

GEOSS African Water Cycle Symposium Tunis, 6-8, Jun., 2009



109 participants from 12 countries
 16 countries
 4 UN Agencies
 2 Space Agencies
 2 GEO Secretary

12 from Africa
 2 from Europe
 1 from North America
 1 from Asia

Maroc ●

- Data & information system for river management

Senegal ●

- GIS and urban flood management

Cote d'Ivoire ●

- Lagoon environment

Ghana ●

- Volta-regional project

Benin ●

- PROJET OUEME2025
- Met service
- Realism of Water resources prediction

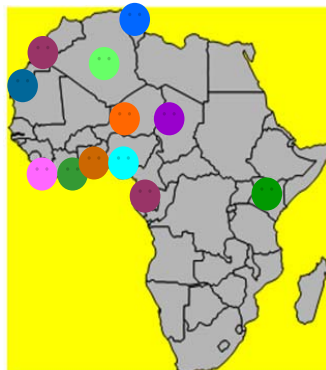
Nigeria ●

- Climate change & Moisture Availability

Reports from 12 African Countries

Algeria ●

- Data acquisition, planning, protection



Niger ●

- ACMAD, AGRHYMET

Tchad ●

- Lake Chad variability

Cameroun ●

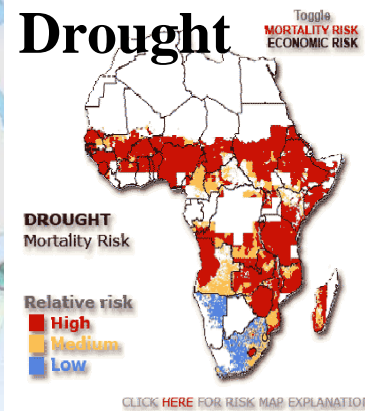
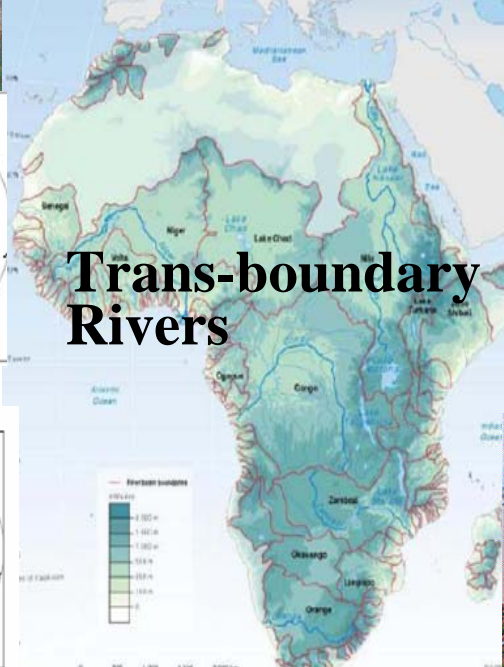
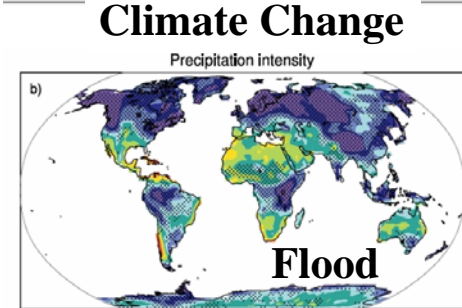
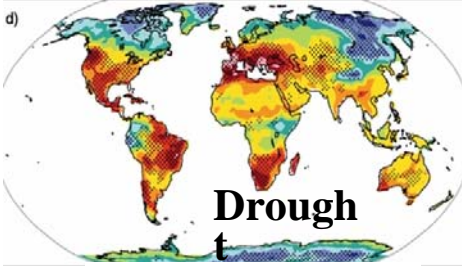
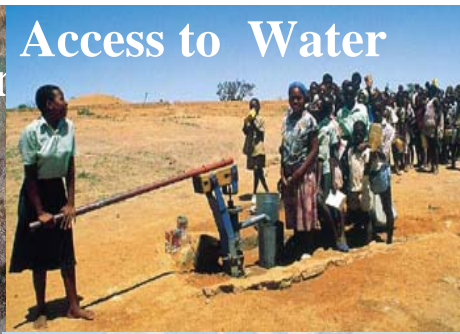
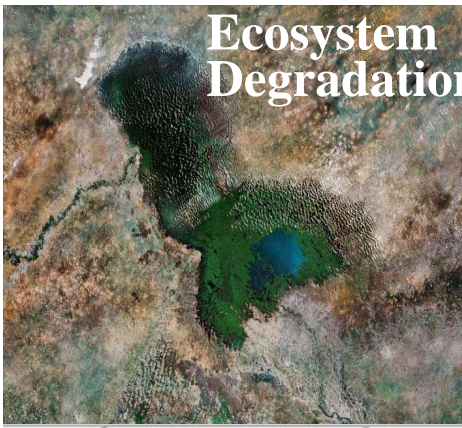
- Climate Modification

