GRAND ETHIOPIAN RENAISSANCE DAM – SHOULD IT REALLY BE AN ISSUE FOR EGYPT?

Personal reflections

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1) BACKGROUND

History has proven that internationally-shared basins create interstate conflict.[1] The Nile River by its length (approximately 6700 km), political divisions and history constitutes a major freshwater-related environmental resource and has been a focus of attention for centuries. It is one of the most important rivers in the world. The basin is home for 257 million people, almost 20% of African population (Nile Basin Initiative, 2016).

The Nile Basin is commonly divided to three different sub-basins: Eastern Nile sub-basin, Equatorial Nile sub-basin, and Main Nile Zone (see Figure 1).The **Eastern Nile sub-basin** comprises three catchments (Blue Nile, Atbara, Baro). Figure (1)[2] shows, these catchments mainly lie in the highlands and the plains of Ethiopia, Sudan, and South-Sudan. This sub-basin is the major contributor, between 85% and 90%, to the flow that reaches Aswan Dam (Egypt). The outflow of this sub-basin is seasonal due to the monsoonal rainfall and the major part of it comes from the Blue Nile catchment.

The **Equatorial Nile sub-basin** (conventionally called White Nile) is the area that cover the Equatorial Lakes region and parts of South-Sudan and ends at the confluence of White Nile and Sobat. The huge lakes and numerous wetlands in that sub-basin act to damp the outflow, and to cause a huge evapotranspiration loss in that area. Thus, the outflow of this sub-basin is only 10% to 15% of the annual flow that reaches Aswan Dam in Egypt but evenly distributed throughout the year.

The Equatorial Nile river's journey begins at Lake Victoria in Burundi, Tanzania and Rwanda, then travels along its course with additional flow contribution from riparian countries (Kenya, Eritrea, Ethiopia, Democratic Republic of Congo, Egypt, Uganda, Sudan and South Sudan) till it reaches the river estuary at the Mediterranean Sea in Egypt.

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[1] Giordano, M., Drieschova, A., Duncan, J. A., Sayama, Y., De Stefano, L., & Wolf, A. T. (2014). A review of the evolution and state of transboundary freshwater treaties. International Environmental Agreements: Politics, Law and Economics, 14(3), 245-264.

[2] NBI (2016)Major Sub-basins. The Nile Basin Initiative. Retried from https://www.nilebasin.org/media-center/maps/66-major-subbasins#:~:text=The%20basin%20was%20delineated%20into,topography%2C%20drainage%20patterns%20and%20geomorphology.

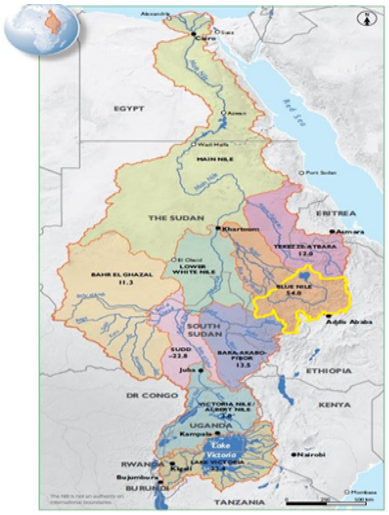

Fig 1. Different sub-basins of the Nile River

The **Main Nile Zone** is the final reach of the Nile River that starts at the confluence of White Nile and the Blue Nile at Khartoum. It is then joined in Northern Sudan by its last tributary namely the Atbara River originating from the highlands of Ethiopia. This zone essentially contributes **zero flow** to the system, while there are considerable evaporation losses from the different reaches in that area.

2) NILE WATER RIGHTS

During the colonial period, Britain effectively controlled the Nile through its military presence in Africa rendering 100% of the water right to its colony Egypt through 1929 agreement. Since Sudanese independence, Sudan has renegotiated with Egypt over the use of the Nile waters. The 1959 agreement between Sudan and Egypt allocated the entire average annual flow of the Nile to be shared among the Sudan and Egypt at 18.5 and 55.5 billion cubic meters respectively ***ignoring the rights to water of the remaining eight Nile basin countries***.

