



GWP-WMO Drought Monitoring Programme

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Outline of Presentation

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Regional Hydro-climate Situation and corresponding social stresses

- The drier subtropical regions will warm more than the moister tropics. Northern and southern Africa will become much hotter (as much as 4 °C or more) and drier.
- In eastern Africa, and parts of central Africa average rainfall is likely to increase while in Northern and Southern Africa precipitation will increase by 15% or more.
- Annual renewable per capita fresh-water resources quite variable, with only Ethiopia, Sudan and Uganda above the threshold of 1 720 cubic metres per person per year, by 2015 all IGAD countries below this threshold and experiencing severe water shortages.
- Wheat production in the north and maize production in the south are likely to be adversely affected.
- Vector borne diseases such as malaria and dengue may spread and become more severe.



Uganda Hydro-climate Situation and corresponding Social Stresses

- Trends have been observed in surface temperatures, with a ~ 1.3 deg C increase in mean temperatures since 1960 (0.28 deg C per decade on average); the months of January and February have warmed at 0.37 deg C per decade.
- The frequency of hot days has increased significantly, while that of cold days has decreased, although with no observed change in the December, January and February season.
- These effects are already manifest in Uganda, with apparent changes in flood and drought frequency and intensity. The decade from 1991-2000 for instance, saw seven drought events against none in 1961-1970, three in 1971-1980 and two in 1981-1990.



Uganda Hydro-climate Situation and corresponding Social Stresses –cont.

- Coffee and tea are Uganda's main cash crops for export. A temperature increase of 2°C would result in significant losses of arable land currently being cultivated. If recent trends continue, approx. 85% of the potential area for Robusta coffee cultivation will be affected and tea production will decline by 30% in the net 30 years.
- The bulk of the water input into Lake Victoria comes from rainfall onto the lake surface a fact that makes the lake volume sensitive to relatively small changes in the balance between precipitation and evaporation. Any significant temperature rises will offset this balance and lead to drop in lake level, severely impacting on hydropower generation, the major driver of the economy of the country.



Regional Measures

IGAD Drought Monitoring Centres

- In an effort to minimise the negative impacts of extreme climate events 24 countries in the eastern and southern African sub-region under the auspices of WMO and UNDP established a regional Drought Monitoring Centre (DMC) in Nairobi and a sub-centre in Harare in 1989.
- The main objective of the DMCs was to contribute to monitoring, prediction, early warning and mitigation of adverse impacts of extreme climatic events on agricultural production and food security, water resources, energy, and health among other socio-economic sectors.
- Since the establishment of DMCs, the centres have played an important and useful role in providing the sub-region with weather and climate advisories and more importantly, timely advance warnings on droughts, floods and other extreme climate related events.
- DMCN was renamed IGAD Climate Prediction and Applications Centre (ICPAC) in order to better reflect all its mandates, mission and objectives within the IGAD system



Regional Measures

IGAD HYCOS

- The proposed IGAD-HYCOS project seeks to strengthen the regional capacity to provide hydrological data and information services and support regional cooperation for water resource assessment, monitoring and management.
- The project must address several problems, such as inadequate infrastructure for hydrological observation in many IGAD countries, inadequate water-quality monitoring, inadequate regional cooperation and exchange of information and lack of a regional water-resources information system.
- The project will assist the participating countries to develop their national capacities in these fields and contribute to more efficient, cost-effective and sustainable water management in the IGAD region.



Regional Measures

CC National Adaptation Programmes of Action

- The least developed countries (LDCs) and small island developing states have been identified as the most vulnerable to the adverse effects of climate change.
- The United Nations Framework Convention on Climate Change recognizes the special circumstances of LDCs and therefore adopted the decision on the National Adaptation Programmes of Action (NAPAs) at its seventh Conference of the Parties (COP7), held in Marrakech, Morocco.
- NAPAs are a quick channel of communicating urgent and immediate adaptation needs to COP and basis for securing support funds.
- COP7 established an LDC fund to support the preparation of NAPAs and an LDC Expert Group. The Global Environmental Facility (GEF) was requested to support this process.