Tunisia ●

- Water for agriculture
- Met service
- Data & Information system for water Res.
- Drought analysis
- Water pollution
- Sustainable water management
- Ground water & its salinization
- Water diversion management system
- Water balance

Kenya ●

- Downscaling of climate/Met info. for river management
- Flood management & mitigation



African Water Cycle Coordination Initiative: contributing to GEOSS

Participants considered convergence and harmonization of observational activities, techniques, interoperability arrangements, and effective and comprehensive data management as the most fundamental elements that can be addressed under the GEOSS framework, including activities, programs and guidelines under UN agencies and non-UN agencies (AfDB, ESA, JAXA, NASA etc.).

from the 1st African Water Cycle Symposium in Tunis



African Water Cycle Coordination Initiative: contributing to GEOSS

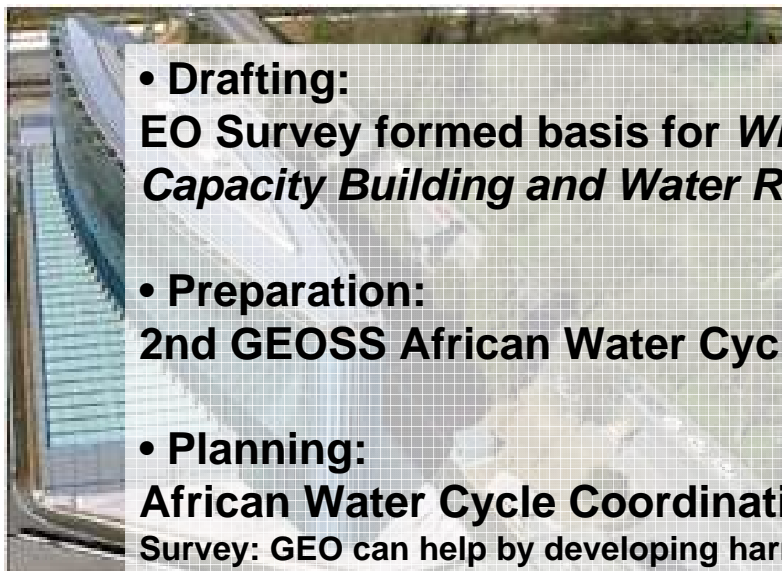
It was agreed that a task team be formed for

- **survey of capacity development needs and resources, through:**
 - **Assessing water-related issues in Africa**
 - **Making an inventory of observations, modeling and information systems**
 - **Assessing the data policy**
 - **Drafting an implementation plan**

from the 1st African Water Cycle Symposium in Tunis



1st Task Team Meeting, Geneva 23-24 September 2009



- **Drafting:**
EO Survey formed basis for *White Paper on GEO Capacity Building and Water Resource in Africa*
- **Preparation:**
2nd GEOSS African Water Cycle Symposium
- **Planning:**
African Water Cycle Coordination Initiative (AfWWCI)
Survey: GEO can help by developing harmonization, interoperability frameworks and supporting capacity building and training in Africa.