While Ethiopia contributes more than 80% of the total Nile flow, the 1959 agreement left it with no entitlement of its resources. The treaty's fundamental problem it takes Egypt and Sudan as the only two riparian countries needing to have their interests considered[3]. In practice, however, the agreement between Egypt and Sudan cannot be binding on Ethiopia as it was never a party to it[4].

Ethiopia has thus been contesting Egypt's claims of entitlement or hegemony over the Nile waters that were inscribed in biased and unacceptable series of treaties brokered by the British. A statement

[3] McKenzie, S. O. (2012). Egypt's choice: from the Nile Basin treaty to the Cooperative Framework Agreement, an international legal analysis. Transnat'l L. & Contemp. Probs., 21, 571.
[4] http://www.fao.org/3/w7414b/w7414b13.htm

Ethiopian authorities sent to the Egyptian government in 1958 summed up this view. ***Ethiopia, it said, "may be prepared to share this tremendous God-given wealth of hers with friendly neighbor nations [but] it is Ethiopia's sacred duty to develop the resources it possesses in the interest of its own rapidly expanding population and economy"***.

Egypt continued with building huge projects to divert the Nile River to the desert to establish conditions that would complicate and hamper reasonable and equitable utilization in the future. It announced its intentions to construct a fresh water canal passing under the Suez Canal and out into the northern Sinai peninsula. Ethiopia denounced the project as a unilateral act and an extrabasin transfer of water from the Nile.

In the 1990s Egpyt's plan on gigantic desert development project, the Toshka Project was under way. According to Jeroen Warner a Professor of Disaster Studies at Wageningen University in the Netherlands, Toshka has turned out to be a political diversion plan by the Egyptian government from an enduring legitimacy deficit that resulted from continuing disconnect between Egypt's government and population[5].

A letter of protest was sent by Ethiopia's Foreign Minister, Seyoum Mesfin, on March 20, 1997 to his Egyptian counterpart, with copies to James Wolfensohn, president of the World Bank, Kofi Annan, Secretary-General of the UN, and Salim Ahmed Salim, Secretary- General of the Organisation of African Unity (OAU)[6]. The letter stated: "Ethiopia wishes to be on record as having made it unambiguously clear that it will not allow its share to the Nile waters to be affected by a fait accompli such as the Toshka project, regarding which it was neither consulted nor alerted." A year later, at a meeting of the OAU in Addis Ababa, Deputy Foreign Minister Tekeda Alemu called for scrapping the 1959 agreement.

Since the early 1990s, Ethiopia has successfully countered Egyptian and Sudanese resistance to water development projects in Ethiopia to increase irrigation and hydroelectric potential[7]. Since May 2010, Ethiopia and the other upper riparian states have launched the Nile Basin Cooperative Framework Agreement in a bid to ensure a reasonable and equitable utilization by all the riparian states of the Nile[8] in line with relevant international laws.

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[5] Warner, J. (2013). The Toshka mirage in the Egyptian desert–River diversion as political diversion. *Environmental science & policy*, *30*, 102-112.

[6] Waterbury, J. (2002). The Nile basin: National determinants of collective action.

[7] Ashok Swain. (2002) SAIS Review. *The Nile Basin Initiative: Too Many Cooks, Too Little Broth*. 22:2. pp. 293–308.

[8] Abadir M. Ibrahim, *The Nile Basin Cooperative Framework Agreement: The Beginning of the End of Egyptian Hydro-Political Hegemony*, 18 Missouri Environmental Law and Policy Review 282 (2011). http://law.missouri.edu/melpr/recentpublications/Ibrahim.pdf

3) THE NILE BASIN INITIATIVE

For more than 50-years, several international organizations such as FAO, WMO, UNESCO, UNEP, USAID, CIDA (currently under Global Affairs Canada) initiated several studies stressing a river basin approach to the integrated and sustainable management of the water resources and foster water sharing among riparian countries in the Nile Basin. After more than 30-years of several studies, the Nile Basin Initiative (NBI) was came into being in 1999 with financial support from Canada, UK, Netherlands, Norway, Sweden, Germany, Finland and the African Development Bank.

