Benefit sharing opportunities in the Nile Basin

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The Nile Basin and Its Challenges

- Complex hydrology
  - Main tributaries:
    - White Nile (16%)
    - Blue Nile (84%)
  - Wetlands and lakes

- Length: 6,695 km
- Area: 3.25 million km² (10% Africa)
- High spatial variability; nearly half semi-arid and arid making it a water scarce region.
- High seasonal variability in Blue Nile
- Mean annual discharge 84 BCM (2% Amazon; 6% of Congo river)
- Asymmetric economies resulting in differences in needs and priorities
- Fast growing population: 250 millions within the Basin; 480 millions in all the Nile countries; projected to reach > 1 Bill by 2050.
- Increasing demand for socio economic development adding more pressure on the finite Nile waters.
- Delayed legal framework agreement
History of cooperation on the Nile

1967
Hydromet

Hydrometeorological Survey of the Catchments of Lakes Victoria, Kyoga and Albert

Ended 1992

1983
UNDUGU

UNDUGU (Brotherhood): the basin riparian states explored ways for establishing a Nile Basin economic community.

1992
TECCONILE

Technical Co-operation for the Promotion of the Development and Environmental Protection of the Nile Basin

→ Nile River Basin Action Plan (NRBAP) ; (D3 project)

1999
Nile Basin Initiative

→ NBI Shared Vision: Sustainable socio-economic development through equitable utilization and benefit from the shared Nile Basin water resources
The Nile Basin Initiative

• Is a joint institution of the Nile Basin States
• Launched on 22 February 1999
• Two Programs:
  • The shared Vision Program and
  • the Subsidiary Action Program.
The Nile Basin Initiative (NBI)

**NBI Shared Vision**

*Sustainable Socio-economic development through the equitable utilization and benefit from, the common Nile Basin Water Resources*

**Key mandates**

- Provide the platform for dialogue among riparians for implementation of good practices in transboundary water resource management and development.

- Ensure efficient and sustainable management and optimal use of the Nile Water resources (*policies, water resources analysis, data sharing, basin monitoring...*)

- Prepare and coordinate implementation of multi sectoral, multi-country investment projects in water and related resources (*for clean energy, food, water supply,...*)
The Shared Vision Program (2003/4 – 2012)

to build trust, capacity and an enabling environment for investment in Nile Basin countries

Applied Training:
Increasing technical capacity through short-term and long-term trainings.

Confidence Building & Stakeholder Involvement
Increased trust among riparians

Efficient Water Use in Agriculture
assist in addressing issues on efficient use of water for agricultural production

Nile Transboundary Environment Action
Awareness on transboundary environmental issues; common policies and strategies.

Regional Power Trade
establish institutional means to coordinate development of regional power markets

Socio-Econ Development & Benefits Sharing
enabling the riparians to form a range of basin-wide development scenarios; increased awareness on benefit sharing opportunities

Water Resources Planning & Management
Joint development and application of planning (NB DSS);
Subsidiary Action Programs:
*Action on the ground to release benefits...*

- Power Interconnection between riparian countries
  - More energy expected to be generated: 170 MW
  - 3000Km of new transmission lines expected to improve regional connectivity and trade about 8,500 MW
  - About 22 millions people get more cheaper and reliable power supply.

- Food security: irrigated agriculture
  - 14,000 ha of farmland under improved production in the Nile Equatorial Lakes sub-basins
  - 4 million people benefited from NBI prepared irrigation projects
  - Increased fish production in selected lakes (Lake Edward and Albert)

- Livelihood centered watershed management
  - Improved agricultural production and community livelihood
  - Reduced erosion and down stream sedimentation
  - Reduced risk of flooding
  - Improved resilience to climate change negative impacts
  - Improved water quality
Understanding the benefits of cooperation

1) Increased benefits
2) Decreased impacts
3) Reduced costs
4) Optimisation of resources
4) Optimisation of planning/management
5) Easier access to financing
6) Fostering of good relations between neighbours
7) Increased intra-regional trade
Main benefits of cooperation

Solutions to regional/transboundary problems cannot be achieved by individual countries alone

Regional development efforts complement and amplify national development efforts
Benefits beyond the river

• Increased Awareness on transboundary issues (increased awareness of down–upstream inter dependency,
• Improved trust and confidence, (different mechanism for conflicts resolutions (Tripartite negotiation process on the GERD)
• Increased integration of Economies (Rusumo project, Interconnection)
• Increased economic growth coming from investment in power, agriculture
• Increased capacity at national and regional levels (trained professionals)
• Regional peace and security.
Quantifying and integrating benefits into TB cooperation