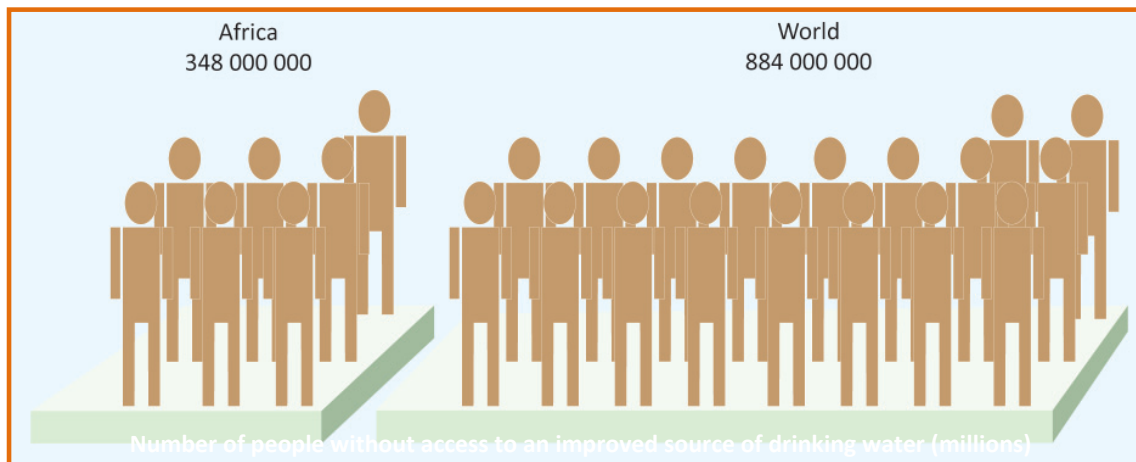
2nd GEOSS African Water Cycle Symposium



Access to water

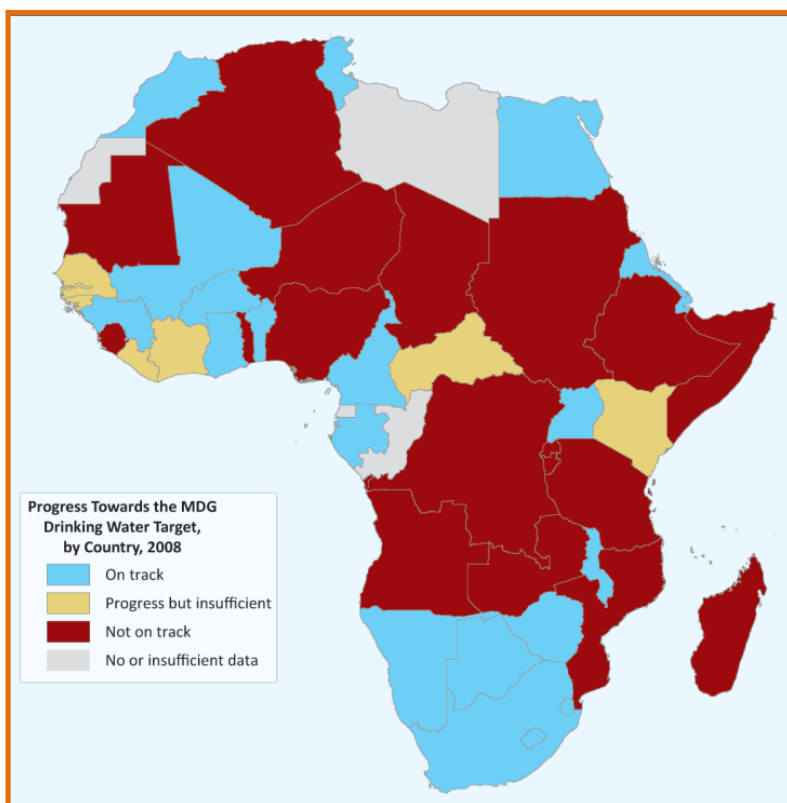


CHALLENGE 1: PROVIDE SAFE DRINKING WATER



Africa as a whole is not expected to meet this MDG drinking water target; of its 53 countries, only 26 are on track to meet it. The high incidence of water-related and waterborne diseases related to the lack of safe drinking water is a drain on human and financial resources

PROGRESS TOWARDS MDG IMPROVED DRINKING WATER TARGET BY COUNTRY, 2008

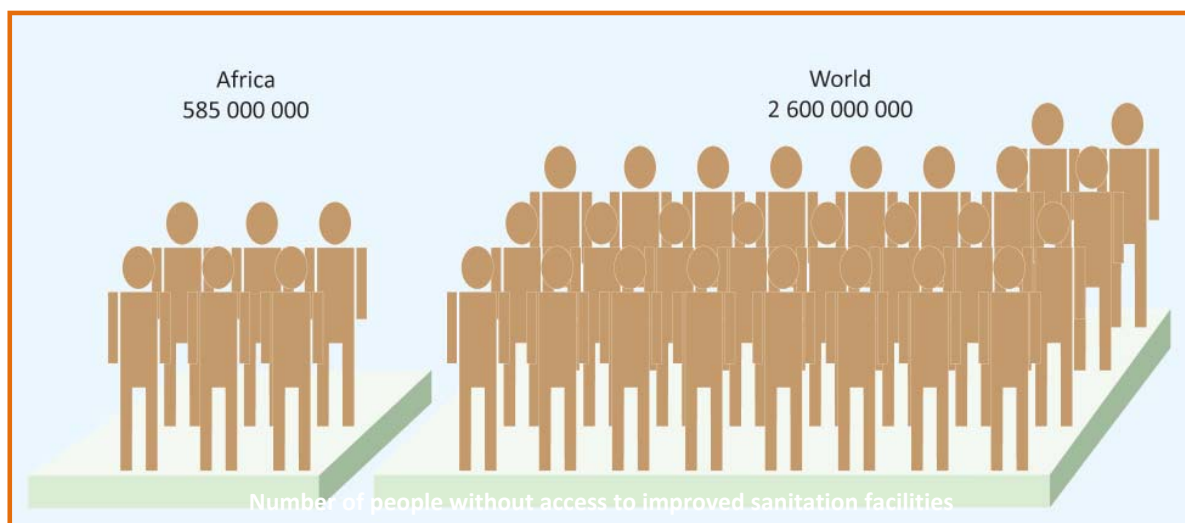


Three hundred and fifty four million people of Africa had access to improved sanitation facilities in 2006. Coverage increased from 33% in 1990 to 38% in 2006

