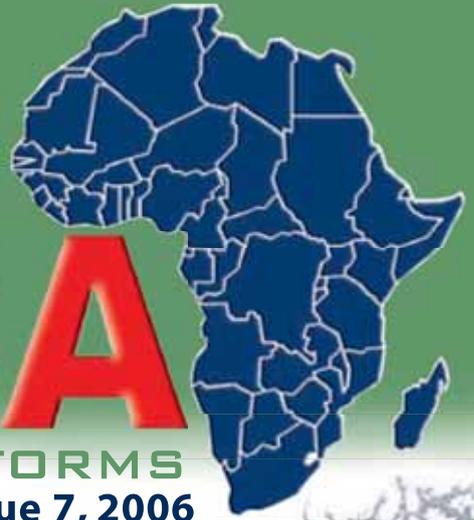


Disaster reduction in
AFRICA



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From the editor

An abortive debate ...

Bonn, Germany, March 2006, Third International Conference on Early Warning. A meeting is held, on the fringes of the Conference, between African delegates, the World Bank, ProVention Consortium, ActionAid and the UN/ISDR. Even though the meeting began at an inconvenient time (8 am), every one concerned turned out, including... other potential donors. The room was packed.

It emerged from the meeting that the World Bank was ready to assist African countries in their disaster risk reduction efforts, but African countries would have first to win the support of their finance ministers (which was the very matter of our previous editorial).

This is a major breakthrough, in addition to two other recent advances on the continent: African education ministries' eagerness to mainstream disaster risk reduction into school curricula, and Red Cross/Crescent Societies' readiness to operate jointly with National Platforms for Disaster Risk Reduction in Africa.

So far, so good. The only thing is funding for disaster risk reduction in Africa may call for more subtle donorship. Why?

Two principles have been keys to Africa's resolute pace in disaster risk reduction: *national ownership* and *national leadership* (of the disaster risk reduction process). The two – interrelated - principles are pegged to the internationally agreed principle that “each country bears the *primary responsibility* for protecting its people, infrastructure and other national assets from the impact of natural disasters”. Also linked to these three principles is another one, that of *national resource allocation* – the concrete reflection of a country's commitment to the three principles mentioned earlier. These are the four interrelated cardinal principles that have helped build the continent's achievements over the last few years.

Even though there is a general agreement on the principles of national ownership and national leadership, opinions vary on how best to translate them into action. Mainstreaming disaster risk reduction into national development programmes through National Platforms and/or National Focal Points seem to impress a number of stakeholders but not all.

This path involves a joint process of programme development by government line ministries, UN agencies, donors, non-governmental sectors (NGOs, academic institutions, the private sector, etc.). Those who are in favour of this advocate for government and donor funding of some disaster risk reduction activities (risk identification, vulnerability assessment, community awareness) by National Platforms. Those who are suspicious of it harbour doubts about Governments' cost-sharing and governance capacities, and call for multi-funding and good governance.

As a result, a new form of donorship has emerged spontaneously - and unassumingly, whose most visible features are: commitment, focus, catalyzing, facilitating, cost-sharing, multi-funding, governance. It happens to work.

Ownership/co-sharing vs. multi-funding/good governance? The debate seems to be closed before it has started: *an abortive debate*.

R. Alain Valency
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African Regional Economic Communities, UN bodies, IFRC discuss preparations for Global Platform on DRR

UN/ISDR Africa

Nairobi, Kenya

A meeting called Preliminary African Discussions for the Preparation of the First Global Platform on Disaster Risk Reduction was held in Nairobi, Kenya, on 6 and 7 June 2006, organized by UN/ISDR Africa.

Represented at the meeting were the following African regional economic communities (RECs), UN bodies and international NGOs: IOC (Indian Ocean Commission), IGAD (Inter-Governmental Authority on Development), ICPAC (IGAD Climate Prediction and Applications Centre), UNDP/BCPR (Bureau for Crisis Prevention and Recovery), WFP Regional Office in Uganda, UNEP/DEPI (Division of Environmental Policy Implementation), WHO, UNHCR, UNFPA Kenya, UN-Habitat, ISDR Reference Group, UN/ISDR Geneva, UN/ISDR Africa and the IFRC (International Federation of Red Cross and Red Crescent Societies).

Toward a global forum for stakeholders

The “Preliminary African Discussions” were the first of a series of consultations conducted in Africa, Europe, Asia/Pacific and Latin America/Caribbean as part of activities undertaken in response to a call by UN Under-Secretary-General for Humanitarian Affairs Jan Egeland to strengthen the ISDR System for greater oversight and ownership of the ISDR (as a strategy) by its members, and to respond to renewed political commitment from the 168 countries participating in the January 2005 World Conference on Disaster Reduction.

The ISDR system therefore is being strengthened for effective and integrated action within UN organizations and among other relevant international and regional entities in accordance with their

respective mandates to support the implementation of the HFA adopted at the January 2005 World Conference on Disaster Reduction. One of the strategies to strengthen the ISDR System is the proposed establishment of a global forum called Global Platform for Disaster Risk Reduction (GP/DRR) that has the participation of Governments in addition to UN agencies, regional organizations and civil society organizations.

Meeting took stock of progress in HFA implementation

The meeting was convened to take stock of progress achieved in the implementation of the HFA by partners in the region, and to discuss strategies for strengthening cooperation at international and regional (sub-regional) levels to more effectively support national and local-level disaster risk reduction (DRR) activities in line with the HFA.

It is to be noted that the HFA (*Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters*) calls on international and regional partners to cooperate to advance integrated approaches to building disaster resilient nations and communities, by encouraging stronger linkages, coherence and integration of DRR elements into the humanitarian and sustainable development fields.

The objectives of the meeting were to:

1. Inform on progress in the development of the strengthened ISDR system, build regional ownership for the process and invite regional level inputs.
2. Identify regional priorities in disaster risk reduction for the joint work programme of the ISDR system and discuss the appropriate format to capture these.
3. Develop a regional preparatory process with Governments for the first Global

Platform on Disaster Risk Reduction (GP/DRR).

The expected outcome of the meeting was preliminary inputs to the preparation of the first Global Platform on Disaster Risk Reduction (GP/DRR).

Progress at global level

Since the adoption of the HFA in January 2005, 55 countries have established focal points for reporting to the UN/ISDR Secretariat. A further 40 countries have taken concrete action to address DRR in the five HFA priority areas. More than 30 countries have developed and established a national platform to facilitate the process of shifting from disaster response to DRR and in trying to mainstream DRR into sustainable development. Specific regional, sub-regional and national strategies have been or are being formulated or discussed. Some countries are revising their national policies to ensure that DRR approaches and criteria are reflected. A number of countries are making progress in linking disaster risk reduction to poverty reduction strategies and policies.

At the international level, work has advanced on the following fronts: developing a matrix of commitment and initiatives in support of the HFA; broad consultation for the development of generic, realistic and measurable indicators to help States monitor their achievements; support to national platforms and regional coordination; development of a global information platform which will be a relief and prevention web; launching of a world campaign on education and safer schools to be followed by a world campaign on safe hospitals and health issues; a Knowledge and Education Cluster is activated and is focusing on enhancing school curricula on DRR.

Also, the UN/ISDR Secretariat has reorganized its structure to deal with what it perceives to be the three pillars of its DRR promotion work: (1) policy and

inter-agency coordination; (2) advocacy and public awareness; (3) information and clearinghouse.

Progress in Africa

Martin Owor, the Regional Coordinator of the UN/ISDR Africa Regional Outreach Office (UN/ISDR Africa), briefed participants on progress in Africa. He said the Commission of the Africa Union (AU) and the NEPAD Secretariat, with the support of the ISDR secretariat, established an African Working Group (AWG) on Disaster Reduction, a consultative forum for representatives of Regional Economic Communities (REC) whose mandates include DRR. He said the Group enabled to share reports on members' DRR activities, experiences, challenges and opportunities. He added that the AWG, which met regularly, included the ECOWAS (Economic Community of West African States), SADC (Southern African Development Community), ECCAS (Economic Community of Central African States), IGAD (Inter-Governmental Authority on Development – for eastern Africa and Horn of Africa countries) and ICPAC (IGAD Climate Prediction and Applications Centre).

He also mentioned the following achievements in Africa: the development of the “Africa Regional Strategy for Disaster Risk Reduction” and “Guidelines for Mainstreaming Disaster Risk Assessment in Development” in 2004 by the AU and NEPAD with support from UN/ISDR Africa; the establishment of an Africa Advisory Group (AAG) on Disaster Reduction in 2005 by the AU, whose members include a senior official from the Commission of the AU, DRR focal points from Nigeria, Senegal, Madagascar, Algeria, experts from South Africa, Ghana, Lesotho and Kenya, and UN/ISDR Africa. Also in 2005, the AU organized – with support from UN/ISDR Africa – the “First African Ministerial Conference on Disaster Risk Reduction” during which an Africa Programme of Action for Disaster Risk Reduction was adopted.

In March 2006, a second consultative meeting of African National Platforms for DRR was held, bringing together Education Ministry officials and



Participants at the consultative meeting

representatives of National Societies of the Red Cross/Red Crescent to discuss the mainstreaming of DRR issues into school curricula and joint actions with National Societies of the Red Cross/Red Crescent.

The UN/ISDR Africa regional coordinator also reported that his office had responded to requests from 14 African Governments seeking assistance to establish national platforms, and that the national platforms established in 14 African Countries had made tremendous contributions to DRR in Africa.

Mr Martin Owor also presented some UN/ISDR Africa specific activities that include the development of a disaster reduction training manual and handbook for training institutions in the IGAD sub-region. He added that a meeting for African Ministers and Permanent Secretaries responsible for economic planning and finance was planned for August 2006 to discuss the importance of DRR in sustainable development for the achievement of the MDGs, and mechanisms for mainstreaming DRR into national and sectoral programmes. He also presented other UN/ISDR Africa activities for 2006 that include promoting mass media interest in DRR, increasing support to academia, NGOs and civil society organizations engaged in DRR, and helping national platforms improve their web sites and e-mail communications.

The participants noted that the ISDR System would need to explore existing linkages and build the capacity of regional organizations to engage with each other more constructively, eliminating duplication in programmes and activities.

ISDR Reference Group established to help strengthen ISDR System

Regarding the proposed Global Platform for Disaster Risk Reduction (GP/DRR), Andrew Maskrey of UNDP-BCPR informed the participants that to conduct consultations on the working methods of the proposed GP/DRR and prepare an initial work programme for the GP/DRR to be adopted at its first session, a structure known as “ISDR Reference Group” was established at the 12th Session of the UN Inter-Agency Task Force for Disaster Reduction held in Geneva in November 2005.

Adding that he was assigned to chair the ISDR Reference Group, Andrew Maskrey described the tasks of the Reference Group as follows:

1. Preparing and conceptualizing the first session of the GP/DRR;
2. Drafting an integrated work programme for the strengthened ISDR System;
3. Developing the rules of procedure of the GP/DRR and its Programme Advisory Committee (PAC).

He said the ISDR Reference Group would function up to the first session of the GP/DRR tentatively scheduled for May 2007, adding that the Group was carrying out its work through broad and targeted consultations and that the discussions were to be organized by UN/ISDR regional offices in Africa, Asia/ Pacific, Latin America/Caribbean and Europe.

He said the discussions would be informal, small, focused on the objectives set out, targeting regional inter-governmental organizations, relevant regional partners and regional representatives of the ISDR Reference Group, but each region was free to assess the appropriateness of involving a few national-level representatives, either representing the host country or as national-level practitioners/experts.

Regarding the above-mentioned GP/DRR structure called Program Advisory Committee (PAC), Maskrey said the work of the Committee was to review, endorse and standardize programmes and priority areas, provide coherence in activities and gaps. The PAC should, among other things, lead in the preparation of work programme and establish budget viability. The PAC is expected to foster exchange of good practices and lessons learnt through review and reports from national platforms and regional and thematic networks formed by members of the Global Platform. The PAC is expected to meet three times a year, its membership will be established at the First Global Platform and the criteria for membership are being developed.

The participants raised concern on the issues of membership. They observed that there could be a rotation of members in the PAC, and also that there was need to consider sectoral concerns in order to capture synergies and energies from various actors. In the light of this, it was keenly felt that organizations such as UNEP, WHO, WMO, World Bank, UNDP and others were required to take up a more advanced role in terms of the regional and global platforms for action.

It was observed that while formulating the reformed ISDR System, there should be special considerations for vulnerabilities and special needs, in particular for Africa. It was emphasized that DRR had to be pillared on the

environment, humanitarian elements including recovery and relief, and in development, especially in its most participatory form.

The participants also stressed the need to harmonize sectoral interests and activities and create balances, to minimize duplication of activities and establish a clear mechanism for coherence. They said some space had to be provided for digressing views and interests if the synergies and energies of different stakeholders were to be captured.

Participants' proposals for strengthening ISDR System

Regarding the strengthened ISDR System, Andrew Maskrey informed participants that the Global Platform would have a particular role to advise on commitment to the implementation of the Hyogo Framework, and it would guide various associated networks and platforms.

He added that the Global Platform built on the UN Inter-Agency Task Force on Disaster Reduction that functioned from 2000 to 2005, and it was a global forum for formulating substantive policy and strategies on DRR. The global forum, he said, aimed to promote political commitment and international cooperation at all levels for DRR, adding that the Global Platform would ensure complementarity of plans and actions executed in the implementation of the Hyogo Framework.

Andrew Maskrey said it had been proposed that membership to the GP/DRR had to be open and inclusive to National Governments, that membership would be through a process of recognition/endorsement in line with clear and transparent criteria established and agreed to by the Global Platform, that the Global Platform would have inter-governmental segments that would concentrate on formulation of policies and strategies to address priorities and identify goals.

Another structure to be put in place to strengthen the ISDR system is a "Management Oversight Board" (MOB). Andrew Maskrey said the MOB would provide advice on strategic, managerial

and resource mobilization issues to the Under-Secretary-General for Humanitarian Affairs who is the leader of the ISDR System, the deputy leader being a representative of the United Nations Development Group (UNDG).

Regarding the UN/ISDR Secretariat, it would serve as an independent entity within the UN Secretariat, with a line of accountability to the Under-Secretary-General for Humanitarian Affairs, to serve as an "honest broker", catalyst and main focal point within the UN System on DRR issues. The UN/ISDR Secretariat would continue to promote national ownership and commitment to DRR with support from regional and international partners.

Andrew Maskrey said the Reference Group would, at the completion of its tasks, make submissions to the Under-Secretary for Humanitarian Affairs before the first meeting of the Global Platform.

He urged RECs (Regional Economic Communities) and UN Partner Agencies to support implementation of the key tasks set out in the HFA for States, regional and international organizations, emphasising the need for national action plans at national levels.

UN Resident Coordinators now represent UN/ISDR Secretariat at national levels

The Reference Group chairperson called for more coherent and prioritised international and regional actions by partners to support national actions for DRR. He noted that the strategy, at national level, should build on existing national platforms.

He also reminded participants that UN Resident Coordinators represented the UN/ISDR Secretariat at national levels. He said UN Resident Coordinators ought to get more involved in strengthening and promoting national platforms, in addition to playing a coordination role linking international UN partners.

At regional and sub-regional level, Maskrey noted that building blocks for DRR already existed in some parts of Africa. They include the AU Disaster Risk Reduction Framework, the IGAD Disaster Risk Reduction Framework and the ECOWAS sub-regional framework.

He urged RECs and UN agencies and international partners in the ISDR System to utilise the existing building blocks.

Other activities the RECs were urged to promote at regional level were facilitation of knowledge management and networking, capturing and sharing of best practices and lessons learnt. The RECs were also encouraged to promote and further strengthen cross-border partnerships and existing thematic regional networks that monitor and report on trans-border risks.

On integrated approaches to building resilience to disasters through ISDR System

The ISDR System has the vision for coordinated, integrated and prioritized sets of regional and international activities to support national implementation of the HFA.

The idea of prioritising is not that of merely listing what an organization and the community think should be done, but rather is a systemic analysis of what can be delivered together within a given work plan/time framework. The vision articulated must therefore respond to recommendations and national needs. It must ensure national and global relevance of decisions and must get institutions to work in a more coordinated and coherent way.

The ISDR Reference Group chairperson presented the modalities for operationalizing the new ISDR System as follows:

Work plans should have national, regional, international and thematic components;

- ⊙ Appropriate mechanisms for capturing priorities need to be defined such as a rolling incremental system of a biennial planning;
- ⊙ Building on what is already existing while at the same time taking into account new initiatives;
- ⊙ The format of plans should be result-focused with indicators based on priorities, deliverables, clear descriptions, responsibility, constant review, annual updates, clear measuring tools, and targets;

- ⊙ Prior to the launch of an advisory committee, there should be a mechanism for baseline surveys.

The participants raised the point that individual countries had different sets of vulnerabilities, levels of development and needs, and countries needed to develop their own plans based on their own institutional realities and building on grassroots-level needs. These components could not realistically be addressed in an international and regional planning mechanism. The added value of more coherent priorities and international and regional support could be through the provision of tools and guidelines to address identified implementation challenges, such as mainstreaming hazard risks into sectoral development, showing the cost/benefit of DRR, establishing an effective early warning system, and integrating livelihood concerns into DRR strategies and actions. A major challenge for organizations in the region is to maintain a sustained level of commitment. Another area that could be addressed more effectively is the sharing of good practices.

It was observed that as much as a bottom-up approach to DRR was preferred, there was little linkage between national, regional and global platforms. It is clear that once you have prioritised the needs from grassroots level, you must have the capacity to maintain the linkages up to national and international level. The issue remains: how do you do this with the scarce resources in countries that are prone to risks?

Ultimately, there is need to explore what really works in DRR. There are all sorts of questions that must be addressed: What models work? Must you work with two-three models? Can you work with approaches and best practices from lessons learnt? These and other questions on how plans must deliver cost-effective solutions will be part of the enigma that the ISDR must address in the long term.

The issue of the cohesiveness of plans was a concern. It would seem that DRR strategies and plans are rife with all sorts of plans and stakeholder activity. The issue remains: Where is coherence in all these plans and can they really be tied up together.

The added value of more coherent priorities and international and regional support could be through the provision of tools and guidelines to address identified implementation challenges, such as mainstreaming hazard risks into sectoral development, showing the cost/benefit of DRR, establishing an effective early warning system, and integrating livelihood concerns into DRR strategies and actions.

Recommendations

After welcoming the proposals for strengthening the ISDR System, the participants recommended that a ministerial briefing be arranged to ensure high-level appreciation and commitment to the new System. It was also recommended that a technical-level discussion be organized to set Africa priorities on the agenda of the GP/DRR and develop and integrated work plan.

The meeting noted that the new ISDR System had to use existing linkages and support capacity building for regional organizations to engage with each other, more constructively eliminating duplication in programmes and activities.

The meeting suggested that membership to PAC had to be rotational and also that there was need to consider sectoral concerns in order to capture synergies and energies from various actors. It was keenly felt that organizations such as UNEP, WHO, WMO, World Bank, UNDP should be encouraged to play more active roles in the anticipated establishment of

the regional and global platforms.

It was recommended for the strengthened ISDR System to have special considerations for regions with high levels of vulnerabilities and special needs, in particular Africa.

It was noted that some partner organizations had not attended the preliminary discussions, yet their commitment was important: it was recommended that other strategies were identified to engage them.

Regional partners' expectations from ISDR System

With regard to regional partners' expectations from the ISDR System, the following points emerged from the meeting:

- ⊙ There is need to establish an Africa Regional Platform for Disaster Risk Reduction.

- ⊙ There is need for a more centralized information/knowledge dissemination mechanism.
- ⊙ The ISDR System should build on existing strengths, synergy, energy and sound knowledge base and skills.
- ⊙ Given the time frame, a lot more work, including joint efforts to develop a work programme, were critical if the region was to effectively prepare its contributions to the first Global Platform taking into account all stakeholder interests.

The way forward

The participants said the discussions had revitalised their momentum for DRR. Noting that mainstreaming DRR into African countries' development plans is critical, they said already some strategies had been put forward to the AU and that they had been reported as part of the African Environment Outlook.

Finally, regarding the next steps and the way forward, the participants suggested that:

- ⊙ UN/ISDR Africa brings together a small group of experts to draft an Africa work plan for inclusion in the joint work plan.
- ⊙ Given that the final meeting of the ISDR Reference Group is in February 2007, African contributions to the joint work plan should be ready by the end of January 2007.
- ⊙ The participants serve as a springboard for advocacy for and promotion of the establishment of the proposed Africa Regional Platform for Disaster Risk Reduction. ■

AU Commission, regional bodies, UN agencies discuss ways to implement Africa Programme of Action for DRR

UN/ISDR Africa

Nairobi, Kenya

A meeting to foster interaction amongst regional economic communities (RECs), development partners and specialized institutions to discuss and pave the way forward for the implementation of the "Africa Programme of Action for Disaster Risk Reduction" was held in the Ethiopian capital, Addis Ababa, on 15 and 16 May 2006.

Follow up to adoption of Africa Programme of Action

The meeting was held as a follow-up to the adoption of the Programme of Action by the 8th AU Executive Council Ordinary Session held in Khartoum, Sudan, from 16 to 21 January 2006. A few weeks earlier, in December 2005, the Programme of Action was endorsed by

the First African Ministerial Conference on Disaster Risk Reduction, after its development had been called for by the AU Assembly of Heads of State and Government in July 2004. The African Heads of State and Government were acknowledging an "Africa Regional Strategy for Disaster Risk Reduction" submitted to them after being adopted by the African Ministerial Conference on the Environment (AMCEN) in June 2004.

Represented at the May 2006 meeting were the following bodies:

- ⊙ Africa Working Group (AWG) on Disaster Risk Reduction
- ⊙ African Advisory Group (AAG) on Disaster Risk Reduction
- ⊙ Regional organizations: ECCAS (Economic Community of Central African States), CENSAD (Community of Sahelian and

Saharan States), Drought Monitoring Centre Harare

- ⊙ UN agencies: UNEP, WFP, UNECA (UN Economic Commission for Africa), UNDP/BCPR (Bureau for Crisis Prevention and Recovery), UN-Habitat, the UN/ISDR Secretariat.

