones, floods, drought, locust invasion and epidemics. Over the past 35 years, from 1968 to 2002, the country has experienced 38 natural hazard-events of sufficient magnitude to cause internationally-recognized disasters, and which have left more than 4,000 people dead and not less than 6 million people affected. In addition to human cost, the economic impact of these disasters has been disastrous: the total cost of damage, during the above 35-year period, is estimated at 1.3 billion US dollars.

## Average of over 1 disaster per year

Escalating environmental degradation (i.e. deforestation affecting 200,000 ha/yr) has combined with the increase of human vulnerability (i.e. 75 % poverty rate) to increase the impact of disasters dramatically. As a result, natural disasters, whose average rate is over one disaster per year, now constitute a real threat to sustainable development efforts and poverty reduction initiatives.

The Malagasy government's primary disaster relief unit, the *Conseil national de secours* (National Disaster Relief Council), CNS, works in close collaboration with UN agencies (UNDP, UNICEF, WFP), international NGOs (CARE, CRS, MSF), USAID and the European Union. Despite limited financial and human resources for proper disaster response, the CNS plays an important role in response coordination and preparedness planning.

## Good disaster management background, capacity

Even though Madagascar can boast of a good disaster management background and capacity, investment in disaster prevention, mitigation and capacity building would significantly contribute to sustainable development and poverty reduction.

To further the culture of prevention and enable the implementation of the National Strategy for Disaster and Risk Management, UNDP, in partnership with USAID, developed, for the Government of Madagascar (GOM), a capacity reinforcement programme based on UNDP's and GOM's ongoing efforts to strengthen the National Disaster Relief Council (CNS).

## Need for improved coordination, response time

The needs and priorities identified by the government and its partners were:

- Capacity reinforcement, at both national and local levels, to reinforce coordination and reduce response time (through training, provision of communications equipment);
- Decentralization of the National Disaster Relief Council's awareness, mitigation, communications, managerial and information dissemination capacities, so as to improve response time;
- Developing an integrated national early warning system to allow better identification and monitoring of vulnerable areas.

The UNDP-Madagascar project addresses disaster and risk management from two angles: (1) the development and implementation of a National Strategy for Disaster and Risk Management; and (2) reinforcement of CNS capacity at both national and local levels, so as to reinforce coordination and reduce response time.

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[1] Source: EM-DAT: The OFDA/CRED International Disaster Database (www.cred.be/emdat), Université Catholique de Louvain, Brussels, Belgium.

*Drought, Southern part of Madagascar*

# Water : A focus of UN/ISDR Africa Programme in 2003

**Dr. Chris Hartnady,**
**Umvoto Africa (Pty) Ltd**
***Johannesburg, South Africa***

The year 2003 is the International Year of Freshwater (IYFW), the aim of which is to raise awareness on the need to protect and manage freshwater, and to re-assert the UN's Millennium Declaration Goal on Water which pledged *"to halve, by the year 2015, the proportion of the world's people unable to reach, or to afford, safe drinking water"* and *"to stop the unsustainable exploitation of water resources"*. (www.unesco.org/water/iyfw2)

In comparison to other continents, Africa experiences an extremely variable distribution of water resources. Its water supplies are unequally distributed in both geographic space and time. Over much of western and central Africa, a state of relative water abundance prevails. Yet, most of northern and southern Africa receive less than the world average rainfall of 860 mm/yr; and in those parts, the surface water run-off is less than 20% of rainfall (much less in some parts). Over large areas, the cycle of prolonged and extreme drought is all too often broken by equally extreme flood events (Ashton, 2002).

In focussing on African water issues from a UN-ISDR perspective, we wish to briefly review the general themes of ***conflict***, ***disease***, ***famine*** *and* ***flood***, because these issues have unfortunately been all too prominent in recent news coverage of the continent.

## Water and conflict

***In his message to the official IYFW launch ceremony at the UN headquarters in New York on 12 December 2002, UNESCO Director-General Koïchiro Matsuura said : "Water can be an agent of peace, rather than conflicts, and UNESCO is looking at ways that will allow this century to be one of 'water peace' rather than 'water wars'. By developing principles and methods to manage this resource efficiently and ethically, while respecting related ecosystems, we move a step closer to the goal of sustainable development."***

Africa's freshwater resources are finite and incapable of indefinitely supporting the escalating demands made upon them. Should these demands outstrip the continent's ability to manage water co-operatively for the achievement of common goals, then a spiral of poverty would ensue with social, economic and environmental consequences that would threaten the whole fabric of society.

To avoid such a fate, Ashton (2002) emphasized the need for joint action to identify the "hot spots" where water conflicts are imminent between African nations or could arise in future (Figure 1), and then develop collaborative strategies to defuse them.

The term "provention", first coined in a conflict-resolution context (Burton, 1990) is now more generally employed to describe the elimination of the sources of an undesirable state of affairs before they escalate into effect. Such a proventive approach can be extended to other calamitous conditions sometimes associated with

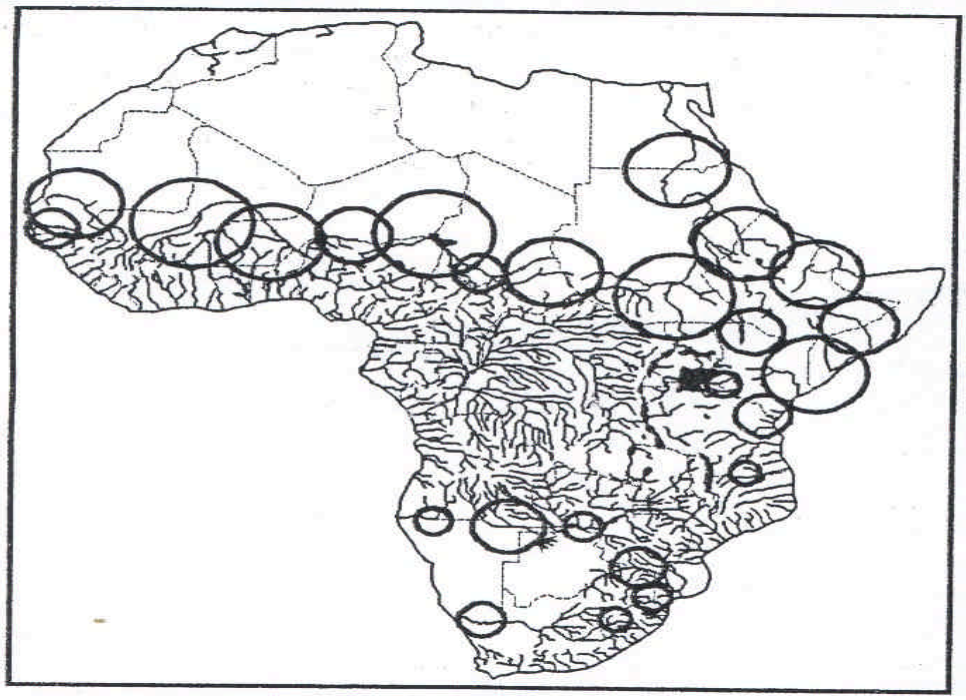

*Figure 1. Perennial watercourses of Africa, showing locations (circled) of actual or potential water-related conflicts (after Ashton, 2002, Figure 2)*

water on the African continent, including disease, famine or drought, and flood.

## Water and disease

Water-related diseases are particularly widespread in Africa, and may be considered under three broad categories, viz., water-borne, water-based, and water-related vector types.

*Water-borne diseases* such as cholera, are caused by dirty water contaminated by human, animal or chemical wastes. In many parts of Africa, the controls on water pollution are poor or lax, and the integrity of the surface- and groundwater systems is at great risk. The Congo River in sub-Saharan Africa remains relatively healthy because it has few industrial or

Sea, which small amount is heavily polluted with agricultural, industrial and municipal wastes. Lake Victoria (Ukerewe Nyanza) waters below 30 metres are devoid of oxygen because of the 2 million litres of raw sewage dumped into the lake every year from Tanzania and Uganda.

Whereas pollution of riverine and lacustrine ecosystems is generally obvious in its effect, the pollution of shallow groundwater systems by industrial or municipal wastes is much more insidious, and may only became apparent after decades of misuse. Notwithstanding the numerous advantages derived from the use of groundwater as drinking water resource, the possible risks from excessive or toxic concentrations of ions like arsenic, iron, manganese, fluoride, nitrate, etc., in drinking water supply should not be underestimated or ignored. High levels of arsenic in water do not pose any aesthetic problem, but could cause severe poisoning. High iron and manganese levels confer aesthetic defects (e.g., on colour and taste) which indirectly could lead to health risks.

*Water-based diseases* are caused by a variety of aquatic organisms (e.g., flukes, tapeworms, roundworms and tissue nematodes) that spend part of their life cycle in the water and another part as parasites of animals or humans.

Their prevalence often increases when dams are constructed, because stagnant water behind dams is ideal for snails, the intermediary host for many types of worms. In areas around the Akosombo Dam on Volta Lake in Ghana and the Aswan High Dam on the Nile in Egypt there have been huge increases of schistosomiasis. More generally, sub-Saharan Africa accounts for about 80% of transmission of this particular disease.

*Water-related vector diseases.* Mosquitoes and flies that breed or live in or near water, whether polluted or unpolluted, infect millions of people with water-related vector diseases such as malaria, yellow fever, dengue fever, sleeping sickness and filariasis. In sub-Saharan Africa alone, malaria costs an estimated 1.7 billion US dollars a year in treatment and lost productivity.

Though it is not water-related in the sense of the above-mentioned diseases, the HIV/AIDS pandemic is a disaster of unprecedented proportions in Africa. Together with cholera and malaria epidemics, it has enormous implications for population growth in African countries, and the balance between poverty and sustainable development on the continent (Ashton and Ramasar, 2002).

In addition to the three water-related classes described above, there is a fourth category of *"water scarce diseases"*, such as trachoma and tuberculosis, which thrive in the converse conditions of poor sanitation and freshwater scarcity. In many areas, the impoverishing effects of these afflictions are complicated by another consequence of severe water scarcity: lack of food.

## Water and famine

Recent news reports **(http://news.bbc.co.uk/1/hi/world/africa/2449527.stm)** indicate that, within months, 30 million Africans could be facing starvation, the immediate cause of which is drought. The UN Food and Agriculture Organisation (FAO) estimates that 40 to 50 % of the population of sub-Saharan Africa goes hungry every year, and that the region is worse off nutritionally today than it was 30 years ago.

Because it takes about 1,000 t of water to produce every ton of grain, agriculture is by far the biggest consumer of water in Africa, accounting for 88 % of water use. Already the water needed to produce the annual combined imports of grain by the Middle East and North Africa is said to be equivalent to the annual flow of the Nile. While importing grain is much easier than importing water, it is not really an option for poorer countries in Africa.

In southern Africa, the current drought affecting some 15 million people covers several countries around the Zambezi River basin (Figure 2) which is one of the most overused river systems in the world. Not only does the region feature great man-made lakes such as Kariba and Cahora Bassa, but also one of the great Rift Valley lakes, Malawi or Nyasa, is also within the drought-affected region. Absolute scarcity is not really

the issue, but rather that the main urban and agricultural centres are not suitably located around these large bodies of water. For the most part, the Zambezi drainage is deeply incised due to recent tectonic uplift and plate motions around the East African Rift System (Hartnady, 2002), the valley and rift floors are consequently narrow and topographically rough, and the tropical climate in these low regions is unhealthy.

## Water and flood

The countries through which the Zambezi flows have vied with each other to harness hydropower from the river, erecting huge dams in the process. At some times, after extended low flows, these structures may contain the deluge by floods and heavy rain.

However, with the damming of the river, the seasonal rhythm was lost, and the flood-plain farmer got out of the habit of moving regularly. When floodgates were suddenly opened, as happened in March 2001, the ensuing effect on downstream inhabitants and their agriculture was catastrophic.

