

The Nile Basin Initiative: advancing transboundary cooperation and supporting riparian communities

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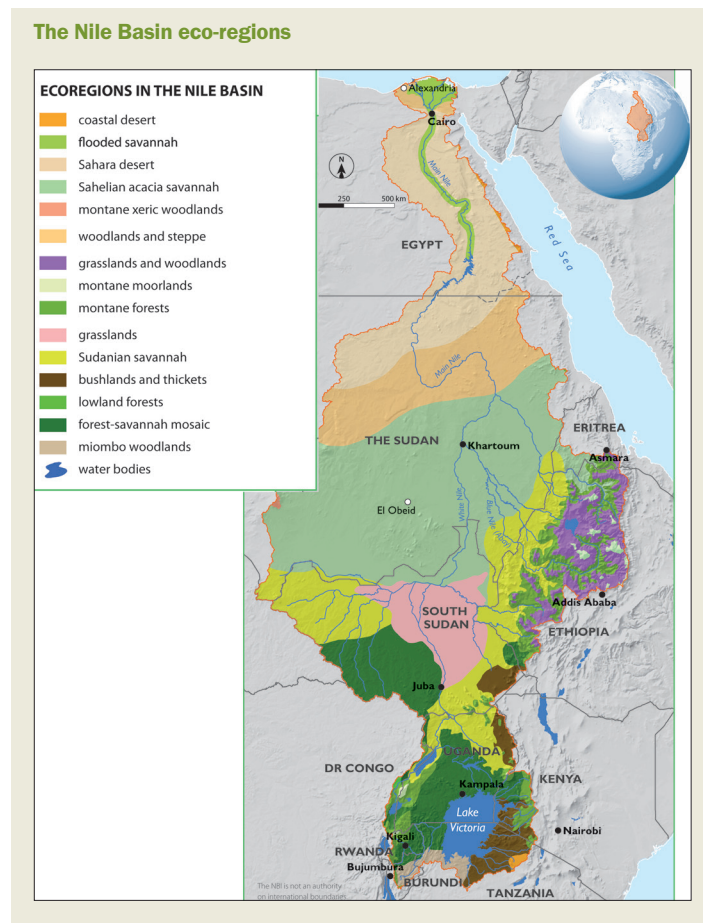
Traversing a distance of 35 degrees latitude from the equatorial region of Africa in the south to the Mediterranean Sea in the north, the Nile is one of the world's longest rivers. It is shared by 11 African countries and is a source of livelihood for over 200 million people. The Nile drains an area of 3.2 million square kilometres — about 10 per cent of Africa.

The Nile Basin Initiative (NBI) 2012 State of the Nile River Basin report subdivides the basin into 16 eco-regions. These feature large rivers, waterfalls, lakes, wetlands, floodplains, forests, savannahs, montane ecosystems, and arid and hyper-arid lands. One of the world's largest freshwater wetlands, the Sudd, and the world's second largest inland lake, Lake Victoria, are prominent features of the basin.

The Nile Basin hosts some of the world's largest congregations of large mammals and flocks of migratory birds from Eurasia and other regions of Africa.

The Nile Basin is a relatively water-scarce region. The average annual flow at its entrance to Egypt is about 2,660 m³/s — about 6 per cent that of the Congo River at Inga. Most of the stream flow is generated from less than a third of the basin. The basin is prone to seasonal and inter-annual variability. Water resources development is needed at the upstream part (comprising seven of the 11 riparian countries) where nearly all river flow is generated is at its infancy. The downstream part (comprising two riparian countries), is almost entirely dependent on upstream flow and has relatively better developed water infrastructure and institutions.

The Nile Basin has hosted some of the oldest civilizations of mankind. That notwithstanding, currently the Nile River and its associated ecosystems — the resource bases — are facing a number of threats. In the upper reaches the watersheds are undergoing continued and accelerating degradation. From the Ethiopian catchments alone where over 86 per cent of the river flow originates,



Source: NBI State of the Basin report, 2012

Tana-Beles integrated watershed management project – Ethiopia

The Eastern Nile watershed management project has built a regional knowledge base which has been used to prepare fast-track projects worth about US\$80 million.

