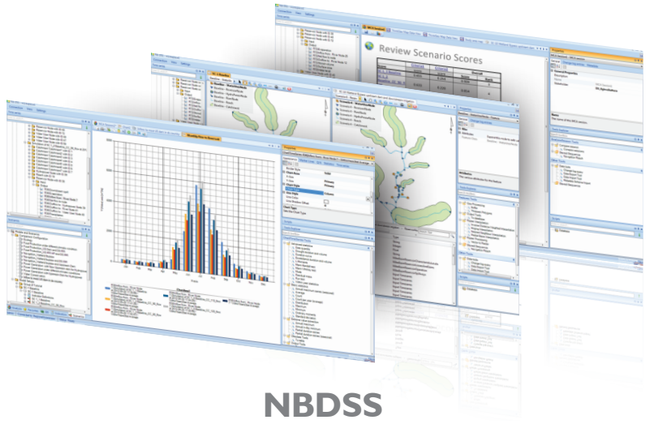
The **Nile Basin Initiative (NBI)** is a partnership initiated and led by the riparian states of the Nile River through the Council of Ministers of Water Affairs of the Nile Basin states (Nile Council of Ministers, or Nile- COM).

The NBI seeks to develop the river in a cooperative manner, share substantial socioeconomic benefits, and promote regional peace and security.

The NBI started with a participatory process of dialogue among the riparians that resulted in their agreement on a shared vision:

“ to achieve sustainable socioeconomic development through the equitable utilization of, and benefit from, the common Nile Basin water resources ”



NBDSS

A key for poverty reduction and sustainable development

NILE BASIN INITIATIVE
Initiative du Bassin du Nil

NILE BASIN

NBDSS Technical Support
helpdesk@nilebasin.org
http://nbdss.nilebasin.org

Nile Basin Initiative Secretariat
Water Resource Management Department

Plot 12 Mpigi Road
P. O. Box 192, Entebbe, Uganda
Tel: + 256 414 32 14 24/13 29
Fax: +256 414320971
Email: wrm@nilebasin.org
Website: http://www.nilebasin.org

NB DSS

NILE BASIN DECISION SUPPORT SYSTEM

The Making of the Nile Decision Support System

How nine Nile Basin countries cooperated to develop a common scientific tool

The Starting Point
Challenges of the Nile

Shared by 11 riparian countries, the Nile is the world's longest river. All Nile Basin countries face economic and population growth - induced rising demand for food and energy. While its management poses a challenge, the Nile also offers opportunities to the countries for meeting their development aspirations through regional integration – viz through. regional power trade, food trade, shared water storage infrastructure, thus in the final analysis contributing to regional peace and security by reducing/eliminating the potential for resource related conflicts.

While lacking in water infrastructure, upstream portions of the Nile Basin possess substantial potential for food and energy production. On the other hand, downstream parts of the basin, which are arid/semi-arid, have well developed water infrastructure that nearly totally depends on water coming from upstream. The challenge, therefore, is how to realize the development aspirations of upstream countries in a manner that doesn't seriously compromise interests of downstream countries, in a context underlined by the threat of Climate Change impacts. This is the key water resource management challenge that makes cooperation among basin countries an imperative. This challenge is the impetus behind the riparian countries' embarking on the journey of cooperation to jointly manage and develop their fragile and finite shared water resource, the Nile.

Knowledge
A critical precondition for meeting challenges

If shared understanding and consensus about the basics of the science of the river isn't reached, neither politics, nor economics, nor technology will help the countries work together to realize the Nile Basin Initiative's overarching goal of achieving "sustainable socio-economic development through equitable utilization of and benefit from, the common Nile Basin water resources."

It is this realization that spurred the riparian countries to embark, thru their flagship project, to jointly develop the Nile Basin Decision Support System with the aim of turning it into a shared analytic and knowledge system that supports joint planning and decision making.