AU Commission hailed for "advance" in DRR promotion

In his opening address, the AU Commission (AUC) Director of Rural Economy and Agriculture welcomed the participants and thanked them for attending the meeting despite their busy schedule. On behalf of the Commissioner for Rural Economy and Agriculture, he touched on the objectives of the meeting.

In his statement as a representative of the UN/ISDR Secretariat, Mr Praveen

Pradeshi commended the AU for the advance it had made in the development of an Africa Regional Strategy and an Africa Programme of Action to implement the Strategy. He hailed the consistency between the Africa Programme of Action and the five Priorities for Action of the Hyogo Framework for Action 2005-2015. He told the meeting that a new partnership called “Global Facility for Disaster Risk Reduction” (GFDRR) was

being developed between the UN/ISDR Secretariat and the World Bank, and that the partnership had a special focus on Africa.

“Priorities in Action” adopted

After the opening session, the programme of the meeting was adopted and the proceedings began. The two-day meeting came up with “Priorities in Action” to

be inserted into the Africa Programme of Action. The “Priorities in Action” are actions that are urgently to be taken under the leadership of the AU Commission. As reflected by the table below (combining the Africa Programme of Action and the Priorities in Action), the AU Commission is reflected in all continental and regional activities, for ownership purpose. ■

Africa Programme of Action¹ for DRR & Priorities in Action

STRATEGIC AREAS OF INTERVENTIONS	MAJOR ACTIVITIES (as identified in the Africa Regional Strategy)	EXPECTED RESULTS	RESPONSIBILITY	FOLLOW-UP
1. Increased Political Commitment to Disaster Risk Reduction	1.1. Strengthening lobbying and advocacy for political commitment, responsibility and accountability; Increasing resource allocation for disaster risk reduction.	Advocacy material developed and disseminated among policy and decision makers. Increased number of politicians understanding and interested in disaster risk reduction. Demonstrated commitment to DRR from policy and decision makers. Increased allocation of human and financial resources to disaster reduction.	AU//NEPAD RECs National Governments Civil Society	To create a follow-up team for project formulation. AUC to support ISDR efforts on influencing resource allocation at national level.
	1.2. Strengthening institutional frameworks for disaster risk reduction and defining the structure of Disaster Risk Reduction with incorporation of DRR into national policy and legislation. Priority in action: Facilitate training for Ministries of Finance and Economic Development on how to mainstream DRR in development projects.			The experiences of Senegal, Ghana and Madagascar in mainstreaming DRR into development projects to be used as an example for other countries.
	1.3. Strengthening the capacities of Regional Economic Communities (RECs) to facilitate the implementation of the Strategy.	Technical support provided to RECs for the implementation of the Strategy.		
2. Improved Identification and Assessment of Disaster Risks	2.1. Improving the quality of information and data on disaster risks. Priority in action: Developing an African specific database – Information website building on existing information and website networks and database)	Quality of information and data on DRR improved.	ISDR, OCHA, WFP, UNEP, CRED	Centres of excellence should develop partnership to enable them to go beyond the identification of hazard in their analysis to include vulnerability assessment.

¹ The Programme of action cannot be changed since it was the document adopted by the Executive Council. The Priorities in action are the actions that urgently to be undertaken under the leadership of the African Union. For ownership purpose, the AUC should be reflected in all continental and regional activities.

	<p>2.2. Improving the identification, assessment and monitoring of hazards, vulnerabilities and capacities.</p> <p>Priority in action: Incorporating African Risk Assessment in the ISDR/ World Bank initiative.</p> <p>Inventory of hazards, vulnerability and risk assessment done to date</p> <p>Enhance Disaster Risk Assessment in Africa including through collaboration with ongoing initiatives of the World Bank, UNDP/BCPR, and WFP.</p>	<p>Risk identification and assessment improved.</p> <p>Capacity for hazard and vulnerability mapping and monitoring improved.</p>	<p>AUC, ISDR, WB</p> <p>AUC, ISDR, WFP, WMO, UNEP, WFP, ITU, UNESCO</p>	<p>DRR interventions should take into account the growing negative consequences of the rapid urbanization in Africa.</p> <p>Encourage the incorporation of climatic variability and change study in future DRR studies.</p> <p>There is a need to integrate climatic information and prediction products in the programme /project to be developed.</p>
	<p>2.3. Strengthening early warning systems, institutions, capacities and resource base, including observational and research sub-systems.</p> <p>Priority in action: Awareness and sensitization of the meaning of early warning system should be undertaken</p>	<p>Early warning systems at national and regional levels enhanced; Information on disaster risk reduction among the RECs improved and enhanced.</p>	<p>AUC, RECs</p> <p>ISDR, RED CROSS, WFP, FAO, DMCS, ACMAD, WMO, ITU, WHO</p>	<p>Early warning system should be people oriented, identifying and as far as possible using local knowledge and where necessary to identify and build capacity.</p>
	<p>2.4. Improving communication and information exchange among stakeholders in risk identification and assessment.</p> <p>Priority in action: Facilitate communication and information</p> <p>Strengthen relationship between African Monitoring of the Environmental for Sustainable Development (AMESD) activities and specialized African Institutions in disaster risk management.</p>	<p>Information flow and assessment of disaster risks better coordinated among stakeholders.</p>	<p>AUC, RECs, Technical Agencies, ISDR</p> <p>AUC, RECs, EU, Regional Centres</p>	<p>The AUC, ISDR, ECA, ADB, UNDP/BCPR should work together to promote synergy between DRR institutions at the continental level;</p> <p>AUC, ISDR and other should help strengthen ACMAD, DMC, ICPAC programme areas as it is related to the programme of action.</p> <p>Follow up with WFP for its pilot project climate based insurance scheme in Ethiopia and Mali and investigate its application to other countries.</p>
	<p>2.5. Engendering and improving the integration and coordination of risk identification and assessment processes and interventions.</p> <p>Priority in action: Identify African Centres and Institutions that have the skills and “resources” to undertake risk and vulnerability assessment and use of them for this purpose.</p> <p>Identify in-service training institutions and use them for training mainstreaming DRR in the development projects.</p>		<p>AUC, ISDR, UNDP/BCPR, WFP, Red Cross</p> <p>ISDR, UNDP, ICDO(international Civil Defence Organization)</p>	

3. Increase Public Awareness of Disaster Risk Reduction	<p>3.1. To promote integration of disaster risk reduction in education</p> <p>Priority in action: To improve information dissemination and communication: Identify key partners (Refer to the Secretary General Report on Early Warning and the latest version of "Living with Risk" – ISDR 2004 Edition).</p> <p>To expand the role of the media: Capacity building in the media sector to bring them to understand DRR is a development issue.</p>	<p>DRR incorporated in select secondary and tertiary education institutions</p> <p>Network and partnership with media developed</p>	<p>AU//NEPAD RECs</p> <p>UNESCO, UNICEF, UNISDR, UNDP, UN HABITAT, UNIFEM</p> <p>National Governments</p>	<p>Curriculum developers at national level should not be left out in the training process;</p> <p>Universities and centers of excellence should also be involved in the development of teaching curricula</p> <p>Include DRR in commemoration of Africa Environment Day.</p>
	<p>3.2. To strengthen the role of traditional and local authorities and experience.</p> <p>Priority in action: Experiences and knowledge of International NGOs (ActionAid, Oxfam, Red Cross, Save the Children) to be used to strengthen the role and experience of traditional and local authorities and other opinion leaders</p>	<p>Activities carried out for enhancing the role of traditional and local authorities, including training</p>	<p>Civil Society</p>	
	<p>3.3. To strengthen the role of the youth and other major groups in disaster risk reduction.</p>	<p>Youth, women and elderly engaged in DRR Systems for information dissemination and communication developed.</p>		
4. Improve Governance of Disaster Risk Reduction Institutions	<p>4.1. Assessment of existing capacity</p>	<p>GAP Analysis established for each member State</p>	<p>AU//NEPAD RECs</p> <p>AfDB, WB, ISDR, UNCT, UNDP, UNECA</p>	<p>UN/ISDR should associate RECs and AUC in his country activities particularly with the country platform.</p>
	<p>4.2. Harmonizing terms and policies in disaster risk reduction: AfDB and WB should be actively engaged in the preparation of national programmes and projects under the national platforms.</p>	<p>Support provided to harmonize DRR terms and policies at national and regional levels.</p>	<p>National Governments</p> <p>Civil Society</p>	
	<p>4.3. Developing national platforms for disaster risk reduction and Promoting increased inter-country cooperation and coordination.</p> <p>Priority in action: To enhance the participative approach in building the national platform and transboundary cooperation on DRR issue.</p> <p>To request UN Resident Coordinator to support country processes.</p> <p>Actively engage UN country team and UN ISDR Africa in the assessment of country capacity and setting up national platforms.</p> <p>Strengthening decentralization of disaster risk reduction interventions.</p>	<p>National platforms developed in all REC member countries.</p> <p>Decentralization of DRR. Inter-country cooperation and coordination promoted and supported.</p>		<p>As part of the DRR development, the structure of national platform could be decentralized at community level as necessary to ensure wide application of risk assessment.</p>

	<p>4.4. Increasing public participation in planning and implementing disaster risk reduction interventions</p> <p>Priority in action: To develop the concept public-private partnership for sustainability in the DRR at local, national and sub-regional levels taking into account the role played by ECA on the issue.</p> <p>Encourage partnership with Private sectors top strengthen capacity on DRR</p>	Public participation in DRR increased especially at local level.		
	<p>4.5. Increasing gender sensitivity of disaster risk reduction policies, legislation and programmes.</p>	Gender concerns and needs in DRR increasingly addressed.		
5. Integrate Disaster Risk Reduction in Emergency Response Management	<p>5.1. Advocating the inclusion of disaster risk reduction in development strategies at local, national, sub-regional and regional levels.</p> <p>Priority in action: Enhance partnership between WFP, UN OCHA and RECs in contingency planning at the country, sub-regional and regional levels.</p> <p>5.2. Preparing and disseminating the Guidelines for Mainstreaming Disaster Risk Assessment in development planning and activities.</p> <p>Priority in action: AU to translate the "Guidelines" prepared by UN ISDR, UNEP, UNDP and AfDB into working languages of the Union and to disseminate among Member States.</p> <p>Facilitate the adoption of the Guidelines by the national platforms</p>	<p>Advocacy material developed to facilitate the integration of DRR into development planning and practice.</p> <p>Consultation/training, through RECs, for capacity building for inclusion of DRR by AU/NEPAD.</p> <p>Guidelines for mainstreaming DRR into sustainable development prepared in AU working languages.</p>	<p>AU/NEPAD, AfDB and RECs</p> <p>UN Agencies (WFP, UIN OCHA, UNEP)</p> <p>National Governments</p> <p>Civil Society</p>	
	<p>5.3. Facilitating the orientation of emergency response management towards disaster risk reduction.</p> <p>Facilitating the strengthening of contingency planning and other preparedness measures in emergency management.</p>	<p>Orientation of emergency response management towards disaster risk reduction facilitated.</p> <p>Facilitation given for the strengthening of contingency planning and other preparedness measures in emergency management</p>		
6. Overall Co-ordination and Monitoring of the Implementation of the Strategy	<p>6.1. To provide a secretarial support AU and NEPAD in their efforts to pursue the implementation of the Strategy and Programme of Action and to strengthen Human resources, material and financial capacity of RECs to support AU and NEPAD in the implementation of the Strategy and Programme of action</p>	Secretarial support to AU and NEPAD provided for effective implementation of the Strategy and Programme of Action	UN/ISDR-Africa (with UN Country Team and UN OCHA)	
	<p>6.2. To co-ordinate the mapping of the priority needs in the region.</p> <p>Priority in action: National platform to coordinate mapping of priority needs at the country level</p>	Priority needs in the region are well mapped and co-ordinate	UN/ISDR-Africa (with UN Country Team and UN OCHA)	

	<p>6.3. To lead the process of linking the implementation of the strategy with WCDR outcomes.</p> <p>Priority in action: AUC, RECs and national platforms and UN ISDR to supervise the process if linking the implementation of the Strategy with HFA</p>	<p>The implementation of the strategy is well linked with WCDR outcomes in Africa</p>	<p>UN/ISDR-Africa (with UN Country Team and UN OCHA)</p>	
	<p>6.4. To co-ordinate the collaboration with development partners for the integration of DRR into development programmes in Africa</p>	<p>Integration of DRR into development programmes in Africa is well co-ordinated the collaboration with development partners</p>		
	<p>6.5. To facilitate the development of sub-regional strategies in order to harmonise with the Strategy and ISDR:</p> <p>Priority in action: Facilitate the development of sub-regional strategies in line with the regional strategy and HFA.</p>	<p>Sub-regional strategies developed in harmony with the Strategy and ISDR</p> <p>RECs and AU capacity are strengthened</p>		

UN ISDR AFRICA activities in 2006

With the progress and impacts it has made since it was established in October 2002, the UN/ISDR Regional Outreach Programme in Africa – also known as UN/ISDR Africa – carried out its work in 2006 through outreaching, networking, cooperation, coordination and partnership (with major stakeholders in Africa) on the basis of a *catalytic* approach to its overall objective of “contributing to saving lives and assets through improved risk management and disaster prevention culture” in line with the Priorities for Actions set in the HFA. Such a *catalytic* approach is particularly suitable for promoting national ownership of the disaster reduction process. It is also a key not only to a successful implementation of the ISDR but also to the cost-effectiveness of any actions and programmes undertaken on a huge African continent characterized by limited human, financial and technological resources.

Areas of focus in 2006

To foster national ownership of the disaster reduction process, UN/ISDR

Africa continued to provide tailored assistance to the establishment of national platforms with national leadership and cost sharing. At the same time, UN/ISDR Africa endeavoured to reinforce partnership with already established ISDR National Platforms through mutual support in disaster reduction initiatives. UN/ISDR Africa’s areas of focus in 2006 were:

- ⊙ Supporting Policy & Strategy Development
- ⊙ Advocating & Raising Awareness in Disaster Risk Reduction
- ⊙ Promoting Information Sharing & Knowledge Exchange
- ⊙ Forging networks, partnerships & coordination in mainstreaming disaster risk reduction into development

Implemented & ongoing activities in 2006 Under the guidance of the UN/ISDR Secretariat Director and with the support of colleagues in the Geneva Head Office, UN/ISDR Africa was able to consolidate its constructive working relationship with

regional and sub-regional organizations and National Governments, and made some tangible progress in the implementation of the ISDR and the HFA in Africa.

Regarding the year 2006 in general, UN/ISDR Africa focused on the above-mentioned four areas on the basis of the following priorities.

Priority 1: Promote Disaster Risk Reduction Policy Development and Inter-Agency Coordination at national, sub regional and regional levels

1.1. Establishing a larger number of national platforms

One of UN/ISDR Africa’s major areas of work is establishing formal working relations with National Governments, in order to promote ownership of disaster reduction and its mainstreaming into development planning and programmes. Establishing national platforms is a means of generating such ownership at national level.

To date, in addition to existing ones in Djibouti, Madagascar, Uganda, Comoros,

Botswana, Congo, Gabon, Kenya, Senegal, Mali, Nigeria, Seychelles and Tanzania, and in 2006, the official launching of Ghana National Platform on Disaster Risk Reduction in 2006 expanded the worldwide network of National Platforms that form part of the global implementation of the ISDR and HFA.

1.2. Facilitating the Second African National Platform Consultative Meeting on Disaster Risk Reduction

The “Second African National Platform Consultative Meeting on Disaster Risk Reduction” was held from 13 to 17 March 2006 in Nairobi, Kenya, attended by 50 participants from countries with ISDR national platforms, countries intending to establish national platforms, Officials from the Ministries of Education, representatives of National Red Cross/Red Crescent, UNDP Country Office, UNDP Drylands Development Centre, UN/ISDR Geneva and Africa. The consultative meeting served as a forum to: (1) Provide a forum for focal points of national platforms in Africa to share their successes and lessons learnt in coordinating national platforms for disaster risk reduction; (2) Provide a three-day training course to national platform focal points; (3) Review the effectiveness and relevance of the existing guidelines for the establishment of national platforms; (4) Discuss the possible ways to engage more policy makers and general public in annual campaign – disaster risk reduction Begins at School; (5) Discuss the possible ways to integrate disaster risk reduction into primary and secondary school curricula; (5) Build consensus on the major theme for the third consultative meeting: mainstream disaster risk reduction into PRSPs.

1.3. Facilitating the Second meeting of the African Advisory Group on Disaster Risk Reduction

To follow up with the outcomes of WCDR II and to implement the HFA, UN/ISDR Africa established, in 2005, an Africa Regional Forum of National Platforms for Disaster Reduction and an Africa Advisory Group (AAG) on Disaster Risk Reduction to build trust and advance partnership with National Governments in promoting DRR and its mainstreaming into development planning and programmes.

The “Africa Advisory Group (AAG) on Disaster Risk Reduction” held its Second meeting in Nairobi, Kenya, on 18-19 March 2006 in Nairobi, Kenya with the active participation of an AU senior official, government representatives from Nigeria, Senegal and Madagascar, and experts from Lesotho, South Africa and Algeria. The AAG meeting was to review the progress made in Africa on advancing disaster risk reduction. It was also decided that the AAG membership should be extended to a Regional and sub regional organizations.

1.4. Supporting the Economic Community of West African States Secretariat (ECOWAS) in developing a sub-regional policy on disaster risk reduction

The ECOWAS Council of Ministers’ 51st Session, held in December 2003 in Accra, Ghana, established a Technical Committee on Disaster Management to recommend ways to operationalize a disaster prevention and reduction capacity. A meeting of the Technical Committee was convened from 8 to 10 March 2005 to discuss the required institutional and legal framework, common policy, operational framework and resource mobilization, and to outline the modalities for the establishment of a disaster management mechanism in West Africa. One of the recommendations was to develop a common DRR policy in the sub-region.

At the request of the ECOWAS Secretariat, UN/ISDR Africa supported ECOWAS in the development of a common policy and mechanism for Disaster Risk Reduction. From 08 to 10 August 2006, ECOWAS Secretariat called for experts meeting to discuss the draft policy and finalize it. The document was finalized and supposed to be presented to the Council of Ministers for adoption.

Priority 2: Increasing awareness of disaster risks (raising general awareness of disaster risks through advocacy, production of newsletters, information kits and educational material, and in-depth analysis of disaster impact on socio-economic development)

2.1. High-level advocacy on disaster risk reduction

Keeping the momentum gained at WCDR II and implementing the priorities for action underlined in the HFA require increased understanding and interests among higher-level national government officials, especially heads of state and government. To face up this challenge, UN/ISDR Africa has forged a very sound partnership with African National Governments and regional organizations to promote understanding of disaster risk reduction and address it in the context of sustainable development in Africa.

UN/ISDR Africa in cooperation with UNEP Regional Office for Africa (UNEP ROA) were able to carry out higher-level advocacy on disaster risk reduction in advocating (1) the integration of environmental dimensions into disaster risk reduction programmes in the context of the Africa Regional Strategy for Disaster Risk Reduction during the last African Ministerial Conference for Environment (AMCEN) from 23 to 26 May 2006 in Brazzaville, Republic of Congo; (2) the consideration of Disaster Risk Reduction into Least Developed Countries Mid term Review which was held in Cotonou, Benin, from 5 to 7 June 2006.

UNISDR Africa also supported Policy Makers participation to an International Conference on Disaster Reduction to increase their understanding and the integration of disaster risk reduction in development programme, planning at national level.

2.2. Biannual journal on disaster reduction in Africa

Since the launching of its biannual newsletter/magazine, UN/ISDR Africa has received increasing requests for copies, growing contributions in the forms of article, and institutional interests and contribution.

The newsletter/magazine, now available in English, French and Portuguese, was, in 2005, evaluated by the national platforms and disseminated in various ways: online, by e-mail, by mail and during workshop/consultations/meetings and other events.

2.3. UN/ISDR Africa’s networking at national, sub-regional and regional levels

Expanded networking with UN agencies and regional and sub-regional organizations has helped to strengthen information sharing and knowledge exchange on disaster reduction. UN/ISDR Africa has a mailing list of over 900 names and disseminates information through electronic networks and UN agencies.

2.5. Facilitating and supporting the development of a training manual on disaster risk reduction

At the request of the Secretariat of the Inter-Governmental Authority on Development (IGAD), UN/ISDR Africa facilitated and supported IGAD's efforts to develop a training manual on disaster risk reduction. The training manual aims at increasing understanding of the subject and the capacity of national governments in IGAD member countries. IGAD with the support of UN ISDR Africa organized training for disaster managers in the region to test the training manual developed.

2.6. Campaign for the International Day for Disaster Reduction (IDDR): Facilitating IDDR activities

The theme of the 2006 annual campaign is "Disaster risk reduction begins at School". UN ISDR Africa will co-organize, in cooperation with the South African Government, an African event to be held in Cape Town, South Africa.

Priority 3: Encouraging consultations and promote cooperation and collaboration (initiating and encouraging multi-level and multidimensional consultations on specific subjects related to disaster reduction through formal and informal meetings at national, sub-regional and continental levels)

3.1. Partnership with UNDP Drylands Development Centre (UNDP/DDC)

The idea of a discussion forum on issues of drought risk and development policy in Africa was conceived during an April 2003 during a UN/ISDR-hosted meeting of the UN *ad hoc* Working Group on Drought. A broad range of

drought experts from various institutions discussed the issue of drought as a development issue. The participants to the April 2003 meeting also agreed that there had to be a global network of drought networks or at least of networks more focused on the policy and risk reduction and development aspects of drought.