One of these projects, in the upper Blue Nile in Ethiopia, has scored impressive results in natural resources management, improving the livelihoods of the local community, and capacity development.

Examples include the preparation and implementation of 163 community watershed plans; treatment of 821 ha of gully; rehabilitation of 16,000 ha of degraded hillside; development of 4,000 ha of community woodland forestry; and 1,000 ha of small-scale irrigation in 14 schemes. In addition, 85 km of community access roads and a number of footbridges were constructed to improve market access; and 35 farmer training centres were established — with about 700 farmers trained on improved cereal, fruit tree cropping, vegetable gardening and marketing. The project also established 13 animal health posts; supplied 735 modern beehives and 163 pieces of apiculture equipment; and established 432 community water points and three village water schemes. The project is among the NBI achievements showcased during the 2013 Nile Day celebrations.

for example, 157-207 million tons of topsoil is washed away annually, resulting in economic loss upstream and downstream. In the midstream, important wetlands — critical in regulating the hydrological balance and river flow, hosting endangered flora and fauna, and providing environmental services to local communities — are shrinking. In the most downstream reaches in the delta, salt water intrusion into the Nile is posing growing challenges.

Across the entire Nile Basin, biodiversity hotspots and unique habitats are increasingly disappearing. Both due to sheer demographic pressure and demand driven by economic growth, the stress on the finite and fragile water resources of the Nile is likely to grow to unmanageable proportions. The problem is compounded by the fact that each riparian country plans and implements its national water resources development plan on the Nile in unilateral fashion. Limited understanding of the science of the river; institutional insufficiency at national and transboundary levels; and inadequate understanding of the impact of climate change on the Nile — all these add complexity to the management of the common resources of the Nile.

The Nile Basin has been characterized by a preponderance of intra and inter-country conflicts and political instabilities. Conflicts and civil strife related to electoral politics have been common features. The intensity and costliness of the conflicts has been aggravated by direct or proxy support of combatants across borders.

Alongside these challenges, the Nile Basin offers significant potential for a win-win outcome from cooperative management and development. Among others, the basin harbours noteworthy potential

for clean hydropower development and power trade; for expanding agricultural production and increasing water use efficiency; for the preservation and ecotourism use of biospheres and designated hotspots of unique biological diversity; for utilizing the Nile as an entry point for broader economic-regional integration, promotion of regional peace and security; and not least for jointly ensuring the continued existence of the Nile through prudent and judicious utilization.

The Nile Basin Initiative

Growing recognition of the above challenges, and the realization of the potential inter-riparian conflict that would ensue from poorly managed, increasingly shrinking and scarce Nile water resources, spurred the member countries to formulate a shared vision¹ and establish NBI in February 1999, with significant support from the international community. NBI is headquartered in Entebbe, Uganda with two subsidiary action programme offices in Addis Ababa, Ethiopia and Kigali, Rwanda. NBI has three core functions, namely facilitating cooperation, water resources development and water resources management. NBI fills an important gap that has been a barrier to the joint and sustainable management of the common Nile Basin resources. It is a transitional mechanism that will phase out when the Nile River Commission is established.

NBI has had several key achievements in its three core functions, along with various challenges and lessons in transboundary cooperation.

Facilitating cooperation

NBI has provided the first and only inclusive platform for dialogue among all riparian states. Given the earlier history of non-cooperation characteristic of the Nile Basin, creating an enabling environment was made a priority. This included building transboundary institutions and raising awareness; building inter-riparian



Source: NBI State of the Basin report, 2012

Community watershed management project – Sudan

The Dinder and Lower Atbara watersheds are the focus areas of this fast-track watershed management project. The former, in the Blue Nile, is also home to the Dinder National Park — a designated biosphere. Pastoralists often encroach into the park on their way to find grazing land and watering points, which creates conflicts.

