

BRIEFING NOTE 4

Changing lives in the Nile Basin



A remarkable program of cooperation in the Nile Basin is bringing change to millions of people living in poverty. By promoting trust and cooperation between the 10 Nile countries, the Nile Basin Initiative (NBI) has enabled these countries to advance a shared vision for development of the region based on sustainable management and equitable use of the Nile water resources. Countries have come together to plan and implement development projects that are proving to be transformative in terms of food, water, and energy security – as well as improving the resilience of some of the poorest in society. Once implemented, these projects promise to benefit nearly 30 million people.

Through the work of the NBI on Nile cooperation:

At least **7 MILLION** people could have improved food security, once NBI-facilitated watershed and agriculture projects are implemented, with US\$90 million/year benefits.

Over **3 MILLION** people could have better access to water for sanitation.

22 MILLION people are expected to become more energy secure through more reliable power supply and lower cost power generation.

Through stakeholder involvement and gender considerations, all NBI activities are have a strong focus on **DEVELOPMENT IMPACT**.

The poorest in society are becoming more resilient to climate shocks such as droughts and floods.

Regional economic growth is at the heart of the vision. By improving agriculture, incomes, and trade, and reducing energy constraints through cooperative projects, **30 MILLION** people could benefit directly and indirectly.

Poverty and development in the Nile Basin

The countries of the Nile Basin face significant challenges of poverty and development.

'Poverty' is variously defined by different countries and organizations, but all definitions relate to a deprivation of basic needs. People facing extreme poverty – which is widely understood to refer to those earning less than US\$1.25 per day – also experience a consequent marginalization and an inability to recover from shocks and stresses.

'Development' is about addressing these deprivations, and increasing the quality of life across a given

population. This cannot be done without improving access to and use of water.

All except one of the 10 countries in the Nile Basin are categorized as 'low human development' as measured by the United Nation's Human Development Index, and six out of the 10 are ranked in the bottom 25 countries globally. In all of the Nile Basin countries, significant proportions of the population live in extreme poverty. In four of them, those in extreme poverty amount to over 60% of the population. Consequently, all these countries have included poverty reduction as a national priority.

Cooperation for regional development through international waters

Poverty reduction objectives, shared by the Nile countries, were the basis for developing and implementing the program of cooperation in the region that was started more than 15 years ago. The countries of the Nile Basin came together through the Nile Council of Ministers (Nile-COM), comprised of ministers from each Nile Basin country who were responsible for water affairs. Together, they launched a shared vision for development of the region based on equitable use of Nile water resources.

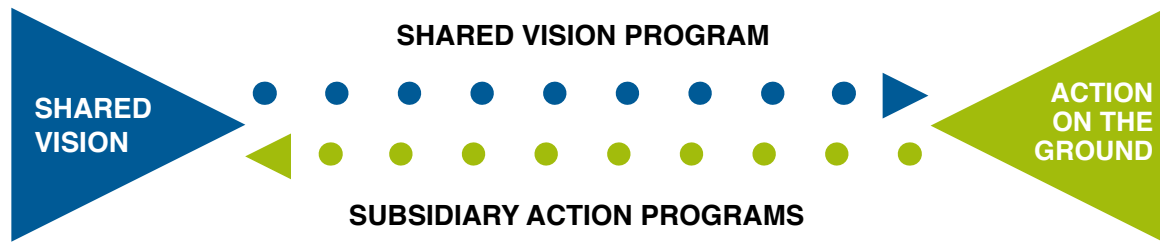
They recognized an opportunity for economic growth for the Nile Basin that could be driven by shared investments in this shared resource: investments in watershed protection, energy, irrigation, drought resilience, and flood protection. Studies showed that the potential economic benefits were too large to be ignored – as much as US\$7 billion to US\$11 billion from irrigation and hydropower alone. The Nile-COM tasked the NBI with managing activities in support of the shared vision. This briefing note highlights some of the key achievements of that program of action

The journey to cooperation for change

The NBI's journey to achieve meaningful cooperation faced significant challenges. There was a history of distrust and differences between the Nile Basin countries in terms of their politics, water demands, and poverty status. In some countries there was limited capacity in the water sector, and no regional institution to facilitate dialogue and information exchange. Water resource projects rarely considered Basin-wide implications, and the potential for shared benefits from their shared resource was not fully understood.