Uganda Measures (Linkages between Flood+Drought+CC Adapt. Strategies)

- Uganda's NAPA
 - Flood Management Strategies
 - CC Adaptation Strategy for the Water Sector
- Destruction of infrastructure
 - Famine
 - Lack and disappearance of pastures
 - Deforestation
 - Destruction of biodiversity
 - Wild fires and burning leading to destruction of natural vegetation
 - Erratic seasons and rains
 - Drop in water level in our water bodies
 - Epidemics of pests and diseases
 - Direct loss of lives
 - Low production and productivity of crops and animals
 - Poor health
 - Poverty
 - Soil erosion and land degradation
 - Water shortage and drying up of water sources such as wells



East African Water Partnership

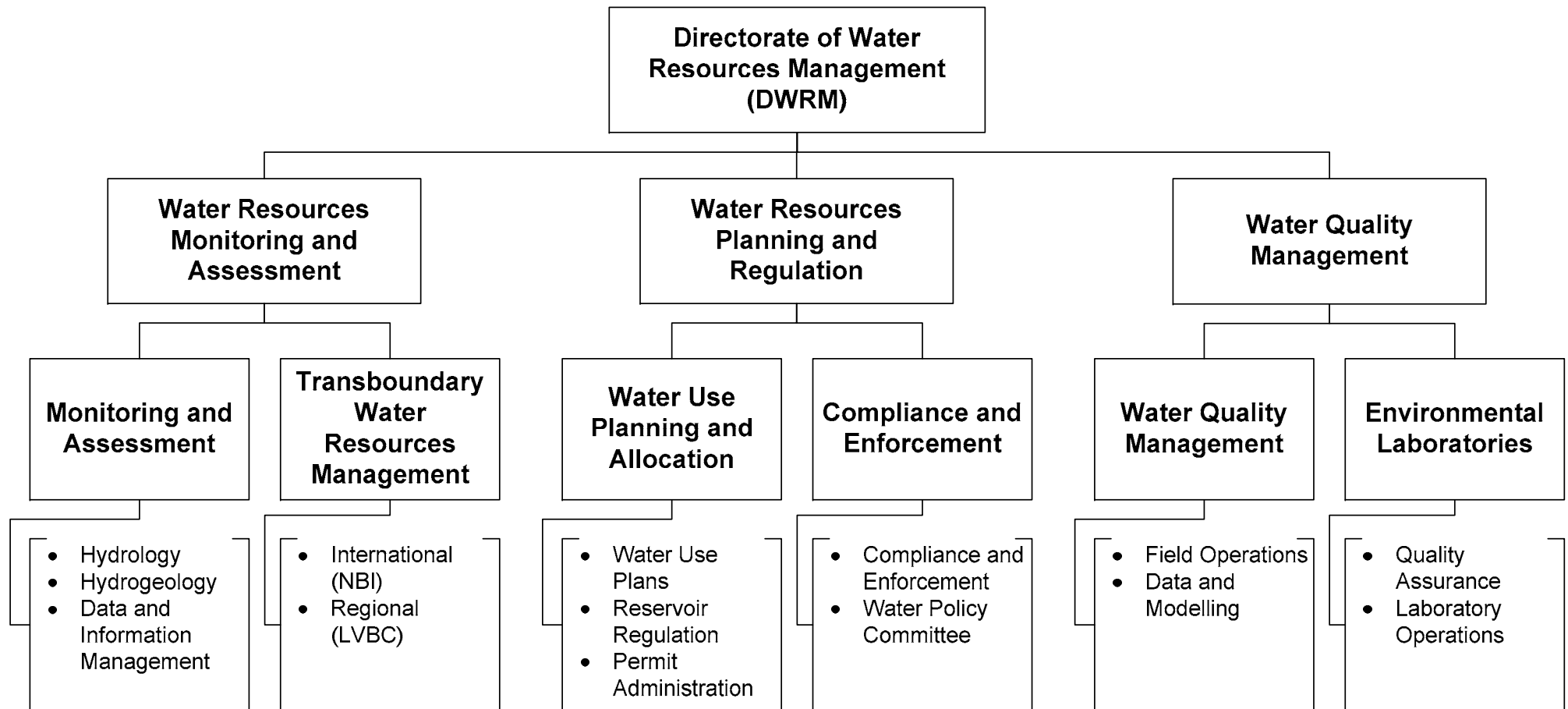
- **Participating countries: Kenya, Uganda, Sudan Eritrea, Ethiopia, Burundi (also partners with some organisations in Djibouti and Rwanda)**
- The Greater Horn of Africa has the highest climate variability in terms of droughts, floods and untimely rainfall patterns, yet the least institutional capacity to build resilience.
- GWP Eastern Africa's priority is the development of a water policy and program strategy that provides a coherent and systemic framework through which to address these numerous demands.
- The IWRM process has in several countries already created a better understanding of the need for inter-sectoral collaboration
- GWP Eastern Africa has identified increased knowledge sharing, dialogue and communication as the key factors for strengthening stakeholder engagement in policy formulation and implementation



