A delegation of Permanent Secretaries of the Ministries of Finance, Energy and Water of the NBI Member States visiting a Substation at the Rusumo Hydropower Project in Rwanda and Tanzania

Transformative Regional Investments to Advance the Nile Development Agenda

Issue Paper 2

The Nile River is a strategic resource with potential to drive the transformation of the region into an area of prosperity through their use for drinking water supply and sanitation, energy production, irrigation and food production, fisheries and aquaculture production, and mining and industrial processing. Except in Egypt, very little of the Nile's potential has been harnessed yet there is widespread poverty and increasing demands for water, energy, food and jobs in the basin. The basin population is rising rapidly, driving up water demand and environmental degradation. Issue Paper 2 presents a regional investment program that seeks to develop infrastructure to harness the Nile water resources and use it to support the attainment of climate-resilient water, energy and food security, and reversal of environmental degradation, in the Nile River Basin. The Second Summit of Nile Basin Heads of State and Government will reiterate their commitment to the investment programme, which will be jointly implemented by Regional Economic Communities (RECs) and transboundary Lake and River Basin Organizations (L/RBOs) operation in the Nile Basin in close collaboration with the Nile riparian countries.

THE NILE RIVER BASIN

Geography

1. The Nile, with a total length of 6,695 km, is the world's longest river according to the Guinness Book of Records. The river's drainage basin covers an area measuring 3.18 million km^2 corresponding to about 10% of the land area of the African continent. The countries that lie within the Nile Basin are Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, South South Sudan, Sudan, Tanzania and Uganda (Figure 1).

Hydrology

2. The Nile Basin is characterized by high climatic diversity and variability, a low percentage (3.9%) of rainfall reaching the main river, and an uneven distribution of its water resources. Large stretches of the basin are covered by semi-arid drylands and hot desert that generate little or no runoff. The mean annual runoff of the Nile as measured at the Aswan High Dam is estimated at 84 to 95.5 billion cubic

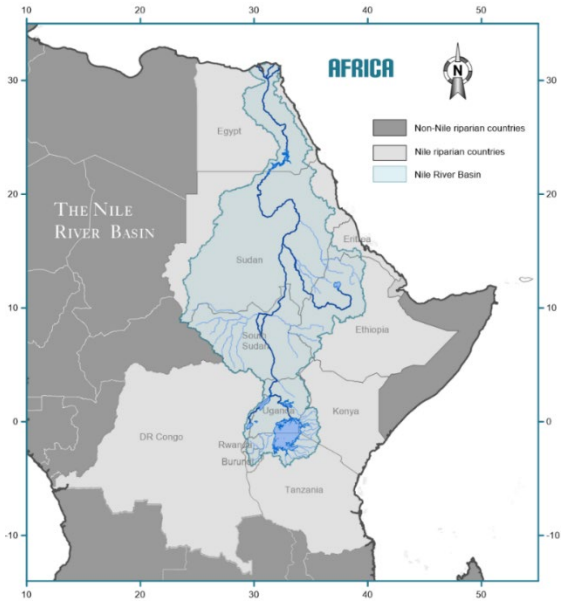

Figure 1: *The Nile River Basin*

metres (NBI, 2016[1]) About 84% of this flow comes from the Eastern Nile sub-basin and 16% from the Nile Equatorial Lakes (NEL) region. Compared to other great rivers of Africa, the Nile has low flow. The mean flow of the Congo River (1300 billion cubic metres/

[1] NBI 2016. Nile Basin Water Resources Atlas. 202 pp

year) is more than 15 times the flow of the Nile. The Niger, Zambezi and Ogooué Rives all have higher discharge than the Nile.

3. As well as surface waters, the Nile Basin has considerable groundwater resources occurring in numerous aquifer systems some of which, such as the Aquifere du Rift, Baggara Basin, Sudd Basin and Nubian Sandstone Aquifer, are transboundary in nature (NBI, 2020).

Demography

4. The population of the 11 Nile riparian countries is 556 million, which is about 42% of the population of Africa[2]. The population is mainly concentrated in the Nile Valley in Lower Egypt, the Ethiopian highlands and Nile Equatorial Lakes region. Large parts of the basin are uninhabited due to harsh climatic conditions. The Nile population is young and rising rapidly. In several of the Nile countries, population is expected to double by 2050, and the population of the 11 counties is projected to exceed 1 billion by 2050. About 71% of the basin population resides in rural areas and 29% reside in urban areas. (NBI, 2020[3]).