Water for health

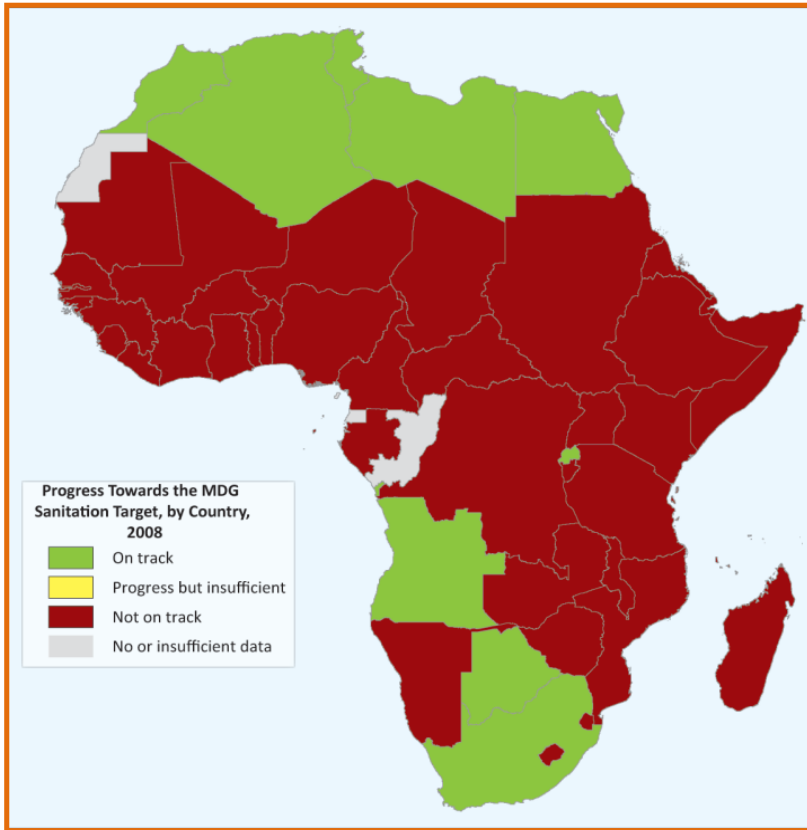
- Less 40% of Sanitation coverage in many African countries
- More than 80% of diseases are water related diseases (Malaria, cholera, Guinea Worm,..;)
- These diseases are mainly responsible for number of deaths for children under five

CHALLENGE 2: ENSURE ACCESS TO ADEQUATE SANITATION



Exploding peri-urban and slum areas; economic growth and higher demand; geographical isolation; dearth of public utilities and regulation; and high costs of water provision.

PROGRESS TOWARDS MDG SANITATION TARGET BY COUNTRY, 2008



To meet the MDG sanitation target, coverage needs to increase from 38 per cent in 2006 to 67 per cent in



Water for Food



Majority of the population has agriculture as main activities

Agriculture is generally rainfed

Many African countries continue to struggle with food insecurity

Water and energy



Less than 7% of hydro-power capacity has been developed and there is growing gap for electrification

Water for economic growth

Many African economies are extremely vulnerable to hydrological variability. Africa loses:

- 5% of GDP due to poor coverage of water and sanitation
- 2% power outage.
- 5-25% to droughts and floods in affected countries
- and further 5% to the future impact on climate change.

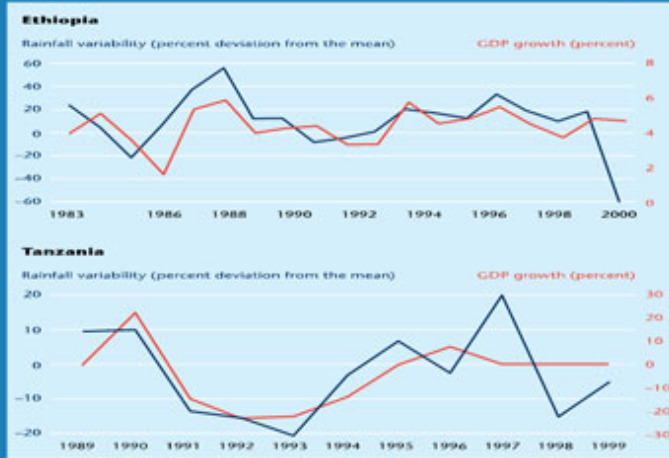
- Only 7% of Africa's hydropower has been developed and there is a growing gaps in electrification.