Another problem is the association of earthquakes with the flooding behind large dams, viz., the problem of "reservoir-induced seismicity" (RIS), which is well documented at various places on the African continent, such as Kariba (Zimbabwe), Cahora Bassa (Mozambique), Aswan (Egypt), Gariep (South Africa), and Katse (Lesotho). In some cases, such as Kariba, Cahora Bassa and Katse, very large dams have been constructed in or close to areas that are now recognised to be part of the complex Nubia-Somalia plate boundary (Hartnady, 2002). Depending on the seismic design of these structures, and on the probability of rare extreme events that might exceed the design limits, a potential new technological hazard ("technohazard") is introduced inthe shape of catastrophic dam break. With the recent completion of major new structures in seismically hazardous zones (e.g., Mohale Dam in Lesotho and Maguga Dam in Swaziland), and proposals for others elsewhere in Africa (Bujagali in Uganda), the link between natural geohazard and technohazard is now a very topical theme for UN-ISDR's African Outreach Programme.

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Figure 1. Perennial watercourses of Africa, showing locations (circled) of actual or potential water-related conflicts (after Ashton, 2002, Figure 2)

Figure 2. Drought-affected countries in southern Africa, June 2002

# Rising vulnerability, Increasing disaster risk?

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Southern Africa, over recent months, has witnessed the horror of floods triggered by cyclonic systems in the Southern Indian Ocean. The far-reaching impact of powerful weather processes such as Cyclone Eline affected hundreds of thousands of people and claimed hundreds of lives as they swept across Southern Africa. During their unrelenting course, this year's cyclones released torrential rain across Madagascar, South Africa, Mozambique, Botswana, Zimbabwe, Zambia and Namibia, destroying homes, infrastructures, crops, and essential services for many of the region's poorest rural inhabitants.

These events followed quickly in the aftermath of some of the most damaging wild fires to ever occur in the Cape Town Metropolitan Area. Vast tracts of national park land were destroyed, when expected dry season fires burned out of control, in-part due to high densities of alien vegetation which have invaded the Cape's indigenous fynbos.

It was only in August 1999, that a violent thunderstorm with exceeding 140 km/h swept through across Cape Town, resulting in millions of US Dollars worth of destroyed infrastructure in the suburb of Manenberg, as well as serious injuries, loss of life and homelessness.

Moreover, across Southern Africa, much of the 1990's will be remembered as painful "drought year". Beginning in 1991 with the "worst drought in living memory" and continuing to 1995, the region experienced severe droughts, which compromised food security from household to national and regional levels. This added to hardships borne both by newly democratic governments as well as the region's rural poor - already under pressure from the combined impact of economic reform programmes, globalisation and growing menace of HIV/AIDS.

In this context, one might be corrected to speculate whether our region is becoming "more dangerous"… whether such "Acts of Nature" or unexpected "Acts of God" will become more frequent and more damaging in the 21st century. Yet, these trends are not unique to Southern Africa. In 1998 alone, Munich Reinsurance recorded 80 separate disaster worldwide triggered by El-Nino - the well-known oceanic-atmospheric warming process off the Peruvian coast. In that year, thousands of people perished and millions became homeless when the River Yangtze flooded its banks, It was also the year that Hurricane Mitch wrought selective destruction on the steep and overcrowded hillsides of Honduras and Nicaragua, while widespread and paralyzing wild-fires engulfed Indonesia. 1998 also witnessed mudslides in California as well as ice storms on the North American East Coast.

Despite ongoing debates focused on the specific nature of global climate change impacts, there is general consensus that this century will be accompanied by more extreme weather conditions - that is more intense wind systems, higher temperatures, heavier rainfall and intense drought. This is an addition to expectations of rising sea-levels, as glaciers and polar ice caps melt. Moreover, it suggested that trends in global warming may increase the frequency of El Nino is associated with drought conditions, while La Nina is linked to heavier rainfall. In East Africa, the reverse applies. Both Eastern and Southern Africa have borne the repeated brunt of these opposing weather patterns in the past ten years. While Southern Africa withstood the "worst drought in living memory" in the early 1990's, its northern neigbours endured severe flood conditions. Similarly, the arrival of the 21st century is marked by drought in East Africa along with the spectra of famine in Ethiopia and Eritrea, while Southern Africa assesses widespread damage wrought by unseasonally heavy rainfalls.

## Development under pressure

An environment characterised by such increasing weather extremes presents special challenges to Africa's emerging economies, just as its affects development options in Latin America or South Asia. On one hand, poorly managed adverse weather events derail economic activity, depress agricultural productivity as well as cause extraordinary hardship and loss - for the poorest and most vulnerable citizens of our countries. For instance, among the well-documented impacts of the 1991-92 drought in Zimbabwe was its depressing impact on the manufacturing sector due to reduced availability of hydroelectricity. This cost 3000 jobs. The marked downturn in manufacturing, combined with significant agricultural losses resulted in an 8% decline in Zimbabwe's 1992/93 GDP.

In South Africa, recent floods are estimated to have forced a 17,7% decline in agricultural productivity for the first quarter of 2000.

On the other hand, at least in the past, such large or trans-border "disasters" with natural triggers are viewed as relatively rare in occurrences in Africa. Elsewhere globally, they are increasingly regarded as a potential seasonal or recurrent reality. Bangladesh, with its congested and low-lying coast right at sea level, anticipates the likelihood of annual destructive cyclones spawned in the depths of the Indian Ocean. The small islands of the Caribbean as well as nearby Latin American countries and the Florida coast are unsurprised by

intense hurricane systems. In Australia, the reality of ferocious bushfires is reflected in widespread public awareness, training and education programmes, beginning as early as primary school. Japan, a country noted for its vulnerability to earthquakes, had invested extensively in earthquake-resistant construction as well as far-reaching public education. In these, and other nations, the damage potential of such hazards to life and livelihoods goes unquestioned. What such countries and their citizens do actively challenge, however, is the inevitability of this destruction.

In contrast, for many of Africa's emerging democracies. Issues around development and national security have been historically associated with struggles for independence and freedom from political, military and other forms of oppression. Today, despite encouraging progress in favour of democratic governance across much of the continent, armed conflict remains and its perceived as the primary threat to human security in many countries.

As a result, sustainable efforts to reduce the impact of the expected "natural threats" have not yet received the same priority as elsewhere in the South. For instance, investments in flood-resilient infrastructure, drought-mitigative natural resource management practices, wild fire preventive education/awareness programmes or appropriate legislative instruments to protect against exploitative development of fragile ecological zones are far from most of Africa. These are examples of "mainstreaming" considerations of recurrent disaster risk into engineering and construction practice, sustainable land-use planning, primary school curricula and private sector initiatives. Unfortunately, while there have been impressive examples of *humanitarian relief* in times of actual crisis across Africa there has been little serious consideration of *"disaster risk"* as a critical consideration in sustainable development planning. One notable exception is SADC's Regional Early Warning Unit, located in Harare. This programme tracks and monitors crops forecast across Southern Africa to identify shortfalls timeously, to avert possible food security crises.

*Floods in Antananarivo, Madagascar, January 2003*

### Democratic Governance - Disaster Relief or Disaster Reduction

When disaster risk is not factored into development decisions, households, industries, fishing and farming communities, and entire countries become vulnerable to external threats, including weather extremes. Repeated drought events in the 1990's, along with recent horrific floods across Southern Africa and the destructive wildfires within the Cape Metropole highlight the relevance of disaster risk for contemporary governance as well as sustainable development.

Traditionally… historically, responsible governance with respect to disasters involved being prepared to anticipate impeding threats, and respond timeously, first with relief, then recovery assistance. At the core of this interpretation lay government's moral and humanitarian obligation to alleviate suffering and hardship of its citizens in times of crisis. It also implied the protective duty of the State towards its dependents. In most African Countries, this obligation in bound in Civil Protection or Disaster Management legislation. While there is no question that governments have primary responsibility for savings lives in times of distress, contemporary expectations of governmental responsibility with respect to natural and other threats go far beyond this interpretation. Many of the natural hazards with which we live are known and well-researched. Some, like drought and flooding, are associated with global weather phenomena such as El Nino or La Nino, whose impacts are becoming better understood. With a wealth of environmental agricultural and socio-economic data now accessible, it becomes increasingly possible to anticipate those ecological zones, communities, households, crops and industries as well as infrastructure most vulnerable to different threats. It provides governments, as well as civil

society, opportunity to reduce disaster-related vulnerabilities developmentally, well in advance of an expected hazardous event.

This notion of vulnerability reduction is multi-faceted and multisectoral. It includes strategies as wide-reaching as the promotion of drought-tolerant agriculture in semi-arid areas, or more rigorous enforcement of safe land-use practices on steep coastal slopes. It includes proactive education of children on the scarcity of our region's water resources, as well as careful drilling of boreholes in arid areas so water supplies sustained - even if the water table falls markedly during times of drought. It accepts that most "disasters" are not in fact "Acts of God" or "Acts of Nature",but rather reflect the interplay between natural threats and vulnerable communities, infrastructure and ecosystems. In this context,
"good disaster reduction practice" begins well in advance of a cyclone or drought alert.

Here, responsive governance prioritises developmental initiatives that build local resilience to expected threats, so that a "hazard event" no longer equals "disaster". It assumes *active engagement between -government and civil society* to reduce disaster risk in the first place, rather than a *model of relief assistance to "disaster victims* in time of crisis.

One unfortunate legacy of Southern Africa's protracted drought relief operations of the 1990's has been the complicated interaction between food relief and political process. In some countries, government's humanitarian obligation to alleviate suffering has been misconstrued as patronage, with an implicit expectation of reciprocity at the polls. In contrast to leadership that, in the past, gave primacy to disaster relief, responsible governance today prioritises opportunities to reduce disaster risk through *partnership*, and not relations characterized by *patronage and dependency*.

In South Africa, the integration of disaster reduction with development programmes is well illustrated by initiatives such as *Working for Water*. Not only does this strategy achieve social upliftment and the removal of alien vegetation. The eradication of thirsty alien plants also protects against depletion of falling water tables and groundwater drought, as well as intense and destructive veldfires. Other initiatives to conserve remaining wetlands not only provide for the preservation of our indigenous flora and fauna. Protected wetlands also serve as an invaluable insurance against localised flooding.

## Looking into the Future

As we look to the future, characterised by more variable and extreme weather patterns, shifting trends in rainfall distribution and significant urban population growth, we can expect disaster risk to increase.
In this context, there are many challenges associated with rapid urban growth in Africa, in which the total population residing in large-scale cities (more than one million people) is expected to rise from 33 million in 1990 to 216 by 2020.

As we have seen in other countries of the South, increasing urban density is accompanied by a host of risk and vulnerabilities associated with megacities. This includes the prospect of substantial human, infrastructural and economic losses from sudden onset threats. Moreover, in many parts of Africa, progressive processes of soil erosion and land degradation are associated not only with severe drought impacts, but also flash floods.

These processes challenge the future of sustainable development in Africa, just as in other continents. One course is to continue with a *relief* view of disasters and hazards. The other is to accept and address the realities of our changing climate proactively, including the hazards it may generate. In this context, disaster reduction becomes an integral element of responsible governance, by accepting that *natural* hazards indeed exist… but not the inevitability of the *unnatural* disasters they trigger.