To work towards shared benefits, the Nile ministers recognized the need for a two-pronged approach.

They developed and implemented a Shared Vision Program (SVP) to build trust, capacity, and create an enabling environment for transboundary investments, alongside Subsidiary Action Programs (SAPs) to assist countries in identifying and implementing mutually beneficial investment programs in the Nile Basin. The two programs were designed to complement each other. The SVP was to be a critical foundation generating the driving forces to enable countries to engage in investment projects, while the projects later prepared by the SAPs would reinforce the shared vision by demonstrating quick wins and benefits of cooperation.



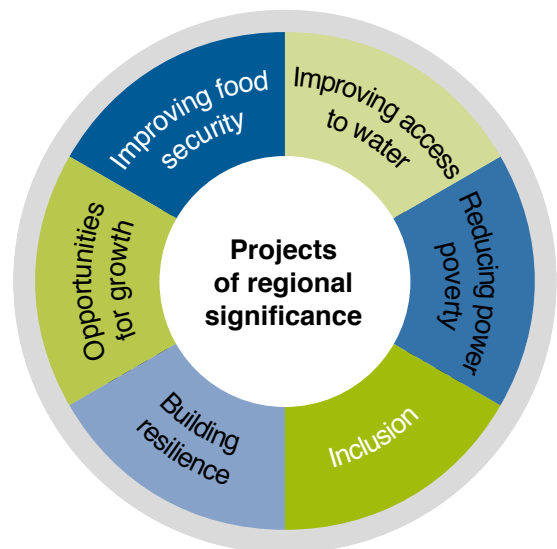
The SVP successfully built capacity and generated knowledge around technical issues such as water use, environmental challenges, and energy. And it strengthened the NBI as an impartial and credible institution that could be the platform for dialogue and knowledge exchange. Critically, it brought countries together, fostering an open dialogue between them. This laid the foundation for the Nile countries to pro-actively join forces and agree on shared development projects.

The SAPs identified and prepared a range of regionally significant investment projects for the Nile Basin countries, some of which are already being implemented. These are special in two key ways. First, they involve full participation of the countries and key stakeholders. The SAPs worked

hard to facilitate agreements between the countries to advance these projects. Second, they fully consider transboundary environmental, social and climate change impacts as well as gender issues. The NBI approach supports national programs, expanding their coverage to achieve a regional perspective, and increases the interest of the Nile Basin countries to work together to implement the projects.

Once implemented, these projects offer the potential to address some of the major development constraints facing the Nile Basin region.

Projects of regional significance
This term is often used by the NBI to describe the projects it supports. It reflects the shift from projects identified, planned and implemented unilaterally by individual countries without consideration of regional impacts, to projects that take a regional approach. Projects of regional significance involve a more collaborative approach, which can include sharing the risks, costs and benefits, and can result in reducing negative impacts, improving overall development benefits, and cost efficiencies for those involved.



Improving food security

Food shortages are recurrent, especially in countries where droughts are common. Climate change is exacerbating this problem.

The NBI has addressed this through SVP projects on water-use and benefit-sharing, and through preparation of development projects that address irrigation, soil stability, landscape and fisheries management, and flood protection. These offer farmers significant benefits, including improvements in agricultural yields and protection of crops, allowing them to produce a greater amount of food more consistently, strengthening food security.