- Africa's agricultural water management is woefully deficient, with a food import bill of over US\$ 17 billion.

- Progress on energy and food securities is vital for any significant economic growth in Africa

GDP and Rainfall Variability

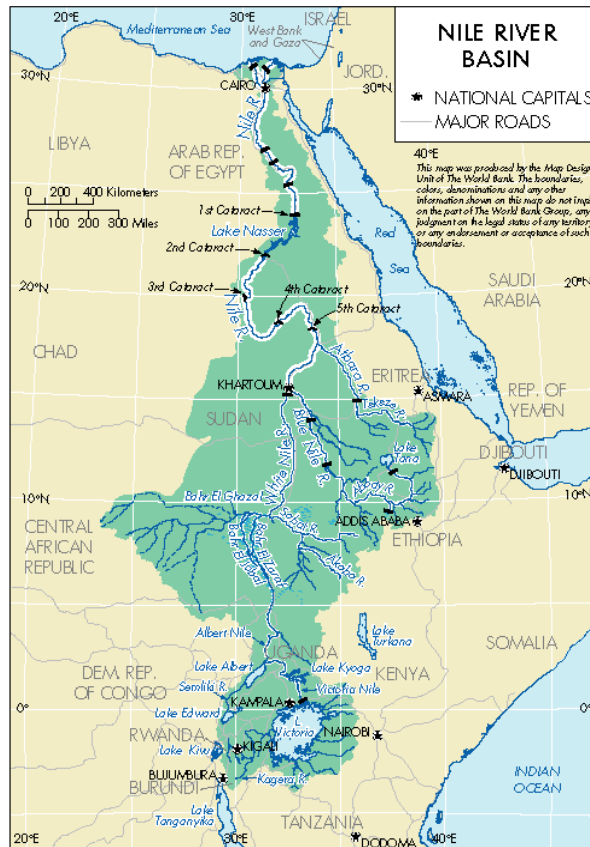
Water and Climate Change



GDP growth tracks rainfall variability in Ethiopia (1983-2000) and Tanzania (1989-99) (Figure 5.2)

The Nile Basin

- ◆ Burundi
- ◆ D.R. Congo
- ◆ Egypt
- ◆ Eritrea
- ◆ Ethiopia
- ◆ Kenya
- ◆ Rwanda
- ◆ Sudan
- ◆ Tanzania
- ◆ Uganda