To increase understanding of the drought issue in Africa, UN/ISDR Africa, in partnership with UNDP Drylands Development Centre, is organizing the Second Africa Drought Conference from 16 and 17 October 2006.

3.2. Set of booklets published

UN/ISDR Africa is developing a set of booklets aimed at facilitating the creation of enabling environments for mainstreaming disaster risk reduction by increasing understanding on the linkage between disaster risk reduction and various sectors for government officials, community leaders and school children. UN/ISDR Africa has constantly received new requests for more copies of the booklets from National Governments, UNDP country offices, regional organizations in Africa and educational institutions.

3.3. Support to AU Commission on the African Working Group for Disaster Risk Reduction

UN/ISDR Africa supported the AU Commission Department of Rural Economy and Agriculture on the implementation of the *Africa Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction* that was the outcome document of the First African Ministerial Conference on Disaster Risk Reduction held in Addis Ababa, Ethiopia, from 5 to 7 December 2005 and adopted by the African Union Executive Council in January 2006 in Khartoum, Sudan.

Following the December 2005 Ministerial Conference in Addis Ababa, and the adoption of the Africa Programme of Action by the African Union Executive Council in Khartoum, Sudan, the African

Union Commission called a meeting between the African Working Group and Advisory Group for Disaster Risk Reduction with regional organizations and UN agencies to discuss ways to implement the Programme of Action. The meeting came up with "Priorities in Action" for the Programme of Action under the leadership of the African Union.

Priority 4: Facilitating the implementation the Hyogo Framework for Action 2005-2015 (facilitating African regional implementation in cooperation with National Governments, sub-regional and regional intergovernmental organizations and the UN System)

4.1. Various training on tsunami and related risks for the Eastern Coast of Africa

To assist African countries affected by the December 2004 Indian Ocean tsunami and to increase understanding of tsunami risks, UN/ISDR Africa supported 10 countries along the Southwestern Indian Ocean Countries in raising community awareness on tsunami risks through various workshops at national level and integrating disaster risk reduction in school curricula through the organization of a training for trainers in Nairobi, Kenya, from 11 to 13 May 2006. Back home, the participants trained teachers on disaster risk reduction and were to develop a students' textbook and a teacher's guide for use in class.

UN/ISDR Africa organized a consultative meeting for journalists (television, radio and print) from 13 to 15 June in Nairobi, Kenya. The consultative meeting aimed at increasing their understanding on disaster risk reduction issue amongst journalists who in turn will have to assist the National Disaster Management Unit in raising public awareness on disaster risk reduction along the Indian Ocean Coast. 30 journalists attended the consultative meeting and joined the existing journalists' network called "Journalists in Africa for Disaster Risk Reduction Network" (JADRR Net). ■

EASTERN & SOUTHERN AFRICA: Educationists from coastal, island States discuss students' textbook on disaster risks

UN/ISDR Africa
Nairobi, Kenya

A regional training workshop on the development of a school students' textbook on tsunami risk, other disaster risks and disaster risk reduction (DRR) was held in Nairobi, Kenya, from 11 to 13 May 2006, organized by UN/ISDR Africa.

The workshop was attended by Education Ministry officials from seven Indian Ocean coastal and island states in Africa: Mozambique, Kenya, Somalia, Djibouti, Seychelles, Comoros and Madagascar. South Africa, Tanzania and Mauritius could not send their representatives.

The 10 countries above are all exposed to Indian Ocean tsunami risk. Of the 12 countries affected by the 26 December 2004 Indian Ocean tsunami, five were in Africa.

The workshop was a follow-up to a regional consultative meeting organized by UN/ISDR Africa in March 2006 which discussed, among other things, the "Mainstreaming of Disaster Risk Reduction into School Curricula", a meeting attended by Education Ministry officials from 19 African countries.

Workshop objectives

As mentioned earlier, the purpose of the May 2006 training workshop was to develop a school students' textbook on tsunami risk, other disaster risks and disaster risk reduction (DRR) through increased understanding of tsunami and other risks – as the Education Ministry officials present were to impart the knowledge acquired to primary and secondary school teachers in schools located along the Indian Ocean in their home countries.

The workshop was also expected to enable the participants to share



Participants at the Regional Training Workshop on Education

experiences of mainstreaming DRR into school curricula.

Mainstreaming DRR into school curricula? Experience from the 2004 Indian Ocean tsunami and other disaster events show that raising awareness of and teaching school children how to reduce disaster risks can make a difference in the event of a disaster. For instance, 12-year old British girl Tilly Smith saved hundreds of lives on a Thailand beach on 26 December 2004. Recognizing the early signs of a tsunami from her geography lessons in Britain, she warned her parents and hundreds of people left the area ahead of the tsunami waves' landfall.

Workshop proceedings

After a number of presentations on natural and man-made disasters and on disaster risk reduction and its importance for sustainable development, group discussions were held on the following topics:

- ⊙ Country experience of tsunami, related risks and school teaching of tsunami and/or other disaster risks;

- ⊙ Development of generic tables of contents for a students' textbook and a teachers' guide, and the development of national action plans for introducing DRR issues in classes.

Recommendations

Each country represented at the workshop submitted a draft national action plan and training programme – as the school teachers attending the meeting were expected to train a number of other teachers upon their return home. The workshop participants also made the following recommendations:

- ⊙ The students' textbook should focus on local context.
- ⊙ Every country should add a chapter on specific risk in their regions, in addition to tsunami risks.
- ⊙ DRR should be mainstreamed into school curricula by integrating it into already existing subjects – because school children already have heavy workload.

- ⊙ The participants shall keep in touch with one another to learn from others' experiences.

The next steps

The participants agreed to carry out the following activities by 15 June 2006:

- ⊙ Return home, report to educational authorities by 17 May

- ⊙ Seek approval for proposed plan
- ⊙ Identify possible teachers' groups, potential task team members by 18 May
- ⊙ Formulate plan for working group
- ⊙ Begin pilot project with selected group by 20 May
- ⊙ Undertake training session(s) by 1 June

- ⊙ Identify artist to develop textbook pictures/illustrations
- ⊙ Identify from among trainees in home country a small group to prepare students' textbook and prepare draft by 20 May

The participants agreed to allocate a week for planning until 19 May, after which concrete action would start on 22 May. ■

Journalists from east coast of Africa discuss disaster reporting from a DRR perspective

UN/ISDR Africa

Nairobi, Kenya

A regional consultative workshop on Media and Disaster Reduction for Countries along the East Coast of Africa was held in Nairobi, Kenya, from 13 to 14 June 2006, organized by UN/ISDR Africa.

The workshop was attended by journalists from Mauritius, Seychelles, Comoros, Madagascar, Tanzania, Kenya, Somalia and Djibouti. A Zambian journalist, who is particularly active in disaster reduction reporting, was also invited.

The two-day workshop focused on how the media could report disasters before and after they happen and influence governments and policy makers to make

disaster risk reduction a priority at national level. Indeed, journalists can play a major role by highlighting issues that may threaten the socio-economic status of the society.

Workshop objectives

The main objectives of the regional consultative workshop were the following:

1. Raise media awareness of the nature and scale of natural disasters in Africa and their increasing impacts on people's livelihoods.
2. Discuss media promotion of the Hyogo Framework for Action (HFA) and Africa Regional Strategy for Disaster Risk Reduction.

3. Discuss media strategies for engaging more policy makers and the general public to appreciate disaster risk reduction as a development priority.
4. Discuss the establishment of monthly inter-media (print/electronic and inter-house) forums on DRR.
5. Engage the media in the UN/ISDR 2006-2007 world campaign under the theme "Disaster Risk Reduction Begins in School".
6. Discuss increased media collaboration with national platforms for DRR in Africa.

Proceedings

After various presentations on DRR and its importance for sustainable



Journalist participants at the consultative meeting

development, the participants were divided into three groups.

After reflecting on disaster reduction terminology, most of the participants said the media in their countries were not involved in national platforms for DRR. The following findings emerged from the group discussions:

Findings from each journalist

1. Lack of political will and prioritization of disaster risk reduction; more priority is given to other development issues such as hunger, poverty, health.
2. Getting information from Government officials is difficult.
3. Lack of transparency from Government officials when disaster strikes.
4. For interview and research, journalists are referred to so many people and sometimes the very people you expect to give the right information must also consult before issuing statements.
5. Information given to the media are sometimes conflicting and this has been a major setback
6. The media are not invited to participate in national platform meetings.
7. Lack of interest for disaster reduction from journalists.
8. Disaster reporting from a disaster reduction perspective requires more research by journalists.
9. Lack of staff to deal with various issues and lack of concentration on disaster issues until next disaster strikes.
10. Addressing disasters before they are officially declared disasters is a tricky issue: journalists' fear of being arrested.
11. Access to Internet restricted.

Findings from each country

KENYA: Most media houses in Kenya have now developed categories of reporters to specialize in various fields (including DRR).

MAURITIUS: The Government has put in place a national multi-sectoral

coordination mechanism. People are being sensitized on disaster risks.

ZAMBIA: There is need for empowering journalists to enable them go to disaster-affected areas and get the necessary information. Journalists are poorly paid and this makes them have no interest in working hard carrying out research. There is also lack of specialization. Most of journalists are not interested in environmental issues. There is need to influence policy makers and sensitize the general public.

COMOROS: Population need to be made aware of disaster risks through the media.

SOMALIA: Immediate action needed to sensitize people on the need for evacuation in the event of some disasters. Wars and killings are Somalia's main disasters.

SEYCHELLES: Building back better is needed after disaster events.

Strategies for more media involvement in disaster reduction

Regarding media involvement in disaster reduction, the participants made the following suggestions:

- ⊙ Set up special news desks dealing with disaster risk reduction and management.
- ⊙ Use community radio stations to broadcast in local languages, at market places, churches and public gatherings for raising awareness.
- ⊙ Develop a culture of follow-up: disaster-related stories should be followed up to the recovery stage.
- ⊙ Capacity building for editors to develop their interests in assigning reporters to cover disaster reduction stories.
- ⊙ Introduce television and radio talk shows where disaster experts are invited. UN/ISDR can help identify experts.
- ⊙ Mobilize other journalists to work on DRR issues.
- ⊙ Empower journalists involved in DRR reporting through sponsorship of their education in the field.
- ⊙ Work in collaboration with national

platforms to pass all available information on impending disasters and DRR to the public.

- ⊙ Make use of future UN/ISDR Resource Centre for research purposes.
- ⊙ Come up with exchange programmes under which journalists can meet and exchange ideas from their regions and countries.
- ⊙ Organize field meetings in disaster-prone areas to fully empower journalists. Such meetings will help journalists highlight local realities.
- ⊙ Make use of the Hyogo Framework for Action as a basis for raising awareness among policy makers and the general public, and for disaster reporting.

The way forward

Regarding the next steps, the journalists agreed on the following:

- ⊙ Write more stories on DRR and change the reporting style so that DRR stories are given the same priority as any other story. Journalists must strive to carry out more research and get statistics and not just write for the sake of filling up a page or airtime.
- ⊙ UN/ISDR should influence Governments to involve journalists in DRR decision making, especially within national platforms.
- ⊙ UN/ISDR to organize inter-ministerial conferences on DRR and invite journalists.
- ⊙ Organize more workshops at regional or national level and train more journalists on DRR issues within the next six months.
- ⊙ Establish monthly or yearly meetings for journalists in this field, where they will meet and deliberate on what they will have done and their recommendations.
- ⊙ UN/ISDR Africa will continue to fund workshops to equip the media with the necessary knowledge - as far as resources permit and on provision of prudent strategies. ■

ANGOLA: Pilot project launched to pave way for national early warning system

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A pilot project on flood early warning system has been launched in flood-vulnerable and densely populated areas along Coporolo, Cavaco and Catumbela rivers in Benguela Province, western Angola.

The pilot project aims to provide flood warning information and enable local residents to take protective actions under the coordination of the National Civil Protection System (SNPC in Portuguese). Its implementation has been agreed with Benguela provincial authorities in the framework of a UNDP-funded project called "Supporting the creation of a Civil Protection System". After this first experience, the SNPC will promote the implementation of a national early warning system covering at least four provinces in the next three years.

The pilot system involves six phases: (1) data collection; (2) data updating and storage; (3) data analysis; (4) flooding forecasts; (5) warning dissemination; (6) action by civil protection agents in the field.

It will generate public warnings under three colour/level displays (blue, yellow and red) that reflect three different levels of danger corresponding to three different sets of preventive measures to be taken. Flags will be placed in strategic points in those communities vulnerable to floods, and the preventive measures disseminated by the media through bulletins.

A network of three remote automatic stations with precipitation and river water level measurement sensors is been installed to supply data to the system. These stations will be installed in strategic points along Coporolo, Cavaco and Catumbela rivers, with the option to transmit – via satellite – real-time data through a computer terminal located at

The three-colour warning system

Blue – River water level is increasing because of strong rainfall in the watershed. It is getting closer to a point where floods might threaten a specific community. Provincial SNPC puts local authorities and residents under alert and urges them to monitor next warnings.

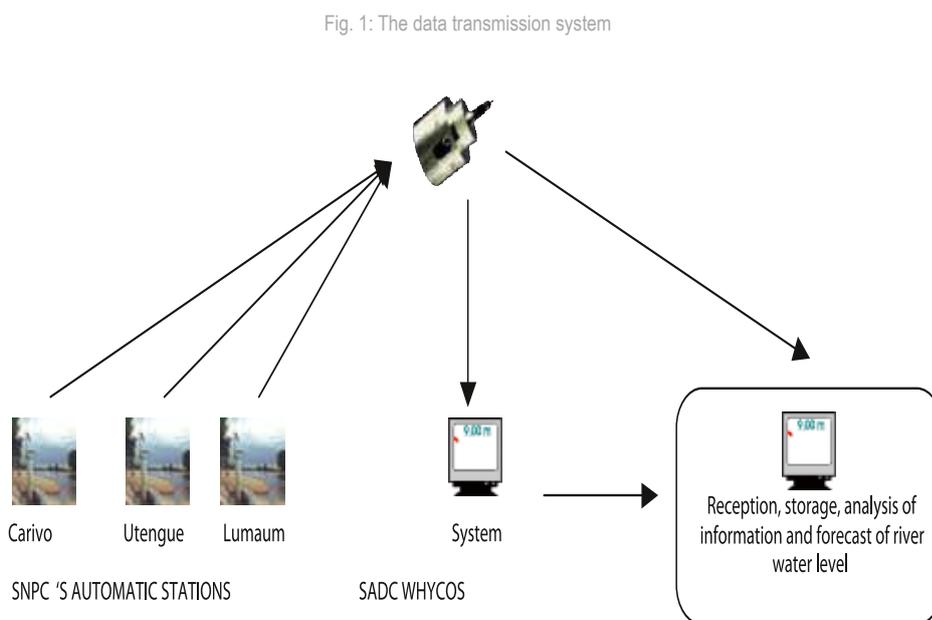
Yellow – River water level has reached the level of flooding in a specific community; strong rainfall continues in the watershed. Provincial SNPC helps local authorities and residents adopt preventive actions to mitigate and reduce the impact of the flood, and asks them to get informed of warnings.

Red – River water level is above the level of flooding in a specific community. Strong rainfall continues in the watershed. The SNPC helps local authorities and residents to evacuate.

the SNPC Benguela office. Additional data on precipitation and river water level will be supplied to the system through a conventional network that includes pluviometers and mobile rain gauges.

Local leadership structures (administrative, communal, traditional,

religious) and local communities will be involved in continuing educational programmes on early warning system and preventive measures to reduce the impact of floods. ■



16 African countries establish, on their own initiative, a regional centre for risk prevention. In the light of the 2004 tsunami, the 16 coastal countries of the Gulf of Guinea also want to address marine environment risks.

GULF OF GUINEA: Regional centre for risk prevention established in Gabon

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Mankind has been exposed for several years to a disturbing rise in risks and disasters which is seriously affecting the most vulnerable countries, increasing their vulnerability further.

Among the most recent major disasters is the tsunami triggered by an earthquake in Banda Aceh, Indonesia, on 26 December 2004. The tsunami affected eight southeastern Asian countries and filled humanity with consternation, leaving populations in a state of utter destitution. It also affected the coastal regions of southern Africa, which shows that disasters have no borders.

A few weeks after this tragedy, the Second World Conference on Disaster Reduction took place in Kobe, Japan, from 18 to 22 January 2005. Recommendations made at the Conference include the strengthening of existing preventive systems, the establishment of preventive systems in countries where they do not exist, and the establishment of an early warning system for the most vulnerable countries – southeastern Asian countries, followed by the rest of the world.

16 countries' common initiative related to marine environment

In the light of the tragic tsunami event, 16 coastal countries of the Gulf of Guinea decided to establish a centre known as "Regional Centre for Risk Prevention" (Risk Science) in the Gabonese capital city, Libreville. The Centre is in line with the global objectives of sustainable development advocated by the 2002 World Conference on Sustainable

Development in Johannesburg which, among other issues, stressed the importance of disaster reduction. The 16 countries' common initiative encompasses both the mainland and marine environment.

Member countries of the Regional Centre are: Guinea-Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Sao Tome and Principe, Gabon, the Republic of Congo, the Democratic Republic of Congo and Angola.

The risks identified

The main risks identified in the region are:

- ⊙ Hydro-climatic risks, particularly floods;
- ⊙ Atmospheric risks: winds (the "Harmattan"), squalls which cause the destruction of makeshift structures, tornadoes, drought, and all phenomena contributing to « desertification and aridification » which in turn affect the physical environment and social system;
- ⊙ Risks related to external geodynamics, which affect the soil surface: water erosion (striations, gulches, gullies, mega ravines, erosion amphitheatres); wind erosion; movements (gravity flows, geomorphic movements); and other risks such as landslides, rock slides, sagging, etc.;
- ⊙ Risks linked to internal geodynamics or tectonic hazards (earthquakes, volcanic eruptions);
- ⊙ Anthropogenic risks, especially technological risks caused by industrial developments;
- ⊙ Risks from complex interactions between natural and man-made risks

(health risks affecting countries in the region).

Promoting prevention

The Regional Centre for Risk Prevention (Risk Science) aims to promote prevention through a number of activities focusing on the major components of prevention, especially risk identification, feedback, risk typologies, a regional atlas of natural risks, risk mapping, etc. The overall objective is to make prevention so dynamic that it prompts the various countries to take ownership of the Centre's outputs to put in place whatever they can afford to mitigate the possible impacts of disaster risks. This implies clear specific objectives that are considered as priorities to be translated into very specific actions.

The resulting preventive policy will focus on the following:

- ⊙ *Promoting coastal risk prevention within the trans-boundary framework of the region's 16 countries.* The aim is to protect the marine ecosystem which has experienced degradation such as loss of biodiversity, pollution, mangrove forest destruction, declining fish stocks, destruction of houses, marine erosion, etc.;
- ⊙ *Preventing mainland, natural and human-made (technological) risks in the 16 countries.* Encompassing both minor and major risks, the prevention strategy to be proposed to the 16 countries will depend on risk complexity and the relatively high frequency of some phenomena, their complexity, their outward signs and their impacts on the geo-system and socio-system. These phenomena increase people's vulnerability. In addition, risk perception varies from

one country to another. Indeed, as a result of the phenomenon of recurrent risks, the notion of major risk may be misleading even though it has retained its meaning on the ground. Therefore, risks identified by the Centre will be based on risk culture in each region, for what is perceived to be a major phenomenon in a given region may not be so in another. In fact, the notion of risk culture is a determining factor in the development of an effective risk management policy at global level. In most countries of the globe, a number of major phenomena rarely occur, whereas others strike with intensity and often have significant impacts. The notion of risk culture is therefore important in each country. It is clear that each country assigns some meaning to disasters affecting its society and that such a meaning influences the country's collective memory of such disasters. This needs to be taken into account when interpreting as well as formulating risk prevention policies;

- ⊙ *Risks from natural and technological hazards*: Some health risks result from the complex manifestation of natural and technological hazards. Emerging health risks facing mankind as a whole are excluded from this list: AIDS, avian influenza and others. The risks considered include epidemics, illnesses associated with water in the case, for instance, of floods or industrial developments. They are the "predominant impacts";
- ⊙ *Identifying risks with a view to adopting a multi-risk approach*. This implies: (1) identifying risks faced by each country and selecting "main", recurrent risks on people exposed to them and leading to degradation of the physical environment; (2) identifying risks common to all the countries concerned, and identifying shared areas of vulnerability; and (3) developing an atlas of natural risks affecting countries of the region. The multi-risk approach is expected to facilitate deeper understanding of risk, and consequently, better handling of the phenomena identified. However, regarding the activities of the Regional Centre for Risk Prevention (Risk Science), three or four major areas of intervention will be defined



Countries along the Gulf of Guinea

(consisting of phenomena that are common to the entire region or each regional group). For example, water-related phenomena such as floods and erosion may constitute risks shared by all countries of the Central African sub-region, and are to be addressed as two objectives; whereas drought and wind erosion, which affect a good number of Sahelian countries, could form another key objective.

Actions planned

Actions to be taken will fall under major objectives that include the following:

- ⊙ Preventing coastal risks;
- ⊙ Preventing mainland risks (natural and man-made risks including technological risks);
- ⊙ Identifying risks;
- ⊙ Adopting a multi-risk approach;
- ⊙ Developing various cartographies;
- ⊙ Developing an atlas of natural risks for the region.