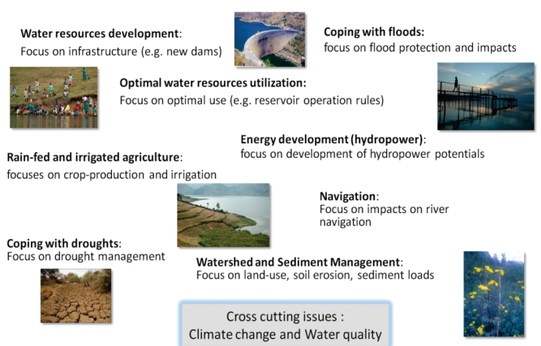
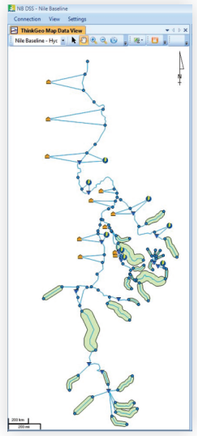


Fig. 1; Focus areas of the Nile Basin Decision Support System

NB Decision Support System: a state-of-the-art analytic Framework

The Nile Basin DSS is a comprehensive analytic framework designed to meet the requirements of complex water resources planning. It provides diverse toolsets for data processing, modeling, scenario management, benefic-cost analysis, optimization and multi-criteria decision making.



It offers tools for integrating environmental, social and economic objectives thus greatly facilitating multi-sector water resources planning at river basin level. It provides unique toolset for supporting multi-stakeholder dialogue on water resources planning. With its Multi-criteria decision making tool, the DSS becomes key in supporting informed decision making in water resources.

> *"It's been my privilege to have witnessed the building of a DSS for the Nile Basin that is now accepted and being successfully used by multiple stakeholders to achieve a better understanding of the potential hydrologic, economic, environmental, ecologic and social impacts of alternative development, managements and water use policies and practices."*
>
> **Professor Daniel P. Loucks,** Cornell University, USA. Member of the DSS International Panel of Experts (POE)

NB DSS Development: Process as much important as Product

The process of developing the DSS is at one and the same time a process of inter-riparian confidence and trust building. The extensive consultations conducted during the needs assessment created awareness and consensus on core water management issues that matter; these core issues then were agreed by the riparians to become the focus areas for the Nile Basin DSS.

As part of the development process, a network of riparian professionals and technicians has been engaging in the DSS development through defining detailed requirements, testing of the developed system and applying the DSS on project cases at regional and national level. Extensive training activities were carried out in all NBI countries thereby contributing to institutional strengthening of water ministries. The DSS development process, thus, has enabled the forming of epistemic community in the Nile Basin around development and application of decision supports system Thus jointly developed, the DSS is a shared and trusted tool.

The Nile Basin DSS
A shared asset of NBI countries

The NB DSS occupies a unique place as a tool of choice for implementing IWRM at national as well as transboundary levels. Much effort has been given to establish current needs for the DSS. Flexibility in the software architecture allows the DSS to evolve to meet future needs.

The NB DSS has been applied on a number of project cases at national as well as transboundary levels.

The case studies have effectively demonstrated that the NB-DSS is relevant to user needs on a continuing basis. The case studies also contributed to ensuring that the NB-DSS is well-valued by the users. The users have thus been willing to continue supporting its integration within their respective institutional frameworks through the provision of adequate funding and the deployment of the necessary skilled staff resources.

> *"The Nile Decision Support System is a valuable tool for the Ministry of Water and Energy in Ethiopia. We are developing the water resources in this country and it is a challenge due to the regional nature of many of our rivers. The DSS enables us to analyze and evaluate options for water resources management and development taking into account the various interests of stakeholders. This enables senior officials to have a sound basis for decision making. I am proud of the NBI project team who are developing the DSS and supporting us to gain the expert capacity to use and sustain it."*
>
> **Fekahmed Negash,** Director of River Basin Management Directorate, Ministry of Water and Energy, Ethiopia

> *"As a member of the steering committee of the project under which the Nile Basin decision support system has been developed, I have witnessed the Nile Basin Decision Support System evolving into a state of the art analytic framework developed through participation of the Nile Riparians. I am pleased to say that the NB DSS is already being taken as the tool for water resources planning, development and management in Uganda."*
>
> **Callist Tindimugaya,** Commissioner of Water Resources Regulation and Planning, Water Resources Management Directorate, Ministry of Water and Environment, Uganda

Sustainability of the NB DSS on the long-term

To ensure the long term sustainability of the DSS, the NBI has established a water resources management unit at the NBI Secretariat in Entebbe. This unit shall be responsible for the operational application (at regional level), maintenance, capacity development and further development of the NB DSS to respond to emerging needs.