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# Combining science and indigenous knowledge to avert effects of drought-induced famine: A case study from Zimbabwe

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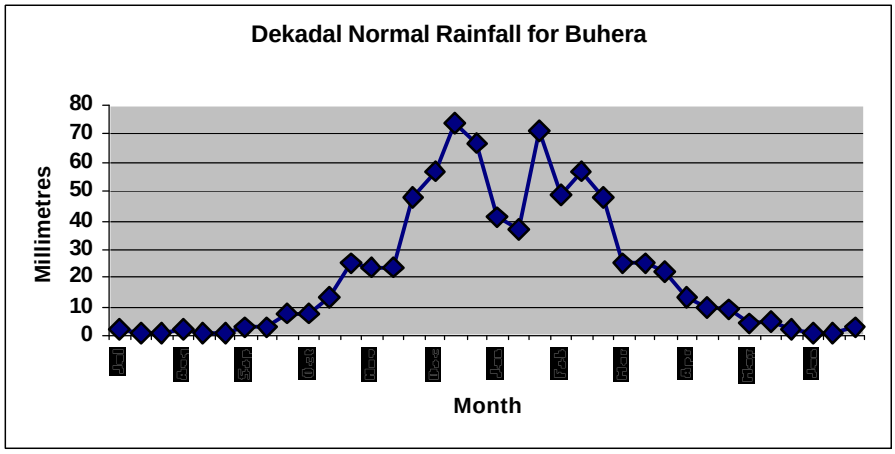
**Famine is a common natural disaster experienced periodically in most of sub-Saharan Africa. Recently, however, the occurrence of extreme climatic events such as drought, leading to severe food shortages, has been on the increase. One of the main causes of such droughts is climate change. A study was conducted to evaluate local farmers' knowledge on droughts and the various coping mechanisms available to farmers in times of drought-induced famine. Buhera district in south central Zimbabwe was selected as the case study site for the 2001/2002 drought that affected most of the southern Africa sub-region.**

## Project design and methodology

We conducted literature search on droughts and drought-related disasters during the past 100 years in Zimbabwe. We also collated rainfall data from Buhera rainfall station for the period 1960/1961 to 2000/2001. During the period 11 to 15 March 2002, a team of five enumerators served a 20-question semi-structured questionnaire to 214 households selected randomly from 11 of the 32 wards that make up Buhera District. The interview venues were opportunistically selected to coincide with business centres where drought relief maize was being sold on the particular day. The data were coded and captured onto spreadsheet.




## Rainfall Anomalies

By the end of March 2002 Buhera had received 426.2 mm of rain, or 55% of normal (based on a 41-year average from the 60/61 season to the 2000/2001 season. However, the final percentage for the season exceeded 80 due to the abnormally high rainfall received in April.

## Local Knowledge Systems regarding rainfall and Droughts

The years/seasons 82/83, 84/85, 92/93, 95/96, and 98/99 were classified by both the respondents in the Buhera survey as well as by the OFDA/CRED International Disaster Database as disaster years in terms of drought and famine in Zimbabwe. Besides these years, however, the Buhera farmers also mentioned seven other seasons, which were drought years. These were: 67/68, 72/73, 83/84, 85/86, 93/94, 94/95, and 97/98.

Table 1 reveals that this second group of seasons was made up of genuine drought seasons in terms of the amount of rainfall received expressed as a percentage of normal annual rainfall.

| Season | Mentioned by Buhera Farmers? | Mentioned by OFDA/CRED? | Seasonal Rainfall as % of normal |
|---|---|---|---|
| 67/68 | Y | N | 51 |
| 72/73 | Y | N | 46 |
| 82/83 | Y | Y | 51 |
| 83/84 | Y | N | 76 |
| 84/85 | Y | Y | 137 |
| 85/86 | Y | N | 114 |
| 92/93 | Y | Y | 97 |
| 93/94 | Y | N | 71 |
| 94/95 | Y | N | 56 |
| 95/96 | Y | Y | 112 |
| 97/98 | Y | N | 81 |
| 98/99 | Y | Y | 113 |

One of the questions asked during the Buhera survey was " *What are the normal signs of a drought year?"* Twenty percent of the respondents said that winds blowing from the south and bringing the early rains were a sure sign of an imminent drought year. We are still not quite clear as to the significance of this response but we realize that it may be pointing at El Niño teleconnections.

Another question sought to find out why farmers were convinced that the current drought (i.e. the 2001/2002 drought) was worse than the 2000/2001 drought. A surprisingly high percentage (20%) of the respondents said that the unstable political and economic situation in the country was worsening the current drought. Our analysis of this response is that unfavourable political and economic circumstances especially among the rural poor can become significant predisposing factors if a drought were to strike.

## Household Welfare and Mitigation Strategies

The average household in Buhera is made up of seven people. Land holding is fairly low (1.6 ha per household, with a range of 0.7 – 2.4 ha), besides most of the land being marginal for rain-fed agriculture. Twenty-eight percent of the households sampled had no cattle, 36.9% had between one and three cattle while 21% had between four and six. When asked about the survival strategies they use in times of drought, 21% of the respondents said that they purchased grain from the Grain Marketing Board (GMB), another 15.4% said they purchased from lucky neighbours who might have managed to harvest something and 19.6% said that they resorted to selling vegetables and/or wild fruits, especially *Berchemia* fruit, which fetches high prices in all urban centres. Still another 12.6% said they resort to trading (buying and selling clothes and other commodities) while 9% said they may end up selling their livestock and farm implements, thus disposing of some of their vital capital assets for future seasons. Responding to a question on proposals to minimise the effects of droughts, 17.7% said that the government should give out soft loans in cash and in kind, 17.3% said that the government should distribute food for free during drought years, 10.2% said that the government should fund small-scale irrigation schemes and 9.8% said that the government should seek help from other countries.

## Interim Conclusions and Follow-up Work

In a seasonal rain-fed agricultural economy, it is not the cumulative annual rainfall that matters, but rather the timing of the seasonal peaks, which should coincide with the critical period (January and February) when crops are in their most vulnerable physiological state. In the face of such rainfall anomalies as experienced in Zimbabwe during the 2001/2002 season, the choice of crop varieties that mature early becomes most urgent. This anomaly is also responsible for upsetting even the wild plants' biological clocks: most *Brachystegia* trees in Zimbabwe's miombo vegetation had started producing new leaves in April instead of September.

In the medium term, the implication is that small-scale schemes for harvesting water should take priority. Such small water reservoirs would become an invaluable safety measure for small-scale intensive production units (e.g. family or village gardens) to compensate for traditional crop failures. In normal seasons, the same production units would boost the yields, and hence income per household.

Future work on this case study will include analysis of dekadal monthly rainfall trends over a number of drought years in an effort to test further the hypothesis that dekadal trends are the most reliable variable for use in early warning systems. Another aspect still to be pursued is the vulnerability ranking or sensitivity analysis of different categories of households (as a function of size of household, wealth or poverty index, access to major production factors and range of off-farm income sources).

**Acknowledgements**

This case study was partly funded under AIACC Project AF38: *Integrated assessment of the Miombo Region-exploration of impacts and adaptation options in relation to climate change and extremes.*

*Figure 2. Councillor Ziso (blue trousers and purple shirt) and members of the Water Committee on Barawara Dam Wall, Buhera Ward 22*

# An example of national capacity building on disaster management - South Africa

The African Centre for Disaster Studies (ACDS) at Potchefstroom University will conduct a workshop on the implementation of the new Disaster Management Act 57 of 2002.

### Aim

The workshop aims to inform metropolitan, district and local and municipalities on the implications and the implementation of this new legislation.

### Target Group

- Mayors and Executive Mayors
- Municipal Managers
- Councilors involved in Disaster Management
- Disaster Management Officials, both heads and functionaries
- All line functionaries (e.g. town planning, welfare, housing, environment, engineers, etc.)
- Fire Chiefs
- Insurance industry representatives
- Other business representatives

### Training Contents

- Defining the main concepts in disaster management
- Understanding disaster risk management and disaster management
- Understanding disaster management structures
- Inter-governmental Committee on Disaster Management:
- National Disaster Management Advisory Forum
- Inter-departmental Committee on Disaster Management
- National Disaster Management Framework
- National Disaster Management Centre
- Provincial Disaster Management Advisory Forum
- Provincial Disaster Management Framework
- Provincial Disaster Management Centre
- District and Metropolitan Disaster Management Advisory Forum
- District and Metropolitan Disaster Management Framework
- District and Metropolitan Disaster Management Centre
- Local Municipal Disaster Management Satellite Unit
- Disaster Management Volunteer Unit(s)
- Establishing Disaster Management structures on provincial, metro and district level:
- Powers and duties of the District and Metropolitan Disaster Management Centre;
- Powers and duties of Council;
- Declaring local states of disaster, and
- Disaster Management Funding.

### Expected Outcomes

After the successful completion of the workshop, participants will be able to:

- describe the various elements of disaster risk management and disaster management
- identify disaster management guidelines as contained in government policies, legislation, regulations and instructions
- interpret policies, legislation, regulations and instructions to contribute to pre-disaster risk reduction and post-disaster recovery and their integration into developmental initiatives
- demonstrate knowledge of operating procedures and disaster planning to implement pre- and post-disaster activities
- solve basic disaster management problems using policy guidelines, and
- establish disaster management structures at the district and metropolitan levels.

**Duration** Three days.

### Next courses

Basic course in Disaster Management on 23-25 July 2003

- Disaster Plans and the IDP on 6-8 August 2003

*For more information, please contact:*
*Mr. Willem Hammond*
*(willem@acds.co.za) at:*
*(011) 475 7851 or (083) 626 4203 - or visit their website at*
*http://acds.co.za / dmagp.htm*
*for further information on how to register for this course.*

# Empowering communities to participate in disaster recovery

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***Community members affected by disasters are generally referred to as "victims". In some cases, recovery teams resort to the "patient-client" approach. Yet, these "victims" could play some role … if they are, first, enabled to have another perception of the situation.***

Community members affected by disasters have, until recently, been referred to as "victims". It is so because those at the periphery are of the view that the affected members have nothing, if anything, to do to help themselves when disaster strikes. In some cases, recovery teams have been using the "patient-client" approach. In both cases, however, the affected community members have been seen as hopeless and unable to do much to help themselves. This treatment applies especially in the event of fast-impact disasters such as fire, landslides and floods.

The big question is whether the "victims" themselves are really as "hopeless" as they are portrayed? Cannot they play some ? The answer is yes and no, depending on how they are assisted to perceive the situation.

## Impaired perception

The one truth we cannot deny is that those who have suffered severe loses or injuries or who are experiencing the disaster for the first time - and therefore may be in deep shock - are likely to have impaired perception of the situation. Their participation therefore is likely to worsen their situation.

However, those who have suffered no losses or very little of it, those with no injuries or who have suffered minor injuries, those who are not shocked - because they have lived through the same before -, they can assist in the recovery. They can assist even though it may not be in technical areas like handling victims with broken limps or giving first-aid services - unless they are trained and therefore are competent to perform those technical tasks.

In extreme cases, for instance in a case where there is no outside assistance, disaster "victims" are sometimes forced by circumstances to participate in the recovery process. In such cases, it is expected that the impact of their participation is almost minimal, especially if they were experiencing the disaster for the first time and if those assisting lack the technical know how.

However, the community's participation in the recovery, if they have to at all, will highly depend on whether the community members exhibit or not the ***contagion syndrome*** in coping with the disaster when it occurs.

## Need for collective urge to face the problem

The ***contagion syndrome*** is a syndrome in which individuals (in this case the community members) collectively develop that inescapable urge to face a problem. For such a syndrome to be exhibited, it will require a high degree of "organized proximity". An organized proximity is achieved when community members form themselves around an issue, have a clearly defined goal and clearly defined roles.

The definition of roles and goal can be either formal or informal or both, but what is very certain is that organized proximity is not spontaneous: it is not like the proximity seen in of crowds, as, anyway, the contagion syndrome is exhibited in crowds. The difference, in the case of disasters, is that the victims have to have clear unquestioned permanent goals towards their action.

Therefore, organized proximity must aim at achieving three things:

- Creating a state of being in which various institutions in the community function in accordance with their implied purposes (in this case, the purpose is minimizing the impact of disaster);
- Ensuring that community members are performing their respective roles;
- Efficiency of the mechanisms (social patterns and means of social control) through which members meet their common needs and purposes.

