



## 5th Africa Water Week

### Report of Sub-Theme 4 "Water and Disaster Risk Management"

Convenor: WMO

Co-Convenor: GWP, UNESCO

#### **Summary of Theme 4 "Water and Disaster Risk Management":**

Water-related disasters, most notably floods and droughts account for nearly 90% of the 1,000 most disastrous events since 1990 worldwide. In Africa, water-related disasters account for over 80% of all people affected by natural disasters. Globally, the number of people affected and estimated damages from water-related disasters continues to increase with an estimated cost of USD 1 trillion from 2000 to 2010. Climate change is expected to increase extreme events leading to more frequent floods and droughts. Water management is the key to confront this challenge. Building water security and applying the concepts of disaster risk management will be pivotal to ensure the success of any development agenda post-2015. The theme "Water and Disaster Risk Management" brought the actors on water-related risk management together. Experiences were shared and a clear call to act given to increase efforts for applying the concepts of disaster risk reduction and improving water-related data. Emphasis was given to flood and drought preparedness to reduce the vulnerability of people and protect their livelihood, climate-smart management of land and water, and improving monitoring of water resources, forecasting and early warning.

#### **Summary of Key Messages:**

- An integrated approach to disaster risk management should guide actions on droughts and floods focusing on:
  - From defensive to **pro-active** approaches;
  - From Ad-hoc to **Integrated Flood and Drought Management**
  - Towards a **culture of prevention and preparedness** by managing flood and drought
  - **Balancing risks** and achieving sustainable development needs;
  - **Change in decision making processes** to include risk management approaches.
  - Integrate the vertical planning and decision making processes at regional, basin, national and community levels into a **multi-stakeholder approach** including key sectors, especially agriculture and energy;
- Monitoring droughts and floods requires a joint effort of HydroMet Services and should include ground truth data to improve the reliability and the application of satellite data based products.
- Early warning systems should be designed to bridge the gap between providing information and taking action
- Following the national consultations on the water goal in 29 countries worldwide (8 in Africa), there was consensus that a dedicated goal on water is fundamental within the post-2015 development agenda. The goal proposed by UN-Water: "*Securing sustainable water for all*" fits in with national development priorities. It addresses poverty and inequalities and, moreover, the proposed targets are

in line with existing or planned national goals, targets, policies and development plans in most countries

- The need for goals and targets is obvious – the real challenge is implementation. The SDGs present a way to do things differently, such as a greater stakeholder involvement.

- Monitoring and review of the data is not an option but an imperative in the process of data collection and production of information.
- Recent advances show satellite data will contribute greatly to environmental monitoring in the future and especially monitoring hydroclimatologic phenomena.
- There is a lack of timely reliable hydrological data in Africa due to inadequacies in institutional capacity and tools in the region. WMO WHYCOS is addressing this deficit in cooperation with its member states.

### **Key Recommendations:**

- A pro-active approach that moves the concept of Disaster Risk Reduction into practice in communities needs to be strengthened
- Integrate the vertical planning and decision making processes at regional, basin, national and community levels into a multi-stakeholder approach to disaster risk management
- Capacity of institutions and individuals will need to be strengthened so that they can deliver against nationally owned targets.
- Institutional coordination remains a challenge, especially in circumstances where there is an underlying capacity deficit.
- We need to speak another language: Communicating the economic impacts and the social and human costs of the lack of DRR. Quantification of the costs can help to make the costs more visible
- A careful look at what impedes actions can help improve the agility and the coordination of institutions to work towards joint objectives in Disaster Risk Management.
- Encourage WMO and its partners for the further development of the HYCOS projects to ensure adequate information on water resources.
- Ensure an integrated approach to drought and flood management, making use of existing initiatives such as the IDMP and APFM.
- It is important to develop a hydro-meteorological strategy and action plan that will ensure a long-term commitment and funding by countries to hydro-meteorological data collection and enhance planning in the region.
- Need for countries to continue strengthening data collection and the monitoring of water resources
- If we do not have a reference from the past we will not be able to prevent disasters. "Start digging for a well once you are thirsty is clearly too late".
- Civil society involvement, particularly from women and youth and pressure from civil society on the decision-makers is key to move from speeches to action.