The NBI is an intergovernmental partnership of 10 Nile Basin countries, namely Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, The Sudan, Tanzania and Uganda. Eritrea participates as an observer. For the first time in the basin's history, an all-inclusive basin-wide institution was established, on 22nd February 1999, to provide a forum for consultation and coordination among the basin states for the sustainable management and development of the shared Nile Basin water and related resources for win-win benefits. The objectives of the NBI are:

- To develop the Nile Basin water resources in a sustainable and equitable way to ensure prosperity, security, and peace for all its peoples;
- To ensure efficient water management and the optimal use of the resources;
- To ensure cooperation and joint action between the riparian countries, seeking win-win gains;
- To target poverty eradication and promote economic integration; and
- To ensure that the program results in a move from planning to action.

4) NILE BASIN COOPERATIVE FRAMEWORK AGREEMENT

The Cooperative Framework Agreement (CFA) outlines principles, rights and obligations for cooperative management and development of the Nile Basin water resources. One of the preambles of the CFA is *"Recognizing that the Nile River, its natural resources and environment are assets of immense value to all the riparian countries"*.

Part I of the text includes to a large part well established customary **principles of international water law**[9]**;** the ***principle of equitable and reasonable utilization,*** **the** ***obligation not to cause significant harm,*** **and the principle of** ***protection and conservation of the river's ecosystem.*** The principles outlined in Part I serve as guidance to countries on how to implement the CFA and how to manage and develop the River's resources in a sustainable manner.

[9] "The Helsinki Rules on the Uses of the Waters of International Rivers" (PDF). Archived from the original (PDF) on 25 June 2007. Retrieved 5 December 2013.

- The text of the CFA was developed over more than a decade of intensive work (1997 to 2015);
- A draft CFA text was submitted to the Council of Ministers of Water Affairs of the Nile Basin States (Nile-COM) in March 2006 with all articles accepted by all parties except some reservation on one article, Article 14 on Water Security;
- On May 22, 2009, seven member countries agreed to annex Article 14b for later resolution by Nile River Basin Commission with reservation by Egypt; Sudan was not present at time of decision, but subsequently expressed its reservation;
- On July 3, 2009, seven countries agreed on a cleaned text; strong reservations by Egypt and Sudan;
- On April 13, 2010, seven countries agreed to open CFA (cleaned text) for signature; position rejected by Egypt and Sudan;
- On May 14, 2010, four countries (Ethiopia, Rwanda, Tanzania, and Uganda) signed the opened CFA in Entebbe, Uganda;
- Kenya signed the CFA in Nairobi, Kenya on May 19, 2010 and Burundi signed the CFA in Bujumbura, Burundi, on February 28, 2011; and
- The agreement was ratified by Ethiopia, Rwanda, Tanzania, and Uganda on June 13, 2013, August 28, 2013, March 26, 2015, and July 8, 2019, respectively. Once ratified by two more countries, the CFA will enter into force.

Dr. Salman[10] summarizes the difference between the Egypt and Sudanese positions on Article 14 of the CFA on Water Security versus the position of rest of the basin countries as follows in his award-winning article entitled *The Nile Basin Cooperative Framework Agreement: a peacefully unfolding African spring?*[11] as follows:

"Article 14 requires the basin states to work together to ensure that **all states** achieve and sustain water security. However, these paragraphs did not satisfy Egypt and Sudan, which want to ensure, through an additional clause, that their existing uses and rights are fully protected under the CFA. The position of Egypt and Sudan revived the longstanding disputes related to the treaties discussed above, namely Egypt's veto power and Egyptian and Sudanese claims to their existing uses of and rights to the Nile waters under the 1959 Nile Agreement. It should be added that Egypt and Sudan signed off on the objective of the NBI, which is "to achieve sustainable socio-economic development through equitable utilization of, and benefit from, the common Nile Basin water resources"…This position is tantamount to a demand for unequivocal recognition of those treaties and Egypt's veto power, and the upper riparians do not see it as consistent with the vision of the NBI"

[10] International Water Resources Association award winning Sudanese water law expert with global and rich experience of advising the World Bank and other institutions on international laws and with the authority to speak about the CFA

[11] Salman, S. M. (2013). The Nile basin cooperative framework agreement: A peacefully unfolding African spring?. *Water International*, *38*(1), 17-29.

5) THROUGH THE LENSES OF CUSTOMARY INTERNATIONAL LAWS

The ***Helsinki Rules on the Uses of the Waters of International Rivers*** is an international guideline regulating how rivers and their connected groundwaters that cross national boundaries may be used, adopted by the International Law Association (ILA) in Helsinki, Finland in August 1966.

The Helsinki rules consist of 37 articles spread over 6 chapters.[12] Chapter 2, Article 4 states:

"Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin".

In determining what is reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached on the basis of the whole. The list provided in Article 5 (2) is produced in full below:

1. The geography of the basin, including in particular the extent of the drainage area in the territory of each basin State
2. The hydrology of the basin, including in particular the contribution of water by each basin State
3. The climate affecting the basin
4. The past utilization of the waters of the basin, including in particular existing utilization
5. The economic and social needs of each basin State
6. The population dependent on the waters of the basin in each basin State
7. The comparative costs of alternative means of satisfying the economic and social needs of each basin State
8. The availability of other resources
9. The avoidance of unnecessary waste in the utilization of waters of the basin
10. The practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses
11. The degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State

[12] "The Helsinki Rules on the Uses of the Waters of International Rivers" (PDF). Archived from the original (PDF) on 25 June 2007. Retrieved 5 December 2013.

Most of these including the reasonable and equitable share principle as well as the list of factors are later included in the UN Watercourse Convention also known as Convention on the Law of Non-Navigational Uses of International Watercourses adopted by the UN on 21 May 1997 and entered into force on 17 August 2014.

Will the CFA and International Water Law help riparian Countries like Ethiopia to solve the unjust and unequal distribution of Nile water resources?[13]

The Grand Ethiopian Renaissance Dam (GERD) has been aggressively contested by Egypt and has brought even the US to the negotiation table first in the name of observing to put unduly pressure against the right of sovereign country Ethiopia.

Historical, philosophical, and moral arguments have been brought forward by all sides. However, some ***simple facts lend credence*** to the conclusion that there stands ***no logical justification*** for Egypt to withhold the GERD project that is poised to benefit 115 million of poor Ethiopian populations and millions from other riparian countries including Egypt.

Given the Helsinki Rules essentially served as basis for the UN Watercourses Convention, the Berlin Rules and even some important principles of the CFA, we would briefly discuss some important aspects based on the provisions of the Helsinki Rules as follows.

1. **Geography and Hydrology of the Nile River Basin**: *(Items 1 and 2 under Article 5 (2)* Helsinki Rules*)*

Article 5 (2) of the International water law indicates that ***"the geography of the basin, including in particular the extent of the drainage area in the territory of each basin State"*** need to be considered to determine a reasonable and equitable share. "Similar to the Helsinki Rules, the principle of equitable and reasonable utilization is the fundamental principle of the UN Watercourses Convention" to which the obligation not to cause harm is subordinated[14] . The International Court of Justice in the Danube case between Hungary and Slovakia emphasized the concept of equitable and reasonable utilization and did not refer to the obligation not to cause harm.

The Nile River catchment basin covers an area of 3.1 million km^2, and spreads over 10 countries, with annual mean discharge of about 84 billion m^3 measured at Aswan Dam. About 11.7% of the total Nile

[13] Lemma, S. (2001). Cooperating on the Nile: not a zero-sum game. UN Chronicle, 38(3), 65-66.