Uganda Country Water Partnership

- The Uganda Country Water Partnership (one of the 7 in the EA region) was established in 2003 to foster Integrated Water Resources Management (IWRM) in Uganda.
- This Uganda Water Partnership is a platform for deliberating on issues within the sector that are multi-faceted, multi-pronged and require integrated, all inclusive, holistic approach to find solutions.
- Two catchments (River Ruizi and Lake George) are piloting IWRM approaches for water resources management. There is interest among national/local government level stakeholders in IWRM, especially now that it provides the only way for a holistic approach for **climate change adaptation and mitigation**.
- UWP has drawn a 3-year budget of US\$284,615 to implement four development goals/objectives, with six key components against which the UWP will take action and measure its performance.

Institutional set up of DWRM





Department of Disaster Management-Uganda

Is there a national body for multi-sectoral coordination and collaboration in disaster risk reduction, which includes ministries in charge of water resource management etc? YES.

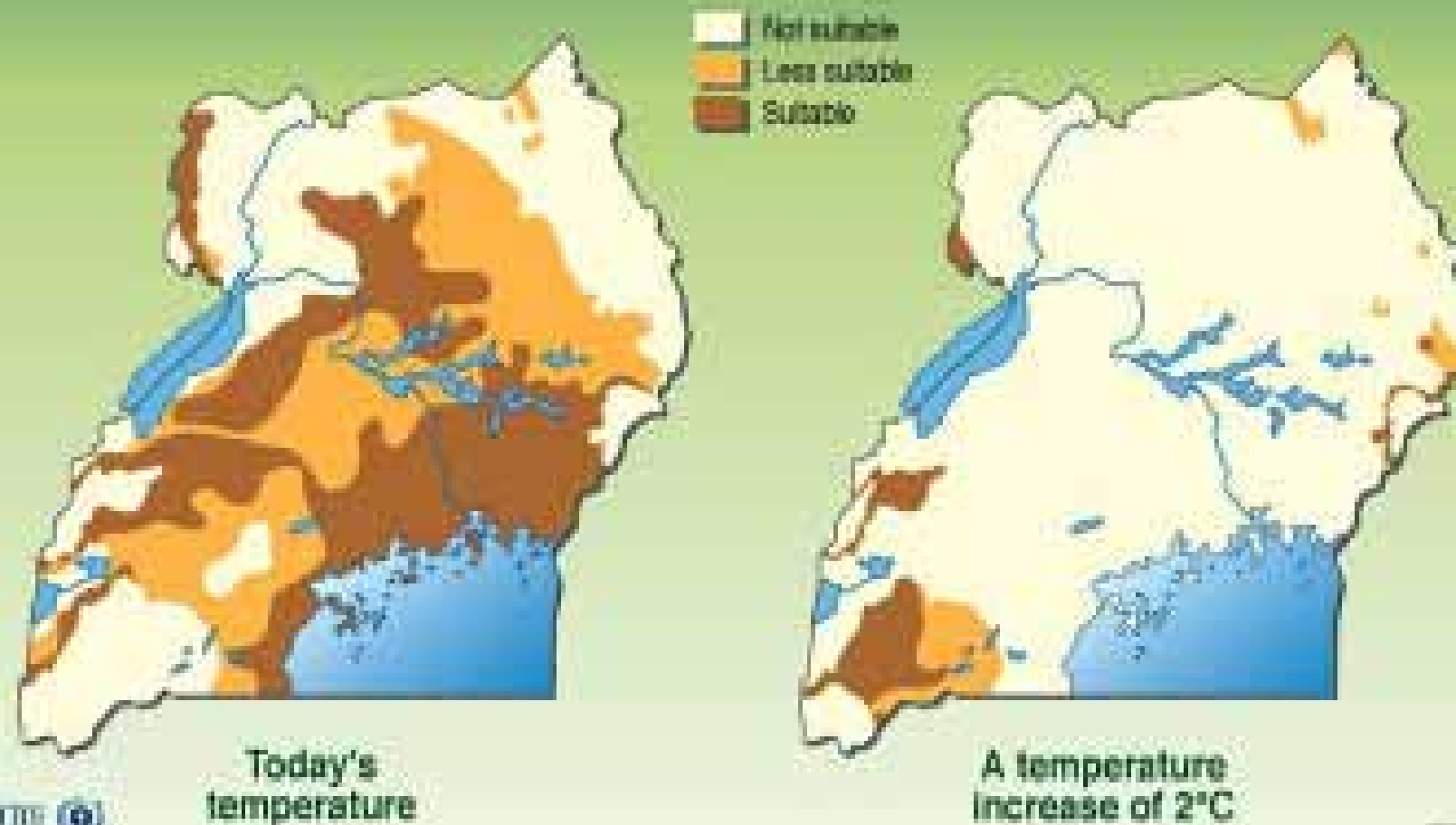
Disaster Preparedness and Refugees who is supported by a Minister of State and a team of Technical Experts lead by a Commissioner and two Assistant Commissioners. The department is also the secretariate for an Inter-Ministerial Policy Committee (IMPC), which gives coordinated policy direction in disaster management. With support from ISDR, a National Platform of disaster focal points from relevant Ministries such as Environment, Water and Lands, Health and Education was