Socio-economic conditions

5. Economic growth in the Nile region has been generally strong over the past decade but the level of development of most Nile countries remains low. All Nile countries except for Egypt, Kenya and Uganda are categorized by the United Nations Development Program (UNDP) to be in the 'low human development' group of countries (UNDP, 2024[4]). Poverty remains a major human development challenge in the basin, with sizeable proportions of the population (typically 20-60% of national population) living below the poverty line (World Bank 2012[5]).

6. The average Gross National Income per capita (2017 PPP$) is $3,267 but shows considerable disparity ranging from $12,361 in Egypt to $691 in South Sudan. The average life expectancy at birth is 63.8 years while average infant mortality rate is 51.7 deaths per 1,000 live births. The services sector is the largest (42%) contributor to the GDP of the countries followed by agriculture (26.7%) and lastly industry (22.5%). Agriculture in some countries contributes over 40% of the total GDP, and employs up to 90% of the total labour force. The level of industrialization in the countries is very low except in Egypt (NBI, 2020).

Development opportunities and challenges in the Nile River Basin

7. The Nile River Basin offers several key development opportunities across multiple sectors. These include:
    a. Vast, and in some areas relatively pristine, environmental resources like wetlands, forests, woodlands and savannahs that can sustain biodiversity and offer other ecosystem services;
    b. A huge and relatively untapped potential to support development of multiple sectors including drinking water supply and sanitation, hydropower production, agricultural irrigation, industrial processing, navigation and intra-regional trade; and nature-based tourism. The basin's hydropower potential is estimated at 31,000 MW but only 42% of this potential has been developed (NBI, 2020). The total area of land suitable for irrigation in the Nile Basin is estimated at 49.8 million hectares, of which about 7.5 million hectares is 'highly suitable' (NBI, 2020). Approximately 5.4 million hectares are equipped for irrigation in the Nile Basin, close to 90% of which lies in the downstream countries (NBI, 2023[6]).
    c. Young, dynamic and fast-growing populations that offers opportunities for labour, and commodity markets.
    d. Historical and cultural ties amongst the peoples that make it possible to cooperate
    e. Support from the international community. In the 25 years of existence of the NBI, the NBI has received grants of over US$ 100 million for investment project activities.

8. As well as opportunities, the Nile region faces several development challenges. The main challenges are the following:
    a. The region is food insecure. A considerable proportion of the population is malnourished, and unable to meet their daily energy (calorie) requirements (Omiti *et al.*, 2011[7]). The demand for food in the region is growing rapidly, but

[2] The population residing within the basin is 272 million.

[3] Nile Basin Initiative, 2020. State of the Nile River Basin 2020. 278 pp.

[4] UNDP (United Nations Development Programme). 2024. Human Development Report 2023-24: Breaking the gridlock: Reimagining cooperation in a polarized world. New York.

[5] World Bank 2012. The Nile Story – Briefing Note 4: Changing Lives in the Nile Basin. Washington DC. 8 pp.

[6] NBI, 2023. Strategic Water Resources Assessment: Results. 187 pp.

[7] Omiti J., Ommeh-Natu H., Ndirangu L., Laibuni M. N. 2011. Exploration of food security situation in the Nile Basin Region. Journal of Development and Agricultural Economics 3(7): 274-285 pp.

the level of food production is unable to cope with the increase in demand. Markets for agricultural produce are generally weak, thin and inefficient, and there is limited intra-regional agricultural trade (Omiti *et al.*, 2011).

b. The region is energy insecure. About half of the 556 million people residing in the Nile Basin countries have no access to electricity (NBI ,2020). This is despite the region being well endowed in energy sources that include natural gas, oil, hydropower potential, geothermal energy, coal, peat, biomass, solar and wind.

c. There is an increasing frequency of climate-related natural disasters which manifest mainly as floods and droughts. This is against low water storage capacity in most Nile countries (typically below 1,500 m^3/ca/yr), which increases vulnerability to impacts of climate shocks (NBI, 2023).

d. There is increasing environmental degradation, habitat destruction and unsustainable use of water-related ecosystems mainly driven by the rapidly rising population.

e. There is weak capacity for water resources management, and for policy and law enforcement, and inadequate financing for water resources management and development.

f. Rapid urbanization is increasing urban populations and greatly stretching the abilities of cities to deliver services to the resident population.