To achieve the above, the following issues have to be considered seriously. First is the issue of institutionalizing and internalizing the commonly shared goals.

## "Institutionalizing" expected roles

The community members have to institutionalize the mechanisms through which they are to meet their common goals.

By doing so, the members have to operationalize the appropriate means of attaining their common goals which will include, among other

processes, socialization (schooling), bargaining; and social control. The mechanisms have to be generally acceptable to the larger number of the community members.

### "Internalizing" institutionalized roles

At the same time, the individual members have to internalize that which have been institutionalized. The members have to submit to that inner compulsion to work towards and achieve the community goals, a process that involves motivation and having positive attitude towards community goals, among other things.

The golden rule is that there will be participation, ***if and only if,*** there is the institutionalization of the individuals' expected roles by the community and that the individuals have internalized the institutionalized roles in question, as illustrated below:

### Minimizing conflict among community members

The second issue is that of minimizing conflict at the time of disaster. As community change depends on (1) the perceived common goals, (2) the resources available, and (3) the relationship between actors, organizational success depends mostly on psychological factors in social life such as cooperation and conflict.

In other words, organizational success around the commonly perceived goals - during fast-impact disasters - largely depends on how the members can achieve a consensus and prevent, manage and resolve their conflicts. Achieving a consensus means agreeing on the definition of the situation and, subsequently, organizing or willing to organize around specific common objectives.

Therefore, consensus means that there is "minimum conflict". "Minimum conflict" is achieved where goals and values are common to the average of the members of a community, and where a "sociability process" (process where members have been socialized to act towards common goals) is put into place.

Key players - in predisposing community members to this social world - are community institutions such as religious, political and cultural institutions as well as communications media. These institutions and agencies predispose individuals to "organized proximity" because the necessary "sociability process" is a process that is mediated by psychological factors such as the individual's cognition, attitude and motivation.

These psychological factors are the ones that make the individual expose himself/herself to the institutions carrying the common goals and values from one individual to another. In this case, it is expected that the members expose themselves to those institutions and agencies that carry information that is in line with their cognition: institutions and agencies that carry information on things they value (attitude), and institutions and agencies that enable them to achieve the goal(s) of their motivation.

Because of the breakdown of conventional control at the event of a fast-impact disaster, the accompanying panic may or may not produce a ***contagion syndrome.*** Chances are that there will be divergent interpretation of the situation leading to more confusion. The reason for such behaviour is that the panic response during fast-impact disasters can be competitive in nature, and therefore rewards from the competition will depend on the outcome of the struggle against those others around the individual actor. In such a situation, the capacity of the community to effectively participate in the recovery process is expected to be very low. This brings in the issue of leadership.

### Promoting leadership

Among the key elements suggested to prevent mass panic is the promotion of leadership during crisis (Williamson et al 1982, p 488). This goes a long way to minimize spontaneous actions during the recovery.

Spontaneity, especially during relief, could be attributed to such factors as lack of expert recovery personnel in specialized relief need areas, and lack of other resources such as medicine, food and recovery tools, which therefore heightens competition.

The methods suggested by Williamson and others are viable only where the recovery team is within a close proximity to the scene of the disaster, or is part of the community who have not fallen victims. Cases where the recovery team is to be sourced from a distance, have shown that the affected community have to pay a price of more losses for being at a distance - as opposed to if they were close.

Therefore, local capacity building is key to produce the leadership that can participate effectively in the recovery from fast-impact disasters.

### Local capacity building the key to participation

Even though there is emphasis on the need to build local capacities, the ideal situation is when the local community members are willing to be part of the local post-disaster recovery team. However, this can be achieved only under two circumstances:

1. When those assisting in the local capacity building have credible evidence of success. Building local capacities to deal with disaster is such a delicate learning that if the capacity builders were not credible, then the community members might not have a positive attitude towards them, which highly weakens the learning process. This can be equalled to the case of an adult in a house who has been passing by the fire extinguisher but never made the effort of knowing how it works: so come the time of fire, the adult has no knowledge on how to use the fire extinguisher.

In other cases, even when there are credible assisting teams, some other factors can impede on their performance. For example, in most developing countries, where they depend heavily on organizations like the Red Cross, the International Federation of Red Cross and Red Crescent Societies, World Food Program and World Health Organization, it is evident that these organizations are yet to solve the three major problems affecting operations: the overall financial and staffing, funding patterns, and the delivering of resources with an aim of identifying options which could strengthen the capacity and performance of the humanitarian assistance (Forman and Parhad 1997).

2. When the local community members have been forced - especially by a spate of disasters without assistance - to see the need to evolve local institutional disaster management policies with stress on local teams' involvement in emergencies.

### Local capacity helps to reduce response time

Considering the time lost in depending on outside assistance and the concomitant loss of property and lives, it is imperative to have locals organized to be able to handle the first initial but basic stage of recovery. The organization will include:
1. The development of local rapid response teams. These teams should be large enough to include specialists in sectors such as medical, shelter, sanitation, counselling, etc.;
2. Assistance in setting up local training centres to ensure continuity of local capacities;
3. Training on different types of community leadership, the major ones among them being:

- "Commanding leadership" which should be under the armed forces or the police. This type of leadership is necessary during emergencies where it is imperative that the community members have to be coerced to act in one way or the other for the sake of their lives;
- "Dominating leadership" which is basically a technical team to handle technical issues where the common man has no experience or little experience. This department can be handled by medics and social workers.
- "Participative leadership" where the community is empowered to mitigate against disasters.

**Difference between "hazard' and "disaster"-** *"Strictly speaking, there are no such things as natural disasters, but there are natural hazards. A disaster is the result of a hazard's impact on the society. So the effects of a disaster are determined by the extent of a community's vulnerability to the hazard (or, conversely, its ability or capacity to cope with it). This vulnerability is not natural, but the result of an entire range of constantly changing physical, social, economic, cultural, political, and even psychological factors that shape people's lives and create the environments in which they live. 'Natural' disasters are nature's judgment on what humans have wrought."* **John Twigg**

# Kenya-based regional Drought Monitoring Centre Nairobi

**Prof. L. Ogallo,**
***Drought Monitoring Centre Nairobi, Kenya***

**Technology has evolved over time and facilitated advancement in the science of meteorology. In effect, it is now possible in the tropics to provide skillfully seasonal climate outlooks.**

The Drought Monitoring Centre – Nairobi (DMCN) works closely with WMO (World Meteorological Organization) member countries and regional and international partners such as ISDR-Africa (International Strategy for Disaster Reduction), to enhance regional capacity to optimize the use of climate information and prediction products.

A regional Drought Monitoring Centre (DMC) was established in 1989 by 24 eastern and southern African countries in Nairobi (Kenya) - with a sub-centre in Harare (Zimbabwe) - under the auspices of the WMO and UNDP, to minimize the negative impacts of extreme climate events and take advantage of good years.

Increased demand for information and prediction services prompted the separation of the two centres in 1998. Operating independently as the Drought Monitoring Centre – Nairobi (DMCN) and the Drought Monitoring Centre – Harare (DMCH), DMCN caters for IGAD (Intergovernmental Authority on Development) member countries and other countries in the Horn of Africa region, and DMCH is responsible for southern African countries.

In recognition of the role it had played, DMCN became a specialized institution of IGAD following a decision made during the 8th IGAD summit held in Khartoum, Sudan, in November 2000.

The main mission of the current DMCN is to timely provide climate information and prediction services for enhanced application of such products to reduce climate and weather-related risks to food security, water resources, energy, health and disaster management, among others, for sustainable development in the Horn of Africa.

Since its creation in 1989, DMCN has provided the sub-region with weather and climate advisories, and more importantly, timely advance warnings on droughts, floods and other extreme climate-related events.

To achieve its goals, it has defined "priority operational activities" *(c.f. Box)* in collaboration with the meteorological and hydrological services of Djibouti, Eritrea, Sudan, Ethiopia, Kenya, Uganda, Tanzania, Rwanda, Somalia and Burundi.

The DMCN produces and disseminates two types of products on a routine basis: "dekadal" (10-day) and "monthly/seasonal products" *(c.f. Box)*.

**DMCN's Products**

The DMCN produces and disseminates two types of products on a routine basis: dekadal (10-day) and monthly/seasonal products.***Dekadal products* (timely produced and disseminated every 10 days) include:**

- Past state of 10-day climate summary
- Current state of climate
- Drought severity index patterns including cumulative statistics
- Outlook for next 10 days
- Sectoral socio-economic impacts of past state of climate

*Monthly and seasonal products*

- Summary of climate state for past one and three months
- Drought severity index patterns including cumulative statistics
- Sectoral socio-economic impacts associated with drought severity
- Current dominant weather patterns
- Climate outlook for next month or season

Impacts of expected climate conditions

# Statement from 11th climate outlook forum for Greater Horn of Africa

**The 11th Climate Outlook Forum for the Greater Horn of Africa (GHA) was held from 3 to 5 March 2003 in Entebbe, Uganda, by the Drought Monitoring Centre - Nairobi (DMCN).**

Users from disaster management, water resources, health, livestock, tourism, wildlife, media and agriculture, among other sectors, were active participants in the forum, helping to develop the outlook and assisted in formulating its implications for the respective countries and sectors.

## Consensus guidance for March-May 2003 rainfall

The forum aimed to formulate consensus guidance for the March to May rainfall season in the eastern African sub-region comprising Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania and Uganda (also referred to as the Greater Horn of Africa).

The forum reviewed the state of the global climate system and its implications for the sub-region. Among the principal factors taken into account were the observed and predicted SSTs (Sea Surface Temperatures) in the tropical Pacific Ocean and over much of the tropical Atlantic and Indian oceans, as well as the decaying El Niño conditions.

## Methodology

The forum examined the current and expected SST anomalies over the Pacific Ocean as well as the Indian and Atlantic oceans, together with other factors that affect the climate of the sub-region. These factors were assessed using coupled ocean-atmosphere models, statistical models and expert interpretation. The current status of seasonal to inter-annual forecasting allows prediction of spatial and temporal averages, and may not fully account for the physical and dynamical factors that influence regional and national climate variability.

The experts established probability distributions to indicate the likelihood of above, near, or below normal rainfall for each zone (see Map).

*Above normal rainfall* is defined as within the wettest third of recorded rainfall amounts in each zone, *near normal rainfall* as the third of the recorded rainfall amounts centred around the climatological median, and *below normal rainfall* as within the driest third of the rainfall amounts. *Climatology* refers to a situation where any of the three categories have equal chances of occurring.

**DMCN's Priority Operational Activities**

- Developing and archiving regional and national quality-controlled climate data;
- Enhanced networking with national meteorological and hydrological services (NMHS), regional and international centres for data and information exchange, and capacity building;
- Data processing, including development of basic climatological statistics (that are often required for planning, development and many other applications);
- Timely acquisition of near real-time climate and remotely sensed data for monitoring near real-time status of regional climate;
- Monitoring and provide advisories regarding the space-time evaluations of any unique weather and climate extremes;
- Generating climate monitoring tools and regional prediction/early warning products
- Timely dissemination of early warning products;
- Delineation of risk zones of extreme climate related events;
- Conduct capacity-building activities in climate prediction, down scaling climate prediction products for specific sector applications, and enhanced application of climate products;
- Provides 10-day and monthly climate updates, and also organizes a climate outlook forum for GHA countries at the beginning of each rainfall season - for the development of consensus seasonal climate outlook products in conjunction with international partners;
- Enhancing interface and interactions with users through users workshops and pilot application projects;
- Development of indices for climate change monitoring, detection and attribution;
- Assessment of impact and vulnerability associated with climate extremes;
- Education and awareness activities;
- Conduct research in climate and related fields;

Working with member countries to enhance the factoring of climate information in disaster management policies and national/regional development programmes.