The actions will be based on the following points:

- ⊙ Prevention of the coastal risks identified, including technological (pollution) and natural (floods, tidal waves, marine erosion) risks;
- ⊙ Prevention of mainland risks, that is natural and anthropogenic

phenomena observed on the mainland;

- ⊙ Identification of risks in each country: making an inventory of existing risks in each country with a view to adopting a multi-risk approach, the objective being to identify the main risks that need investigations on the ground;
- ⊙ Development of various cartographies through investigations on the ground focusing on risk-threatened geo-system and socio-system components. The related studies will facilitate deeper understanding of the physical environment in the region. The studies will be followed by an analysis, monitoring and surveillance of the identified risk phenomena. Mapping, which will cover the various phenomena encountered, include mainly hazard and vulnerability mapping. One of the objectives of the Regional Centre will be to study those vulnerabilities that highlight the root causes of the phenomena in each country, and devise ways and means to mitigate the impacts of possible disasters on people and property. To help reduce people's vulnerability, the cartographies will be drawn up with a common geographic scale. Vulnerability and risk mapping will help local government officials (governors, mayors, prefects, heads of regional assemblies, etc.) develop,

should the need arise, risk prevention plans. Hazards should be assessed in terms of vulnerability. Specific investment needs to be carried out in this regard, particularly as concerns floods and natural and environmental hazard mapping. Various cartographies will be developed based on the risks identified. The notion of acceptable risk needs to be understood by all countries. The level of vulnerability will vary from one country to another based on the factor that aggravates that vulnerability and, therefore, on the root causes of the factor. This fundamental aspect needs to be taken into account;

- ⊙ Definition of risk typologies in the 16 countries' region;
- ⊙ Development of a national and regional checklist ;
- ⊙ Development of an atlas of natural risks;
- ⊙ Reminders to the countries of the need to establish national platforms for the implementation of the International Strategy for Disaster Reduction (ISDR);
- ⊙ Feedback;
- ⊙ Assistance to the countries of the region towards the enforcement of legislations and regulations on risk prevention. The countries must put in place risk prevention legislations and regulations based on other countries' experiences and tailored to the region's problems and resources;
- ⊙ Implementation of plans developed.

The Centre's international missions

The missions of the Regional Centre for Risk Prevention (Risk Science) include:

- ⊙ Monitoring disaster risk phenomena;
- ⊙ Participating in international conferences on disaster reduction;
- ⊙ Disseminating and exchanging information with other African, European and American centres;
- ⊙ Making the phenomena identified in the 16 countries of the region known on the continent and internationally;
- ⊙ Promoting the Centre at international level. The Regional Centre will maintain cosy relations and links

with similar risk prevention centres and structures (in Africa, Europe and America).

Conceptual considerations

The Centre should:

- ⊙ Brainstorm on how to compensate disaster victims (in the event of a disaster) and should therefore collaborate with insurance firms;
- ⊙ Work in close collaboration with ministerial departments, the private sector, NGOs, the civil society;
- ⊙ Facilitate, in the context of its prevention mission, the promotion of exchange (providing information for exchange). The Centre should promote the establishment of a portal site promoting risk management;
- ⊙ Monitor disaster risk-generating phenomena at international level;
- ⊙ Participate in international conferences on disaster reduction;
- ⊙ Disseminate and exchange information with other centres in Africa, Europe and America;
- ⊙ Ensure that the phenomena identified in the 16 countries of the region are known at continental and international level;
- ⊙ Remind various ministerial departments in the region that they should mainstream prevention in planned activities;
- ⊙ Be promoted internationally;
- ⊙ Become an enriching place through information collected, especially

through risk-related information. Each country should be able to access information pertaining to studies conducted at the Centre. The Centre should be a resource centre that provides added value to the 16 countries of the region;

- ⊙ Be a point of contact for researchers, technicians, locally elected leaders (mayors, etc.), civil society organizations, professional bodies, representatives of associations, managers, government departments, ministries (of public health, interior, foreign affairs, environment, etc.). The Centre will be a contact zone for various actors working to prevent the identified phenomena;
- ⊙ Provide support to existing projects and partner with identified centres.

The Centre's activities should be presented and considered at meetings held by regional and international organizations. The Regional Centre for Risk Prevention (Risk Science) reflects an ambition, a federation, and an effort towards a coordinated approach by each country involved. To translate this into concrete results, important missions need to be carried out at national, regional and international levels. ■

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Impact of floods.

Civil defence and disaster prevention in Cameroon¹

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Cameroon is exposed to a range of disasters resulting in a high prevalence of risks which however do not influence the boom in the country's tourism sector. The country, often described as a miniature replica of Africa, also seems to be a reflection of the continent in terms of natural and technological disasters, given its complexity.

Over the last decade, Cameroon has experienced toxic gas emissions, two eruptions of Mount Cameroon, tornadoes, floods, landslides, fires, epidemics, locust invasions and damage caused by pachyderms.

In the light of the above, the Government is implementing a strategy based on three complementary axes: before, during and after disasters. Before disasters, prevention is promoted through public information, awareness raising and mass education. During crises, action is centred on the development and implementation of a contingency plan aimed at ensuring efficient risk coverage. And after disasters, rehabilitation measures need to be adopted and implemented, and affected people taken care of.

Overview of civil defence sector

Regulations pertaining to civil defence, which constitutes an important aspect of local government, date back to early independence era.

When Cameroon gained its independence in 1960, it inherited an embryonic civil defence mechanism from the colonial administration, comprising three fire stations. In 1961, a Civil Defence Department was established in the Directorate of Political Affairs in the Ministry of Local Government (MINAT in French). In 1992, a Civil Defence Unit was established within the Permanent

Secretariat of the same ministry. And in 1995, the Unit was upgraded to a fully-fledged Directorate.

From a legal perspective, disaster prevention and management activities are governed by a set of regulations in Cameroon, the most recent one being Order N° 037/PM of 19 March 2003 providing for the establishment, organization and management of a National Risk Observatory (ONR in French).

The sector's main components

The civil defence sector basically has three major components: operational structures, facilitation structures and international support for government actions.

Operational structures are linked to the Directorate of Civil Defence. Operating under the technical coordination of the Directorate of Civil Defence and the overall supervision of the Ministry of Local Government and Decentralization, the structures deal with risk prevention or disaster management on a daily basis.

The structures include:

1. The National Fire Brigade (CNSP) attached to the Ministry of Defence;
2. The Institute of Geological and Mining Exploration (IRGM) and the National Institute of Cartography (INC) attached to the Ministry of Scientific Research and Innovation;
3. Medical emergency management structures (Emergency Medical Service – SAMU – and the Emergency Centre of the Referral Hospital) operating under the Ministry of Public Health;
4. The Cameroonian Red Cross and the International Federation of Red Cross and Red Crescent Societies (IFRC) ;
5. The Meteorological Department and the Land Transport Department which fall under the Ministry of Transport;
6. Prefectural authorities (prefects and

governors) appointed to chair joint disaster management committees.

Facilitation structures provide indirect support to the sector through proposals or advice. The structures include:

1. The National Risk Observatory (ONR) charged with capturing, analyzing, storing and disseminating information on risks;
2. The National Disaster Prevention and Management Programme (PNPGC), a stakeholders' consultation body developed in partnership with UNDP with the objective of building the Government's management, material and logistical capacity to plan against and prevent and manage disasters;
3. The Secretariat for civil defence support projects and programmes (SPPC) ;
4. The National Civil Defence Board (CNPC) which is a consultative body under the Office of the Permanent Secretariat in the Office of the President;
5. The Sub-Regional Natural Risk Observatory (OSRN) ;
6. The Sub-Regional Centre for Civil Defence (CSRPC).

These facilitation structures are multi-sectoral and multidisciplinary think-tank and analysis frameworks that have been established to facilitate the development and implementation of government policies and programmes for disaster risk prevention and management.

International support for government actions

Partnership with ICDO: The Cameroonian Government has a commendable level of partnership with the International Civil Defence Organisation (ICDO), specifically as concerns the training offered by ICDO to officers in the Directorate of Civil Defence, the National Fire Brigade and other government officers, under the ICDO "Civil Defence and Assistance for

All” programme. The ICDO also supports capacity building and provides technical support to Cameroon. Ongoing projects include the finalization of documentation for the establishment of a sub-regional centre for civil defence in Cameroon and support for the development of an emergency intervention plan in Cameroon.

Partnership with France: France, through its Department for Cooperation and Cultural Action, has signed a convention comprising several components with the Government of Cameroon in the area of civil defence which has been allocated a budget of 1.5 billion CFA francs (some 3 million US dollars). The general objectives of the Convention include strengthening civil defence, enhancing natural risk prevention, streamlining the management of crisis situations. Its specific objectives include improving information management and prevention in areas exposed to major natural risks, safety building for Lake Nyos and Lake Monoun regions, and strengthening civil defence effectiveness and intervention capacities on a daily basis and during crisis periods.

Cooperation with UNDP: In 1998, the Government and UNDP developed a National Disaster Prevention and Management Programme (PNPGC) that receives technical support from the UN Office for the Coordination of Humanitarian Affairs (OCHA). The Programme’s aim is to build the Government’s management, material and logistical capacity to plan against, prevent and manage disasters. Its development objectives are as follows: improving disaster prevention and management mechanisms; developing a national plan and sectoral plans for disaster prevention and management; updating the legislative and regulatory framework; capacity building for staff from government departments involved in disaster prevention and management; sensitizing in, educating on and mobilizing communities for disaster prevention and management; strengthening the Directorate of Civil Defence’s management and coordination capacity.

Cooperation with IFRC: The Directorate of Civil Defence and the International Federation of Red Cross and Red

Crescent Societies embarked on a draft partnership convention focusing on the following areas: training, capacity building and information sharing ; know-how transfer and technical assistance; facilitation to international assistance mobilization.

The Directorate of Civil Defence

Cameroon has opted for a decentralized, multi-sectoral and multidisciplinary global approach to disaster prevention and management, in line with the Government’s policy that perceives civil defence as a theme for rallying partners from both upstream and downstream.

The Directorate of Civil Defence therefore is responsible for the overall organization of civil defence throughout the country, and for coordinating resources required to implement civil defence. As such, it also the national body for multi-sectoral coordination and collaboration in disaster prevention and management.

To fulfil its missions, the Directorate has set up a Sub-Directorate for Coordination and Interventions (SDCI) – which comprises the Coordination Department and the Support and Interventions Department, each with two offices- and a Research and Prevention Unit (CEP) under the authority of a Head of Unit.

Departments involved and some international organizations collaborate as partners in the disaster prevention sector in Cameroon. In case of a disaster, the Directorate of Civil Defence plays a central role in terms of coordinating and organizing assistance. Each of the other departments involved works in its area of expertise. Fire fighters, the Emergency Medical Service (SAMU) and the Cameroonian Red Cross are responsible for rescue and assistance.

Resources available to the Directorate of Civil Defence

As concerns staff, the Directorate employs seven officers and 40 support staff members, making a total of 47 people.

Training is conducted at two levels: (1) internally, through training or educational seminars and workshops organized on a regular basis with the support of

international partners; and externally, through various civil defence capacity development courses offered within the framework of international cooperation.

In terms of equipment, Cameroon’s civil defence sector, which is still 10-year old, is still putting finishing touches to its structure and organization. Apart from modern computer equipment, communication and telecommunications equipment is being upgraded, and the SAMU’s and fire fighters’ modest equipment, its resources are still too meagre to effectively respond to the multiple requests it receives.

Lastly, with regard to funding for disaster prevention and management, the Directorate submitted a budget worth 318,291,985 CFA francs (some 637,000 US dollars) for the 2005 financial year.

Aware of the high prevalence of risks, which sharply contrasts with the operational capacities of the structures involved, the Government is first and foremost banking on prevention through public awareness and education to reduce the recurrence of dramatic situations. Accordingly, over the last two years, the Ministry of Local Government and Decentralization has published an annual report on the state of civil defence in Cameroon.

Government mechanisms for disaster prevention

The central prevention mechanism is the National Risk Observatory (ONR) whose mission consists of « data collection, management and dissemination on natural, technological, industrial and human-made disasters ». More specifically, it also monitors, on a national scale, the establishment of a surveillance mechanism for sites and other installations at risk, a surveillance mechanism equipped with a reliable system for collecting and disseminating risk data and information.

The ONR, which is a consultation and collaboration framework that brings together various government departments and national and international public or private bodies involved in preventive risk management, constitutes the key prevention mechanism in Cameroon. It operates under the Directorate of Civil

Defence and has proven itself during the management of the Italian BEPPO-SAX in 2003 and the Monatele earthquake on 19 March 2005.

With a central focal point, a machine room and a web site, the ONR still needs to acquire transmission equipment and put in place an operational budget if it was to be fully effective.

Ongoing projects in the area of prevention

Sub-Regional Natural Risk Observatory (OSRN)

In 2004, the Islamic Educational, Scientific and Cultural Organization (ISESCO), in conjunction with the

Cameroon Civil Defence organized a workshop in Yaoundé on the establishment of a Sub-Regional Natural Risk Observatory (OSRN).

Establishing a National Platform for Disaster Risk Reduction

Plans for the establishment, in Cameroon, of a National Platform for Disaster Risk Reduction were discussed in the sidelines of the January 2005 World Conference on Disaster Reduction. The proposed Platform is a multidisciplinary and multi-sectoral framework for brainstorming, consultation and coordination. It is meant to work with the UN System and other national, regional and international stakeholders towards the implementation

of the International Strategy for Disaster Reduction (ISDR) generally, and that of the Hyogo Framework for Action 2005-2015 more specifically. ■

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CRASTE-LF¹: A space technology education facility for disaster management in Africa

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Every year, various natural disasters such as flooding, earthquakes, extreme meteorological phenomena, wild fires ... cause thousands of deaths and considerable damage in the world, displacing many thousands persons and depriving them of their livelihoods. The impacts of human action on environment as well as increased human concentration directly exposed to disaster risk have augmented people's vulnerability, particularly in Africa and in developing countries.

However, the great loss of human lives and material damage could be avoided with effective early warning information on disaster occurrence, hazard monitoring, hazards' spatial extents, and with better deployment of rescue teams. And proper analysis and mapping of disaster-prone areas combined with efficient land planning could help reduce vulnerability.

Space tools' contributions to disaster management

In this context, the space tool, in its different components, has demonstrated its capacity to contribute in a decisive way to the processes of prevention, early warning, disaster reduction, rescue and rehabilitation. Either for natural risks or technological ones, Earth observation satellites, global navigation satellite systems or communication satellites have already enabled to reduce losses in human lives and property considerably.

Earth observation satellites provide accurate, timely and detailed data suited for a very broad set of applications in the field of disaster management: analysis of risks and mapping of potentially dangerous zones before disasters; early warning, cyclone location, drought surveillance, oil spill, forest fire and progress of desertification; disaster assessment, including surveillance and assessment of flooding; post-disaster assessment of damage. Satellite imagery,

combined with other appropriate data from geographical information systems (GIS), helps produce analyses and modelling of various risks and scenarios relevant to development in a specific region.

More particularly, in the field of *flooding*, prevention and anticipation of floods require global and fine modelling of basins at risk, by integrating geographical, geological, meteorological, hydrologic data. Satellite data can enrich existing ground data.

In *wild fires*, mapping of risk zones is crucial. Working on existing satellite imagery data helps provide complete and homogeneous information for locating risk areas and initiating preventive action. Moreover, their combination with meteorological data and ground data help monitor fire progression, its spatial extent and enables more focused intervention.

Regarding *earthquakes*, having satellite imagery of good resolution at very short notice is extremely important for damage

assessment for assessing and helping rescues operations, one can mention the possibilities given through comparison by image correlation with the help of optic systems before and after crisis, which can allow revealing active geological faults. Also the radar interferometry allows to discern soil distortions and to establish a useful mapping.

Surveillance of seismic regions needs the high-precision positioning techniques such as GPS and the future GALILEO, to observe network distortion and warn about energy accumulation which can likely convert in a seism. Some space missions explore the possibility of establishing convincing correlations between earthquake occurrence and the variation of a number of measurable parameters from space (the DEMETER experience).

Satellites have, since the 1960s, set up home in the meteorological field, acquiring an entirely operational status. They enable to monitor meteorological phenomena, detect and track tempests and floods. Potential multispectral and high image frequency provides unequalled alert capacities especially on fast-developing phenomena. The series of tropical cyclone images produced by *meteorological satellites* as well as tempest intensity and atmospheric wind data acquired from these images, provide vital information for forecasting landfall, and thus contribute to saving lives.

Restoring communications is the highest priority in a post-disaster situation. Indeed communications help rescue teams inform about the situation, receive maps or satellite images. *Satellite technology* can restore communications in afflicted areas when ground communications infrastructures have broken down. It also enables to deploy communications networks during urgent field interventions.

Ongoing international Initiatives

Recognizing the potential of space technology for risk reduction and disaster management, the international community has taken a number of initiatives aiming to, coordinating and enhancing the use of space tools.

These initiatives include:

- ⊙ The “*Space and Major Disasters*” *International Charter* initiated by the

European Space Agency (ESA) and the National Centre of Space Studies - France (CNES) in 1999. This Charter aims to provide a unified system of space data acquisition and delivery to those affected by natural or man-made disasters, helping to mitigate disaster impacts on human life and property. The International Charter was declared formally operational in 2000. It allows an authorized user to require the mobilization of space and associated ground resources (RADARSAT, ERS, ENVISAT, BLIP, IRS, SAC-C, satellites NOAA, LANDSAT and others) to obtain data and information on occurrences.

- The *Disaster Monitoring Constellation* (DMC) was designed to demonstrate the effectiveness of the concept of constellation that is able to provide multi-spectral imaging of any part of the world every day. It is unique in that each satellite is independently owned and controlled by an individual nation, but all satellites have been equally spaced around a sun-synchronous orbit to provide daily imaging capability. The satellites are Alsat-1 (Algeria), Nigériasat-1 (Nigeria), Bilsat-1 (Turkey), UK-DMC (UK) and, in the future, Beijing-1 (China). With the support of the British National Space Centre, DMC-builder Surrey Satellite Technology owns and operates the UK satellite in the constellation. The DMC was designed from the start to service many of the requirements of disaster monitoring. Its small satellites jointly provide daily revisits with a 600 km imaging swath width at 31-metre Ground Sample Distance (GSD) for broad area coverage. Disaster management authorities will now, at any time, have access to images from the whole of the DMC, adding to the major Earth Observation satellites that form the core of the International Charter’s space-based resources. In November 2005, DMC joined the International Charter.

- ⊙ *REMSAT* (Real-time Emergency Management via Satellite), initiated by ESA, is aimed at demonstrating the usefulness of existing space technologies, including real-time communications, remote sensing

data and space positioning systems in emergency situations. Assistance organizations, wherever they are in the world, need real-time communications between command centres, field personnel and equipment such as helicopters, vehicles and heavy equipment.

- ⊙ *COSMO-SkyMed* (Constellation of Small Satellites for Mediterranean Basin Observation – an element of the Optical and Radar Federated Earth Observation (ORFEO programme) is a constellation of four space devices to be set up by the Italian space Agency (ASI) in 2007. Each of the four satellites, equipped with a Synthetic Aperture Radar (SAR) instrument, is capable of operating in all visibility conditions at high resolution and in real time. For risk management applications, the constellation will provide useful information on floods, droughts, landslides, volcanic/seismic events, forest fire, industrial hazards and water pollution. Other applications can be explored: marine and coastal environments, agriculture, forestry, cartography, environment, geology and exploration, telecommunications, utilities and planning. The high revisit frequency offered by the four X-band SAR spacecraft is also expected to provide a unique potential to operational meteorology user communities.

- ⊙ *GMES* (Global Monitoring for Environment and Security) represents a concerted effort to bring data and information providers together with users, so that they can understand each other better and make environmental and security-related information available to people who need it through enhanced or new services. The increasing influence of human activities on the Earth System as well as people’s increased exposure to natural or technological hazards require close follow-up and rapid responses. Changing policies, such as those related to security, present new information requirements which must also be met. In this context, GMES will pay particular attention to the use and development of appropriate information technologies among which space observations represent

a key asset to improve the European capacity to monitor the environment and play a role in preserving stability and security. GMES is the response to Europe's need for geo-spatial information services.

Some initiatives have targeted the African continent, especially a new project known as *AMESD* (African Monitoring of the Environment for Sustainable Development). The main objective of AMESD is to help African countries improve natural resource management by providing them with appropriate environmental information, using state-of-the-art Earth Observation (EO) and information technologies, and by helping them define their needs better and identify potential beneficiaries. AMESD, which is envisaged as the African counterpart to the EU's GMES initiative, will entail a number of regional and continental thematic projects. This initiative, which must ensure the continuity of the *PUMA* project (Preparation in the Use of METEOSAT (MSG in Africa), considers its central priorities appropriate training for an optimal use of space information, collaboration and synergy among actors in different sectors (environment, health, agriculture, disaster management).

Awareness raising, capacity building needed in African countries

All the above examples and initiatives highlight the remarkable potential of space technologies in the field of natural disasters. But what is in it for our developing countries? Are these technologies at our reach? If so, what are the prerequisites and strategies needed?

A huge gap exists between space technologies and their use in African countries. Therefore, information and expertise are needed. Decision makers in general, and disaster managers in particular, have limited or no understanding of space technologies' potential for disaster management. Neither do the space technologies community – which, if it exists, can influence decision-making processes – have a good understanding of the disaster management community. It is therefore necessary to provide technical, institutional and decision-making entities

with continuing theoretical and practical training in the field of space sciences and techniques, in addition to developing and reinforcing national and regional competences.

Efforts have remained limited and insufficiently supported to make interested parties aware that applying space-based solutions are cost-effective and contribute to reducing risks and vulnerabilities. Therefore, capacity development in the use of space technologies, particularly through training and information, is needed. However, it is a long-term process that can be approached only from a long-term perspective. The required national and regional competence development process could be achieved through the provision of long-term and short-term theoretical and practical training at UN-affiliated Regional Centres for Space Sciences and Technology Education, and also through other academic and thematic centres of excellence worldwide.

The Role of CRASTE-LF

These UN-affiliated Centres, such as CRASTE-LF in Morocco, constitute appropriate solutions for implementing educational programmes (of short-term

or long-term duration) and information, experience and expertise sharing.