DELIVERING ON THE INSTRUCTIONS OF THE FIRST SUMMIT OF NILE BASIN HoSG

The first Summit of Nile Basin Heads of State and Government (HoSG)

9. The First Summit of Nile Basin HoSG took place in June 2017 in Entebbe, Uganda to promote transboundary cooperation on the managed and development and the shared Nile water resources. The First Summit noted with concern the widespread poverty and other development challenges in the Nile Basin and pointed out the following as areas deserving priority attention of the Nile riparian countries (GoU, 2017[8]): (1) the underdevelopment of the water resources and related potentials of the Nile, which affects the ability of the Nile countries to meet growing needs for food and energy, and raise the living standards of the rapidly rising population; (2) the urgent need for restoration and protection of the fragile Nile Basin environment to break the vicious cycle between degraded environment and deepening poverty.

10. The level of work needed to address the underdeveloped water resources potential of the Nile is huge, and more than any single regional organisation working alone can deliver. Accordingly, collaboration amongst regional organization has been deepened to leverage their comparative strengths in driving regional investments in water-related areas.

Compilation of completed/ongoing regional investment projects

11. The Nile countries belong to several regional organizations, many with overlapping mandates and territorial jurisdictions (Figure 6). The regional organizations include the East African Community (EAC) and its specialized institution, the Lake Victoria Basin Commission (LVBC); Intergovernmental Authority on Development (IGAD); Common Market for Eastern and Southern Africa (COMESA) and its specialized institution, the Eastern Africa Power Pool (EAPP); and the Nile Basin Initiative (NBI) with its two investment arms of the Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU), and Eastern Nile Technical Regional Office (ENTRO).

12. As of August 2024, the regional organizations in the Nile Basin had documented 52 projects they have implemented from 2000 to 2024 that have benefitted over 43.9 million people in the region. The list of projects has been published in the document titled "*Cooperative Investments to Advance The Nile Development Agenda*". The distribution of the 52 projects across eight thematic areas is shown in the figure below.

[8] Government of Uganda, 2017. Update on Nile Basin Heads of State Summit (HoS). Report of the Host Minister of Foreign Affairs, June 22, 2017. 4 pp.