### **Detailed Report of the Technical Sessions:**

#### **Technical Session: Integrated Flood Management**

##### *Key Messages:*

- Floods are a destructive force, but also a source of life in floodplains
- The principle of Integrated Flood Management should guide actions. It (1) integrates and mixes strategies (Structural and Non-structural, Short-term and Long-term, Local and basin level measures); (2) Balances development needs and environmental concerns; (3) Addresses all aspects of Flood Management (Scientific and Engineering, Social Aspects, Environmental

Aspects, Economic Aspects, Legal and Institutional Aspects); (4) Promotes Adaptive Management

- A number of flood management initiatives/ case studies are available from which lessons can be learned and best practices customized and applied in floodplains.
- The WMO/GWP Associated Programme on Flood Management (APFM) developed tools/resources/publications that can support countries and communities in managing floods more effectively.
- There is need to undertake comprehensive flood vulnerability assessments at regional levels for improved preparedness and early warning.
- Education, information, awareness raising are key components in flood management
- There is need to enhancing cooperation by putting up multi- disciplinary teams involving several experts in various sectors (e.g. meteorologists, hydrologists, agriculturalists, urban planners, energy experts, sociologists etc.) in planning the management of floods- using a multidisciplinary approach to flood management
- Trans-boundary/cross-border management arrangements are crucial in flood management
- Use of satellite imagery needs to be coupled with ground observation to get accurate data/flood mapping that can be used for forecasting.
- Flood mapping involving communities is important to avoid loss of life and property during floods

#### *Recommendations*

- Planning for flooding requires to be done at basin level/ transboundary/ regional levels. It should be participatory involving key stakeholders e.g. government, river basin organizations, UN system organization, NGOs, communities and academia (Universities).
- A paradigm shift is required from defensive efforts focused on flood control to pro-active flood management using integrated flood management principles
- There should be a concerted effort to improve capacity of the population through education and training to enhance knowledge acquisition and transfer to prevent risks to floods and transform socio-economic development.
- An early warning system by itself is not enough the capacity to reach and communicate to the vulnerable population and give effective guidance on what actions to take is also required.
- Avail the necessary tools (both meteorological and hydrological) facilities to guide implementers in flood forecasting and early warning to communities
- Countries need to improve coordination by putting in place multi-sectoral teams/structures (national and regional) to give guidance on potential floods based on accurate data.
- Community participation in flood planning and management needs to be strengthened in order to move from concepts to action.
- Countries/regions need to mainstream and integrate flood management/disaster preparedness into their respective policies/ policies should integrate disaster management
- Continuous pre-season preparedness and planning workshops and trainings, use of community approach to flood management should be prioritized.
- Countries/regions should undertake in-depth hydrological analysis to get accurate data that can be used to make flood management decisions
- Available flood management tools (including urban flooding, flood mapping etc.) should be customized to local conditions and popularized for wider use by communities.

- The Integrated Flood Management HelpDesk ([www.floodmanagement.info](http://www.floodmanagement.info)) provides a resource to support countries and communities in managing floods more effectively.

### Technical Session: Integrated Drought Management

#### *Key Messages*

- Monitoring droughts requires a joint effort of HydroMet Services and should include ground truth data to improve the reliability and the application of satellite data based products.
- Increased networking through workshops/seminars, trainings dialogues, learning platforms and documentation enriches understanding, promotes knowledge transfer and raises awareness to stakeholders, all contributing to enhanced drought preparedness.
- Capacity building of institutions and individuals is crucial for the incorporation of an integrated approach drought management into national plans and policies
- Improved governance and participation in water/natural resource management promotes ownership and sustainable use of resources
- Engaging partners to reach a wider audience beyond the water community

#### *Recommendations*

- Countries need to shift from reactive/ post-crisis response to proactive measures of managing droughts through vulnerability reduction, drought mitigation and preparedness
- A framework is needed for institutions to work together and build the capacity of various stakeholders at different levels
- Increase drought knowledge base and establish a mechanism for sharing knowledge through appropriate communication channels to stakeholders across all sectors
- Research and development and incorporation of climate information and prediction into planning, policy and practice
- Governments should be proactive by supporting action and implementation on the ground
- The link between the information providers and the users/ water managers is important to effect action on the ground
- An integrated approach to drought management should guide actions focusing on:
  - From **reactive to proactive** measures through drought mitigation, vulnerability reduction and preparedness;
  - To integrate the vertical planning and decision making processes at regional, national and community levels into a **multi-stakeholder approach** including key sectors, especially agriculture and energy;
  - To promote the **evolution of the drought knowledge base** and to **share knowledge** and providing services to stakeholders across sectors at all levels;
  - To **build capacity** of various stakeholders and institutions.
- The Integrated Drought Management Programme (IDMP) offers a platform to link the local – national – regional and global to support action on the ground.

### Technical Session: Water Security and Climate Resilient Development

#### *Key Messages*

- The Water and Climate Development Programme integrates water security and climate change adaptation into development planning processes and the design of financing and investment strategies.

