What is the major determinant of population distribution in the Nile Basin?

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TABLE OF CONTENTS

| The Purpose                                      | 4 |
| Introduction                                    | 4 |
| Basin Challenges, Development Goals and Strategic Directions | 4 |
| Goal 1 Enhance availability and sustainable utilization and management of transboundary water resources of the Nile Basin | 5 |
| Goal 2 Enhance hydropower development in the basin and increase interconnectivity of electric grids and power trade. | 6 |
| Goal 3 Enhance efficient agricultural water use and promote a basin approach to address the linkages between water and food security | 7 |
| Goal 4 Protect, restore and promote sustainable use of water related ecosystems across the basin | 8 |
| Goal 5 Improve basin resilience to climate change impacts | 9 |
| Goal 6 Strengthen transboundary water governance in the Nile Basin | 10 |
The 10-year Strategy document clearly identifies the overall strategic directions for NBI over the 2017-2027 period. The strategy addresses three main issues: What basin challenges the Nile riparians expect NBI to contribute towards addressing over the next 10 years; what contributions the NBI will make to address the basin challenges and how the NBI as an institution should position itself to effectively discharge its mandate.

The strategy takes a medium (10 yrs) term outlook of the basin, factors in basin dynamics and trends in water use and availability and on that basis defines strategic water resources development and management priorities within the ambit of NBI's mandate.

The Strategy is a product of processes and consultations NBI has undertaken over the years. The issues therein were validated through a consultation process that involved the NBI Member States¹, NBI governance, NBI staff, Development partners, regional actors in the basin and the wider NBI stakeholders including water practitioners. Consultations with NBI member countries, NBI governance and staff enabled joint identification and articulation of Nile Basin priorities. A joint analysis enabled identification of the institution’s strengths and weakness, along with the opportunities and threats the organization is likely to face during the planning period, and what mitigation actions need to be taken. Consultations helped to align the strategy to global and regional processes as well as commitments NBI member countries are parties to, including SDGs and the Africa Water Vision 2025.

Basin Challenges, Development Goals and Strategic Directions

Six basin challenges were identified as strategic priorities of the basin countries to which NBI can meaningfully contribute. Strategic priorities in this case refers to what the NBI needs to focus on and pay attention to in order to achieve its shared vision objective as mandated by the countries. Identification was informed by the on-going processes, the consultations NBI has undertaken over the years as well as the most recent consultations in each member state where the challenges were validated. Under each basin challenge, strategic directions, that will help bring about a more optimal and sustainable development of the basin within the mandate of NBI are articulated. Underpinning all the strategic priorities is the increase in cooperation between member states and dialogue with NBI’s broader stakeholders as well as regional actors in the basin. The six basin challenges, the basin development goals and NBI’s strategic directions under each goal are outlined in subsequent sections.

¹ Except Egypt which unfortunately did not participate in the consultation
The Nile basin is characterized by strong spatial and temporal variability of water resources availability; river flow is highly seasonal and substantial parts of the basin are water scarce. This, coupled with the rapidly growing water demand resulting from high population and economic growth in the Nile basin countries, is increasing pressure on the already scarce Nile water resources. Faced with the task of meeting the rising water demands for their rapidly growing economies and population, and with no matured regional mechanism for coordinated water resources planning and development, Nile basin countries are resorting to unilateral water resources development undertakings which can lead to conflict and/or sub-optimal utilization of the shared water resources. This is further compounded by lack of sufficient water storage, poor water use efficiencies in agriculture, insufficient knowledge on the hydrology of the Nile system and lack of an agreed cooperative mechanism to address the rising water demands in the basin. Given that the Nile is a shared river, the challenge remains how to ensure that basin countries sustainably and optimally utilize the Nile Basin water resources to meet the needs of all riparian states.

To address the above challenge, NBI will over the coming years facilitate member countries to cooperatively manage and develop their shared Nile water resources taking into consideration the basin wide context, for win-win outcomes. The following strategic directions will be pursued.