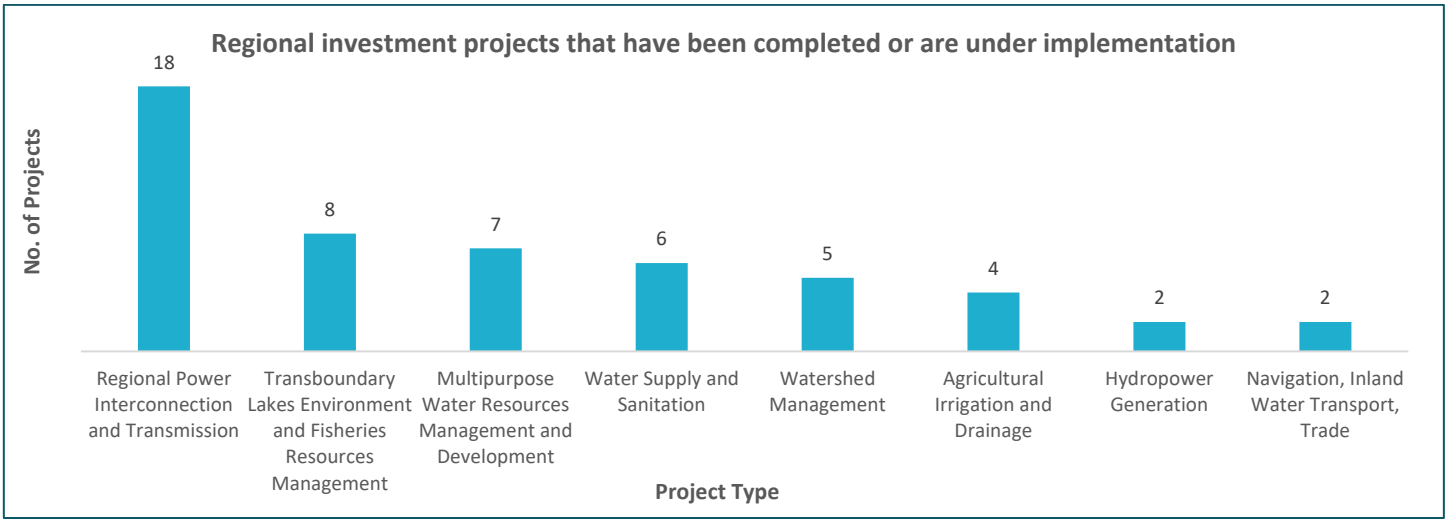

Figure 2: *The categories and numbers of water-related regional investment projects that have been completed or are under implementation in the Nile Basin*

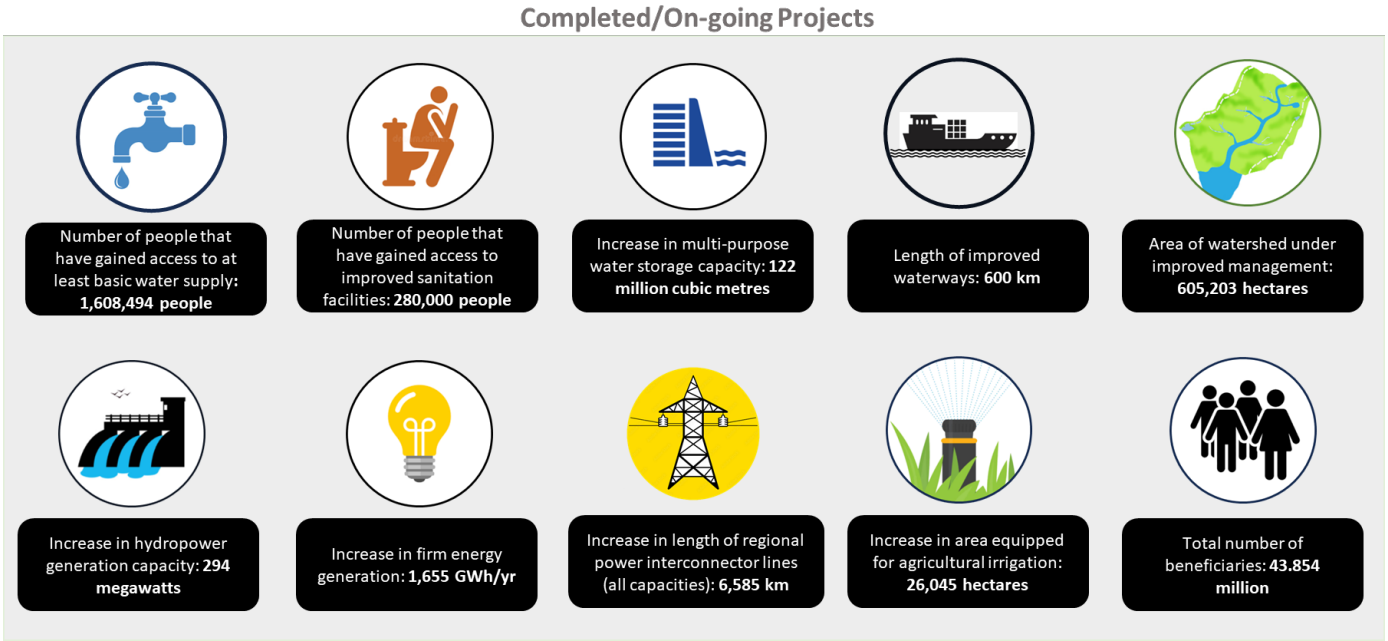

Figure 3: *Impacts of the project of the regional organization in the Nile Basin that are* ***completed or under implementation.***

THE NILE RIVER BASIN INVESTMENT PROGRAM

Program description

13. The collaborating regional organizations have formulated the **Nile River Basin Investment Program** (NR-BIP) to respond to the directive of the First Summit of Nile Basin Heads of State and Government (HoSG) to address development challenges in the Nile Basin. The NR-BIP provides a platform through which Regional Economic Communities (RECs), specialized institutions of the Regional Economic Communities, and transboundary lake and river basin organizations (L/RBOs) come together to develop a list of high priority water-related projects that they then promote to secure investment financing for. The investment program, which is intended to be the blue print for regional level socio-economic development in the Nile Basin, will help to scale up water-related investments while improving coordination and building synergies amongst regional organizations.