Around 4 million people are projected to benefit from NBI-prepared irrigation projects across the region, once they are implemented, with a projected increase in agricultural production value of US\$90 million per year. For example, the Ethiopia irrigation and drainage project is improving agricultural water use nationally, and the planned eastern Nile irrigation and drainage project intends to do the same in other areas of the region. In the Nile equatorial lakes region, planned river basin watershed management projects all

include components on irrigation. These planned irrigation and watershed projects across the region will put over 140,000 hectares of farmland under improved agriculture.

Watershed management projects – like the Tana Beles in Ethiopia, which is already being implemented, and the Kagera project planned for Burundi, Rwanda, Tanzania, and Uganda – also emphasize soil protection through physical works, and restoration of landscapes through forest protection, as well as through wetland management. Along with water resource development projects that focus on irrigation and on water storage and supply, these are bringing benefits to the environment and to agriculture, balancing poverty alleviation and resource sustainability. These benefits are far-reaching – over 17 million people could benefit directly and indirectly.

Additionally, food security is being achieved through improved productivity of fisheries. A project in Lakes Edward and Albert aims to improve fish stocks, resulting in better nutrition and economic impacts.

Linking landscape restoration and downstream water benefits to food security.

Amsanu, a farmer in Ethiopia, has been working with the Tana Beles project and practicing better soil management through physical works and conservation agriculture. This has enabled him to significantly improve his productivity. His wheat production has increased from 400kg to 1,000kg per harvest. He is now more food secure, and at the same time soil conservation efforts have resulted in significantly less erosion and downstream sedimentation of the river. It is a win-win outcome.



Improving access to water



Mwizerwa Peace showing off rainwater storage tanks that save her school US\$130 every month

Many people in Nile Basin countries have insufficient water storage facilities and lack good access to clean water and regular water supply for farming. Despite this, total water use is increasing. Combined with increasing demands on the land, and increasing population levels especially in cities, water quality is being negatively affected.

NBI's watershed management and water resource development projects work towards providing clean water, desiltation of rivers, and storage of water, while irrigation projects are important for agricultural productivity and food security. Watershed management supports regional hydropower developments by regulating water flows and reducing siltation problems that affect power station efficiency. For example, the Tana Beles project in Ethiopia has included clean drinking water aspects. The project emerged from a recognition of the links between upstream land

degradation and downstream siltation in the Ethiopian lowlands and in Sudan and Egypt. As part of its approach to facilitate behaviour change in relation to land use to resolve this problem, the project engaged with upstream community needs for social services such as health and sanitation, including water access and storage for nearly 270,000 people.

The river basin management projects prepared in the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) region (Kagera, Mara, Sio-Malaba-Malakisi) have a strong focus on water storage to address water supply and quality. For example, through the Kagera rainwater harvesting component, school secretary Mwizerwa Peace observes that her school saves US\$130 every month in the dry season that would in the past have been spent on water deliveries. Once implemented, NELSAP's planned river basin management and water resource development projects could benefit more than 16 million people.

Reducing power poverty



Most of the Nile Basin countries face ‘power poverty’, with many people having little or no access to electricity. In several countries fewer than 20% of people have electricity, and the access rate is lower than 10% in Burundi. Electricity production per capita is also low across the region, averaging only around 4% of the global average.

But energy is needed to drive economic growth and development, to power schools, hospitals, and social services, to attract investment, and in general to improve living standards. With an increasing population and burgeoning industrial sectors, the demands for energy are growing fast. Hydropower has significant potential to transform the Nile Basin picture from one of energy poverty to one of increased productivity. Consequently, energy generation and transmission is a real priority for the Nile countries.

Of course, hydropower and interconnections are transboundary issues – exactly the kind of issue about which the NBI offers an effective platform for dialogue and agreed action. The NBI provides a real opportunity for countries to come together in an impartial way for effective

cooperation and equitable benefit sharing. Taking a regional approach means that countries get a much better return on power investments than they would if they invested in national projects.