[14] Salman, S. M. (2007). The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: perspectives on international water law. *Water Resources Development*, *23*(4), 625-640.

River Basin area is located within Ethiopia (i.e. about 32.4% of the country) and contributes more than ***75 billion m³*** (i.e. more than 85% of Nile River annual flow. The Ethiopian part of the basin amounts to more than ***65% of its water resources*** making its utilization a critical element of not only Ethiopia's development but also the survival of its populations that has cruelly been subjected to devastating famines for centuries. About 10.5% of the total Nile River Basin area is also located within Egypt (i.e. about 32.6% of the country) but contributes ***zero flow*** to the Nile River (Figure 2).

2. **Climate affecting the Nile River Basin**: *(Item 3 under Article 5 (2)* Helsinki Rules*)*

The Nile basin in Sudan and Egypt is rainless during the northern winter, while the southern parts of Nile and the highlands of Ethiopia experience heavy rain (more than 1,500 mm during the northern summer). Most of the region falls under the influence of the north-east trade winds between October and May, which causes the prevailing aridity of most of the basin.

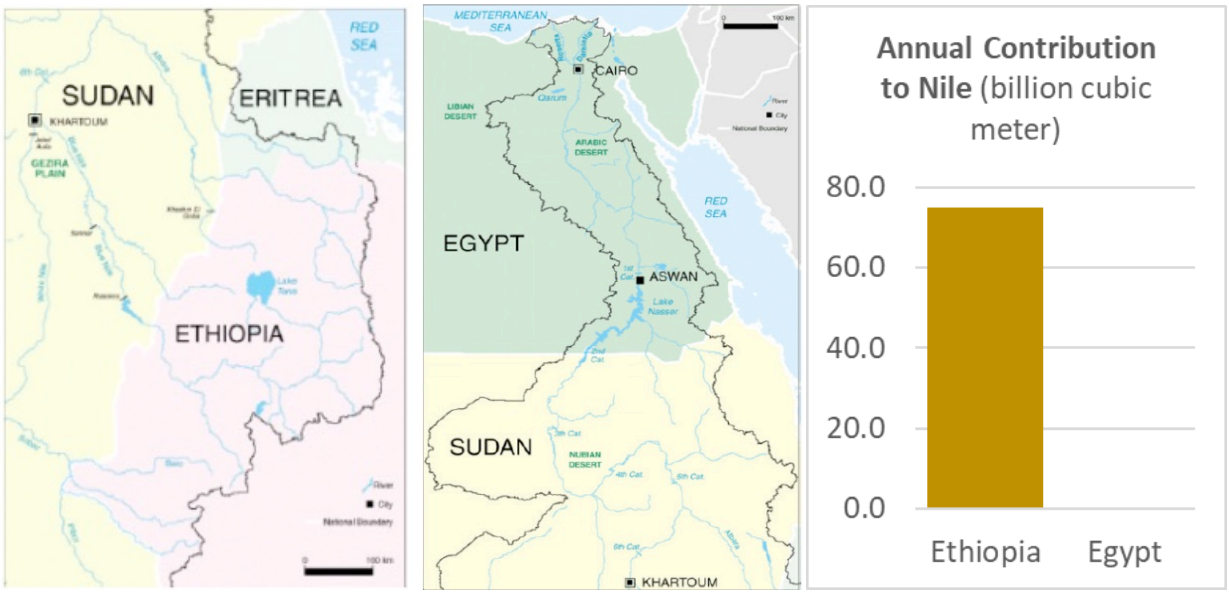

Figure 2: Major Source of the Nile and annual contribution to the Nile.