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# Greater Horn of Africa Consensus Climate Outlook for March-May 2003 period

## Outlook

March to May constitutes an important rainfall season over the equatorial parts of the Greater Horn of Africa sub-region. The rainfall outlook for each zone within this sub-region is given below:

**ZONE I:** Climatology is suggested mainly over central and northern Sudan as well as northwestern and Red Sea coastal areas of Eritrea.

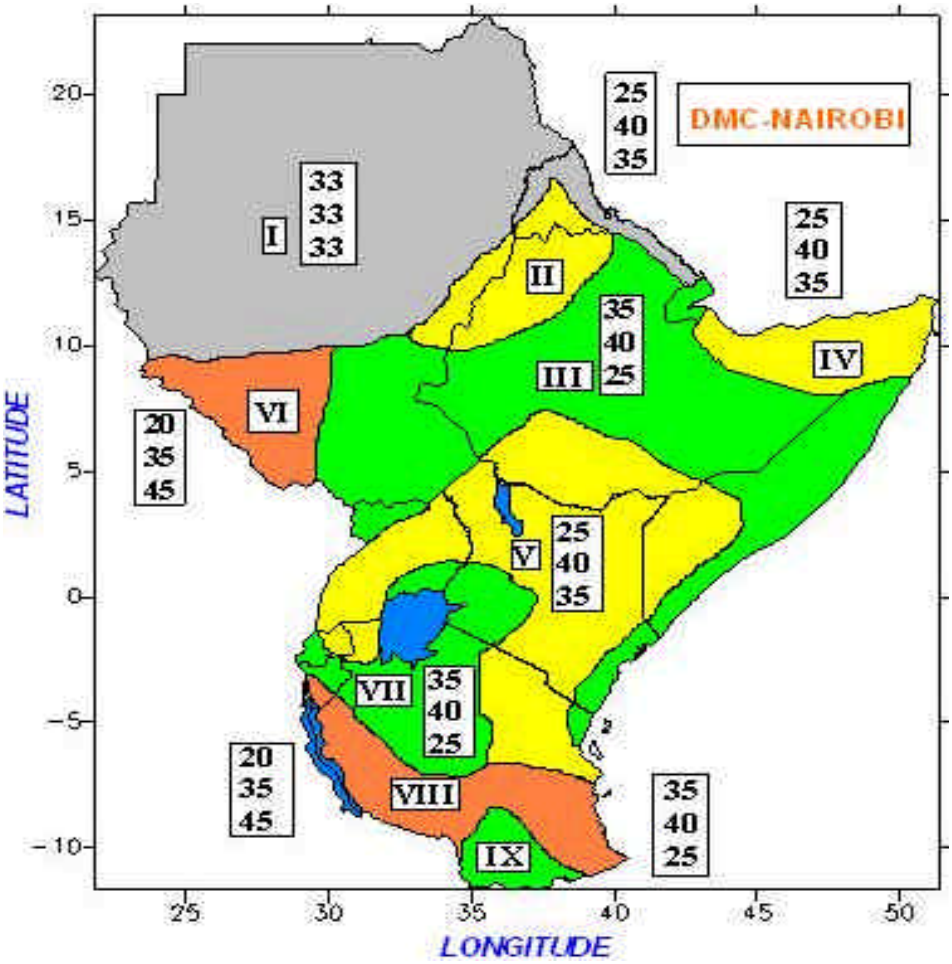
**ZONE II:** Increased likelihood of near to below-normal rainfall over northwestern Ethiopia, extreme eastern Sudan as well as central and southern Eritrea.

**ZONE III:** Increased likelihood of near to above normal rainfall over northwestern Uganda, southeastern Sudan, much of Ethiopia, Djibouti, central and much of coastal Somalia, coastal parts of Kenya and northern coast of Tanzania.

**ZONE IV:** Increased likelihood of near to below normal rainfall over northern Somalia.

**ZONE V:** Increased likelihood of near to below normal rainfall over southern Ethiopia, southwestern Somalia, much of Kenya and Uganda, northeastern and extreme northwestern Tanzania as well as eastern Rwanda.

**ZONE VI:** Increased likelihood of below to near normal rainfall over southwestern Sudan.




**ZONE VII:** Increased likelihood of near to above-normal rainfall over southeastern Uganda, southwestern Kenya, central and northwestern Tanzania, much of Burundi and western Rwanda.

**ZONE VIII:** Increased likelihood of below to near normal rainfall over southwestern Burundi as well as southwestern and southeastern Tanzania.

**ZONE IX:** Increased likelihood of near to above normal rainfall over southern Tanzania.

**NOTE:** The numbers for each zone indicate the probabilities (chances of occurrence) of rainfall in each of the three categories (above, near and below normal). The top number indicates the probability of rainfall occurring in the above normal category, the middle number is for the near normal and the bottom number for the below-normal category. For example, for southern Tanzania (Zone IX), there is 35 % probability of rainfall occurring in the above normal category, 40 % probability of rainfall occurring in the near-normal category, and 25 % probability of rainfall occurring in the below normal category. It is emphasised that boundaries between zones should be considered as transition areas.

## Contributors

The 11th Climate Outlook Forum for the Greater Horn of Africa was organized jointly by the Drought Monitoring Centre - Nairobi (DMCN), World Meteorological Organisation (WMO) and the International Research Institute for climate prediction (IRI) within the

framework of the USAID-funded project known as "*Applications of meteorology to the reduction of climate and weather-related risks to food security, water resources and health, for sustainable development in the Greater Horn of Africa sub-region*".

Contributors to this consensus climate outlook included representatives of meteorological departments from 10 GHA countries: Institut geographique du Burundi (Burundi Geographical Institute), Meteorologie nationale de Djibouti (Djibouti Meteorological Department), Eritrea Meteorological Services, National Meteorological Services Agency of Ethiopia; Kenya Meteorological Department; Rwanda Meteorological Services, Somalia Department of Agrometeorology and Food Security, Sudan Meteorological Authority, Tanzania Meteorological Agency and Uganda Department of Meteorology.

Other contributors were also climate scientists and other experts from the following national, regional and international institutions and organizations: Drought Monitoring Centre – Nairobi, Drought Monitoring Centre - Harare; International Research Institute for Climate Prediction (IRI), World Meteorological Organization (WMO), USGS/FEWS-NET, International Research Centre on El Niño (CIIFEN), Regional Centre for Mapping of Resources for Development (RCMRD), University of Nairobi, Makerere University (Uganda), Maseno University (Kenya) and AU/IBAR-PLP.

Additional input was supplied by National Centre for Environmental Prediction/Climate Prediction Centre (NCEP/CPC), UK; Met Office, Meteo-France and the European Centre for Medium Range Weather Forecasts (ECMRWF).

### Summary of March - May 2003 climate outlook for Greater Horn of Africa

**Rainfall.** There is increased likelihood of near-normal rainfall over much of Greater Horn of Africa during the period March to May 2003. Probabilities of near normal to above normal rainfall favour much of Ethiopia, Djibouti, southeastern Sudan, central and much of coastal Somalia, southeastern and northwestern Uganda, coastal and southwestern Kenya, northwestern, central, northern coast and southern Tanzania, much of Burundi and western Rwanda.

**On the other hand, probabilities of near to below normal rainfall favour central and southern Eritrea, northwestern and southern Ethiopia, northern and southwestern Somalia, much of Kenya and Uganda, northeastern and extreme northwestern Tanzania and eastern Rwanda.**

Enhanced probabilities for below normal rainfall favour southwestern Sudan, as well as southwestern and southeastern Tanzania. It should be noted that episodic intense short rainfall events are common in the sub-region even when the overall seasonal rainfall received is below normal.

The outlook is relevant only for seasonal time scales and relatively large areas. Local and month-to-month variations may occur.

**Influences of El Nino, SST anomalies, tropical cyclones.** Forecast model outputs indicate that there is a high likelihood for the decay of the El Niño through the forecast period. Generally, the sea surface temperature (SST) anomalies over most of the tropical Atlantic and Indian oceans are weak. However, warmer than normal sea surface temperatures have been observed over equatorial eastern Indian Ocean. The persistence of the development of tropical cyclones in the Indian Ocean may influence the rainfall patterns in the sub-region.

*NOTE: Update forecasts are provided by national weather services and the DMCN (Drought Monitoring Centre – Nairobi). Users are therefore strongly advised to keep in contact with their national meteorological departments for interpretation of this outlook, finer details, updates and additional guidance.*

# The Niamey-based Agrhymet regional centre

**A. A. Diallo, M. Badolo, H. N'Djafa Ouaga, B. Sidibé, S. Sankung**
***Niamey, Niger***

Focusing on food security, its information provision services have enlisted more and more demand. Over 700 technical officers graduated from the Centre. Certified crop protection engineers are under training. It has widened its scope to other countries.

AGRHYMET Regional Centre (Applied Operational Agrometeorology and Hydrology Regional Centre), CRA, became a specialized institution of the CILSS (Inter-State Permanent Committee for Drought Control in the Sahel Region) in 1993 after being established in 1974. Its main objectives are (1) to contribute to food security and improved agricultural production in CILSS member countries, and (2) to help to improve natural resource management in the Sahel region.

Enjoying an international status, it is based in Niamey, the capital of Niger which is a CILSS member state, along with eight other western African countries (Burkina Faso, Cape Verde, Gambia, Guinea-Bissau, Mali, Mauritania, Senegal, Chad).

## Food security, desertification control...

CRA's mission is to promote *information* and *training* in food security, desertification control, natural resource management and environment in the Sahel region. It is specialized in the application of scientific and technical knowledge to agricultural development, planning of rural areas and natural resource management.

It operational activities are divided into two major programmes supervised by a director-general: (1) an *Information Major Programme* (PMI in French) under which projects relating to data collection and processing and information management projects regarding food security, desertification control, natural resource management and environment are implemented ; and (2) a *Training Major Programme* (PMF in French) under which higher education, advanced courses, education-oriented documentation and research activities are carried out.

CRA services are increasingly sought after by bilateral and multilateral bodies. CRA delivered satellite data and georeferenced products to several institutions including USAID-Maroc, FAO, WHO-Niger, USAID-Niger, etc.

## Information

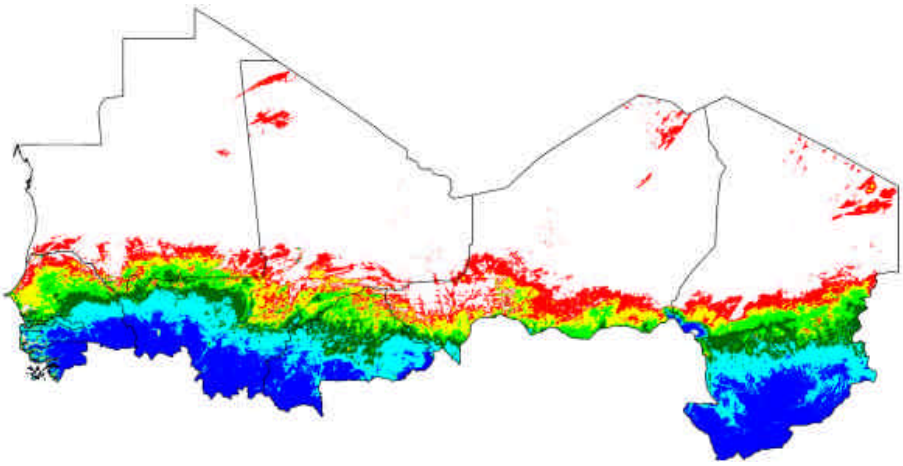
In the field of information, CRA collects, analyses and disseminates climatological, agrometeorological, hydrological, pastoral and health-related phytologic data, as well as data on natural resources (soil, water, forests) for CILSS member states and for international community members concerned with living conditions in the Sahel region.

Within the framework of early warning systems, CRA develops and disseminates GIS-aided georeferenced products, including rain projection maps and vegetation indication maps. These maps are available on either printed or digital (CD Rom) format *(see figure 1)*.