14. Interventions under the Program are focused in five areas, namely attainment of water security; energy security; and food security; protection and conservation of watersheds and ecosystems; and strengthening the resilience of basin communities to impacts of climate change. The NBI regularly conducts studies and documents studies that provide a basis for investment planning in the above areas. The

documents prepared by the NBI include State of Basin Reports; Basin Management Plans; Strategic Water Resources Assessments; Wetland Management Plans; and Regional Power Studies, amongst others.

15. The participating regional organisations in the NR-BIP are coordinated by the Nile Basin Initiative and include the African Union Development Agency – New Partnership for African Development (AUDA-NEPAD); Common Market for Eastern and Southern Africa (COMESA) and its specialized institution, the Eastern Africa Power Pool (EAPP); East African Community (EAC) and its specialized institution, the Lake Victoria Basin Commission (LVBC) and the Intergovernmental Authority on Development (IGAD).

16. A total of 57 investment projects at feasibility or financial structuring stage have been identified to form the candidate list of projects for the first intake of the NR-BIP. These projects underwent regional consultations to be included in the project portfolios of the respective regional organisations. The projects are located within the Nile Basin, are transboundary in nature, have been prepared to feasibility and detailed design level, and contribute to the aspirations of water/energy/food security, environmental sustainability, and building climate resilience. The distribution of the 57 projects across the eight categories of the NR-BIP is shown in the figure below.

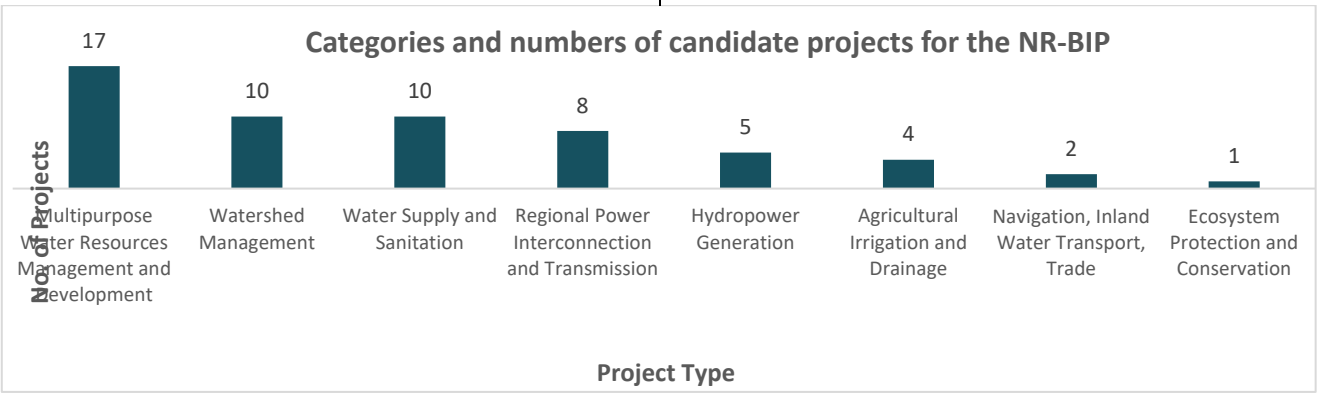

Figure 4: *The categories and numbers of water-related investment projects of the regional organisations at feasibility or financial structuring stage.*

Figure 5: *Potential impacts of the projects of the first intake of the NR-BIP Programme.*

17. The candidate projects of the NR-BIP are listed in the document titled "*Cooperative Investments to Advance The Nile Development Agenda*". The selected projects include projects that are part of continental investment programs such as the Program for Infrastructure Development Priority Action Plan 2 (PIDA-PAP 2), and the Presidential Infrastructure Championship Initiative (PICI). The 57 projects require over US$ 3.1 billion for investment financing. When implemented, the projects have the potential to benefit close to 10 million people and produce the results summarised in the table above. There is strong likelihood of the projects being implemented as evidenced by the completed projects shown above.