In these institutions, education curricula validated by expert groups and regularly updated are implemented in the following specialities identified as essential in the field of risk prevention and disaster management: remote sensing and Geographic Information Systems (GIS), satellite communications, satellite meteorology and global climate. Details of the training curricula are available at the following web site address: www.oosa.unvienna.org/SAP/centres/centres.htm

The programmes, which are intended for engineer-level scientists, lead to a "Master in Space Sciences and Technology" in the selected speciality. They include two phases:

- ☉ *Phase I* (9 months) takes place in the CRASTE, made up of theoretical and practical courses of approximately 1,000 hours.
- ☉ *Phase II* (12 to 15 months) is a personal research project carried out by trainees in their respective home countries on a subject of interest to their respective institutions. By the end of the phase, the final research

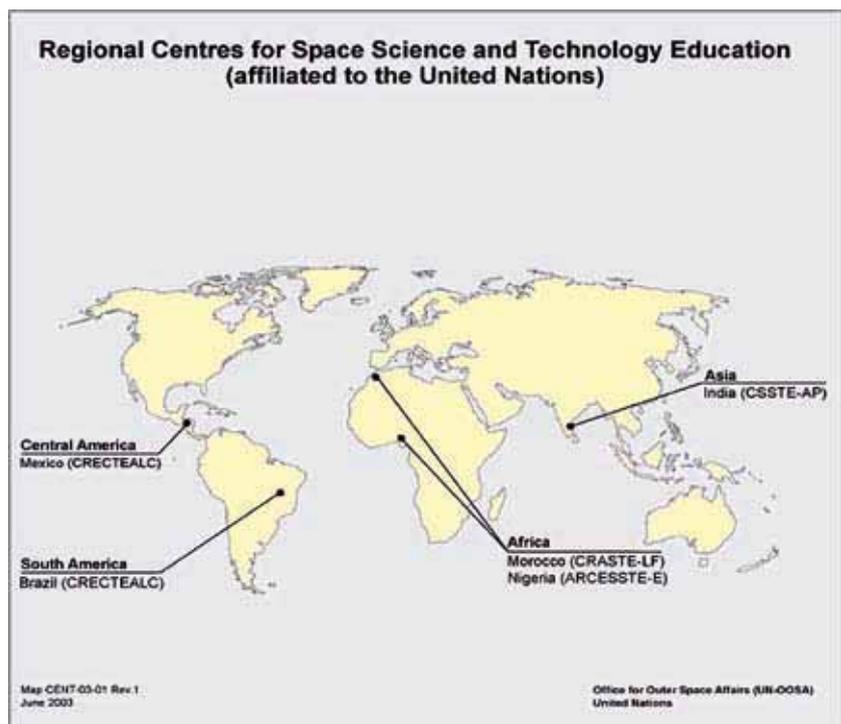


Fig.1: UN-affiliated Regional Centres for Space Sciences and Technology Education

SESSION	PERIOD	TRAINEES	COUNTRY
RSGIS 2000	Apr. 2000 – Feb. 2001	12	Algeria – Cameroon – Central African Republic – Morocco – Niger – Togo – Tunisia
SC 2000	Nov. 2000 – Jul. 2001	10	Algeria – Cameroon – Central African Republic – Morocco – Niger – Togo
RSGIS 2001	Dec. 2001 – Jul. 2002	15	Algeria – Burkina Faso – Cameroon – Gabon – Morocco – Mauritania – Niger – Togo – Tunisia
SMGC 2002	Feb. 2002 – Oct. 2002	7	Algeria – Morocco – Mauritania – Niger – Senegal
SC 2002	Nov. 2002 – Jul. 2003	13	Algeria – Cape Verde – Morocco – Mauritania – Niger – Senegal
RSGIS 2003	Nov. 2003 – Sep. 2004	14	Algeria – Cameroon – Central African Republic – Gabon – Madagascar – Morocco – DR Congo – Senegal
SMGC 2004	Nov. 2004 – Jul. 2005	11	Algeria – Cameroon – Morocco – Mauritania – Niger – DR Congo – Senegal – Togo
RSGIS 2005	Dec. 2005 – Sep. 2006	22	Algeria – Cameroon – Cape Verde – Ivory Coast – Morocco – Mauritania – Niger – Senegal

It emerged from all the workshops that capacity building in the use of space technologies was the cornerstone of an efficient risk reduction and disaster management strategy. The other elements of such a strategy were actions at institutional environment level and at information and technology availability levels. The networking of institutions and teams involved must provide the necessary coordination and allow experience and expertise sharing.

At a UN-OOSA international workshop on “The Use of Space Technologies for the Management of Disasters” held in Munich (Germany) in October 2004, recommendations made by working groups were formalized in the “Munich Vision: A Global Strategy for Improved Risk Reduction and Disaster Management Using Space Technologies”.

This Vision was reinforced during the Algeria/ESA/UN International Seminar on the Use of Space Technology for Disaster Management - Prevention and Management of Natural Disasters held in Algiers (Algeria) in May 2005.

During the seminar, the need for continuing education and training in space sciences and technologies was stressed, especially on how to use them in risk reduction policy development (prevention, preparedness, rehabilitation) or for disaster management. Also highlighted was the need for methodological approaches adapted to the specific needs and contexts of the region and countries.

paper is evaluated by a jury at the Centre.

CRASTE-LF has provided, since 2000, four training sessions in Remote Sensing and GIS (RSGIS), two training sessions in Satellite Communications (SC) and two training sessions in Satellite Meteorology and Global Climate (SMGC) for a total of more than 100 African trainees from member States, as shown by the table above.

In addition, the Centre has handled Master’s degree research paper presentations upon completion of Phase II. So far, 24 Master’s papers have been presented on subjects of relevant interest to national institutions. The jury’s evaluation described the papers as of an appreciable scientific level.

As part of its information dissemination and scientific promotion missions, the Centre also carries out a number of other activities. For instance, at the request of the International Union of Telecommunications (IUT), the Centre organized a training workshop on “Regulation and Management of Frequencies’ Spectrum” in July 2001. It also organized, in June 2003, an international workshop on “Space Technologies and Telemedicine” with the support of United Nations Office for Outer Space Affairs (UN-OOSA), ESA and the Canadian Space Agency. Also, upon a request from the National Oceanographic and Atmospheric Administration (NOAA-USA), the Centre organized, in July 2004, a training workshop on RIPI (Ranet

Internet Presence Initiative) attended by over 30 participants.

In November 2005, on the occasion of the launch of the 4th postgraduate session in Remote sensing and GIS, the Centre organized, in partnership with the Scientific Institute of Rabat, the Islamic Educational, Scientific and Cultural Organization (ISESCO) and in collaboration with UN-OOSA, ESA and other partners, an international workshop on “Spatial Information and Sustainable Development” attended by more than 150 participants.

Global strategy in place

Within the framework of the United Nations Programme on Space Applications, and in order to promote the use of space technology for disaster management and risk reduction in developing countries, UN-OOSA organized a series of regional workshops on the use of space technology for disaster management. The overall objective of the workshops was to contribute to building an understanding of how space technology could contribute to risk reduction and disaster management, and to defining a common vision that could contribute to the incorporation of space technologies, in a sustainable manner, into operational disaster management programmes in Member States.

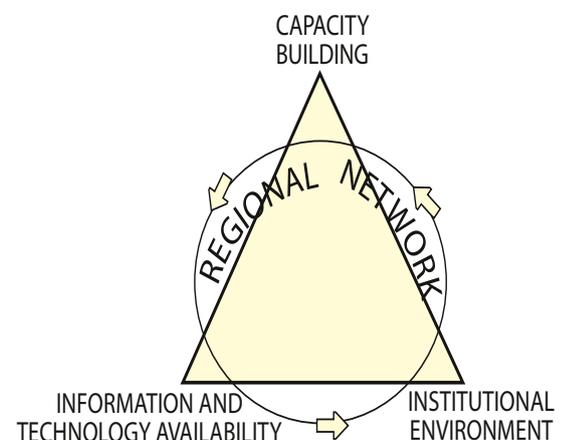


Fig. 2: The three cornerstones of an efficient risk reduction and disaster management strategy

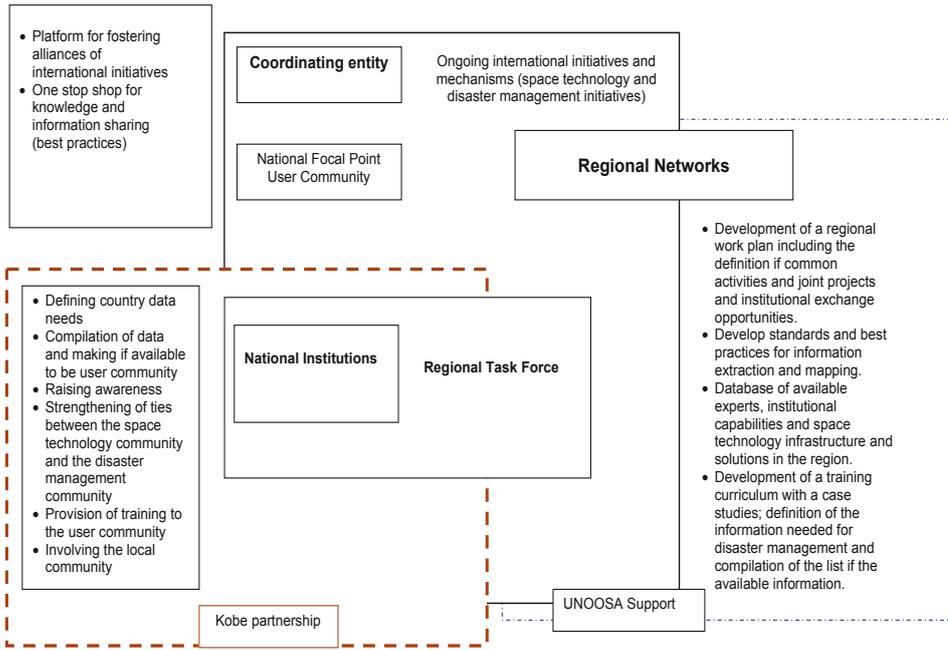


Fig. 3: "Munich Vision: A Global Strategy for Improved Risk Reduction and Disaster Management Using Space Technologies"

Building capacity through multiform actions

Capacity building can be shared through a number of multiform actions for which CROSTE-LF (under the mission and mandate given to it by its member States) considers itself mobilized in the framework of a global strategy for the use of space technologies for disaster management in Africa.

These actions will target all actors of the risk management decision-making process. In addition, the Centre's use of the French language helps overcome language barriers to access to knowledge and communication, and helps promote contacts and exchanges of information. The multiform actions include the following:

Academic training and research

The sustainability of the strategy can only be envisaged through the emergence of an endogenous network of experts in the field of space tools and their use for risk management. To that effect, continuing academic education (with recognized certificates) and research in space sciences and technologies - such as those which are already undertaken by UN-affiliated centres - are needed. Such actions will lead to original scientific results, help

undertake applied researches that improve knowledge of risks and their impacts, and contribute to the development of mitigation strategies at regional and local levels.

Seminars for decision makers

These seminars intend to demonstrate to decision makers the benefits of space technologies. They should be held regularly with the aim of highlighting the good cost-benefit ratio offered by the use of space technologies in disaster prevention and management.

Short-duration practical courses for professionals

These are short-term practical training programmes organized to provide knowledge and useful tools to technicians for the operational use of space technologies. Practice helps technical staff involved in disaster mitigation activities familiarize easily with the technologies.

Web site design and maintenance

The web site designed will help inform the space technology users' community on most recent developments, experiments and projects. It will connect experts involved in the implementation of the strategy among themselves, the experts to the space technology users' community, in addition to the fact that appropriate advice

are available on the site. Online courses or any other relevant information or material could also be included. The web site will also facilitate sustained exchange and contacts. In fact, information and experience sharing, awareness raising and technology ownership are the foundations of preventive activity.

Identifying, strengthening and improving existing and new training opportunities in the region and making them strongly reliant on a network help reduce costs considerably and reach the allocated targets. Local and regional institutions with the necessary capacities can be involved in these training activities.

Appropriate solutions for education, information sharing

Space technologies happen to be very useful in all phases of disaster management, from early warning to disaster preparedness, response (rescue) and rehabilitation. However, for them to be applied and used effectively, a significant level of information and expertise is needed.

Indeed, the issue is not so much the cost or sophistication of these technologies but their operational, efficient and coordinated usage. Therefore, the emphasis should be laid on information, sensitization and education in space technologies and their adaptation to specific conditions of use, particularly in developing countries.

The UN-affiliated Regional Centres for Space Sciences and Technologies Education, such as CROSTE-LF in Morocco, constitute appropriate solutions for the implementation of short-term or long-term educational and training programmes and information, experience and competency sharing on disaster management

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1 CROSTE-LF: *Centre régional africain des sciences et technologies de l'espace en langue française* (African Regional Centre for Space Sciences and Technologies in the French language) - a UN-affiliated regional centre for space sciences and technology education.

A major earthquake hit Mozambique in February this year. It was felt in neighbouring countries - Zimbabwe, Zambia, Swaziland and South Africa. A similar event caused devastation in other countries in Africa and elsewhere. The earthquake's epicentre region is now seismic active...

MOZAMBIQUE: The February 2006 earthquake was a warning

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Natural hazards that result in disasters have increased in frequency in Africa over the last decades, causing great losses of human lives, livelihoods and destruction of the environment and economic and social infrastructures.

Mozambique with 18.9 million inhabitants and a total area of 799,390 sq. km has, over the years, experienced severe natural and man-made disasters like cyclones, drought, floods, landslides, epidemics and war.

A major earthquake hit Mozambique in February this year. The following chapters describe the earthquake impacts, the main earthquake-related vulnerabilities in the country, and the possible disaster reduction measures that may help the country cope with earthquake hazards.

A magnitude 7.0 earthquake

On Thursday 23 February 2006 at 00:19:07 local time, an earthquake occurred, which is considered the largest earthquake recorded in the last century in Mozambique. The characteristics of the February 2006 earthquake are a clear signal of a threat of earthquake disaster.

The 2006 earthquake occurred along a well-defined narrow belt near the southern end of the East African rift system in central Mozambique. It occurred along the boundary between the Africa Plate on the west and the Somalia Plate on the east (Afonso 1976a).

The earthquake's magnitude was first reported by the US Geological Survey as 7.5 on the Richter scale. After further analysis, this was decreased to 7.0 (USGS, 2006). The earthquake's epicentre, which was located in 21.25.9° S, 33.48.0° E in Espungabera, Mossurize District, Manica Province (central Mozambique), stemming from a shallow depth of 11 km (USGS), was some 215 km from the Indian Ocean port city of Beira, 235 km from Chimoio and 530 km from the Mozambican capital, Maputo.

In all these cities the intensity of the earthquake was V on the Modified Mercalli Scale. This earthquake was also felt in many other Mozambican towns as well as in parts of neighbouring countries such as Zimbabwe, Zambia, Swaziland and South Africa.

The 2006 earthquake resulted in deep ground displacements associated with rupture along faults due to the accumulation of strain. Many faults caused by the earthquake were identified. For example in Quira, Machaze District, there is a seven-kilometre-long fault and a two-metre displacement (Figure 1).

The earthquake's impacts in Mozambique

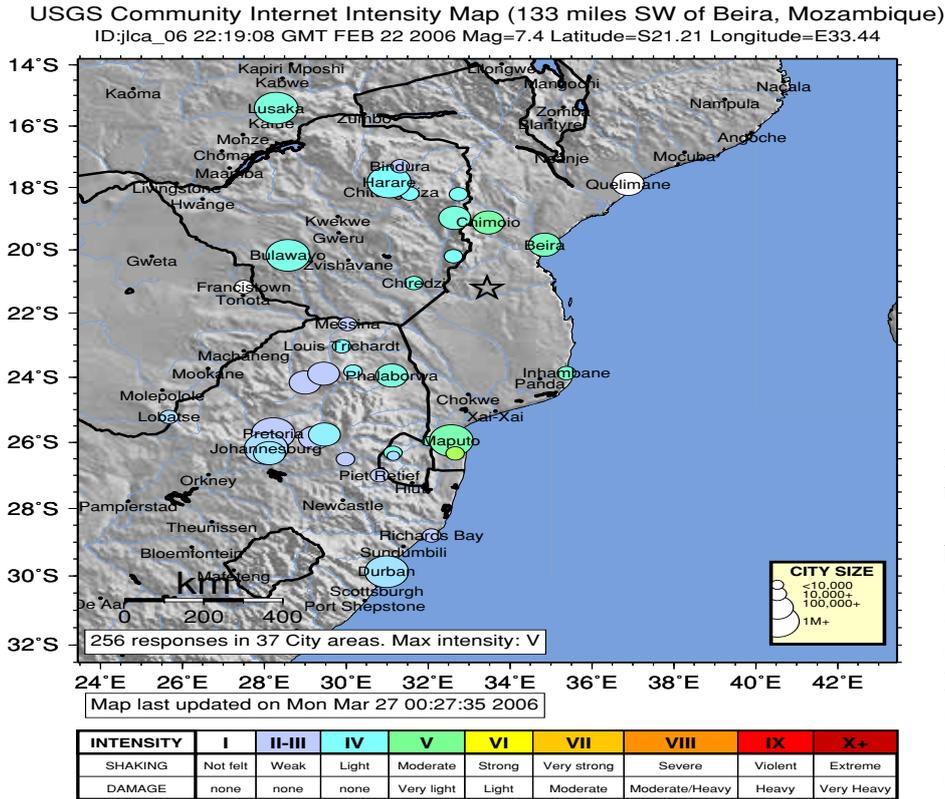
The earthquake left five people dead in Manica and Sofala provinces and some 40 others injured in Manica, Sofala and Maputo provinces.

The earthquake occurred at 00:19 local time when people were still sleeping. Suddenly awoken, not knowing what was happening, what to do and how to react, most residents of rural and urban areas fled their homes and slept in the open, fearful. People living in tall city buildings

were scared, came down and slept in the sidewalks in front of their homes in the first and second nights following the earthquake. It could have certainly been worse if the earthquake occurred during daytime when a large number of people were in the streets, offices, factories or schools.

In the epicentre region in Machaze (Guacuambe, Chitombe) and Mossurize districts, people have remained frightened and restless since the February earthquake - followed by daily and weekly aftershocks. They no longer stay in their houses at night: they sleep outdoors. In rural areas, people say no one knows whether another major earthquake might occur any time: their life has become a nightmare.

Some 300 buildings were damaged in southern and central Mozambique because of ground shaking. Most of the damaged buildings are located in urban areas such as the cities of Chimoio and Beira, and in district towns. The affected buildings are concrete housing stocks and brick masonry buildings of all heights. These buildings experienced many cracks, especially in partition walls. In Machaze District of Manica Province, five primary schools were destroyed. These schools are situated close to the earthquake epicentre zone, and are masonry buildings poorly designed and constructed in the last 20 years. The houses made with timber, small reeds, mud and timber and metal plates, in which most people in these cities and rural areas live, fared much better due to their "ductibility" or elastic behaviour under earthquake loads. The dirt road in Chitobe, the capital of Machaze District, has remained impassable due to a fault caused by the earthquake.



Map 1. The earthquake's epicentre in Espungabera, Mossurize District, Manica Province

It is to be noted that when buildings are sufficiently strong structurally, the greatest danger from an earthquake is when equipment and non-structural elements such as ceilings, partitions, windows and lighting fixtures shake loose. Many people were injured by these equipment and non-structural components during the February earthquake.

Why did Mozambique experience less devastation?

An earthquake with magnitude 7.0 is considered a major earthquake that usually causes great losses of lives and serious damage on buildings, dams, bridges, industrial structures and other lifelines. However, the impact of the February earthquake, in terms of casualties and destruction of infrastructures, was less severe in Mozambique compared to devastation caused by earthquakes of the same magnitudes in other countries and regions in both Africa and elsewhere (See Table 1).

The main reasons for such a lesser impact are the following:

- ⊙ The earthquake's epicentre was

located in sparsely populated farmlands with a low population density.

- ⊙ There were few infrastructures and developed infrastructures in the areas closer to the epicentre.
- ⊙ Developed and agglomerating infrastructures are in main urban and high-density areas far away from the epicentre which was 235 km south of Chimoio, 235 km southwest of Beira and 530 km north of Maputo. In these cities, the earthquake's intensity was V on the Modified Mercalli Scale, 1956 version.
- ⊙ The Mozambican safety codes for building and construction provide for some strict anti-seismic standards that have saved lives and have somehow protected large number of buildings and infrastructures in these cities and towns. The Mozambican safety codes for building were inherited from the country's former

colonial power, Portugal. The codes had been established in Portugal after the 1775 earthquake disaster that left over 90,000 people dead in Lisbon and its surroundings.

- ⊙ The earthquake occurred at night when people were sleeping and few people were in the streets, offices, factories or schools.

Earthquake hazards, risks in Mozambique

Many earthquakes occur each day in the world, with different intensities and magnitudes. However, only few become earthquake disasters like those of Boumerdes (Algeria) on 21 May 2003 and the December 2004 Indian Ocean earthquake (tsunami). According to Benson and Clay (2004), a disaster is the "occurrence of an abnormal or infrequent hazard that affects vulnerable communities or geographic areas, causing substantial damage, disruption, and perhaps casualties and leaving the affected communities unable to function normally". Earthquakes and tsunamis hazards raging and modifying nature in uninhabited areas without infrastructures are not disasters. The earthquake hazard alone does not cause disasters. Disaster occurs as a result of a hazard that hits a vulnerable community which inherent capacity is not enough to cope with the adverse effects.

The large and rapidly growing global urban earthquake risk, particularly in



Map 2. The earthquake's epicentre and the seismicity in 2006

developing countries, is a problem that needs to be solved quickly, for the sake of rich and poor countries alike (Tucker B. E., 2004). Everybody is exposed to earthquake hazards and hence to disaster risk. We surely cannot eliminate earthquake hazards. The effective way to reduce earthquake risk is to reduce community vulnerability. This means reducing the conditions and processes determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of a community to the impact of hazards. Concomitantly, we need to increase the capacity of a community potentially exposed to earthquake hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. Thus, risk assessment should be recognized as an essential tool for understanding risk parameters and constraints and for promoting risk mitigation.