## Technical training

Training activities have been offered by CRA since 1975 in crop protection, agrometeorology, hydrology, instrumentation and computer maintenance. Two higher education training levels are now available: higher technical diploma and engineering degree.

From 1975 to 2002, 755 graduated from CRA in the above-mentioned subjects. For the first time in West Africa, an engineering degree in crop protection is being offered: the training began at CRA in October 2002.



*Since 1997 Progression of the vegetation index*

CRA also contributes to human resource advancement in government ministries' technical departments dealing with development matters, NGOs, research institutes, etc. through continuing education programmes focusing on varied themes, especially GIS (Geographic Information System), remote sensing, early warning, integrated pest control, etc.
The success of the Training Major Programme has been confirmed by the African and Malagasy Council for Higher Education's recognition of education certificates issued by CRA.

## Major projects

With the assistance of the international community, CRA has initiated and implemented regional projectswhich are being carried out under its Major Programmes. These include:

AP3A Project (early warning and agricultural production forecasts);

- Project on Sahel region's capacity to adjust to climate change;
- Support for the Training Major Programme (with DANIDA).

## Future prospects

CRA's training and information activities do have a considerable impact on the Sahel region. CRA's obvious assets are such that it has acquired a privileged status within the CILSS system.

Therefore, to serve CILSS member countries and other users of its products better, AGRHYMET Regional Centre plans, as part of the continuous updating of its programmes:

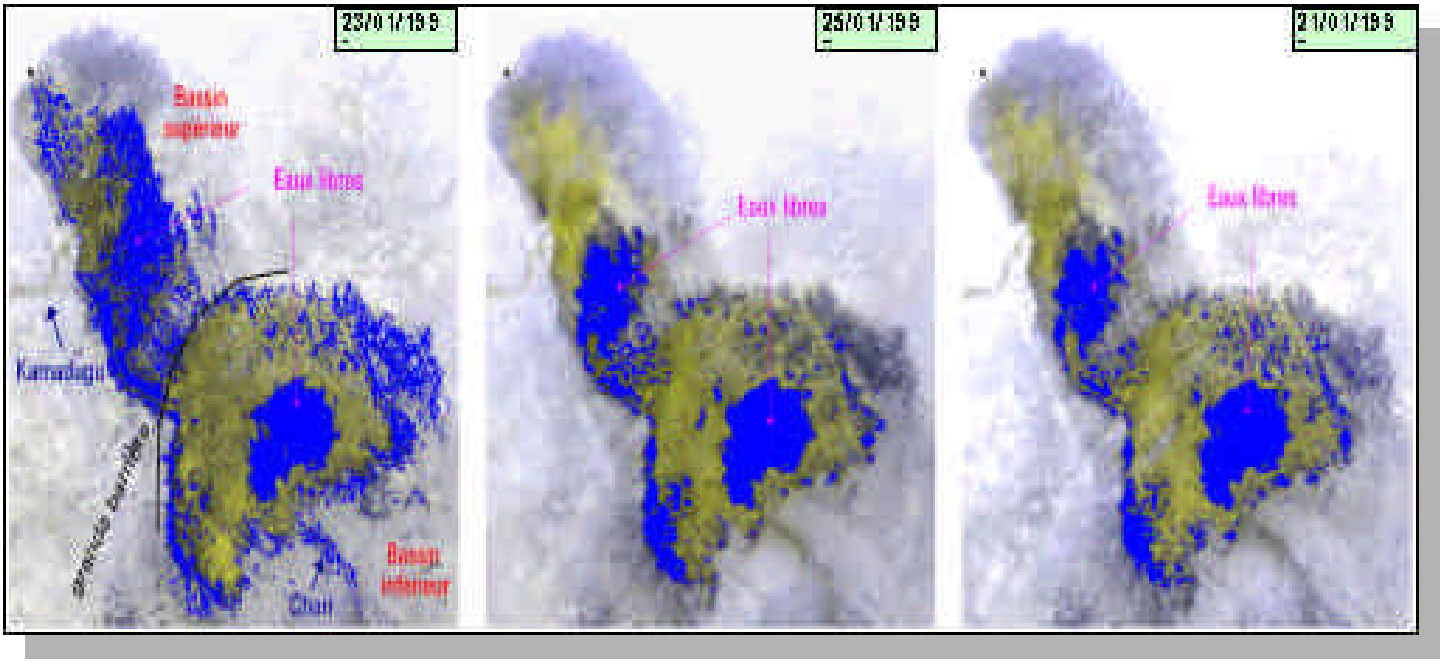
- To develop more accurate climatological analysis methods;
- To design upgradable training programmes that are more suitable to realities prevailing in Sahel countries, and that can meet their capacity-building needs;

To develop and update a regional

- phytosanitary and pastoral database system;
- To develop information and training know-how for environmental monitoring and better natural resource management.

Rural farmers, government authorities and the international community will adequately develop efficient methods for monitoring bush fires and food risk areas. For the sake of ecosystem conservation, integrated pest control methods will also be developed and applied at regional level.

Confident of its experience and huge potential, CRA has widened its scope to other countries of the sub-region, especially those of ECOWAS (Economic Community of West African States). Such a strategy is in line with the regional integration desired by the political organs of the CILSS.



*Continuous monitoring of surface water expanses on remote sensing (Example: Lake Tchad)*

## CRA's resources and infrastructures

Some 60 experts and highly qualified staff members are in charge of training, information production and management, administration and coordination activities at CRA.

AGRHYMET Regional Centre is located on its own 71-ha land plot (on the right bank of Niger River in Niamey) where its infrastructures are based. These include office blocks, a documentation centre, a lecture hall, classrooms, laboratories and workshops, satellite image reception and processing equipment, computer installations, a GIS (Geographical Information System) application laboratory, a reprographics workshop, irrigated demonstration plots, an automatic meteorological station, an insectarium, a 110-room student hostel.

Its fully computerized documentation centre includes some 31,000 scientific and technical documents covering various subjects related to agriculture, crop protection, climatology, rural development, natural resources, food security and remote sensing.

AGRHYMET Regional Centre also manages a sophisticated system for data acquisition, remote transmission and processing made up of two satellite data ground receiving stations, a connection to international electronic networks and a pool of computers including three VAX computers, two UNIX workstations and several dozens of microcomputers connected over a local area network. CRA is also on the Internet (web site address: www.agrhymet.ne).

## CRA's achievements

AGRHYMET Regional Centre has gradually asserted itself in the following fields:

- Set up an early warning system;
- Agrometeorological and hydrological monitoring at regional level;
- Development of analytical methodologies and tools on food security and natural resource management;
- Strengthening of inter-State cooperation through the sharing of methodology and technologies on food security, desertification control, natural resource management and environment;
- Maintenance of meteorological instruments and electronic equipment;
- Agricultural statistics and crop monitoring;
- Set up a regional database management system;
- Set up a market information system;
- Training of officers from Sahel countries and elsewhere;
- Management and dissemination of information on natural resource monitoring in the Sahel;
- Publications on agrometeorology, crop protection, environment monitoring, desertification, natural resource management, etc.

## CRA's partnership and cooperation network

AGRHYMET Regional Centre's ambition is to contribute in seeking global solutions to environmental conservation and natural resource management problems. To that effect, it has invariably participated in meetings such as the 1992 Rio Summit and other international gatherings.

CRA also takes active part in fora relating to the implementation of the UN Convention on Desertification Control, such as the Conferences Of Parties (COPs) and proceedings of the Sub-Regional Programme of Action Thematic Groups.

The AGRHYMET Regional Centre is also seeking to expand its technical cooperation at regional level by joining research and development poles such as the Regional Institutions' Platform for Environment and Meteorology (PIREM in French) including AGRHYMET, ICRISAT (International Crop Research Institute for the Semi-Arid Tropics), the Regional Education Centre Specialized in Agricultural Sciences (CRESA in French), the Niger Basin Authority (ABN in French), the African School of Meteorology and Civil Aviation (EAMAC in French), and the African Centre for the Application of Meteorology to Development (ACMAD in French).

To arouse much more interest at regional and international level, CRA has established cooperation ties with several prestigious institutions and organizations in Africa and elsewhere in the world. These relationships concern mainly exchange of information, support to training and provision of documentary products.

The following actions will be taken as part of technical cooperation:

- ARC will broaden its technical, scientific and financial co-operation. It will seek, in conjunction with the CILSS member States, the most suitable formula for a better utilisation as part of its regular activities;
- Greater communication with the States for an increased visibility of CRA;

# Eleven African countries pledge to form regional disaster management coordinating body

**Mr Douglas Kaunda,**
***Press Officer,***
***Office of the president,***
***Kenya***

Eleven Afican countries, which are members of the Golden Spear Initiative, have come one step closer to forming a regional disaster management coordinating body. They signed signed an agreement committing them to cooperate towards that objective on 6 June 2003.

The Golden Spear Initiative includes Kenya, Uganda, Tanzania, Ethiopia, Eritrea, the Seychelles, Rwanda, Burundi, DRCongo, Djibouti and Egypt.

Ministers in charge of disaster dockets held consultations in Kampala, Uganda on how such a body should be formed and operated. All countries, except for Eritrea and DRCongo, were represented at the Kampala Golden Spear 2003.

Ugandan President Yoweri Kaguta Museveni officially opened the Kampala symposium. Members deliberated on three options recommended by a technical committee as to how a regional management body should be constituted and operated in a sustainable manner.

President Museveni cited development backwardness as the reason for the African continent's failure to manage disasters thus far. "Without addressing the real issue, that is the modernization element, disasters will continue to wreak havoc in the continent," President Museveni said.

The Ugandan President noted that modernity and economic development had not been handled well by many societies in Africa. "You never used to hear of earthquakes killing people in the olden days because Africans never built their houses using stones or put up high-rise building like the case today," he said.

President Museveni called for the taming of nature to minimize the adverse effects of disasters. He also emphasized that the focus had to shift away from a short-term reactionary approach that would otherwise sentence the continent to perpetual dependency on relief.

A final decision is expected to be reached at the next Golden Spear Symposium to be held in Addis Ababa, Ethiopia, in July 2003.

Nevertheless, the Golden Spear Initiative member countries reached a milestone in signing this agreement and paving the way for additional consultations and cooperation in disaster management.

Kenyan Assistant Minister of State Stephen Tarus said the meeting represented a welcomed move since disasters tended to be trans-border in their occurrences. These countries realized the need to pool their resources together to combat disasters, he said.

"No country can claim it can effectively manage disasters alone. We need to be ready to come to each other's assistance and borrow from one another's experiences if we have to succeed," Mr Tarus said.

The Golden Spear Initiative was launched in July 2000 following consultations on cooperation in disaster response between the Kenyan government and the US following the devastating 1997-98 El Nino rains and the terrorist bombings in Nairobi and Dar es Salaam.

Since then, the US administration has worked to make the Golden Spear Initiative a forum for leaders in the sub-region to forge a common approach on how to deal with disasters.

The Golden Spear Initiative had an initial mandate to initiate a process of generating a list of interests, risks and assets that could be mobilized to respond to disasters at local and regional levels.

Over time, the activities of the Golden Spear Initiative broadened so as to include security and other strategic issues of mutual interests for participating countries.

# Global Disaster Information Network (GDIN)

**History.** The Global Disaster Information Network (GDIN) has grown from the shared frustrations of experts of many lands who either found it hard to find relevant, existing information in short order, or could not efficiently or cost effectively change existing information into more useful formats. Because less than 3 % of the world has effective access to the Internet, disaster managers have also often been frustrated by poor telecommunications. Information is often not collected in standardised ways, inhibiting efficient sharing. In addition, as stressed by the government of Mexico in GDIN1999, many disaster managers do not have the training or equipment needed to effectively use the latest technology

To address these concerns, members of the international emergency community met in Washington, DC, in 1998, at a meeting proposed in a Geneva workshop by the UK, the UN and the EC. GDIN was introduced and the consensus was to move forward. The community met again in 1999 in Mexico City, expanded the number of partners, and decided to develop a plan of action for the future.