This project has scored remarkable achievements in a short period. Over 27,000 ha of degraded agricultural land has been rehabilitated; farm yield for dominant crops has shown significant improvement, with sorghum yield increasing from a baseline 519 kg/ha to 1,249 kg/ha in Dinder and from 1,249 kg/ha to 3,391 kg/ha in Atbara. Similarly, sesame yield has increased from 202 kg/ha to 336 kg/ha in Dinder and white bean yield has increased from 887 kg/ha to 2,480 kg/ha in Lower Atbara. Over 300 km of livestock routes have been mapped, demarcated and opened for pastoralists, which will relieve en route conflicts. Over 5,010 ha of rangeland has been reseeded with nutritious and soil rehabilitating varieties of fodder. Fodder production has been initiated in 24 villages.



Image: Eastern Nile Technical Regional Office

A degraded watershed in the Blue Nile basin

confidence and mutuality; and paving the way for cooperative development such as water resources investment and planning and management of the shared Nile water resources. Forums created and facilitated by NBI have brought together decision and policy makers, technicians, engineers, academicians and other experts from across the basin.

As a result, nobody in the basin any longer questions whether cooperation on the Nile is necessary, desirable or doable. Rather, the conversation has shifted focus onto how to promote and expedite it. Today, in contrast to the past, Nile riparians share data, own a jointly developed state-of-the-art decision support system and work together in the planning of water resources development projects with transboundary significance. This has resulted in joint identification and preparation of over US\$1 billion of investment projects in the power, agriculture, water supply, and watershed management and fishery sectors. Further, NBI provides the necessary enabling policy framework for transboundary cooperation.

Fostering transboundary water resources management

Shared knowledge systems are vital for transboundary cooperation. NBI has accumulated a comprehensive knowledge base on the water and related resources of the Nile. A system of portals has been launched to enhance public access to NBI knowledge resources. The first comprehensive State of the Nile River Basin report was published in 2012.

NBI developed and operationalized a number of water resources planning and management analytic tools. These include the Nile Equatorial Lakes and Eastern Nile planning models, and the Nile Basin Decision Support System (DSS). The Nile Basin DSS provides the necessary modelling and decision-making tools for collaborative water resources planning and management. The Nile Basin Agricultural Trade and Productivity Model and a number of toolkits for specific applications have also been developed.

NBI has formulated, and is at various stages of implementing, an environment and social policy, environmental and social safeguards

guidelines, wetlands management strategy and climate change strategy.

Cooperative development of shared water resources

NBI assists member states by preparing water resources investment projects, which provide benefits and distribute costs among participating countries. In pursuit of this, NBI facilitates agreements between countries for investment financing and for future management.

Examples of such projects include:

- the regional transmission interconnection project (where an estimated 1,000 km of transmission lines are under construction to facilitate power trade among Kenya, Uganda, Rwanda, Burundi and the Democratic Republic of the Congo (DR Congo), and completion of the Ethiopia-Sudan transmission interconnection project
- the 80 MW Regional Rusumo falls project of Tanzania, Burundi and Rwanda
- a transboundary fisheries and watershed management programme in the Lakes Edward and Albert region (Uganda/DR Congo)
- a regional irrigation and watershed management project in Tanzania, expected to develop around 22,000 ha of irrigated agriculture
- the Eastern Nile Power Trade Investment Program, which studied the hydropower development and power trade potentials of the Blue Nile-Main Nile and prepared an investment sequencing plan
- the Eastern Nile Irrigation and Drainage study.

Smallholder irrigation programmes have also been implemented in the Mara Basin (Tanzania-Kenya). Based on a recent multi-sector investment opportunity

analysis, these efforts are expected to be scaled up across the Nile Equatorial Lakes region, through promotion of an additional 6,000 MW of hydropower generation, linkages to the South African Power Pool through interconnectors, and promotion of an estimated development of 510,000 ha of irrigated agriculture by 2035.

Watershed management

NBI has been implementing a number of watershed management projects through its subsidiary action programmes. The projects involve local communities from inception to implementation. Key intervention areas include the improvement and diversification of productivity in rain-fed farming and the reversal of watershed degradation. Integrated watershed management has resulted in reduced loss of topsoil and increased crop yields at the farm level, while better water quality, reduced silt load and an improved hydrological regime will be witnessed at micro and macro catchment levels further downstream.