The NBI has commissioned several regional strategic studies on opportunities in the power sector, including the comprehensive Basin-wide study of power options undertaken within the Regional Power Trade Project of the SVP. Further regional studies have been commissioned under the SAPs, including the Strategic Sectoral Environmental Assessment (SSEA), which sets the scene for power projects in the equatorial lakes region, and the eastern Nile power trade study program. These have all provided credible data on potential benefits and costs, and identified several projects for shared investment by the countries. In addition, the NBI approach means that projects have minimal negative impacts. For example, guided by NBI environmental and social frameworks, the countries involved decided to re-design the 80 MW Rusumo Falls power generation project to use a run-of-the-river approach, rather than a large dam, to reduce the number of people displaced from tens of thousands to just 500.

Connecting energy demand to supply: In the eastern Nile a regional power trade study assessed potential power projects, and a cooperative regional assessment enabled the countries to agree on priority projects. The Ethiopia-Sudan power interconnection project invested in supplying 100 MW of electricity to Sudan, benefiting 8 million people with lower electricity prices. And in the Nile equatorial lakes region, over 1700 km of new transmission lines are already being put in place, and another 2600 km are under preparation and awaiting funding, while many more projects are in the pipeline.

Several power generation and trade security projects are now completed, while others are underway with financing mobilized with support from the NBI. Once all are implemented, and by 2020, these projects are expected to have resulted in approximately 167.5 MW of new power generation and over 8,580 MW of additional transmission capacity through interconnection lines. Many more projects identified by the NBI are being prepared and implemented

nationally, offering tenfold more generation capacity. These projects have the potential to transform energy development in the region, and link up energy supply and demand across the Nile region with that in southern Africa. They will improve energy security for 22 million people, by increasing the reliability of power supplies and lowering the cost of power generation.

Giving the poorest a voice

Often the poorest and most marginalized people in society slip through the net of development and economic growth, resulting in their exclusion from its benefits. Ensuring the inclusion of the poorest and most marginalized people – 70% of whom are women – is therefore important to help them break out of the poverty trap.

The approaches taken by the NBI have focused largely on shifting this trend, and ensuring inclusion. These approaches emphasize stakeholder participation, social safeguards, and gender considerations. The NBI has a public consultation framework, developed under an SVP project that focused on building stakeholder participation and involvement.

Gender has been completely mainstreamed in the work of the NBI, to ensure women get a fair share of the emerging

benefits. All investment projects prepared through the NBI are subject to gender guidelines and action plans. They integrate women's issues, rather than having 'women-specific' activities.

For example, in the Kagera watershed management project, priority has been placed on ensuring women have equal opportunities in project decision making, setting up ways to maintain their participation, and ensuring the interventions planned help address gendered problems such as livelihoods and access to resources. The Kagera project has begun implementation and is now ready for full roll-out. In the Lakes Edward and Albert fisheries project, gender issues are mainstreamed to ensure socio-economic empowerment and co-management of the resource by men and women. This includes taking gender into account at policy level in the harmonization of regulations.

Bringing in the voice of civil society.

The NBI has worked with the Nile Basin Discourse, a network of national civil society organizations from across the region, to ensure the voice of civil society interacts with the NBI, and can influence how the program and projects are designed. This has been effective. For example, the Nile Basin Discourse was instrumental in ensuring full consultation around the development and design of the Rusumo Falls hydropower project, ensuring any negative impacts on local people were minimized. *"We are glad that we were consulted throughout, and that we will get a fair deal,"* says Manuaru Fanuel, a local villager and farmer.



Building resilience

The poorest people also lack resilience to shocks such as floods and droughts. This is particularly significant in the Nile Basin, where 90% of the population is dependent on rain-fed agriculture. People's livelihoods are often unable to withstand the impacts of severe weather events, which are becoming an increasing feature of the region's climate.