- Enhancing water storage capacity for improved water supply reliability for multipurpose use
- Improving productivity and efficient water use across water-using sectors
- Enhancing coordinated management of water storage dams
- Enhancing conjunctive use of groundwater and surface water
- Strengthening joint monitoring of Nile Basin for sustainable water resources development and management
- Strengthening joint basin and sub-basin water resources management planning
- Strengthening basin investment programs preparation and management
- Maintaining and improving water quality
- Enhancing policy frameworks at regional and national levels for cooperative management and development of shared Nile Basin water resources
- Strengthening shared knowledgebase and analytic tools
Enhance hydropower development in the basin and increase interconnectivity of electric grids and power trade.

Most countries in the Nile Basin are undergoing rapid economic growth as indicated in the recent growing GDP trends; which, in turn, has increased demand for water, energy, and food. With its characteristic landscape, the Nile Basin offers huge potential for hydroelectric power generation exceeding 20 Gigawatts, but largely remains untapped; with existing facilities representing about 26% of potential capacity. With the exception of Egypt, energy supply in the Nile Basin countries remains inadequate, unreliable and expensive. The Nile Basin remains the only region on the African continent without a functional regional power grid with very insignificant volumes of power traded among the countries. Each Nile riparian country faces unique challenges, but all have ambitious national hydropower infrastructure development plans to fuel economic growth and promote poverty alleviation efforts. However if each riparian State was to pursue and implement its national hydropower infrastructure development plans on the River Nile without consideration of the larger river basin context, there is a risk that some of the national hydropower investments could be sub-optimal (seen regionally) and may foreclose future development opportunities.

Trans-boundary cooperation in hydropower development and management would enable Nile riparian countries unlock and optimize the hydropower potential and allow for a more efficient location and operation of hydropower infrastructure. This will unlock the full productive potential of the Nile Basin for more prosperous national and regional sustainable growth and further present opportunities for significant reduction in project financing risks and enhance regional cooperation and trust.

Over the next 10 years, NBI will support member states to tap into the huge hydropower potential the basin offers through:

- Facilitating identification, preparation and implementation of requisite investment projects in power generation infrastructure, and
- Facilitating identification, preparation and implementation of power interconnection projects to enable regional power transmission and trade.
- Enhancing capacity for systems management including operation guidelines in the region.
The Nile basin is one region where per capita food production is either in decline, or roughly constant at a level that is less than adequate. Irrigation is much less developed in the Nile Basin region; an estimated 5.4 Million hectares of land is under irrigation basin-wide and most of it is in Egypt and Sudan. Most of the upstream countries depend on rain-fed agriculture which is vulnerable to climate variability; and as a result the countries are seeking to increase their productivity through investment in irrigated agriculture. Expansion in irrigated agriculture will inevitably increase water demand, thereby exerting more pressure on the already scarce water resources in the basin. Moreover, there may not be enough water for all member states to implement their irrigation plans, hence the need for a basin wide approach in order to avert the potential water risk. In addition, intra basin trade in agriculture is low despite the huge potential and opportunities for benefit sharing.

NBI will work with member states to address the food security challenge through promoting a basin wide approach to irrigated agriculture and support member states to ensure that their irrigation plans are regionally optimized and fit within the available water resources in the basin. NBI will undertake water analysis of the basin, taking into consideration member state irrigation plans and water demands; flag up potential imbalances and propose to countries strategic options for consideration. In the context of the investment programs NBI will support countries to enhance both efficient irrigation development as well as the productivity of degraded watersheds.