While testing the concept of "information facilitation", GDIN also prepared for its next conference in Ankara, Turkey (GDIN2000) where the international community agreed upon project terms of reference, otherwise known as the Ankara Declaration. GDIN continued to test the concept of "information facilitation" with a meeting in Hawaii in October 2000 to discuss advances in technology.

This was followed in March 2001 by an annual conference (GDIN2001) in Canberra, Australia, where a business plan was agreed upon, as well as a drive to enhance the participation of NGOs, industry and local disaster management sectors. A decision to begin fundraising and seek a legal personality for GDIN was also reached.

The last conference was GDIN2002 in Rome, Italy. For detailed information on GDIN2002 and all of the other conferences, see CONFERENCES.

**What is GDIN?** A voluntary, independent, self-sustaining, non-profit association with an interest in facilitating the provision, in time, of the right information, in the right format, to the right people to make the right decisions. It is committed to assisting disaster managers find the information they need, particularly when other means have failed, to develop unique information sharing procedures that augment the existing system, to foster the development of new disaster information technologies, and to foster professional development. GDIN is an active, collaborative association of experts from NGOs, governments, international organizations, industry and academia, and donor organizations.

Official, detailed project descriptions of GDIN are on the web site in the Ankara Declaration and the Canberra statements, statements agreed to by the GDIN Community at the annual GDIN Conferences in 2000 and 2001.

**What is main group of people GDIN wishes to help?** GDIN helps its members and disaster managers worldwide enhance their capacity to receive and use disaster information, generally through the more effective use of existing resources. GDIN is most beneficial to disaster managers in areas where there are few resources and limited access to technology.

**What kind of disasters does GDIN focus on?** GDIN is available primarily to assist in any natural or technological disasters. It also can help in complex humanitarian emergencies, but it is politically neutral.

**Why is GDIN important/special?** Finding who has the right information in the right format in a timely manner can be daunting for disaster managers, especially during a crisis or in areas with few resources. GDIN intends to help by (1) Offering a suite of services or one-stop centre linking users with appropriate information provider; (2) Paying, on special occasions, for information when the disaster manager cannot; (3) Fostering the development of pilot projects; (4) Providing integration across disaster regions to share information quickly. While many other organizations facilitate information sharing, GDIN's collaborators come from all sectors and try to make sure that GDIN information fits the needs of each.

**Does GDIN intend to be a primary funding source for disaster managers?** No, but GDIN does intend to offer specific services, based on the advice of its members, and to foster pilot projects and research.

**Does GDIN Intend to replace the current suite of national, private Sector, UN and regional operations centres?** No. GDIN will develop a formal partnership that links established disaster information centres with private sector and government information providers, so that the comparative advantage of each can be used to benefit the whole. This kind of global, multi-sectoral partnering does not exist yet. Through this linkage, which GDIN manages, GDIN will give additional strength to each element without controlling any of the parts. GDIN is not a competitor with existing

systems; it is an enhancing facilitator of the information these systems can provide.

**Does GDIN focus solely on remotely sensed data?** What GDIN tries to do is help disaster experts find information that they are otherwise hard-pressed to locate, regardless of format. GDIN has facilitated the development of fresh Geographic Information System (GIS) products based on remote sensing for Vietnam, Mozambique and Turkey, but has also assisted others in finding maps on the Internet, and more recently, developed textual reports on infectious diseases in Afghanistan and a well-regarded paper on anthrax. (See GDIN products under www.gdin.org). In addition, GDIN sees as a distinct service its ability to convene meetings of experts from all sectors, sitting as equals around a single table. This allows for a unique cross-fertilization of ideas and professional growth.

**Who has collaborated with GDIN?** Governments (Australia, Turkey, Italy, the US, Canada, Russia, Mexico), international organizations (Ios) and Non-Governmental Organizations (NGOs), the UN, the EC and OECD, the American Red Cross, ADPC, ADRC Academia (Iowa State University, Middle East Technical University). From the HQ Pacific Command: the Asia Pacific Area Network, the Center for Excellence, the Pacific Disaster Center and the Virtual Information Center. Industry: Space Imaging, SPOT Image, SAIC, ESRI Mexico. Turkey and Australia contributed significant intellectual capital, and by sponsoring the annual GDIN conferences in 1999, 2000 and 2001, as well as other events provided in-kind financial support. Without these intellectual and financial contributions, GDIN would not have prospered, as the conferences form the primary basis for defining GDIN's mission. Italy is making such a contribution in 2002 by sponsoring the annual conference in June.

**Other partners will be listed on a special "partner web page" which is being developed. In addition, in 2002, GDIN intends to develop a formal MOU system with some of the partners who are prepared to take an active role in specific information sharing procedures.**

**Is GDIN a US government project?** No. The US administration should instead be considered a key partner. The US did originate the idea in 1997, based on experiences with the G7 and the UN. However, the international community quickly decided at the first GDIN Conference in Washington that GDIN would be an international project that operates in partnership with all sectors, and it is not owned by any one entity.

**Is GDIN an international organization?** No. GDIN is an informal international body with members from all sectors. IOs only have governments as members, as is the UN for instance. GDIN does not have formal members at this time, though the concept of membership was to be raised at the GDIN2002 Conference in Rome in June 2002.

**Who manages GDIN?** The head of GDIN (executive director) is elected at the annual conferences (conventions) of GDIN. The current executive director is Larry Roeder, policy adviser on disaster management in the Bureau of International Organizations in the US Department of State. The US administration donates most of his expenses and those of an aide. The policy governance body of GDIN is the Executive Committee which is headed by Alan Hodges, retired director-general of Emergency Management, Australia. Industry, government and UN experts, in their respective fields, manage various working groups on important topics. The Annual Conferences acts as a "shareholder conventions" in that participants can vote on what they believe should be the direction of the project. This tool is used to make sure that GDIN is developed bottom-up, rather than top-down. The management structure of GDIN was to be amended in GDIN2002 in Rome, when the Executive Committee was to present an incorporation plan. For details, contact Alan Hodges.

**Who pays for GDIN and how is the money spent?** Any entity or person can contribute to the GDIN Fund which is incorporated as a 501(c )(3) under US law, and is managed by an elected officer, Karen Risa Robbins, president of Amtech, with three directors. In the past, services have been supported by direct cash contributions or in-kind contributions. This will likely remain a key way of financing GDIN efforts, but the project also hopes to fill the fund with sufficient resources to directly hire GDIN staffers and pay for services. Overall, the Executive Director, the Executive Committee and the Fund Director, acting as a team, manage the policy on how money is spent.

**Who has contributed to GDIN?** Host governments and conference participants have paid for GDIN Conferences. The US Department of State contributes the Executive Director and support staff, and the US Department of Commerce and Amtech have covered the costs of the GDIN secretariat. The US administration also paid for a variety of GIS products delivered to Turkey, Mozambique and Vietnam, which were based on private and public data. The European Commission hosts the Mediterranean Working Group, Australia hosts the Asia-Pacific Working Group. The firm SAIC, the US Institute for Peace, and elements of the executive branch of the US administration have jointly hosted the GDIN Infectious Disease Working Group. The firm ESRI has hosted the GIS/Remote Sensing Working Group, in partnership with the Cartographic staff of the UN High Commission for Refugees (UNHCR), and also hosts the Industry Working Group. Iowa State University in Ames, Iowa (USA), contributes the chair of the Academia

Working Group and the Pilot Project Working Group. Many world-class experts have contributed to GDIN in their own right. The UN has chaired or co-chaired a variety of GDIN Working Groups, and made a significant contribution towards advancing the Information Facilitator Working Group.

**Who Can Join GDIN?** Any expert or expert body involved in disaster management. This could be an academic who researches the causes of earthquakes, a corporation that could provide satellite imagery or GIS products, a government officer who manages refugee camps, an NGO that focuses on medical treatment of displaced persons, etc.

**What is the e-mail address of GDIN?** gdincommunity@hotmail.com

**What is the web site address of GDIN?** www.gdin.org is the official web site of the project.

**Other GDIN related web sites**
Here is a partial list. It covers web sites for the various official GDIN Conferences, as well as web sites that mention GDIN, but www.gdin.org is the only official GDIN site.
The US State Department maintains a permanent electronic archive of information released prior to 20 January 2001 on http://www.state.gov/www/issues/relief/gdin.html

This contains information on the first International GDIN Conference which was held in 1998 in Washington, DC, and some other conferences. There are also many old web sites that use GDIN to describe the US Domestic Program now called the National Hazards Infrastructure Strategy.

*Web sites containing conference information*

Mexico 1999: http://www.state.gov/www/issues/relief/gdin99.html
Ankara, Turkey 2000: http://www.metu.edu.tr/home/wwwdmc/gdin.html
Canberra, Australia 2001: http://www.ema.gov.au/gdin/
Honolulu, Hawaii, 2000: ERIM International, Inc. hosted an industry symposium in support of the US and international GDIN programs on 9 October 2000 in Honolulu, Hawaii. That web site is: http://www.erim-int.com/CONF/GDIN/gdin.html

See also:
http://www.unifreiburg.de/fireglobe/course/meeting/archive/meet00_15.htm

- *Others*

September 2000: an exercise involving US-GDIN, GDIN-International and Russia took place in September 2000. The web site for that exercise is:
http://calder.ncsa.uiuc.edu/ACCESS/Events/Pics/2000-09-20_gdin/

NASA is developing a demonstration project called FIRE, and GDIN is a collaborating entity. We expect to see this project discussed at GDIN 2003. The web site is http://geo.arc.nasa.gov/sge/UAVFiRE/links.html

Israel announced a National Disaster Information Network (GDIN Israel):
http://www.gdin-international.org/news/gdin_news_0501.html

A GDIN pilot project known as PeaceWing is both on www.gdin.org
http://www1.etl.noaa.gov/radiom/peacewing/

See also:
http://www.dfrc.nasa.gov/PAO/X-Press/1999/Oct29/frontfull1.html
http://www.solaraircraft.com/HTML/06LINKS.HTML
http://dup.freeservers.com/_private/p15.htm

# EWCI

## Second International Conference on Early Warning

*Integrating early warning to natural disasters into public policy*

**First Announcement**

International Strategy for Disaster Reduction

Federal Foreign Office

**15-19 October 2003**

**Bonn, Germany**

*A contribution to the review of the Yokohama Strategy and Plan of Action*

At the beginning of the twenty-first century, disasters are increasingly affecting societies worldwide, draining resources that could be better used for development and poverty reduction initiatives. The fact that more people and their assets are found in exposed areas to natural hazards, and that the frequency and intensity of these extreme events are expected to increase in the future due to climate change, reiterates the urgent need for the implementation of effective early warning systems

**The World Summit on Sustainable Development (WSSD, 26 August -6 September 2002), recently called for a greater commitment to include disaster and risk reduction, especially the development and strengthening of early warning systems and information networks, within the sustainable development policies and action plans**

The 1998 Potsdam International Conference on Early Warning Systems for the Reduction of Natural Disasters (EWC'98) confirmed early warning as a core component of national and international prevention strategies for the 21st century. The EWCII is supporting the implementation of the recommendation made during EWC'98. The conference will also identify emerging trends and new threats, such as climate change and variability, and their implications in the development of early warning systems

The EWCII will provide a timely input to two policy frameworks for the effective application of early warning systems worldwide: the implementation of the WSSD outcomes, and the 2003-2004 process for the ten-year review of the Yokohama Strategy and Plan of Action.

## Rationale

The development of new information technologies, and the very rapid spread of global communications have increased the availability of information and early warnings about natural disasters considerably. To give but a few examples, forecast time and location of landfall of tropical cyclones is now 48 hours in advance; the warning time of tornadoes has doubled in one decade; warnings of drought are now issued several months in advance.