18. Once a project has secured financing, the regional organization that submitted the project takes over its implementation in coordination with the Member States who are the owners of the project. As projects exit the project portfolio through securing financing and graduating to implementation, the regional organizations come together to develop a new intake of projects for promotion.

Rationale for the NR-BIP

19. The NR-BIP helps to foster coordination and collaboration amongst the regional organizations in the Nile Basin on issues of water-related investment planning. This collaboration is necessary to achieve high impacts and minimise duplication and competition amongst the regional organisations who have overlapping membership (see figure 6 below).

20. The NR-BIP will help to draw attention to the growing investment needs of the water sector. The report on infrastructure financing trends in Africa (ICA, 2021[9]) shows that in 2020 only 10% of total infrastructure financing in Africa was focused on the water and sanitation sector. Clearly, therefore, continental investment programs like PIDA have had mixed results at attracting funding to the water sector, hence the need for a water-focused multi-sector program such as NR-BIP.

21. Lastly, the new investment will contribute to trust and confidence building amongst Nile riparian countries, and contribute to attainment of the targets of the SDGs and Agenda 2063. The potential specific contributions of NR-BIP to Agenda 2063 targets are shown in the table below.

Table 1: *The targets of the Second Ten Year Implementation Plan (2024-2033) of Agenda 2063 that the NR-BIP will contribute to.*

Moonshot, Strategic Objectives and Priorities	Targets to which the NR-BIP will contribute
Moonshot 1. Every AU Member State attains at least Middle-Income Status	
Strategic Objective 1.1. Enhance inclusive, equitable and sustainable economic growth	(d) (1) Reduce poverty by 20%; (2) Reduce inequality by 15%; and (3) Reduce the proportion of the population who suffer from hunger to at most 5%. households' access (e) (3) Households' access to electricity is increased to 80%; (4) the proportion of population with access to safe drinking water is increased to 95%; and (5) the proportion of population with access to improved sanitation facilities is increased to 80%.
Strategic Objective 1.2. Increase Economic Resilience	(d) Increase intra-Africa trade to at least 30%
Strategic Objective 1.4. Increase Agricultural Production and Productivity	(a) Increase growth in agricultural yields by at least 4% per year (d) Full operationalisation of regional frameworks related to agriculture
Strategic Objective 1.5. Increase investments in blue economy	(a) The potential of the fisheries and aquaculture within the blue economy space is fully unlocked through targeted interventions (b) Increase safe and secure maritime transport activities (Shipping, trade, ports)
Strategic Objective 1.6. Enhance resilience to Climate Change and disaster risks for sustainable and socio-economic development	(a) Reduce losses and damages associated with disasters and climate change impacts to at most 15% of GDP (b) At least 30% of farmers, pastoral and fisher households have improved their resilience capacity to climate shocks, other shocks and weather-related risks (c) Increase the share of household practicing sustainable land management to 60% (d) Increase land under forest cover by 10%
Moonshot 4. Africa Resolves Conflicts Amicably	
Strategic Objective 4.1. Enhance Peace and Security	(a) All risks to peace and security in Member States are identified and addressed timeously
Moonshot 6. Africa's Citizens are more Empowered and more Productive	
Strategic Objective 6.2. Increase access to affordable and quality healthcare	Priority 1: Health (b) Reduce (1) maternal mortality rate to 175 deaths per 100,000 live births; (2) child mortality rate to 25 deaths per 1,000 live births; and (3) neo-natal mortality rate to 15 deaths per 1000 live births Priority 2: Nutrition (a) Eliminate all forms of malnutrition, focusing on Severe Acute Malnutrition (SAM) in children under five, adolescent girls, pregnant and lactating women
Strategic Objective 6.3. Promote gender parity	Priority 1: Social security and protection, including persons living with disabilities (a) Increase coverage of social protection systems by 30% and provide social protection schemes to at least 50% of the population living below the poverty line
Strategic Objective 6.4. Create a Generation of Engaged and Empowered Youth and Children	Priority 1: Youth empowerment. (a) Reduce youth unemployment rate to 14%

[9] ICA. 2022. Infrastructure Financing Trends in Africa – 2019-2020. Abidjan: The Infrastructure Consortium for Africa Secretariat at the African Development Bank. 136 pp.