Over the 10 year period, NBI will focus on

- Supporting the development and modernization of irrigated agriculture
- Rehabilitating watersheds and improving of rain-fed agriculture.
- Promoting a basin approach to address the linkages between water and food security.
- Improving fisheries and aquaculture production
- Enhancing navigability to boost regional agricultural trade and transport corridors
Ecosystems in the Nile basin are continuously degraded as more are converted for agriculture, urban settlements and industrial growth. As a result, ecosystems such as wetlands and forests are severely degraded; jeopardizing livelihoods of basin inhabitants whose wellbeing is dependent on their ecosystem services. Other environmental concerns in the Nile basin are declining water quality, land degradation, loss of critical aquatic habitats and biodiversity and high sediment load in the river system with its adverse impact on dams and reservoir operations. In a shared river basin such as the Nile, environmental challenges go beyond national borders and are often inter-linked with changes in the river system in other parts of the basin. The challenge therefore is how basin countries collectively ensure that the ecosystems of the Nile Basin are sustainably managed in order to guarantee continued provision of ecosystem services to basin inhabitants.

In addressing this challenge, NBI will over the next ten years, aim to promote sustainable use of the aquatic and terrestrial ecosystems across the Nile basin; with a specific focus on

- Promoting sustainable management of wetlands of transboundary significance
- Maintaining lake and riverine ecosystems
- Promoting protection and sustainable management of critical water source catchments
GOAL 5

Improve basin resilience to climate change impacts

Water is the primary medium through which climate impacts are felt; climate change manifests itself largely through its impact on water resources i.e. floods and droughts. Floods and droughts undermine farm yields and national harvests reducing household and national food availability, and agricultural income derived from crop sales. The Nile basin is experiencing impacts of climate change including more frequent incidences of drought and floods coupled with seasonal variability.

Nile Basin countries recognize the urgent need to implement effective adaptation measures that take into consideration a basin wide context; given that impacts of climate change are transboundary in nature and solutions to impacts in one country could lie in another country. They argue that a river basin approach enables enlarging the knowledge base, sharing data and costs while locating measures where they can have optimum effects.

Over the next 10 years, NBI will aim to provide member states with an opportunity to explore transboundary solutions to impacts of climate change through:

- Establishing and maintaining an NBI climate information service that will share data and information for climate resilient water resources planning and management
- Supporting joint analysis, planning and implementation of climate resilient interventions to address climate risks and uncertainty in the basin.
- Improving and promoting regional policy and planning frameworks for effective climate change adaptation at regional and national levels
- Improving preparedness of basin countries to flood and drought risk
- Strengthen capacity to prepare bankable projects in the Nile Basin in order to tap into available climate finance opportunities.

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Strengthen transboundary water governance in the Nile Basin

There is an evolving complex multi-level system of governance of transboundary water resources in the Nile basin: essentially, decisions on the development, management and use of water resources are taken within the riparian-states as per the respective national systems of water governance in place. In the last 18 years, NBI has made considerable progress in putting in place a basin wide system (with some formal and informal components; at various stages of development and implementation) for effective coordination and decision making in transboundary basin water resources management and development. Therefore, defining the interaction of the numerous national and regional governance mechanisms and enhancing synergies amongst them, as these develop, based on the principle of subsidiarity, is becoming increasingly important.

Water, being a domain at the nexus of various sectors—notably water, hydropower, irrigation and environment there is need for good inter-sectoral-coordination at all levels of governance; where national and regional development planning are informing each other in a systematic way as well as in putting in place conducive legal and policy frameworks that allow for cooperation at the national and regional levels. Furthermore, for countries to effectively cooperate, the responsible persons and institutions will need to have the specific capacities required for transboundary cooperation and a conducive and supportive public opinion that also acknowledges the risks of non-cooperation in a transboundary basin.

Over the coming ten years, NBI will endeavor to strengthen transboundary water governance in the Nile Basin, with a special focus on:

- Facilitating establishment of effective governance arrangements for coordination of transboundary water resources at sub-basin and basin-wide level;
- Enhancing capacities of national and regional institutions and actors for effective transboundary cooperation;
- Improving coordination with other regional inter-governmental mechanisms with a mandate in transboundary water resources management, and
- Building consensus among the countries public and stakeholders for cooperative basin development and management.
What is the major determinant of population distribution in the Nile Basin?

Answer to previous quiz question

Send your answer to: editor@nilebasin.org

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