The epicentre region of the 2006 major earthquake in Mozambique was not, in the previous years, as seismic active as it is now. After a relatively calm period where only few earthquake hazards with low magnitude were registered, the 2006 major earthquake occurred. After the February 2006 earthquake, numerous aftershocks (magnitudes 4-5.8) were registered in the region of the original epicentre in the minutes, hours, days and months that followed the event. The epicentre region in the direction of the southern end of the East African rift system in central Mozambique is becoming clearly active now (Map 2).

The historic seismicity and its relationship to the tectonic environment of that critical zone need to be investigated. The 2006 earthquake and related earthquake hazards are possibly a strong warning of future earthquakes hazards in that region. Thus, society should be aware of that issue and build conditions to cope with earthquake hazards.

Disaster vulnerabilities in Mozambique

Mozambique is facing vulnerabilities that are important to identify and assess as follows:

- ⊙ Mozambique has some seismic zones prone to earthquakes and

Date	Epicentre	Magnitude	Comment
1910, December 13	Rukwa (or Kasanga)	7.4	No fatalities
1939, June 22	Ghana	6.5	16 dead
1961, June 1	Kara-Kore Ethiopia	6.7	160 dead
1980, October 10	El-Asnam, Algeria	7.4	3,000 dead
1994, February 5	Kismoro, Uganda	6.0	9 dead
2003, May 21	Boumerds, Algeria	6.8	2,278 dead
2004, February.24	El-Hoceima, Morocco	6.2	628 dead

Table 1 shows some earthquakes in Africa

people are not aware of the earthquake risks. Public awareness about basic earthquake safety does not exist or is very rudimentary.

- ⊙ Institutional weakness in terms of disaster management and related scientific research and poor coordination are observed among various institutions.
- ⊙ Mozambique’s few seismic stations are in very poor conditions: the buildings need rehabilitation; the existing seismographs and other instruments and equipment are poorly protected, maintained, neglected and abandoned and have not been in use for long time.
- ⊙ Minimum conditions for basic geosciences research and work are missing at the seismic stations.
- ⊙ Communication systems are poor within stakeholders and also with the international Earth science and earthquake engineering communities and other interested organizations.
- ⊙ Most of buildings in major cities (Beira, Chimoio and Maputo) performed well during the February 2006 earthquake with V intensity, but some buildings were damaged, experienced many cracks - especially in partition walls. Some schools poorly built in the last decades were also damaged.

Over the past 100 years, Mozambique has not had any precedence of a large-scale earthquake hazard (magnitude of 7.0 Richter-Scale) that forces people to consider earthquakes one of the natural hazards that may wreck havoc in their country.

However, in the present context, coping with earthquake hazards in Mozambique will require at least the following:

- ⊙ Government institutions, civil society organizations and other stakeholders should adopt policies and develop programmes for pro-active preparedness and mitigation instead of being concerned by response only. It is important to recognize that proper earthquake disaster management entails a community-based approach and technical expertise.
- ⊙ Improve and raise society’s awareness about potential earthquake disaster

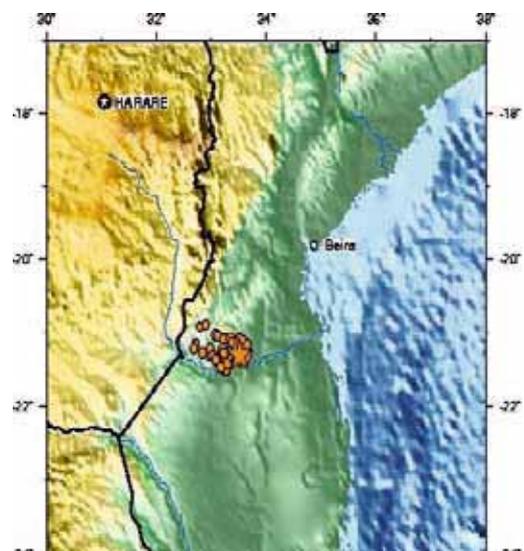


Figure 1. A fault caused by the 2006 earthquake in Machaze District

Coping with earthquakes in Mozambique

risk and what they can do about it through programmes, preventive actions and long-term mitigation policies that will result in more responsible and capable institutions, more engaged communities and a more aware society.

- ⊙ Schools and other institutions play important roles as traditional resource centres for education and spreading information on risk reduction. Schools have also a symbolic, cultural, economic and political significance to a community, playing a central role for meetings, group activities, religious services and political activities, particularly in rural areas. Thus, schools should be well designed and constructed in line with building safety codes.
- ⊙ Mozambique is keen on reducing and eradicating the absolute poverty that has been identified as the major risk factor and cause of vulnerabilities to disasters. Thus, it is necessary to integrate disaster risk assessment in poverty reduction programmes.
- ⊙ The various institutions related to disaster management in the country should strengthen coordination at all levels - regional, national, provincial, district and local.
- ⊙ There is need to improve, coordinate and share the existing communication systems among different stakeholders.
- ⊙ Mozambique should rehabilitate and re-equip the existing seismic stations. The seismographs and other equipment should be kept and maintained in good conditions so that they can work correctly in order to produce reliable data.
- ⊙ The seismic stations should have minimum conditions for basic geosciences research and work, and be connected among them and to other regional and international earth science networks.
- ⊙ In the medium term, Mozambique should network seismographs

scattered in the country, especially in the more seismic areas, so that the entire country is covered and more accurate and systematic data produced.

- ⊙ An investigation of the country's historic seismicity and its relationship to the tectonic environment as well as a comprehensive understanding of the earthquake hazards in Mozambique should be carried out.
- ⊙ Studies should be conducted to develop hazard, vulnerability and risk maps, profiles, data, and produce accessible and useful information about risk assessment.
- ⊙ As population will keep growing and the urbanization process will continue in earthquake-prone areas, there is a need to design and construct schools, hospitals, homes, work places and other critical facilities and lifelines - particularly the public ones - to conform to good building practices and good land-use planning, to avoid problems in the future.
- ⊙ All strengths and weaknesses of the seismic and safety provisions of Mozambique's building code need to be identified and analyzed for future updating of the country's seismic and safety code for building and construction.
- ⊙ Multi-sectoral professional expertise and skills are vital resources to disaster management, especially to earthquake risk assessment. Hence, they must be cultivated and engaged in order to be sustainable. Training and professional development of technical staff should be taken into consideration.
- ⊙ Mozambique should connect itself to international Earth science, earthquake engineering communities and other organizations, establishing agreements that enable the country to benefit from monitoring research data such as those on early warning systems.

In conclusion, the February 2006 earthquake was a warning to future earthquake hazards in central Mozambique. The question is: will we be able to reduce or eliminate our vulnerabilities and increase our capacity to cope with earthquake hazards by reducing risks in an organized and participatory manner? This depends fully on us. ■

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Microfinance – as part of a greater disaster reduction strategy – can help reduce disaster risk and impact, bridge the gap between relief and development, support community cohesion and empowerment, and foster a culture of prevention...

The utility of microfinance for disaster risk reduction

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Recent disasters, including the 2004 Indian Ocean Tsunami, have demonstrated that financial services for the poor, called microfinance, can help reduce people's vulnerability to natural hazards as well as support recovery after an event. This article provides a brief synopsis of a publication being developed by UN/ISDR, soon available on its web site (<http://www.unisdr.org>).

A core utility of microfinance is to smooth income and consumption at the individual or household level to manage everyday risks; there is thus much expertise in the area of micro-financial risk management. At the same time, the *covariant* risk (affecting entire communities or regions) of natural hazards requires that microfinance be integrated in a greater strategy of disaster reduction.

Microfinance can contribute to disaster reduction before ("ex ante") and after ("ex post") a disaster event. During non-crisis times, microfinance helps reduce the human vulnerability that combines with natural hazards to cause disasters. After a disaster, microfinance can be used in both response and recovery phases to help communities regain their economic and social livelihoods.

Reducing underlying risk factors
Natural hazards alone do not cause disasters; human vulnerability allows hazards to become disasters. Poverty and vulnerability to disasters are strongly correlated: the poor are more vulnerable and disasters only contribute to worsen their situation, causing stress and sometimes aid dependency. Poverty alleviation thus reduces natural hazard

vulnerability, increasing resilience and coping capacity.

While there is not yet universal agreement on the ultimate impact of microfinance on poverty alleviation, microfinance's role in reducing the poor's vulnerability to disasters is generally accepted. By increasing income generation, diversifying asset bases and livelihood sources, providing for housing improvements, and building reserves in case of emergency, microfinance provides risk management alternatives and solutions that increase the coping capacity of the poor.

Responding to crises

Immediately following a disaster, affected populations often require support for their most basic survival needs: food, water, shelter and social aid. While microfinance as a product cannot directly provide these, microfinance institutions (MFIs) have well-established local networks to reach their beneficiaries and clients. After a disaster, these networks can be very useful for the dissemination of information and even the distribution of relief supplies.

Channelling aid

After a disaster, victims need liquid cash either to purchase critical supplies or restart income-generating activities. MFIs can be used as a conduit for disbursing emergency grants. Often a mixed program of grants, interest-free loans and regular microcredit products is developed to deliver aid while retaining a semblance of financial discipline.

While useful, the provision of aid (specifically grants) through MFIs is an extremely delicate process. It must remain clear to clients and beneficiaries that MFIs are financial service providers, not charitable organisations. Grants can

distort local economic markets to the point of hindering microfinance and the sustainable growth it can enable.

Providing safety nets
Reflecting sound financial risk management and planning, micro-insurance payouts are made shortly after a disaster, providing policy holders with financial resources to reduce disaster impacts. It must be stressed that micro-insurance is only of utility if it is in place before a disaster, of course responding only to paying clients.

As a less complex yet similarly forward-looking strategy, safety nets, often in the form of simple savings accounts, also provide needed cash during emergencies. Compulsory or "forced" savings can, as an exception, be temporarily made available to help clients cope with disasters.

Cash-for-work programmes offer an alternative form of aid distribution, while engaging the community in its own clean up and recovery. Also, remittances from relatives abroad to disaster-affected family members tend to increase after an event. Both of these activities can be supported through established microfinance networks.

Fuelling recovery

As local markets are re-established after a disaster, individuals and businesses begin to redevelop incomes and livelihoods, thus supporting recovery as well as fostering creditworthiness. Microfinance can provide the resources needed to kick-start businesses, replace assets for income generation and reconstruct infrastructure.

As recovery gains momentum, microfinance must continue to be sensitive and flexible to the community's needs. This may require adapting existing products and/or developing new ones.

Microfinance can help provide the resources to rebuild a community, while at the same time developing a client-base ready for participation in a fully recovered economy.

Of paramount importance is the redevelopment of financial discipline by beneficiaries, such that a self-sustaining market is established. Even if products are adapted to reduce financial pressures on beneficiaries, there must be an understanding of the ultimate functioning of financial services, and the differences between temporary post-disaster recovery tools versus normal products. Education, training and capacity building are therefore as important as the microfinance products themselves.

Table 1 provides a summary of some of the standard microfinance products and methods used to reduce disaster impacts. Each product-type has a role to play in reducing vulnerability before disasters occur, as well as in response and recovery after an event.

Social mechanisms for microfinance delivery

In addition to the provision of financial and risk management services to the poor, microfinance supports community cohesion and empowerment through social mechanisms of delivery. Although structures for microfinance delivery vary, most centre on some form of self-managed community-level group.

Such community-based organizations (CBOs) take on different forms, depending on their goals and structures. Self-help groups (SHGs), village organizations (VOs), women's organisations, federations, mutuals and cooperatives often provide the link between the individual or household and the microfinance provider.

Most importantly, the self-managed structures of CBOs empower communities and individuals to manage their own financial strategies and livelihood pursuits. Members work together in support of the group, assuming financial responsibilities such as loan disbursements and penalties for individual defaults. Ultimately, by working together, CBOs strengthen social cohesion within

and among communities, and allow individuals and communities to manage their own recovery.

From relief to development

Microfinance can help bridge the gap between relief and development, supporting its role as an important tool for disaster risk reduction. This transition,

optimally accomplished through socio-economic transformation, mimicks major development challenges faced during non-crisis times, made more urgent by an accelerated pace during recovery.

At the individual level, successful transition from relief to development means the transformation of the population from beneficiaries to clients. No longer depending on aid, individuals

	Reducing Vulnerability (before disaster – ex ante)	Disaster Response & Recovery (after disaster – ex post)
micro credit	Client-responsive loans	Adaptation of current lending <ul style="list-style-type: none"> loan restructuring switch from group-based to individual liability adapts current credit products to temporary recovery products provides emergency subsistence loans ("soft loans" with relaxed conditions) lending moratorium for MFI protection loan forgiveness and write-offs (not recommended)
	Housing improvement loans <ul style="list-style-type: none"> ensure disaster resistance and building code compliance 	Emergency reconstruction loans <ul style="list-style-type: none"> ensure disaster resistance and building code compliance
micro-savings	Forced/compulsory savings <ul style="list-style-type: none"> used to collateralise loans usually not accessible until end of loan cycle 	Adaptation of forced savings <ul style="list-style-type: none"> allows temporary access so clients can withdraw as needed temporarily lift savings requirements
	Voluntary savings	Voluntary savings <ul style="list-style-type: none"> clients will withdraw as needed
micro-leasing	Leasing for assets <ul style="list-style-type: none"> with option to purchase at end of cycle for residual price 	Leasing for assets <ul style="list-style-type: none"> likely increase in demand
micro-insurance	Insurance <ul style="list-style-type: none"> financial protection frees resources, allowing further economic activities to be pursued 	Insurance <ul style="list-style-type: none"> applicable payouts made in a timely manner
money transfer	Money transfer services	Money transfer services <ul style="list-style-type: none"> remittances likely to increase
aid	Development support <ul style="list-style-type: none"> "free cash" not recommended support should be linked to sustainable income-generation and financial discipline 	Livelihood relief (no repayment) <ul style="list-style-type: none"> provision of income-generating items (kiosks, carts, machines, seeds, stocks, etc.) cash grants (can be combined with loans to support financial discipline) cash-for-work programmes
auxiliary services	Non-financial services: <ul style="list-style-type: none"> awareness, training and capacity building for micro-mitigation, micro-enterprise and financial management 	Non-financial services: <ul style="list-style-type: none"> information dissemination distribution of supplies training and capacity building for restarting livelihoods

TABLE 1: Overview of the Use of Microfinance for Disaster Reduction

now are able to support their own livelihoods and economic security by paying for financial services and managing their own assets.

Care is needed

While microfinance can be of great utility for disaster risk reduction, there are limitations, and it should be considered only a component of a greater disaster management strategy. Depending on the severity of a disaster, some aid will always be necessary, and there may initially be little microfinance can do.

Microfinance is a suite of financial products, not an emergency response tool.

In the wake of a disaster, sensitivity and flexibility is needed to develop appropriate microfinance responses. Demand may be difficult to manage, and different recovery and rehabilitation goals will likely require a range of products. The transition from aid to financial services is a dynamic process, requiring individual attention.

Microfinance can help foster a culture of prevention, and should be used in support of mitigation strategies. To better prepare clients and communities for the

eventuality of a disaster, new disaster funds should be developed at all levels, and the great potential of micro-insurance should be better utilized.

While microfinance empowers and enables self-sufficiency, training and education in financial management and business development is as important as financial services. MFIs need disaster management and response plans to protect the survival of the institution as well as its clients. ■

Agricultural researchers help combat drought in southern, Horn of Africa

Mr John Whitehead

International Food Policy Research Institute, IPFRI, Nairobi Kenya.

While human ingenuity and effort has yet to eliminate natural disasters altogether, communities can nevertheless strengthen their capacity to reduce the damage caused by environmental crises. Achieving these goals requires carefully conceived and targeted long-term investments that go beyond simply distributing relief after a disaster.

The Consultative Group on International Agricultural Research (CGIAR) - a network of nations, international organizations and private foundations - has long helped to design such investments for a variety of nations and regions, including southern Africa and the Horn of Africa.

Fifteen international agricultural research centres, supported by the CGIAR, provide reliable information and analysis on agriculture, forestry and fisheries. This research, and the resulting policy recommendations, can serve as the foundation for "smart aid" from both state agencies and NGOs.

Less moisture-dependent crops

Among the natural threats to lives and livelihoods in Africa, CGIAR has primarily focused on drought. Not as dramatic or headline-grabbing as the earthquakes, tsunamis and hurricanes that have troubled Asia and the Americas in recent years, drought can nevertheless take a devastating toll of its own.

Southern Africa has suffered from this natural menace for several years now. In the midst of its ordeal, the International Center for the Improvement of Maize and Wheat (CIMMYT in Spanish), a CGIAR research institute based in Mexico City, has contributed considerable time and energy to combat the problem.

Researchers at CIMMYT spent some 20 years studying drought, and their efforts have now culminated in an important initiative to breed less moisture-dependent crops.

The southern African sub-region depends greatly on maize, which ordinarily requires a great deal of moisture. However, new varieties, which have been bred to tolerate drier environments,

have a 20 percent higher yield than previous varieties of maize under similar conditions (although the yield remains less than under non-drought conditions). Today, over 50 development agencies, including the German Agency for Technical Cooperation (GTZ), are accelerating the testing and distribution of drought-resistant maize strains as a response to drought in southern Africa.

Plants that can slow water evaporation from soil

CGIAR has also undertaken efforts to counteract, through crop breeding, natural disasters in other regions. CIMMYT researchers have discovered that crossing wheat with its wild relative goat grass produces plants with spreading leaves that slow the evaporation of water from the soil beneath them.

Another CGIAR institute, the International Center for Agricultural Research in the Dry Areas (ICARDA), located in Aleppo, Syria, has collaborated with Sudan and other nations in the Nile Valley and Red Sea region in a project to make wheat more heat resistant.

Human-made obstacles

Elsewhere in Africa, particularly where agriculture plays a less significant role, improved crop varieties cannot solve the problems created by drought. In the Horn of Africa, one of the driest regions in the world, pastoralism plays a key role in the economy: livestock provides 70 percent of rural inhabitants' income and accounts for 20 to 30 percent of regional gross domestic product (GDP). Drought can devastate this traditional way of life, depriving herds of water and grazing land and making livestock more prone to disease. The 1995-97 drought killed between one-third and one-half of the cattle in various pastoral communities in southern Ethiopia and northern Kenya. Further, drought can combine with various other stresses on pastoralism and land availability, such as expansions in population, urbanization, infrastructure and farming.

In an effort to take steps towards addressing this problem, the International Livestock Research Institute (ILRI), a Nairobi-based CGIAR institute, joined forces with the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the Global Livestock Collaborative Research Support Programme of the US Agency for International Development (USAID). The three organizations collaborated to study drought and related disasters and pastoralists' responses to it more closely. The researchers, sponsored by the USAID Office for Disaster Assistance (ODA), uncovered a set of difficulties more varied and complex than simply a lack of natural resources.

They have found that nomadic herders do not just suffer from a simple lack of grazing land created by drought. They also face human-made obstacles to reaching grazing land: roads, cities, farms and nature preserves stand in the way of their migration. Cattle rustlers also threaten the herds, which generally want for security. In addition, pastoralists labour under the subtler threat of a plunge in their livestock's value: drought

can lead to selling cattle, which can lead to a glut in the market.

Researchers' recommendations

The research team also investigated how pastoralists predicted, prepared for and coped with drought. Out of these varied findings, the team developed a number of recommendations that include the following:

- ⊙ Combine traditional predictive methods with scientific meteorological tools to create an effective early warning system.
- ⊙ Avoid overgrazing by managing herd sizes.
- ⊙ Improve animal health services and monitor epidemic risks.
- ⊙ Insure fodder supplies during dry seasons by improving water management and harvesting practices.
- ⊙ Diversify livelihoods beyond pastoralism, possibly through the use of micro-credit, to include more agriculture, horticulture, handicrafts and other activities.

- ⊙ Improve human health and nutrition, including pre-natal care and child immunization.

Sustained, adequate development initiative required

Such recommendations, if incorporated into the policies of the USAID Office for Disaster Assistance, could pave the way towards a greatly enhanced indigenous capacity for alleviating drought in the Horn of Africa.

In approaching the problem of African drought, the CGIAR network has faced a complex set of challenges. Finding possible solutions involves an array of efforts, from predicting droughts before they occur, to finding ways to make current livelihoods less vulnerable in a crisis, to identifying alternative, drought-resistant economic activities.

Any effective, lasting remedy to the devastating effects of drought in Africa, however, requires a sustained, carefully conceived and executed development initiative that goes beyond short-term disaster relief. ■



Happy children playing with maize

NIGERIA: Inland waterways authority fit for waterway risk reduction role

Ahijo Mohammed Abbas

National Inland Waterways Authority (NIWA)
Lokoja-Kogi State, Nigeria

Nigeria is blessed with two of Africa's largest rivers: River Niger and River Benue. The latter takes its source from the Cameroon Mountain, the former takes its source from the Futa Jalor Highland. The two rivers form a confluence in Lokoja-Kogi State, central Nigeria, before running southward to form a delta through which they drain into the ocean.

The Niger-Benue waterway system that bestrides Nigeria like a capital Y provides nature artery for communication from the port of Warri, Port Harcourt, into hinterland, and on to the northeast and the northwestern border: a total of 3,000 km of inter-coastal waterways from Lagos through Warri to Port Harcourt. As may be seen from the map of Nigeria, this inland waterway offers great potential for waterway transport in the country.

Not a single person using a life jacket

As we all know, life along the bank of any river is full of interesting stories. The fluctuating weather caused by changing seasons as well as the hustlers and growing pressure to make ends meet among the folk, the predatory wildlife - which often make the area dangerous for human habitation, the beautiful scenery and the penny pinching business along the river bank combine to attract attention and inspire passionate appreciation by anyone.