*Indicative process chart, Nile Basin*

**Context**
- Political, policy, beliefs and values, basin geo-political context: NB Shared Vision;

**Available resources and resources use**
- Hydrology and Hydrogeology of the basin; current and projected (due to CC) water availability, water demand and use; development potential

**Sub-basins Socio-economic Development**
- Aggregate socio-economic development scenarios by sub-basin; unilateral vs cooperative development scenarios and their assessments; benefits and cost streams

**Dev’pment Options and Trade-offs**
- Generation of win-win options across the basin; evaluation of tradeoffs; final consensus on mutually acceptable development options

**Sub-basins Dev’pment Outcomes**
Realizing shared benefits....
A case: The strategic water resources analysis of the Nile Basin

Context
- Shared Vision
- TB policies, strategies, Population growth
- Joint tools: NB DSS
- Climate change ...

Available resources and resources use
- Water availability: current and future (+ cc)
  - Current water demand/use;
  - Baseline: stream of benefits/costs

Sub-basins Socio-economic Development
Development scenarios:
- Unilateral development → benefits and costs;
- Cooperative development → benefits and costs;

Dev’pment Options and Trade-offs
Options and tradeoff analysis: DSS MCA, → Strategic options of measures for cooperative water resources development and management

Sub-basins Dev’pment Outcomes
Nile Basin cooperative investments and water resources management → benefits streams

Strategic water resources analysis – key elements
NB Decision Support System
Toolset for supporting the analysis framework

Basin hydrology, infrastructure and Changes (data and models)

Tools for quantifying
Environmental, Social, Economics criteria

Environmental indicators
• Footprint Areas:
  - Ecologically Sensitive Areas
  - Carbon emissions
  - Fisheries Production
• Downstream Areas:
  - Floodplain/Wetland Area Inundated
  - Biological Production
  - Abundance of Pest Black flies
  - Bank Stability
  - Recovery Distance
  - Seasonal Shift
• Water Quality:
  - Phytoplankton Growth Potential
  - Aquatic Macrophytes Growth Potential

Social impact indicators (examples)
Water Availability
Community Health and Safety
  - Susceptibility to malaria
  - Prevalence of diseases from pest species
  - Water pollution d/s,
Food security and Livelihoods
  - Impact on Recession agriculture,
  - Fish Productivity,
Displacement

Economic
• Energy production (by plant, country, sub-basin)
• Food production;
• Economic benefit streams (by country, infrastructure, sub-basin)
• Economic benefit-cost indicators
• ...

Toolset for Multi-Criteria Decision making, tradeoffs analysis
Realizing shared benefits….
A case: Eastern Nile Watershed Management …

Egypt: Lake Nassir Nubia = >600km
Sand Dune Protection
Key benefits (from u/s interventions)
- Reductions in lost irrigation water
- Reductions in lost power generation

Sudan: Invest=$11m; 60K ha;
Key Benefits (from u/s interventions):
- Increased irrigation water
- Reduce OM costs of irrigation schemes

Ethiopia: Invest=$13m; 85K ha;
Key benefits:
- Increased crop productivity;
- Fuelwood
- Improved small-scale irrigation (increased dry weather flow)
- …

Global
Increased carbon sequestration (trees, soil),
Threats to effective Benefit sharing in the Nile Basin

• Delayed legal framework agreement
• Diverging positions among Nile riparian countries particularly between upstream and down stream countries. (water security)
• Diverging policies and interests
• Slowing down of the cooperation momentum → Increased unilateral development → increased tension
• Mistrust
• Diverging interpretations of the international water law principles of on equitable use of water and principle of not causing significant harm
Conclusions

• Despite the current challenges, Nile riparians countries started realizing the benefits of cooperation and minimize costs of No cooperation.

• Through different NBI projects under the SVP and SAPs, The spirit of cooperation has increased, Member States meet regularly at Ministerial level and recently up to the head of States Level. Bilateral cooperation has also increased.

• Tangible benefits in the area of Energy generation and trade, watershed management, ecosystem restoration, food security as well as in water resource management have been documented and communicated to the communities of member states.

• Member States have agreed to continue discussing on the remaining challenges at HoS level (TNC on the GERD, KAMPALA summit etc..)
... Cooperation on the Nile is a must, not a choice...

Cooperation between the riparian countries is key for meeting the growing food, water and energy demands of the basin’s citizens.