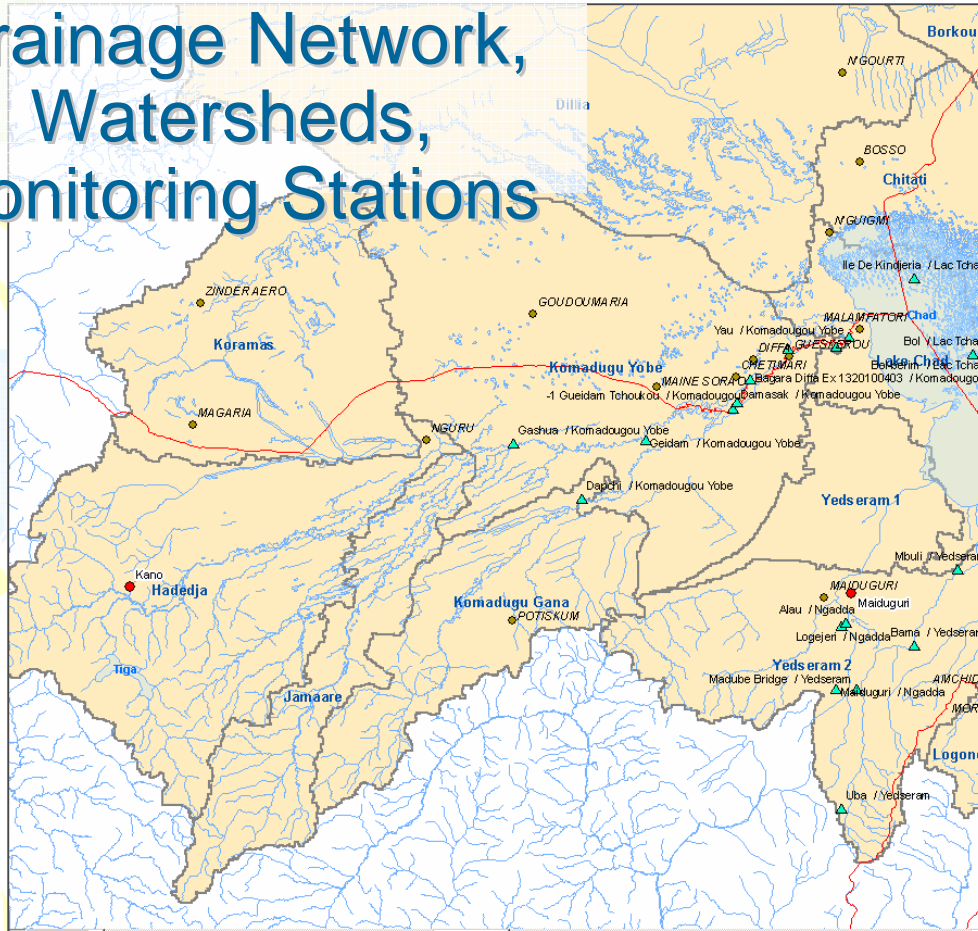
Characteristics

- ◆ Population 300 million,
- ◆ Poverty,
- ◆ Rapidly growing Population – stress on land
- ◆ Env. Degradation,

Opportunities

For win-win Cooperative development (food production, energy, transport, industrial growth, envir. Conservation,...)

Drainage Network, Watersheds, Monitoring Stations

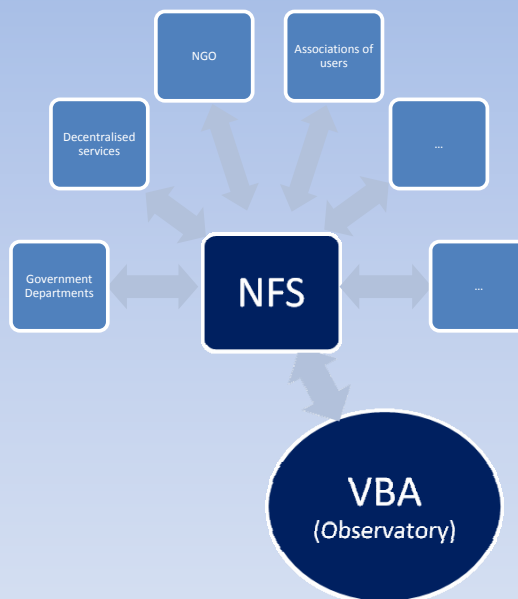


OBSERVATORY = MEANS

Network of data collection and dissemination of information and useful data

MoUs for exchange of:

- Information
- Data
- Results



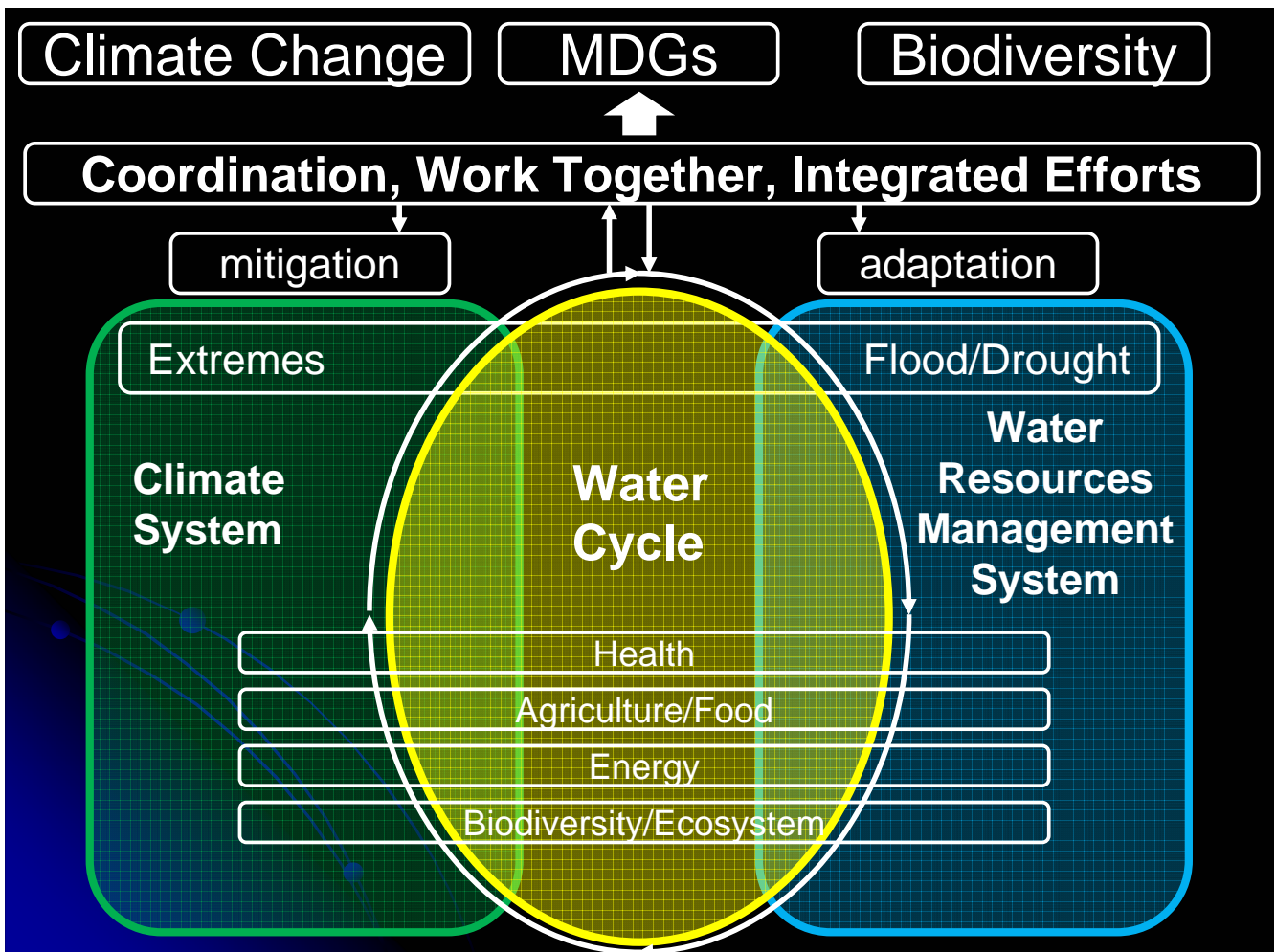
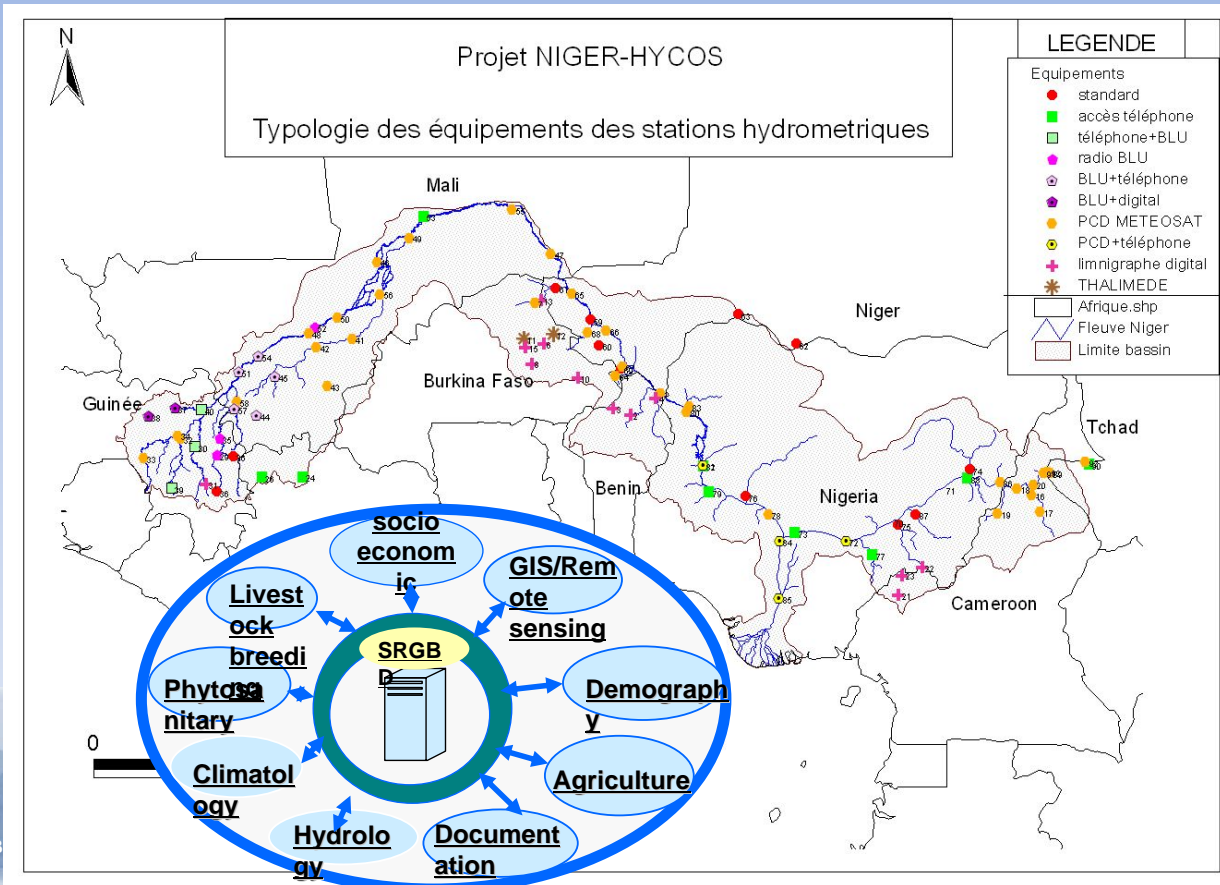
Agreed methods for data collection and validation