However, the large population of folk living along the nation inland waterways are fishermen and unemployed or illiterate youth in water transportation where the youth have simply create a world of their own.

Like pirates or militants, they have constituted themselves into a law of which they are both enforcer and the court. To worsen the situation, the miscreants are now operating under the



An inland waterway "port" (Photo: NIWA)

aegis of an unregistered body, like the one in Buruka in the north-central part of Benue State who call their union "Tombo Maritime Nigeria Workers' Union"¹ (TMNWU), and the same tale in other parts of the country, putting all kind of river crafts not minding of its river worthiness, overloading passengers and goods without a single person using a life jacket. Midstream the boys turn inhuman: they will simply put off their engine boat and complain that they run out of diesel; passengers will have no option than to double and, in most cases, triple their fares before the boys would reluctantly start the engine to continue the journey.

Maritime disaster

A maritime disaster can be described as an incident involving a vessel or vessels, leading to loss of lives, properties and extensive damage to the total loss of carriers. Such a disaster is not limited to only ocean-going vessels but may affect all kind and sizes of water craft.

The chief type of maritime disaster could be by ways of boat mishap or onboard fire outbreak.

A boat mishap is a serious threat to life and properties. In 2005, a boat mishap at Jalingo, Taraba State, claimed over 80 lives out of the 120 persons who boarded the boat without a single one wearing a life jacket. Another boat mishap at Igbokoda, Ondo State, claimed about 102 lives. A third one at Kaduna claimed the lives of eight teenagers.

Similarly, a maritime disaster can be caused by fuel explosion, cigarette smoking and careless handling of general safety issues in terms of equipment handling on board.

The Nigerian Inland Waterways Authority: a regulator

To help reduce disaster risk on the inland waterways, the Nigeria Inland Waterways Authority (NIWA) has been established as a regulator with the introduction of Cabotage Law. NIWA shall enforce

all necessary regulatory codes to ensure safety on the waterways. These regulations directly affect aspects such as worthiness of vessels: every vessel and barge is subjected, at least once a year, to inspection at various waterway ports for safety-related deficiencies.

The regulations also cover operators of vessels who, on inland waterways, are to be examined to determine their competence. Incompetent and under-aged operators will be prevented from plying the waterways. Operators are to be regularly trained in areas of safety.

Vessels' facilities and equipment are also to be checked. NIWA shall make it mandatory for all vessels and barges on waterways to be equipped with modern communication systems, fire fighting and other life-saving equipment such as fire extinguishers and life jackets.

NIWA shall partner with other relevant bodies in combating disasters along inland waterways through a scheme that will motivate youth or other persons to go for training on how to construct and maintain boats or river crafts, using dockyards and Area offices of the Authority nationwide.

Towards better security services

The Marine and Inland Waterways Police Command shall be armed and equipped with modern patrol boats and communication aids, and deployed to all NIWA Area offices to checkmate criminals and boats that are not safety compliant on waterways.

Another strategy is to ensure the navigability of waterways all year round, through river channel development which includes:

- ⊙ Installing buoys and charting ferry routes
- ⊙ Removal of obstacles such as wreck, water hyacinths, etc.
- ⊙ Depth control by weirs
- ⊙ Maintenance dredging

NIWA in a better position to be used to reduce disaster risk

Early warning, as we know, is a major element of disaster risk reduction: it prevents loss of lives and reduces the economic and material impact of disaster. To be effective, early warning

system needs to actually involve riverine communities at risk, facilitate public education and awareness of risk and disseminate messages and warnings effectively.

Lack of early warning has caused a lot of damage and loss of life in Jalingo Taraba State last year: farmers were farming on the riverbank and some pedestrians tried to cross a bridge; a flood washed away the farmers and pedestrians on the bridge; about 32 people lost their lives. (Source: NIWA, 2005)

The National Inland Waterways Authority is in a better position to be used to reduce disaster risk on Nigerian waterways where maritime disaster should be combated. Being a serious threat to life and property, mishap on Nigeria's waterways should be prevented through systematic and conscious efforts. ■

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1 Source: Daily Trust, February 2005

GABON: Increased coastal risks in the capital city

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The Gabonese capital city, Libreville, is exposed to increased coastal risks due to the combined impact of natural phenomena and human activities resulting in receding beaches, sea and land-caused marine pollution. Sea erosion has affected human settlements and made beaches unusable, especially in La Sablière zone.

Pollution is worsening due to waste ferried by watercourses during rainy seasons and dumped along the coast

and river outlets. They affect the marine ecosystem, jeopardizing fishing and swimming activities in many parts of the coast.

Sea erosion

La Sablière zone is part of Akouango Bay in the southern tip of Cape Santa Clara. Stretching out on more than 40 km, it is a beach of fine sand built by marine swells, and which experiences two types of tide: a daytime and a night-time one. La Sablière beach is currently exposed to natural agents including the effects of swells that are intense in the most developed southern part of the area.

The above situation is a result of

developments on the upper sandy foreshore. It is worth noting that the two headlands - Santa Clara and Denis - have helped reduce the impact of swells on the coastline. Without the two physical features, erosion would be more intense.

Impact of human activities on coastline

Along the coast, particularly in La Sablière zone, many buildings have been built on the upper beach, leading to recess and transformation of the coastline and sandy foreshore. The latter is no longer confined to the area where waves crash into: it is now visible only at low tide. This situation, which is quite critical, reflects active erosion. Shoreline

deformation has intensified with renewed swell energy which eventually resulted in a clear recess of some beaches and an increase in the gradient of the sandy foreshore that currently bears ripple marks in high erosion areas. Increased swell energy does constitute a real threat for buildings along the coast.

To the south of La Sablière zone, huge buildings have been constructed, including Dialogue and Dowe hotels. Over the years, the construction of these buildings in such a sensitive coastal area has destabilized the beaches. Chain reactions linked to neglect and the subsequent lack of maintenance of the said hotels are visible. Sea waters are accumulating near Dialogue Hotel, creating swampy grounds. As marine erosion is intensifying, some measures should be taken to prevent these structures from subsiding.

In addition, next to Dialogue Hotel, groynes have been put up to protect the hotel from violent swells. Over the years, this has diverted the ocean current, and has been a major degradation factor in that part of the coast. The impact of swells is clear on the abandoned hotel compound whose condition is deteriorating with time.

Meanwhile, massive structures have been built to reinforce the groynes, but they are only artificial protection screens replacing the original coastal vegetation. The protective measures put in place happen not to be effective. In fact, they do not provide adequate protection from the process that makes the beaches recede. On the contrary, they contribute to worsening erosion. The increased swell energy has diverted the ocean current, which prevents fine sediments from reaching the beaches. Sandy sediments are moving towards the open sea, which results in an increasingly sloppy sandy foreshore. The built structures are a threat to the stability of the already unstable environment.

Such a threat has been increased by a large number of human activities, including fishing, wood processing, tree cutting for firewood, drifting float logs that run aground along the beach, rattan harvesting, etc. All these activities contribute to polluting beaches and making many beaches unusable and too dirty for swimming. The pollutants also help sea waters spread to the mainland.

Impact of swells on environment, development

Unlike the southern area located in the Estuary, La Sablière zone has an oceanic facade with swells that are typical of the Atlantic Ocean. The swells, which are two-metre high on some occasions and deploy themselves with strong energy, affect both the physical environment and human activities.

Regarding the physical environment, the process of marine erosion destabilizes the environment through a significant displacement of fine sediments to the ocean. As a result, gradient emerges and increases in the areas. The disappearance of sediments leads to gradual uprooting of trees, their instability and the total collapse of weakened trees.

Regarding the developments, the receding beaches have affected houses on the upper beaches, which forced some house owners to build relatively high fences.

Steps taken by individuals insufficient

In some parts of the coast, especially in La Sablière zone, preventive measures have been taken by home owners. They aim to reduce the impact of swells on houses and developed areas. The measures include groynes made of hardened iron-clad blocks, rubble embankments and sometimes granite blocks from various stone quarries. These preventive measures are often enforced on the upper beach to address the risk.

However, these preventive measures are not sufficient. They require additional support measures or, better still, preventive strategies that are more suitable for the unstable marine environment. Indeed, iron-clad blocks tend to sink into the ground and do not help stabilize beach sand: they help the beach recede. This is not the case for granite blocks that are better suited to the environment.

Main river outlets, main watersheds degraded

One of the main ecological problems linked to the marine environment in Libreville is the degradation of main watersheds. The rivers' valley floors are

real risk basins that host all kinds of risk that can harm local people settled in these areas - that are unfit for human habitation. Risk complexes have developed in these unstable areas: people are exposed not to single risks but to several ones caused by varied natural processes; risks that coexist and appear at different times.

Various people have settled on river valleys. The rivers include Gue-Gue, Arambo, Awondo, Batavea and Lowe. They have their source on the mainland and they flow into the Estuary sharing the same characteristics upstream and downstream. At their outlets, they are full of pollutants from various wastes. The latter is as a result of land-based pollution that seriously affects the Estuary outlets of the watercourses, rendering them unfit for swimming. These confluences are reception areas or sedimentation areas for waste or materials ferried by rivers during floods. At high tide, the waste is exposed to the ebb and flow of tidal waters; as a result, it is spread to a large area covering the outlets. At low tide, it is deposited due to the impact of the receding sea. The inland waters' convergence with the sea leads to waste stagnation. Whatever the waste's behaviour in relation to the tide (high or low), it contributes to beach pollution.

It is to be noted that these areas are greatly valued for fishing which is a highly developed activity at the Arambo and Lowe outlets where waters have turned black due to pollution. Waste has been continuously accumulating over the years following successive floods, forming a long stretch of various materials that constitute a real nuisance to the environment and to the health of local people who consume the rivers' fish sold in local markets. The entire food chain is therefore affected. Yet, fishing activity is intensifying in these risk-prone areas.

Necessary preventive measures

As coastal degradation is worsening, protection measures are needed, especially the following ones:

- ⊙ Building a groyne along the entire coast or strengthening existing ones;
- ⊙ Enforcing land occupation regulations along the coast;

- ⊙ Enforcing beach surveillance and maintenance measures;
- ⊙ Enforcing existing regulation prohibiting huge buildings along the coast;
- ⊙ Placing public dustbins along beaches;
- ⊙ Informing local people on ecological problems linked to marine environment;

- ⊙ Enforcing existing regulation prohibiting fishing and swimming activities at the outlets (confluences) of the main rivers of Como Estuary's key watersheds and in nearby areas;
- ⊙ Cleaning out outlets that have become risk areas; and
- ⊙ Developing a cleaning or purification system to remove the solid waste

or various objects dumped into the outlets after being transported by watercourses during floods. ■

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DJIBOUTI: Institutional framework for disaster risk reduction established

Mr Ahmed Mohamed Madar
National Focal Point
for Disaster Management,
Republic of Djibouti

The Djibouti Government adopted a decree establishing the "Institutional Framework for Disaster Risk Management" (DRM) during a cabinet meeting 2 May 2006.

The proposed Institutional Framework provides for preliminary measures such as vulnerability assessment, information systems, public awareness and education programmes, rapid response mechanisms and simulation exercises that are likely to help prevent hazards from becoming disasters.

The development of the Framework also helped clarify who was responsible for what and ensure proper coordination among various organizations involved in disaster issues.

Through the Institutional Framework, Djibouti is responding to concerns raised in the "Hyogo Framework for Action 2005-2015" adopted by 168 National Governments in Kobe, Japan, during the January 2005 World Conference on Disaster Reduction organized by the UN/ISDR Secretariat. The Hyogo Framework for Action encourages States to make disaster risk reduction a national and local

priority supported by a sound institutional base.

The Decree establishing the country's Institutional Framework followed the promulgation of the Law establishing a « National Policy for Disaster Risk Management » by the President of the Republic of Djibouti.

The Decree provides for the establishment of the following organs: (1) an Inter-Ministerial Committee for DRR; (2) an Inter-Sectoral Technical Committee for DRR; and (3) an Executive Secretariat for DRR. ■



Impacts of Floods in Djibouti

SENEGAL: Journalists introduced to disaster risk reduction

Mr Abdoulaye Ndiaye

Director of Civil Defence,
Dakar, Senegal

A workshop on “Disaster Risk Reduction Capacity Building for Members of the Convention des jeunes reporters au Senegal” (CJRS – Convention of Young Reporters in Senegal) was organized by the Senegalese Interior Ministry’s Directorate of Civil Defence on 9 and 10 March 2006 in the Senegalese capital, Dakar.

Thirty-three (33) print and radio-TV journalists and two journalism students participated in the workshop held within the framework of activities to mark the International Day for Disaster Reduction.

Partnership between journalists, Directorate of Civil Defence

In his opening speech, Mr. Abdoulaye Ndiaye, the Director of Civil Defence, briefed the participants on the programme for this important day aimed at providing information and raising awareness on disaster risks. Earlier on, Mr Mohamed Habiboulah Fall, the chairperson of the CJRS, recalled the media’s role in the information and awareness process during a disaster. After his presentation, Mr Mame Less Camara, a lecturer at the Dakar-based *Centre d’étude des sciences et techniques de l’information* (CESTI – Centre for the Study of Information Science and Techniques), was appointed workshop moderator.

On the first day, Mr Abdoulaye Ndiaye and his deputy, Lt-Col Mor Seck, made a presentation on the major focuses of the country’s National Policy for Disaster Risk Reduction and Management. On his part, National Assembly Communication Director Mr Antoine Ngor Faye, who is also a CESTI lecturer, presented a paper on the theme “How to Communicate

During a Crisis: The Challenge of Professionalism and Partnership”, a topic that prompted him to raise the following issues: crisis environment and communication, planning of crisis management, the role of the media during a crisis, and the partnership to be developed between the Directorate of Civil Defence and the media in the area of crisis prevention, management and monitoring.

Afterwards, Mr Mame Aly Konté, an environmental journalist with *Sud Quotidien*, developed the theme « Media and Hazard-Prone Areas: Minimalism or Ignorance ? » which he used to make a review of risk management from the 1972 Stockholm Conference to the 1992 Earth Summit in Rio de Janeiro. The day ended with a visit to a number of hazard-prone sites and areas, so as to carry out a diagnosis in Hann Bay and Dakar Port’s industrial area.

Roles of journalists, disaster managers discussed

On the second day, Civil Defence Director Mr Abdoulaye Ndiaye made a presentation on Senegal’s National Flood Control Programme and National Programme for the Management of Major Industrial Accidents. The rapporteur, Mr Abdou Razack Ndiaye, presented a « Draft Action Plan on Media Participation in Disaster Risk Reduction ».

Discussions on all the themes focused on:

- ⊙ Advocacy as a tool for awareness raising;
- ⊙ Availability of information in crisis periods (before, during and after an event);
- ⊙ Media management of crises;
- ⊙ Lack of or insufficient reporting on risks and disasters;
- ⊙ Information retention during crises;

- ⊙ Areas of expertise of the Directorate of Civil Defence;
- ⊙ Communication problems between the Government and the media during crises or disasters;
- ⊙ Regional and international strategies for disaster risk reduction (DRR);
- ⊙ Mainstreaming of DRR issues into journalism training;
- ⊙ Information sources during disasters;
- ⊙ Development and production of spots to sensitize the public on risks;
- ⊙ People’s cohabitation with risk-prone areas;
- ⊙ Relocation and resettlement of people living in flood-prone areas;
- ⊙ Effective implementation of the National Flood Control Programme and the National Programme for the Management of Major Industrial Accidents;
- ⊙ Involvement of opinion leaders, including religious leaders, locally elected officials and insurance and reinsurance companies.

Journalists willing to be involved in DRR

At the end of the workshop, the CJRS gave a vote of thanks to the Directorate of Civil Defence, the panellists and the journalists who took part in the meeting.

In addition, the CJRS reiterated its commitment to be more involved in all activities carried out under the country’s DRR policies, strategies and programmes.

A media action plan on communication and social mobilization

Such a readiness for more involvement translated into a partnership between Directorate of Civil Defence and the CJRS through the adoption of an Action Plan. The said Action Plan, entitled

National Platforms in Action

“Action Plan on Communication and Social Mobilisation in the area of Disaster Risk Reduction”, covers a 36-month project whose beneficiaries are information and communication professionals.

The project’s objectives are: (1) the development of a partnership between DRR and communication professionals; (2) the development of an information network whose activity will be information collection, analysis and dissemination, with a view to developing homogenous and coherent information on risks, better analyzing the causes of damage and identifying means to sensitize and educate people on disaster

risk reduction. One of the project themes is: “Advocacy for and Sensitization on the Need to Make Disaster Risk Reduction a Priority and Mainstream it into Development Strategies, Policies and Programmes”.

The project’s target groups are policy makers, local communities, the private sector, the civil society, NGOs, development partners, opinion leaders (imams, priests, traditional leaders, artists, musicians, etc.) and insurance and reinsurance companies.

The expected outcomes of the Action Plan are the following: DRR capacity building for information and communication

professionals; better promotion of DRR policies, strategies and programmes to actors concerned; and the development of partnerships between information and communication professionals, government departments, local communities, the private sector, NGOs and development partners.

Lastly, the participants visited Shell Petroleum facilities in the self-managed port of Dakar. The visit enabled the journalists to understand disaster risks in the oil sector (explosion of toxic substances, fire, pollution, etc.). ■

GHANA: National platform for disaster risk reduction launched

National Disaster Management Organization (NADMO)

Accra, Ghana

Ghana has launched its National Platform for Disaster Risk Reduction (DRR) during a workshop held in the capital, Accra, on 11 and 12 May 2006 under the theme “Prevention Pays”.

The Platform was launched officially by the National Disaster Management Organization (NADMO) and UNDP Ghana, with technical support from UN/ISDR Africa. The workshop was facilitated by DRR consultant Seth Doe Vordzorgbe.

After being opened by the Ghanaian Interior Ministry, the proceedings began with presentations on the following topics:

1. Disaster Risk Reduction and Development (by the UNDP)
2. Disaster Risk Reduction and Health (by the World Health Organization, WHO)
3. UN/ISDR Africa: Activities, Experiences and Lessons learnt from National Platforms in Africa and the Hyogo Framework of Action 2005-2015 (by UN/ISDR Africa)



The NADMO Coordinator visit to the Volunteer Group for Disaster Risk Reduction

Capacity building agreement with UN Development Group

During the workshop, NADMO informed the participants that it had signed a Memorandum of Understanding with

the UN Development Group (UNDG) to carry out capacity building on DRR in the country.

The workshop identified four priorities:

1. Priority for DRR in Ghana
2. Mainstream DRR into development policies and programmes
3. Capacity development for disaster reduction and the National Platform
4. The National Platform: Organization and Management

The following recommendations were made by the participants, based on the four priorities above.

Recommendations

1. Priority for disaster risk reduction in Ghana

- ⊙ Formulating an integrated national disaster risk reduction policy;
- ⊙ Improving governance of the disaster management system (reform of the structure and oversight mechanism for managing disaster reduction, including creation of a National Disaster Management Council);
- ⊙ Coordination of responsibilities within the disaster management system (including creating an integrated or unified command structure for managing operations during emergencies);
- ⊙ Increasing knowledge and awareness of DRR principles and practices;
- ⊙ Developing an early warning system for all hazards.

2. Mainstreaming disaster risk reduction into development policies and programmes

- ⊙ Mainstreaming steps:
- ⊙ Amendment to change name, which needs some lobbying;
- ⊙ Stakeholder participation at every level of the development process: Government, state institutions, NGOs, civil society, traditional authority, communities (professional institutions, educational institutions, etc. to be identified);
- ⊙ Possibly raising the status of NADMO



Land preparation by the Disaster Volunteer Group

to be under the Office of the President or a full ministerial status - for easy coordination of all agencies;

- ⊙ Increasing DRR knowledge and awareness;
- ⊙ Promoting integration of DRR in development process;
- ⊙ Strengthening/enforcing regulations;
- ⊙ Mainstreaming gender issues.

3. Capacity development for disaster reduction and the National Platform

- ⊙ Capacity development for disaster reduction and the National Platform;
- ⊙ Increase generation and dissemination of risk data and information on Ghana's disaster profile, disaster and risk management options;
- ⊙ Develop disaster profile – hazards;
- ⊙ Increasing data generation;
- ⊙ Disseminating data;
- ⊙ Developing disaster risk management options;
- ⊙ Conducting training;
- ⊙ Developing networking;
- ⊙ Carrying out research and monitoring.

4. The National Platform: Organization & Management

- ⊙ Objectives of the National Platform include:

- Increasing collaboration and coordination amongst national stakeholders;
- Increasing knowledge and visibility of national situations at regional and international levels;
- Providing national leadership and commitment to the sustainability of the National Platform ;
- Strengthening links with ISDR Secretariat and ISDR as a strategy;
- Identifying national counterparts in strategy implementation ;
- Establishing credibility across different institutions and interest groups;
- Strengthening commitment to help most vulnerable groups;
- Increasing public awareness.

Proposed structure and management of the National Platform

- ⊙ National Platform (NP Secretariat)
- ⊙ Regional Platform(s) (RP Secretariat)
- ⊙ District Platform(s) (DP Secretariat)
- ⊙ Zonal Platform(s) (Zonal Coordinator)

Relationship between National Platform and NADMO

- ⊙ NADMO should facilitate the implementation of National Platform's decisions;
- ⊙ NADMO should facilitate the monitoring and evaluation of National Platform programmes and policies;
- ⊙ NADMO should play an organizational role in DRR matters at regional, district and zonal levels;
- ⊙ National Platform should replace existing management committee at various levels;
- ⊙ NADMO Act should be reviewed.

Designating disaster reduction focal points

- ⊙ Ministries, Departments and Agencies (MDAs): director level;

- ⊙ Metropolitan, municipal and district assemblies: very senior officers;
- ⊙ NGOs and civil society groups.