Watershed management programmes have also been prepared in the transboundary river basin management programmes of Mara, Kagera and Sio-Malaba-Malakisi, focusing on soil and land management, soil and water conservation, and the management of wetlands of transboundary significance. Investment programmes have also been prepared to restore the degraded Mau forest, a key catchment for the Mara River. Early implementation of livelihood-based watershed management programmes in the Blue Nile basin in Ethiopia, Sudan and Egypt has registered impressive results.

Expanding access to potable water

A number of projects contributed towards the promotion of sustainable and affordable access to safe water supply, sanitation and waste management services for communities. Schemes designed and constructed include Butihinda (Burundi), Nyagatare (Rwanda), Katuna (Uganda), Bomet and Angurai (Kenya), Mella (Uganda) and Karagwe (Burundi). The total population served by these water supply systems is estimated at 100,000.

Fostering sustainable water resources management

A number of Nile Basin environmental assets are transboundary or have transboundary significance and require cross-border cooperation for their management and sustainable use. NBI has been providing this regional forum for member states, and has taken a number of measures to address the threats posed to these assets.

The measures range from high-level policy formulation to community-level awareness raising and the implementation of community-managed environmental restoration projects. The NBI Environment and Social Policy and Wetland Strategy have been endorsed by the Nile Council of Ministers. These documents will guide transboundary water resource development and management, including investment planning and implementation.

As part of the environmental education activities, for example, NBI promoted a Student Awards Competition through the public media that contributed to raising awareness on the most critical Nile environmental issues. Thousands of students in over 60 schools from all member countries took part in the national and regional competition.

Sustaining gains and addressing emerging challenges

NBI has made considerable gains over the past decade. The most important achievements to be singled out are the promotion of riparian cooperation and mutuality over the Nile through

building confidence, scientific knowledge, tools and sustainable institutions.

NBI has spearheaded the preparation of a number of water resources investment programmes that addressed growing energy and food production needs, promoted community-managed programmes, raised awareness among riparian countries and provided the necessary policy framework for sustainable transboundary water resources management.

The Nile riparians have negotiated their Cooperative Framework Agreement (CFA), for which ratification has recently started. It is expected that the riparian states will form the Nile Basin River Commission and advance their cooperation. Three of the NBI countries have not yet signed the CFA and, as a result, there is a potential challenge in finding a common platform for signatory and non-signatory states.

Most of the NBI programmes to date are financed through grants from the international community. With the planned closure of the Nile Basin Trust Fund in 2014, there is an urgent need for mobilizing funding to maintain the momentum and sustain the gains made. Diverse funding mechanisms such as grants, loans, public-private partnerships and riparian contributions need to be explored.

International practice shows that transboundary cooperation is a protracted process. In the context of the Nile Basin, where the majority of upstream countries have embarked on rapid economic growth, delays in implementing water resources investments mean delays in meeting the demands of growing economies and populations. This, in turn, can lead to an increasing number of major water resources investment projects, such as dams and power plants, planned and implemented unilaterally by individual riparian states. There is an urgent need to expedite the implementation of investment programmes prepared by NBI through participation of the riparian states, which will contribute to coordinated management and ultimately to the sustainability of the Nile itself.

Judging by experience worldwide, the all-inclusive Nile cooperation is still in its nascent stage. That is to say, the gains made so far should not be taken as irreversible. There is a need, therefore, for continued nurturing and deepening the cooperation process in order to consolidate the achievements of the Nile's basin-wide cooperation.

Lake Nasser-Nubia management project – Egypt

This transboundary project straddles Egypt and Sudan. The project objective is to develop a Lake Nasser-Nubia management framework and to establish a sediment and water quality monitoring system. The cumulative impacts of improved watershed management upstream, both in Ethiopia and Sudan, will be reflected in reduced sediment load on Lake Nasser-Nubia. The project has been conducting a biannual bathymetric survey of the lake to determine sediment levels, and has established a data and information management system.