Significant improvements in global observation systems have also enhanced the early detection of medium-term abnormal climatic conditions such as El-Niño events, and will contribute to warnings of long-term hazards associated with environmental change. However, the ability to deliver this vital information to the public in the locations where they are most likely to be affected by disasters has not always enjoyed similar success. The ultimate objective of an early warning system is not to issue a timely forecast, it is to protect lives and property.

Local mechanisms for communicating risk, or "downscaling" the interpretation of alerts to relate to local conditions or experience, remain very weak in many cases. Sophistication has to be weighed against local capacities, needs, resources and traditions.

Moreover, information about the adverse impacts of disasters on people and infrastructure (i.e. vulnerability and risk assessments) necessary to inform decision-making is often missing. Even where abilities and procedures do exist, communities often do not respond appropriately to them, because there is a lack of planning, resources, or viable protective options that they can utilise in a timely manner.

## Objectives and themes

The EWCII is facilitating a continued dialogue on early warning issues and 'good practices' at the global and regional level, as well as a practical step for strengthened coordination and cooperation to integrate activities, interests and expertise of the various sectors/groups involved in the early warning process. These are perceived as prerequisite tio successfully integrate early warning to natural disasters into public policy

The objectives of the EWCII are:

- to assess the effectiveness of early warning processes at the global, regional and/or national level in the intervening years since EWC'98, and the identification of obstacles that may have hindered or prevented intended implementation initiatives.
- to recommend, for replication, effective early warning processes, to feed into the review of the World Conference on Natural Disaster Reduction held in Yokohama in 1994
- to develop "Blue Prints" for effective early warning processes based on case studies and success stories.
- to develop strategies for sharing of early warning knowledge, including training and other capacity building activities and technological aspects such as Internet and other dissemination options.
- to document and share current and future techniques relevant for early warning, vulnerability and risk assessment approaches, including vulnerability and risk assessment strategies, information collection and management and space-based and associated terrestrial remote sensing technology.

You are invited to participate in this conference and share your experience and knowledge. We welcome contributions dealing with the themes mentioned below in an integrative way, between disciplines, at various levels and related to the political responsibilities, the participation and knowledge of the public, the technical identification and monitoring of hazards and communications, and the institutional services to react to warnings.

***Theme I: Emerging Issues***
Identification of current, emerging and future trends in early warning and types of risk (hazards and vulnerability factors).

***Theme II: Early Warning & Sustainable Development*** Identification and discussion of examples where knowledge and experience have been applied to implement early warning schemes and programs in the context of disaster risk reduction and sustainable development.

For instance, climate change, global warming, increasingly severe storms and sea level rise are examples of medium- to long-term climate related weather extremes

***Theme III: Sustaining the Early Warning Dialogue***
Identification of needs (local, national, regional and international) to ensure sustainability of the research and applied programs for early warning

## Participants

The EWCII will address abroad range of experts and actors in the early warning chain. It will allow an interaction between experts in early warning systems and decision makers, politicians, mayors and other senior civil servants, non-governmental community leaders, media/journalists, representatives of the health sector, and educators.

## Programme

The programme of the conference will consist of invited and contributed papers and discussion sessions. There will be a special poster session included in the programme. Several parallel sessions will be held. The working language of the conference will be English.

Interested participants should fill in the reply slip, indicating the nature of your interest in the subject and the relevance of your work to early warning processes and return it to the Conference Secretariat- German Committee for Disaster Reduction (DKKV), Tulpenfeld 4, D-53113 BONN, Germany.

Funding for travel and accommodation will be provided for a limited number of participants from developing countries upon requests. Priority will be given to public authorities from developing countries.

Papers that fit into one of the themes of the conference are also welcomed. You are kindly asked to follow the layout requirements when you prepare your abstract. Please, send in the abstract together with the reply form, on which you indicate the theme you would like your abstract to be grouped in. The Conference Secretariat should receive your abstract before 15 march 2003. Authors are expected to present their paper at the conference.

## Layout requirements:

- Abstracts should be submitted digitally by e-mail or diskette
- Abstracts should be typed with single spacing
- Abstract text may not exceed 1000 words
- All the names of the authors should be mentioned, the name of the presenting author underlined
- Name of organisation with full address
- Text, symbols and graphs in black ink
- All abstracts should be in English

All authors will receive a confirmation of receipt. In May 2003 they will receive a letter of acceptance or rejection. Acceptance of a paper in no way implies that the organisation assumes any responsibility for cost of participation.

### Deadlines and important dates

- For the submission of abstracts: **15 April 2003**
- For the submission of attendance requests: **15 May 2003**
- Notification of acceptance/rejection: **15 June 2003**
- Final announcement/registration: **30 June 2003**

### General information

The Steering Committee of the conference has chosen to limit the number of participants to 200. If necessary the committee reserves the right to make a final selection, based on the diversity of the issues and regional distribution of participants and organizations.

More detailed information on the conference venue and programme will be included in the final announcement.

Please fill in the enclosed reply card and return it

**Advisory Group/Steering Committee**
An Advisory Group of selected international experts and a steering committee support the conference organization.

The preparatory process are coordinated by a steering committee composed of representatives from the World Meteorological Organization (WMO), the United Nation Educational, Scientific and Cultural Organization (UNESCO), the Food and Agriculture Organization (FAO), the World Food Programme (WFP), theUnited Nations Development Programme/ Bureau for Crisis Prevention and Recovery (UNDP/BCPC), the Office for Out of Space Affairs (UN/OOSA), the Economic Commission for Europe (UN/ ECE), the United Nations Environment Programme (UNEP), the Office for the Coordination of Humanitarian Affairs (OCHA), the United Nations Volunteers (UNV), theUnited Nations Convention to Combat Desertification (UNCCD), the Ministry of Foreign Affairs, Germany, the Munich Reinsurance (MunichRe), the International Council for Science (ICSU), the International Strategy for Disaster Reduction Secretariat (UN/ISDR), the German Committee for Disaster Reduction (DKKV), the World Food Programme and World Meteorological Organization (WMO).
*The proceedings of the EWC'98, held in Potsdam, Germany from 7-11 September 1998 are available online at http:/www.* gfz-potsdam.de/ewc98.

## Reply Card

## International Conference on Early Warning, 15 October 2003-19 October 2003

M/F… Initials:……Name:……
Organisation:……..
Department:……..
Address:……...……..
Postal Code……
City:……
Country:……
Telephone:……
Fax:……
E-mail:……

£ Please send me the final announcement/registration form in May 2003
£ I would like to submit an abstract for:
£ oral presentation
£ poster presentation
£ I would like to request financial support for participation (travel and accommodation)

### Return it to

The Conference Secretariat- German Committee for Disaster Reduction (DKKV),
Tulpenfeld 4, D-53113 BONN, Germany.

**For more information please contact the organizers:**

United Nations Inter-agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), UN/ISDR, Palais des Nations, CH-1211 Geneva 10, Switzerland.
Tel: +41 22 917 27 85
Fax: +41 22 917 05 63
Email. isdr@un.org
www.unisdr.org

# African regional consultation on Early Warning Systems - 23 - 24 June, Nairobi, Kenya

### Background Paper

The impact of natural disasters on societies worldwide has been increasing, thus the role of early warning is becoming increasingly important. This is increasingly recognized by the international community and has resulted in numerous activities aimed at improving early warning and mitigation efforts.

In this context the years 1990-1999 were declared the International Decade for Natural Disaster Reduction (IDNDR), and the first international conference on early warning for natural disasters (EWC'98) took place in Potsdam 1998. The focus of this conference was risk assessment. Prestigious experts in the field exchanged their knowledge and experience in early warning and introduced the Guiding Principals for Early Warning. Since then, much progress has been made in data collection, communication and forecasting methodologies, but the overall success of early warning has been limited due to shortcomings in policy implementation of early warning strategies and a shift in the hazard landscape.

In order to address the new requirements and characteristics of early warning a second international conference on early warning (EWC-II) has been called. The focus will be "Integrating Early Warning of Natural Disasters into Public Policy".

### Objectives of the EWCII are:

- to assess the effectiveness of early warning processes at the global, regional and/or national level in the intervening years since EWC'98, and the identification of obstacles that may have hindered or prevented intended implementation initiatives,

- to recommend, for replication, effective early warning processes, to feed into the review of the World Conference on Natural Disaster Reduction held in Yokohama in 1994,

- to develop blueprints for effective early warning processes based on case studies and success stories,

- to develop strategies for sharing of early warning knowledge, including training and other capacity building activities and technological aspects such as the Internet and other dissemination options, and

- to document and share current and future techniques relevant for early warning, vulnerability and risk assessment approaches, including vulnerability and risk assessment strategies, information collection and management and space-based and associated terrestrial remote sensing technology.

In order to ensure that region-specific needs and characteristics are reflected during the EWCII and in its outcomes, Regional Consultations are being carried out in four different regions of the world, in preparation for the EWCII.

### African Regional Consultation

The African Regional Consultation is being prepared by on-going reviews by consultants from each sub-region. Based on these sub-regional inputs, a regional report on early warning will be drafted. The focus of sub-regional and regional consultation will be on the areas below.

### Disaster Patterns

Each region is characterized by its specific hazards and vulnerability factors. The most pronounced risks, hazards and trends in vulnerability should be identified, including emerging new hazards and vulnerability factors, and underrepresented hazards that must be made visible.

#### Advances and Constraints

In order to better understand the regional state of the art in early warning it is important to identify 'best practices', trace advances and understand constraints that have been have characterized the early warning process in particular in the intervening years since Potsdam (1998).

### National Planning

The regional consultations should provide an overview of the extent to which early warning has been integrated into natural disaster reduction initiatives and public policy (including, for example, national legislation and/or provincial and municipal governing structures). It would also be helpful if they discussed the status of national research, education and degree of understanding by the public of their risk.

In order to characterize the early warning process on a regional basis, information on how the individual sectors of the early warning process cooperate and to what extent they function across national boarders will be helpful.

### Needs and recommendations

In order to accurately convey to the conference plenary the critical needs identified through the regional consultation, it would be helpful to elaborate the most important issues and describe the necessary steps to address or resolve them. To do this, the following approach is recommended:

1) Identify and fully describe priority needs (maximum 5)
2) Identify strategies and resources requirements to fulfill these needs
3) Identify and discuss anticipated measurable results of steps taken

### Objectives of African Regional Consultation:

The overall goal of the African Regional Consultation is to contribute to the achievement of objectives of the EWCII - building on the principles developed at the EWC'98. This will include the identification of emerging threats, such as climate change and variability, reviewing their implications in the development of early warning systems,

and providing a timely input to two policy frameworks for the effective application of early warning systems worldwide: the implementation of WSSD outcomes, and the review of the Yokohama Strategy and Plan of Action to be completed by 2004.

The specific objectives of the African Regional Consultation are to:

a) present the draft regional report on early warning systems in Africa,
b) invite comments and inputs from participants on the draft report,
c) provide a forum for exchange of views on the strengths and weaknesses of early warning systems in Africa, and
d) discuss strategies and ways to improve early warning systems in Africa.

**Participants:**

Participants will be invited from regional and sub-regional organizations, UN agencies, international organizations and donor countries. They will represent a wide range of experts in the field of early warning in Africa, from scientists over national/local disaster managers to policy makers and communication and disaster relief experts.

Participants are expected to submit a case study on early warning, based on their experience, country or region and make two recommendations on areas of priority and strategies for further development of early warning systems in the region with reference to the implementation of the WSSD outcome and Yokohama Strategy. The attached outline can be used as a reference.

**Expected Outputs:**

The expected outputs of the African Regional Consultation will include:

a) a consolidated regional report on progress of early warning systems,
b) strengths, weakness and needs identified in early warning system and
c) areas of priority, strategies and ways for further improving the existing system identified with reference to the implementation of the WSSD outcome and Yokohama Strategy.