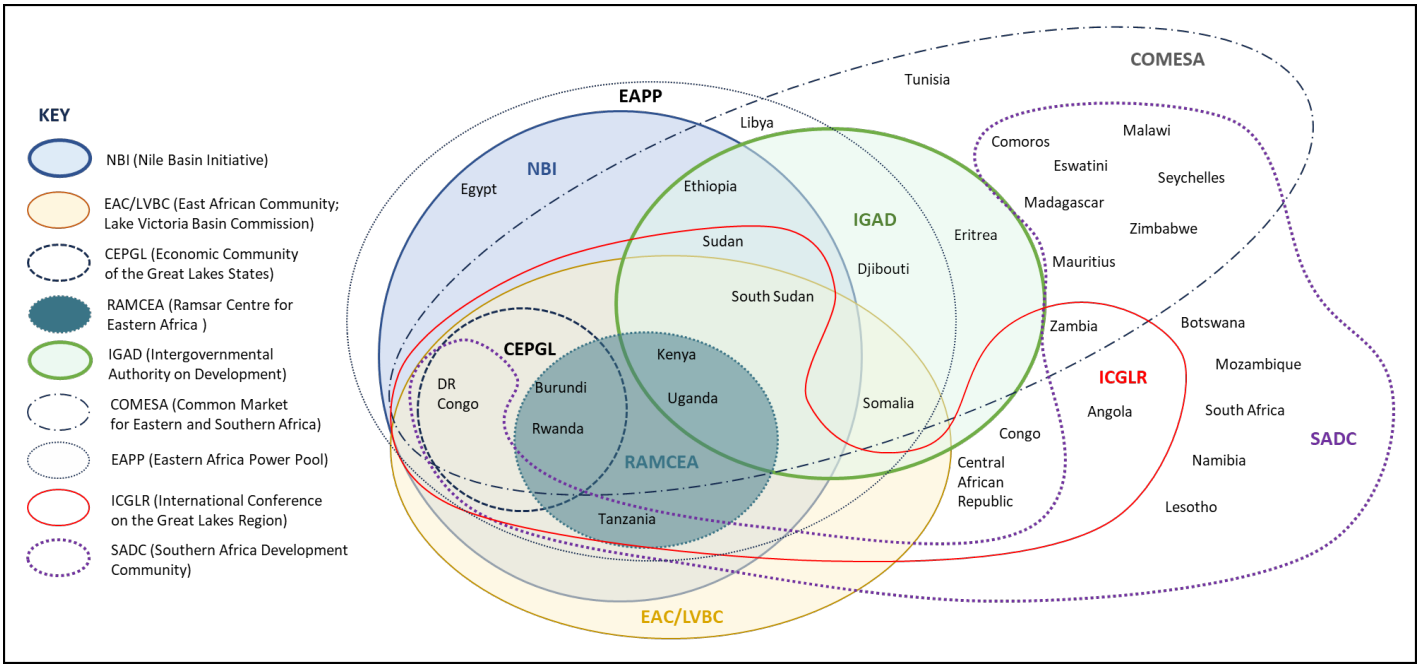

Figure 6: *Spaghetti bowl diagram showing overlap in membership amongst regional organizations. The NR-BIP will help to improve coordination in promotion of water-related investments in the Nile region.*

Decisions for the Second Summit relating to cooperative investments in the Nile Basin

22. The Second Summit of Nile Basin HoSG is expected to recognize the progress made by Nile Riparian States in delivering cooperative investments through the various Regional Economic Communities and Transboundary River and Lake Basin Organizations operating in the Nile Basin.

23. The Second Summit is expected to reach decisions on mechanisms for maintaining engagements amongst all Nile riparians, and to reiterate their commitment to promoting multi-sectoral investments in the Nile region.

24. The Second Summit will be used as an opportunity for Nile riparian countries to engage with the donor community to urge them to continue providing support to efforts at deepening regional peace through cooperative investments for win-win outcomes.

Figure 7: *The Regional Rusumo Falls Hydropower Plant under construction. Construction work was completed and the power production commissioned in November 2023.*