Standardised scientific and technical tools

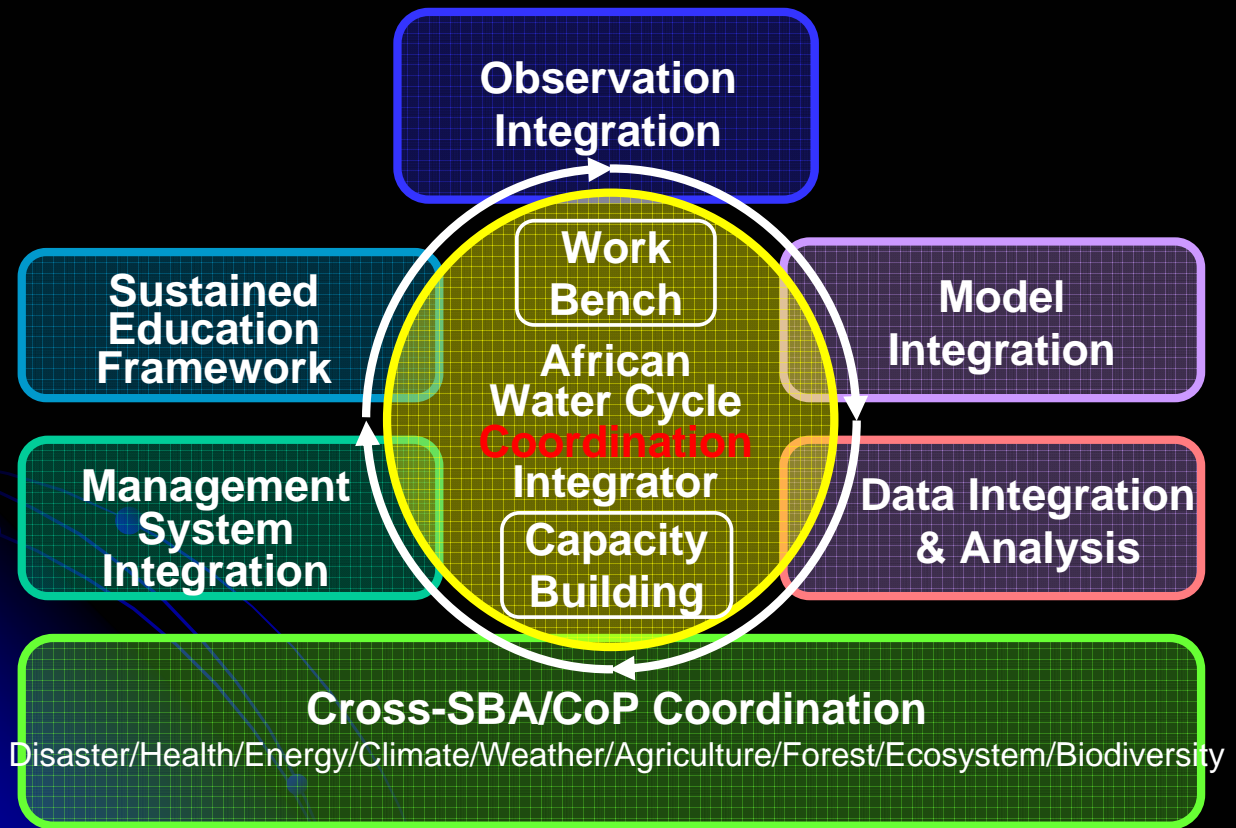
Human Resources



NIGER-HYCOS PROJECT Achievements



Integrated & Coordinated Approach



The 1st Task Team Meeting in Preparation of the 2nd GEOSS African Water Cycle Symposium
Geneva, 23-24 September 2009

