Brief on the Lake Chad Basin
Joint Workshop on Earth Observation and Capacity Development for IWRM at River Basins in Africa

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Eco-regions of Lake Chad Basin

Legend

Lake Chad Basin Ecoregions

Cameroonian Highlands forests
East Saharan montane xeric woodlands
East Sudanian savanna
Jos Plateau forest-grassland mosaic
Lake
Lake Chad flooded savanna
Mandara Plateau mosaic
Northern Congolian forest-savanna mosaic
Sahara desert
Sahelian Acacia savanna
South Saharan steppe and woodlands
Tibesti-Jebel Uweinat montane xeric woodlands
West Saharan montane xeric woodlands
West Sudanian savanna
Eco-regions (14) of the Active Watersheds

Legend
- Main Rivers
- Wetlands
- Cameroonian Highlands forests
- East Saharan montane xeric woodlands
- East Sudanian savanna
- Jos Plateau forest-grassland mosaic
- Lake
- Lake Chad flooded savanna
- Mandara Plateau mosaic
- Northern Congolian forest-savanna mosaic
- Sahelian Acacia savanna
- South Saharan steppe and woodlands
- West Saharan montane xeric woodlands
- West Sudanian savanna
Biodiversity

- 38 million people in 2009
- Flora that generates 2.5 million tons of assorted grains per annum
- 20.3 million Bovine, Ovine, Caprine, Cameline, Equine, Asine and Pocine in 2010
- 76 Fish species of 26 families with potential catch of 295,000 tonnes/annum
- 65 wild animal species & 400 birds many migratory
- Many internationally protected areas
Important Economics

- Fishing
- Rain fed farming
- Irrigation
- Flood recession farming
- Animal husbandry
Challenge I: Climate Change

1980 - 1989
Challenge II: Population Pressure

Estimated Population 1960
Lake Chad Conventional Basin
Global Resource Information Database
Population per unit ranges from 4 to 7,000 inhabitants. Each color is 250 units of approximate 1 million inhabitants.

Projected Population 2010
Lake Chad Conventional Basin
Based on:
United Nations Environment Programme
Global Resource Information Database
Using the 1960 to 2000 change rate for each cell, a 2005 update was conducted. Maps that increase reflect an additional change of population.

Exhibit 4-26
Challenge III: Water Use or Conservation
Lake Chad Basin Commission

- **Created:** 22\textsuperscript{nd} May 1964
- **Headquarters** N’djamena, Chad Republic
- **Current Member States:**
  - Cameroun (1964)
  - Niger (1964)
  - Nigeria (1964)
  - RCA (1994)
  - Sudan (2000) Yet to ratify
  - Tchad (1964)
  - Libya (2008)

- **Structure**
  - The Summit
  - The Commission (2 Ministers per country)
  - The Executive Secretariat

- **Mission**
  - Integrated Land and Water Resources Management
Member States are required to abstain from measures likely to affect other Member States, such as:

- alter the water budget,
- affect water quality,
- influence integrated water resources management,
- limit downstream access to water.

In practice this wish has remain elusive and the potential for conflict is high.
IWRM Process –Began 2004

- Multi-Stakeholder, Inter-Sectoral Joint fact finding - TDA
- Led to a Prioritised list of Transboundary Problems
  1. Changes and variability of hydrological regimes and fresh water availability
  2. Water pollution
  3. Invasive species
  4. Decreased viability of biological resources including fish stocks
  5. Loss of biodiversity
  6. Loss and/or modification of ecosystems
  7. Sedimentation in rivers and water bodies as a result of upstream land degradation
STRATEGIC ACTION PROGRAMME (SAP) 25 - YEAR

- The SAP consists of Objectives, Indicators and Targets
- SAP Ecosystem Quality Objectives
  - **EQO I**: Improved water quantity and quality in the Lake Chad Basin
    - **Indicator**: Lake Chad is maintained at a sustainable level with reference to the base year (1990); A measurable decline in levels of the main contaminant groups in the water, sediment and biota
  - **EQO II**: Restoration, conservation and sustainable use of bioresources in the Lake Chad Basin
    - **Indicator**: Measurable and sustained increase in human development indices in the Lake Chad Basin
  - **EQO III**: Conservation of biodiversity in the Lake Chad Basin
SAP Ecosystem Quality Objectives

- **EQO IV**: Restoration and preservation of ecosystems in the Lake Chad Basin
  - **Indicator**: Measurable increase in restored aquatic and terrestrial ecosystems

- **EQO V**: Strengthened participation and capacity of stakeholders, and institutional and legal frameworks for environmental stewardship for the Lake Chad Basin
  - **Indicator**: Enhanced involvement of stakeholders in the NAPs and SAP implementation
INVESTMENT PLAN

5-YEAR CYCLE

- Actions broken into 5-year cycles
- There will be revision of targets and indicators within each 5-year cycle
- First cycle of 2012 – 2016 has a preliminary estimate of € 42 Million
National Action Plans

- Chad NAP - 15 years, $122,762,651
- Cameroon NAP - 15 years, $185,260,000
- Niger NAP - 15 years, $118,298,554
- CAR NAP - 3 years, $4,464,096
- Nigeria NAP - 15 years, $357,021,421

Total Estimated Budget $788 million
Lake Chad Basin Water Charter

- Fundamental commitments of the Water Charter;
  1. During low waters periods, reserve a minimum low water flow for the tributaries flowing into Lake Chad
  2. During high water period, reserve a minimum amount of flood waters to ensure that the basin's wetland areas are inundated
  3. Restrict the proportion of abstractions from the inflow to the Lake Chad
  4. Adapt groundwater abstraction to aquifer capacity
  5. When necessary, create fishing reserves in part of Lake Chad and/or its tributaries.
  6. Share data and ensure smoothly-run exchanges of information
LCBC Needs

- Formalising the generation and exchange of information using GEO principles between Member States.
- Data and models to enforce the Member States commitment to the Lake Chad Basin Water Charter.
- Data and information to monitor the implementation and progress of IWRM, actions and plans developed within the SAP framework.
Thank you for the attention