put in place to plan and implement in coordinated approach mitigation and response initiatives. The Department of Disaster Management and Refugees in the Office of the Prime Minister is responsible for multi-sectoral coordination and collaboration in disaster risk reduction. The department is headed by the 1st Deputy Prime Minister and Minister for



Department of Disaster Management-Uganda

- **Are there sectoral plans or initiatives that incorporate risk reduction concepts into each respective development area (such as water resource management, poverty alleviation, climate change adaptation, education and development planning)? YES**
- The national platform, locally referred to as the “Inter-Ministerial Technical Committee” is an initiative whose members are Sectoral Disaster Focal Point Officers assigned to mainstream disaster risk issues into sectoral work plans and budgets. The Sectoral Focal Point Officers chair the sectoral disaster risk working group forums e.g we have in place the Health Sector Working Group, the Water Sector Working Group, the Education Sector Working Group, the Food Security Working Group and the Sanitation Working Group. Each of these sectors have in place sectoral plans with clear disaster risk features.

Impact of temperature rise on robusta coffee in Uganda



ESR/01/02
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Source: Clio Smoret, Potential impacts of global warming, CFCO-Dereva, case studies in climate change, Dereva, 1999.

Extreme Weather Impacts-Uganda

- Failed Maize Crop



Extreme Weather Impacts-Uganda

- Dry Borehole



Extreme Weather Impacts-Uganda

- Drought in Cattle Corridor