- Establish partnerships and share information on water security with a wider variety of people and institutions, working with donors to support similar interventions and replication.
- Capacity development is the basis for more climate resilient development.
- Accuracy in implementation requires examining and evaluating climate change adaptation options with proven integrated water safety measures to have the most viable alternative for the communities
- The media plays a big role in communicating to the masses including decision makers due to their wide coverage
- The availability of tools is crucial for seasonal forecasting and vigilance at all levels i.e. national, regional and is important for providing accurate information.
- Demand driven interventions lead to development of sustainable infrastructure and attract high participation of stakeholders.

### **Recommendations**

- Integrate water security and climate change adaptation into development planning processes and the design of financing and investment strategies
- Planners and decision makers in other fields should be engaged in water management discussions
- National information systems aid planning and decision making
- Seasonal forecasting should be strengthened and an active exchange between the information providers and water managers fostered to provide timely and targeted information
- Increase monitoring, coordination, collaboration and communication amongst institutions, sectors (meteorological, hydrological, agricultural etc.) with users of information

### Technical Session: The post-2015 agenda for water-related disasters

#### *Key Message*

- Following the national consultations on the water goal in 29 countries worldwide (8 in Africa), there was consensus that a dedicated water goal is fundamental within the post-2015 development agenda; The goal proposed by UN-Water: "*Securing sustainable water for all*" fits with national development priorities, it addresses poverty and inequalities, moreover, the proposed targets are in line with existing or planned national goals, targets, policies and development plans in most countries
- Countries expressed appreciation to GWP providing a national stakeholder platform to bring actors together under the lead ministry on water at the country level to critically look at the future global development agenda in the context of their own development priorities. The country consultations led to ownership at the country level – by making the countries part of the global level consultations.
- Use of the information products available: The cultural aspects need to be taken into account in order to make the early warning systems bridge the gap between providing information and taking action.
- Link between conflict and water - land management needs to be taken into account.
- Institutional coordination remains a challenge, especially in circumstances where there is an underlying capacity deficit.

- Clear call for new infrastructure and the rehabilitation and maintenance for existing infrastructure
- The scale of investments to meet the proposed targets is substantial
- The private sector has an important role to play in the financing and achievement of national and global development target.

### *Recommendations*

- The goal proposed by UN-Water: “Securing sustainable water for all” should be adopted
- Strong support for comprehensive and inter-related targets that further advance integrated approaches to water management.
- Strengthening coordination, communication, institutional capacity strengthening, monitoring, as well as developing new, adaptive infrastructure and rehabilitating, and maintaining existing infrastructure.
- Countries should include water in their national budgets and as well as establish additional sustainable financing mechanisms.
- The need for goals and targets is obvious – the real challenge is implementation. The SDGs presents a way to do things differently, such as a greater stakeholder involvement.
- Capacity of institutions and individuals will need to be strengthened so that they can deliver on nationally owned targets.
- Strengthen the resource base for agencies for disaster prevention, mitigation and response
- Data, information and systems need to be strengthened for M&E of the SDG framework
- We need to speak another language: Communicating the economic impacts and the social and human costs of the lack of DRR. Quantification of the costs can help to make the costs more visible
- Include water and fund water in the national budget
- Look carefully at what is impedes actions. Improve the agility and the coordination of institutions.
- Civil society involvement, particularly from women and youth and pressure from civil society on the decision-makers is key in implementing the target.

### Technical Session: Better Measurement for Better Management

#### *Key Messages*

- You cannot manage what you do not measure
- There is a lack of timely reliable hydrological data in Africa due to inadequacies in institutional capacity and tools in the region.
- WMO’s World Hydrological Cycle Observing System (WHYCOS) has contributed to the revival of hydro-climatic data. It is implemented in many parts of the world and especially in Africa where there are 7 HYCOS projects in operation or under development;
- The quality of the data must be taken into account at all levels of developing a hydro-climatic monitoring project.
- Monitoring and review of the data is not an option but an imperative in the process of data collection and production of information.
- Besides the fact that they enable coverage of larger areas of observation, the use of satellites especially important in areas of difficult access;

- Recent advances show satellite data will contribute greatly to environmental monitoring in the future and especially monitoring hydro-climatologic phenomena.

#### *Recommendations*

- Encourage WMO and its partners for the further development of the Hydrological Cycle Observing System (HYCOS) projects to ensure adequate information on water resources.
- It is important to develop a hydro-meteorological strategy and action plan that will ensure a long-term commitment and funding by countries to hydro-meteorological data collection and enhance planning in the region.
- Capacity enhancement in hydrological services-data collection and analysis. Training in Universities, Training of trainers to disseminate the information and build the human capacity.
- Data should not be collected only for one project – these projects should rather support countries to collect data. If we do not have a reference from the past we will not be able to prevent disasters. “Start digging for a well once you are thirsty” is clearly too late.
- There should be information sharing (establishment of information system) at national and regional levels.
- Employ guidelines on hydrological standards
- Support financial resource mobilization targeting hydrological work