The NBI offers significant support for building resilience. Its activities are minimizing the impacts of severe weather events by providing knowledge and information on the variability of river flows, forecasting river changes, establishing hydro-meteorological monitoring networks and flood prediction mechanisms, and implementing soil protection works. The Nile Information System and Decision Support System (DSS) provides extensive and up-to-date data for use in adaptive planning, and the flood forecasting system used by governments and relief agencies in the eastern Nile region contributes to disaster risk reduction. SVP studies have contributed to increasing people's adaptive capacity through better understanding of efficient water use, economic development, and income diversification options.

Improved flood forecasting is already in operation through the Flood Preparedness and Early Warning (FPEW) project in the eastern Nile region. Based on cooperation and data exchange between Egypt, Ethiopia and Sudan, the results of this project have been impressive: at least 150,000 vulnerable people in a fragile environment benefit directly, and 1.7 million benefit indirectly from daily forecasting bulletins. This makes them better able to prepare for flooding and has reduced the loss of life and the level of devastation to their property, crops and livestock.

Improving agricultural productivity and offering options for diversification also helps people face climate change. For example, supporting fisheries in Lakes Edward and Albert means that people have year-round opportunities for cash sales, with fish being seen as a 'bank in the water'.

Behind all of this is the NBI's strategic direction on climate change, which has evolved quickly. Climate change has become a priority issue as the fourth pillar of the NBI sustainability framework which is shaping water sectoral development across the region. And NBI's climate change strategy focuses on how its transboundary water resource management work can strategically address adaptation and mitigation in the region.

"NBI studies increased awareness on how climate change is going to negatively impact water resources. Sustainable conservation of water catchments is now a priority, and climate change mitigation and adaptation are now considered in all water development projects in Tanzania," explains Mbogo Futakamba, Acting Permanent Secretary, Ministry of Water, Tanzania.

Offering opportunities for growth

Poverty in many of the Nile Basin countries is linked to poor economic growth. All the poverty features outlined in this briefing note form constraints to opportunities for income generation or enterprise development.

The NBI's shared vision has economic growth as its driver. It is working towards growth in everything it does: improving agricultural production through irrigation and land restoration, enhancing agricultural trade and employment, boosting local income generation opportunities through watershed management activities, reducing the risks and costs of natural and climate-related disasters, and addressing energy constraints for local enterprise, social services and wider energy security.

Tapping the potential of agriculture: Agricultural production contributes significantly to the value chain of farm products, and boosts rural development, market access, and trade. In the equatorial lakes region, it has been estimated that as a result of improved agricultural production up to 1.5 million people could benefit from additional seasonal employment. NBI projects address market access and supply chain linkages, and have potential employment benefits. For example, one project worked with the Common Market for East and Southern Africa (COMESA) and the East African Grain Council to develop measures to enhance agricultural trade.

Achieving transformational change

Clearly, cooperation around Nile resources has a role to play in economic development for the region. The NBI has been vital in turning the vision of cooperation into a reality, and has taken significant and transformational steps. Thanks to the NBI, the countries of the Nile Basin region now experience:

- Open dialogue and knowledge exchange through an effective institution
- Collective evidence generation to define the best way to approach common challenges
- Joint technical cooperation on those challenges
- Improved water governance
- Collaborative preparation of projects of regional significance, which bring real and shared benefits

These actions offer key building blocks helping the Nile Basin countries better use their shared resource for sustainable economic growth and development benefits. With some projects already being implemented, and many others being prepared, an opportunity now exists to scale up the development impacts for shared benefits across the Nile Basin.



This note forms one of a series of briefing notes prepared to mark the completion of the Nile Basin Trust Fund (NBTF). The Nile Basin Trust Fund was opened in 2003 at the request of Ministers responsible for water affairs in the Nile countries, and was administered by the World Bank on behalf of ten donors.

The series of briefing notes highlight the achievements of the Nile Program, a set of projects and sub-programs that have been supported by Nile riparian countries, the Nile Basin Trust Fund and other donors in parallel to the NBTF, largely implemented by the Nile Basin Initiative (NBI).

NBI Member States



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