Streamlining inter-agency communication within the disaster management community

- ⊙ Creation of DRR web sites;
- ⊙ Telephone/fax/e-mail directory at all levels;
- ⊙ Networking;
- ⊙ Frequent seminars, workshops and exercises, radio / TV programmes;
- ⊙ Creation of quarterly newspaper on DRR;
- ⊙ Zonal coordinator should receive and disseminate information on DRR;
- ⊙ Informal interactions.

Launching of National Platform activities

- ⊙ Launching of national platform at all levels;
- ⊙ Stakeholders' conference at all levels;
- ⊙ Continuous public awareness raising;
- ⊙ Workshops/seminars/conferences;
- ⊙ Identification of potential risk areas;
- ⊙ Exercises/essay competitions at schools;
- ⊙ Annual report submissions;
- ⊙ International Disaster Reduction Day celebration.

Financing the National Platform

- ⊙ Government funding;
- ⊙ Bilateral/multilateral agencies (UN, AU, ECOWAS, international organizations, NGOs); ■

Local authorities and communities have been trained, disaster simulation exercises held, enthusiastic response observed from the public and... disaster risk reduction mainstreamed into school curricula. Disaster reduction is making progress in Madagascar.

Disaster reduction gains ground in Madagascar

Ms Mirana Ralaivola

Journalist,
Malagasy National Television (TVM),
Antananarivo, Madagascar

As from the next school year, a students' textbook on natural disaster reduction will be made available to Malagasy school students.

This emerged from a four-day training session held from 11 to 14 April 2006 in the east coast town of Vatomaniry, and attended by 103 participants including regional officials and local government and community officials from the eastern coast of Madagascar. Donor representatives, National Education officials and journalists were also in

attendance.

The training focused on how to reduce tsunami-related risks, other disaster risks and how to reduce the impacts of natural disasters. The session was organized by the *Conseil national de secours* (CNS - National Emergency Council) – a State organ charged with disaster risk reduction in Madagascar - and UN/ISDR Africa. The development of a school manual on disaster risk reduction (DRR) was also discussed.

Disaster reduction mainstreamed into school curricula

« *The books should be easy to read for school students, and they should feature more illustrations than text* », said François Rakotomalala, head of the

Monitoring and Evaluation Department in the Malagasy Ministry of National Education and Scientific Research. Information on early signs of hazards, attitudes to adopt as well as people to contact will be found in the textbooks. It is noteworthy that local government officials attending the training were also associated to the development of the manual.

In short, disaster reduction has been mainstreamed into Malagasy school curricula, which is a significant step from the Big Island (587,041 km² and 5,000 km of coastline) covered by rugged landforms, and which, for decades, has experienced several disasters annually, the most common being cyclones, floods,



Participants at the training on Disaster Reduction and Education

forest fires, locust invasions and drought – and now... tsunamis.

Coping with tsunamis

The four-day intensive training was very constructive for the regional officials, mayors and other leaders from the eastern coast of Madagascar.

The meeting focused on the case of tsunamis, even though cyclones, earthquakes, fires, famine and malnutrition were also discussed. What steps should be taken before, during and after a tsunami? Prevention measures against tsunamis were put forward during group discussions by three commissions. Explanations from Prof Gerard Rambolamanana of the *Institut d'Observatoire géophysique d'Antananarivo* (IOGA - Antananarivo Geophysical Observatory Institute) left the participants dumbfounded: very clear and basic explanations on sub-marine earthquakes and the *run-up* phenomenon (the huge rise of waves). CNS Executive Secretary Jacky Roland Randimbiarison, for his part, explained the process involved in disaster risk reduction, including tsunami risk reduction.

What should we then do when faced with a tsunami? First, remain calm, considering that Madagascar has seven (7) hours prior to the arrival of the run-up - huge waves - caused by faults or fractures in tectonic plates in Asia. Then everyone, especially local authorities,

must assume responsibilities with regard to the protection of people and property. Further, explanations were given to local authorities on the need to provide emergency shelters that should be located on a higher ground, in addition to anti-cyclonic schools already available and hospitals.

Simulation exercises hailed

The training ended with a drill in the form of tsunami simulation and evacuation exercises 4 km away from Vatomaniry, in which the local government and community officials attending the training took part. A « mock alarm » was sounded by CNS officials, indicating the approach of a tsunami. Immediately, participants put to practice what they learnt during the three previous days: the three Commissions moved into action (Information-Education-Communication Commission; Health Commission; and Logistics Commission), every one played his/her role, information on the evacuation was provided to the population, including what to do when reaching the place on higher ground, etc.

«This may look like a game, » said a traditional leader from an east coast rural village, « but we find it very constructive. It will remain engraved in the participants' minds. Moreover, it is important to repeat this kind of exercises as often as possible in all parts of Madagascar, if need be. »

The above is a very positive reaction heralding similar reactions from the public to subsequent activities by the CNS and National Education officials.

Enthusiastic response from public

The CNS then proceeded to conduct children awareness action to test the content of the textbook. All these activities were carried out under the theme of the UN/ISDR global campaign for 2006 and 2007: « *Disaster Risk Reduction Begins at School* ».

Speaking on the theme of the global campaign, UN/ISDR Africa Regional Programme Officer Mrs Noroarisoa Rakotondrandria gave the example of a young, 10-year-old British girl who saved people's lives on a Thai beach after she had learnt from her geography class in Britain how to recognize the early signs of a tsunami and what to do in the event of a tsunami. On 26 December 2004, the young girl, who was on holiday on a beach in Thailand, warned her parents of the impending danger, and helped save the lives of some 100 people who were able to seek refuge.

It is noteworthy that the Malagasy public welcomed warmly the public awareness actions carried out by the CNS in collaboration with National Education officials. Positive comments were broadcast on the capital city's numerous FM radio stations, comments such as the following: *“it is a major first in the history of education in Madagascar”*; *“this is what we should have always been doing in Madagascar”*.

It was a well-deserved extra mark for the CNS which, in 2005, had already received congratulatory messages from numerous districts, communes and regions, as well as from parliamentarians from the regions concerned; and whose training on DRR in various places on the island attracted huge crowds.

Towards communal and regional budgets for DRR

After the training in Vatomaniry, the country now seems to be psychologically prepared to face tsunamis but it also requires modern equipment. In this regard, a tide gauge (a scientific device for measuring the height of tide) is expected

soon. However, other equipment, such as additional radio and television transmitters, is needed to disseminate the necessary information on radio and TV stations with countrywide coverage.

Lastly, the Vatomandry training participants spoke in favour of the creation of a DRR budget in development plans of communes and regions that are most prone to natural hazards. "Such a budget," they said, "will enable our communities and regions to handle disasters in a more practical, more

efficient and more self-reliant way."

But there is a question mark over the Malagasy Ministry of Finance and Budget's reaction to such a request. Indeed, the Ministry is already grappling with the first negative impacts of the sharp rise in oil prices. But recent reports say the Malagasy Finance Ministry is "not fundamentally reluctant".

It is to be noted that Madagascar already adopted a "National Disaster Risk Management Strategy" in July 2003.

The country then incorporated disaster risk management in its PRSP (Poverty Reduction Strategy Paper). And in April this year, the Malagasy government again strengthened the role of DRR in a national development framework document entitled "*Madagascar Action Plan*" that replaces the PRSP which is drawing to an end. In a nutshell, disaster reduction is gaining ground in Madagascar. ■

REPUBLIC OF CONGO: Towards a contingency plan to prevent, manage disasters

Mr Edmond Makimouha¹

Director of Environmental Law, Education and Cooperation,
Ministry of Forest Economy and Environment,
Brazzaville, Congo

Disaster risk prevention and management has drawn special attention in the Republic of Congo. It has stopped being the preserve of a single government department, and has now been transformed into a national vision for protecting human lives, infrastructure and the environment against the impact of disasters.

A humanitarian contingency plan

After the December 2005 First African Ministerial Conference on Disaster Risk Reduction, the Congolese Government decided to make disaster reduction and management a priority within the framework of poverty reduction, sustainable development and the Millennium Development Goals (MDGs).

In this context, the Republic of Congo received multifaceted assistance for the UN Office for the Coordination of Humanitarian Affairs (OCHA) and UNDP for the development of a "Humanitarian Contingency Plan for Natural Disaster Prevention and Management". The

support from the two UN bodies helped organized a workshop in the capital, Brazzaville, on 20 and 21 February 2006, attended by officials from government departments, NGOs and the private sector involved in disaster prevention and management.

The workshop began with two speeches made by the UN System Resident Coordinator and Her Excellency, the Minister of Social Affairs, Solidarity, Humanitarian Action and the Family.

Institutionalizing the Congolese National Platform

In his speech, the UN System Resident Coordinator reassured the participants of the UN's continued commitment and active cooperation with the Government of Congo. On her part, the Minister thanked OCHA and UNDP for their support to the Congolese Government's efforts and expressed the hope that Congo would, in addition to the contingency plan, institutionalize its National Platform for Disaster Prevention and Management through a proposed bill. The Platform, she said, would serve as a consensual organ that enables each structure involved to express itself based on their functions and expertise.

After the opening ceremony, the participants elected Mr Pierre Gelas, the OCHA regional advisor for emergency interventions, chief moderator. Subsequently, Mr Pierre Gelas presented the fundamental issues underlying the development of a contingency plan, specifically: (1) Why a contingency plan?; (2) Why is planning important?; (3) Who takes the lead in such a process; (4) What steps are needed to develop a contingency plan?

Using a participatory method, the participants identified the main hazards and their typology (natural, technological and epidemic). The workshop dwelt on real-life experiences of flooding in the capital, Brazzaville, which were caused by torrential rains and resulted in material damage. The participants discussed the floods' consequences, analyzed possible responses and identified gaps.

Some difficulties in the area of awareness raising

The following key recommendations emerged from the workshop:

- ⊙ Institutionalize the National Platform for Disaster Prevention and Management
- ⊙ Validate the draft contingency plan

⊙ Establish an Emergency Response Fund (FRSU in French)

Further, a session was organized to present the outcomes of the Second Consultative Meeting for National African Platforms held in Nairobi from 13 to 17 March 2006. The session helped the

participants understand the difficulties encountered by National Platforms in raising public awareness.

The participants said the only effective way to raise awareness was radio programmes, adding that radio programmes would also help stakeholders

publicize the draft decree on the contingency plan. ■

1 Mr Edmond Makimouha is also the National Focal Point of the Congolese National Platform for Disaster Reduction

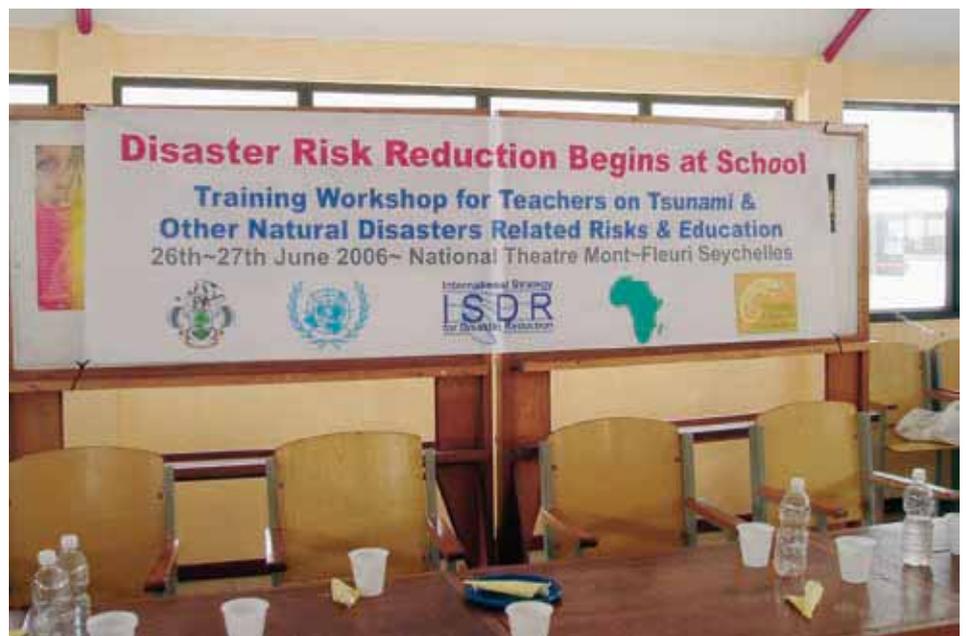
SEYCHELLES: Preparations under way for students', teachers' books on disaster risk reduction

Ms Lyndy Bastienne
Victoria, Seychelles

Preparations are under way in the Seychelles for the production of a school students' workbook and teachers' guide on disaster risk reduction (DRR). Draft copies of the primary and secondary school students' workbook were discussed by school teachers during a workshop held in the capital, Victoria, on 26 and 27 June 2006.

The workshop, which was attended by over 30 teachers from 18 schools on Mahe, Praslin, La Digue and Silhouette islands, sought: (1) to raise the awareness of school teachers, staff and children on tsunami and other related disaster risks, and enable them to know how to react in case of emergency; (2) to train teachers to create a culture of safety in schools and institutionalize the related programme through teacher training; and (3) to enable school teachers to adapt and localize a students' workbook and develop an associated teacher's guide for both children and teachers at primary and secondary level.

Funded by UN/ISDR Africa, the June 2006 workshop was organized by the Ministry of Education and Youth with the support of the National Secretariat for Disaster Risk and Management in the President's Office. It was facilitated by the Ministry of Environment and Natural Resources, the Meteorological Office,



the Seychelles Red Cross Society, and benefited from the technical support of Nature Seychelles, the Wildlife Clubs of Seychelles and UN/ISDR Africa - which was represented by Mrs Noroarisoa Rakotondrandria and Ms Rhea Katsanakis.

Mainstreaming DRR into school curricula

The workshop followed a regional workshop organized by UN/ISDR Africa in May 2006 during which it had been agreed that DRR had to be mainstreamed into school curricula, therefore school teachers had to be sensitized on the subject.

Opening the workshop, Education and Youth Minister Mr Danny Faure said "making disaster risk education part of national primary and secondary school curricula fosters awareness and better understanding of the immediate environment in which children and their families live and work."

The minister's speech was followed by presentations from the Ministry of Environment and Natural Resources, the National Secretariat for Disaster Risk and Management, the Met Office and the Seychelles Red Cross Society. The presentations were based on various issues relating to natural disaster risk

management as well as their roles in education and public awareness. The presentations were followed by another one on UN/ISDR Africa's mission and activities by Ms Rhea Katsanakis. An exhibition on the impacts of the 26 December 2004 Indian Ocean tsunami on the Seychelles was also organized.

The students' workbook

After being asked to write down their expectations from the workshop, the participants were divided into four to five-person groups that were each given a section of the draft students' workbook for comment. The draft workbook carried the following sections: internal structure of the Earth, the surface of the Earth, earthquakes and volcanoes, tsunami, floods, tropical cyclones, landslides, tsunami protection, coastal risk reduction.

The teachers introduced many changes to localize the draft workbook. They also came up with excellent ideas and suggestions on how to put together the workbook in a way that promotes a pro-active approach from learners - adequate page layout, colourful diagram illustrations, visual aids, games, songs, poems, etc. - and discussed ways to introduce it in the school curriculum.

At the end of the two-day workshop, the teachers were equipped with knowledge, skills and understanding of DRR, and ideas on how to integrate DRR into the school curriculum. They described the workshop fruitful, useful, beneficial, informative and well planned.

Suggestions on how to promote DRR in schools

On how to promote DRR in schools, the workshop participants made the following suggestions:

- ⊙ Poems, public speaking and poster design;
- ⊙ Colourful visual aids and models of the Earth's structure ;
- ⊙ Drama and role play;
- ⊙ Adopt a natural area affected by natural disaster (restoration work/tree planting);
- ⊙ Tsunami and fire drills at school;
- ⊙ Hands-on activities on DRR;
- ⊙ DRR activity tool kit;
- ⊙ Travelling exhibition on natural disaster and other related risk;
- ⊙ CD-ROM on DRR ;

- ⊙ Radio talk on DRR (children's programme and nature watch on national radio);
- ⊙ Children's conference on disaster risk reduction and preparedness ;
- ⊙ Interview with old people on climate change – past and present situation;
- ⊙ Make students design a scrap book from newspaper articles;
- ⊙ Web link – a directory of web site addresses on natural disaster risks;
- ⊙ Calendar on DRR with pictures of December 2004 tsunami in Seychelles, as well as calendars on children or school activities;
- ⊙ Guest speakers (for talk son DRR in school).

The way forward

Two other workshops will be organized to sensitize and train more teachers on the issue, after which a committee or retreat group - including school teachers and other stakeholders - will be set up to work on the final draft of the students' workbook.

Regarding the teachers' guide, the participants agreed that it would be examined in another meeting. ■

NIGERIA: National best practices award for DRR launched

Dr Olusegun Edward Ojo

Assistant Director,
National Emergency Management Agency (NEMA)
Abuja, Nigeria

Nigeria has developed a national award to highlight and learn from best practices in disaster risk reduction, emphasizing community-level and traditional vulnerability reduction activities.

Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually reinforcing activities, and to meet disaster manage-

ment challenges accelerated efforts must be made to build capacity to manage and reduce risk at community and national levels. A society's self-help capacity is a decisive factor in preventing extreme natural occurrences from turning into human disasters.

An element of the Nigerian National Action Plan & Programme

Poverty and rapid population growth result in the inhabitation of endangered areas and the overexploitation of natural resources. If not well managed, such ac-

tions, combined with a lack of knowledge of sufficient safety precautions, lead to vulnerable communities.

Based thus on disaster management being a developmental issue and hazard vulnerability and poverty being closely linked, the Nigerian Best Practices Award for Disaster Risk Reduction (NBPADRR) will identify, document/showcase and exchange successful, innovative and replicable initiatives/solutions in disaster risk reduction, poverty eradication and sustainable development across the country. The NBPADRR is an element

of the Nigerian National Action Plan and Programme, which will realize the outcomes of the *Hyogo Framework for Action 2005-2015* in building the resilience of the nations and communities to disasters, as well as pursue the Millennium Development Goals.

Tangible survival initiatives, especially in poor communities

Vulnerability is caused by a broad range of political, institutional, economic, environmental and socio-cultural factors such as insufficient knowledge, organizational gaps, lack of livelihood/income and inadequate legislation. These factors, which can both increase and reduce vulnerability, are dynamic processes.

The UN/ISDR defines coping capacities as the manner in which people and organizations use existing resources to achieve various beneficial ends during unusual, abnormal and adverse conditions of a disaster event or process. The German Committee for Disaster Reduction (DKKV) defines resilience as the ability of people to cope with and withstand new changing or unexpected events or situations, for instance by the use of material, cultural, social or knowledge resources.

The NBPADRR is premised on the assumption that human beings that are exposed to vulnerable situations are not likely to passively wait for disasters to befall them. They would normally engage and use indigenous knowledge and locally available materials and technology to improve their coping capacities and thereby build resilience to hazards. Similarly, it is also assumed that relevant public, private, NGOs and internal organisations would pursue some form of activities to support the initiatives of the citizenry to help reduce vulnerabilities.

The NBPADRR therefore targets such tangible survival initiatives, especially in poor communities, for purposes of encouragement and adaptation/replication in other difficult vulnerable circumstances across the country. The ultimate goal is to reduce the risks of the citizenry to avoidable disasters.

Local communities do have “resources”

The ultimate goal of the NBPADRR



Landslides in Nigeria

is therefore to build the resilience of Nigerians to disasters in various communities and at national level. Its specific objectives are to:

- ⊙ Improve public policies on disaster risk reduction by demonstrating what works;
- ⊙ Raise awareness and interest of policy decision-makers and the public about potential solutions to common social, economic and environmental vulnerabilities in communities and the country in general;
- ⊙ Share and transfer knowledge, expertise and experience on disaster risk reduction and poverty reduction initiatives through networking and peer-to-peer learning;
- ⊙ Demonstrate that local communities, being at the frontline of disasters, must be factored into the disaster management cycle as they have “resources” and capacities to contribute to disaster management before and after emergencies.

Eligibility criteria

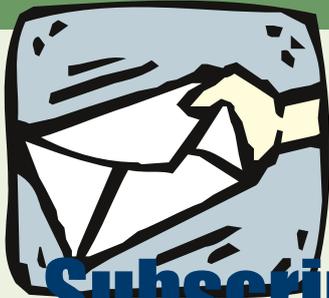
All submissions must demonstrate tangible impacts in reducing the vulnerability of people to disasters, and must bring appreciable improvements in quality of lives. They must also emphasize the need for collaboration and building of partnerships amongst relevant stakeholders.

The NBPADRR will identify initiatives in such areas as housing, urban development and governance, the environment, economic development, social inclusion, crime prevention, poverty reduction, women, youth, infrastructure and social services which have tangible contributions to make within the five Priorities for Action set by the *Hyogo Framework for Action 2005-2015*.

Demonstrating what “really” works

Considering that individuals, communities and organizations will not just fold their arms expecting disasters, but will avail themselves of indigenous knowledge of early warnings, mitigation and other strategies to improve their vulnerable conditions, the NBPADRR will identify, document/showcase and exchange such successful, innovative and replicable initiatives/solutions in disaster risk reduction, poverty eradication and sustainable development.

The NBPADRR will help improve public policies on disaster risk reduction by demonstrating what really works, raise awareness, share information and experiences, and demonstrate that local communities have capabilities to contribute to disaster risk reduction. ■



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We are interested in articles or opinion pieces about projects, activities, programs, educational initiatives, and lessons learned. Scientific and technical papers are also welcome, as is news about upcoming workshops, seminars, meetings, publications, videos, CD-ROMs and other material related to disasters.

Submissions may include photographs, graphs, charts, and other illustrations. However, they should not exceed 1,500 words. Brevity is appreciated in order to display the broadest possible spectrum of ideas and case histories. When using acronyms of national and even regional bodies please quote the name of the agency or institution in full the first time you mention it. It is also essential for you to include at the end of your text, the following information:

- The name of a contact to which further enquiries may be directed,
- The institution represented, and
- Telephone and fax numbers, postal address, and e-mail address.



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