There is evidence of some climatic changes in the Nile Basin. Climate change models predicted a decrease in precipitation for Eastern Nile sub-basin (i.e., Blue Nile, Atbara, and Sobat river basin) and increase in precipitation for Equatorial Nile sub-basin (i.e., Bahar El Ghazal and Lake Victoria regions) for RCP4.5

emission scenarios and significant increase in precipitation in the entire Nile River Basin for RCP8.5 emission scenarios for 2050s and 2080s[15].

The climate change impact will also incur an increase an already high temporal and spatial variability of precipitation in the region. Upstream management of the water flow in a responsible manner within the framework of reasonable and equitable utilization, thus, becomes more important than ever in dealing with these variations.

3. **Past utilization, existing utilization, economic and social needs, and population dependent on the water of the Nile River**: *(Items 4, 5, and 6 under Article 5 (2)* Helsinki Rules*)*

The 1959 agreement between Sudan and Egypt allocated the entire average annual flow of the Nile to be shared among the Sudan and Egypt at 18.5 and 55.5 billion cubic meters respectively but ***ignored the rights to water of the remaining eight Nile countries***.

Plans for a dam on the Blue Nile date from around the same time starting the mid-1950s. The United States Bureau of Reclamation identified a site in geological surveys conducted between 1956 and 1964. Decades of strife including a long civil war and wars with neighboring Somalia and the then Ethiopian province of Eritrea – as well as Egypt's strength on the world stage in terms of depriving Ethiopia of international finance– made it impossible for Ethiopia to advance this objective for almost a half-century.

As mentioned before while Ethiopia is currently contributing more than 80% of water flow to the Nile by way of runoff, it is currently using none of it. On the other hand, while Egypt contributes very little, if any, it is using almost 75% of the Nile water annually. These figures do not even include about 15% of water lost due to **Lake Nasser**, an artificial lake created from the construction of Aswan Dam by Egypt. In other words, Egypt is drawing more than 80% of the Nile for its own use (Figure 3).

Most Ethiopians regard the GERD project as a source of national prestige and millions have invested their own funds in its construction. The haves and the have-nots, the young and the old, women and men, locals and those in the diaspora; all came together to mobilize financing for the dam to improve the livelihood of poor population.

[15] Tariku, T. B., & Gan, T. Y. (2018). Regional climate change impact on extreme precipitation and temperature of the Nile river basin. Climate Dynamics, 51(9-10), 3487-3506.

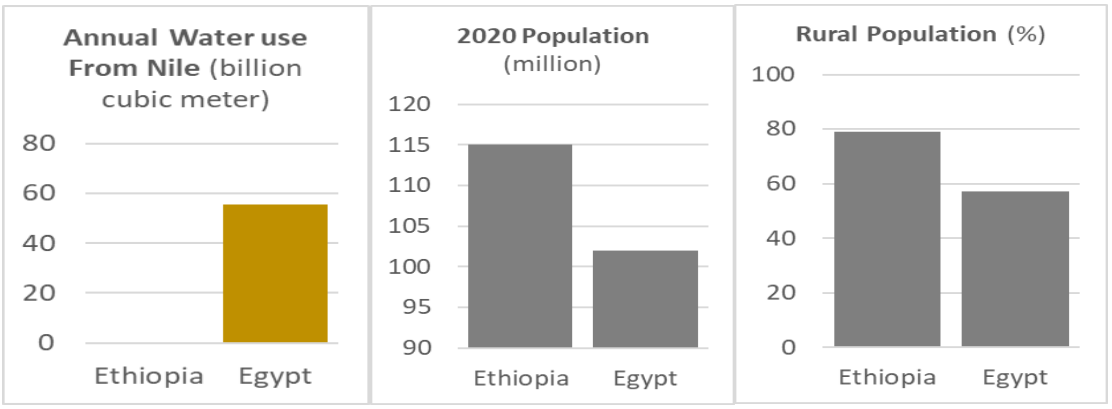

Figure 3: Population and Water use or Ethiopia and Egypt.

4. Comparative costs of alternative and availability of other resources: *(Items 7 and 8 under Article 5 (2) Helsinki Rules)*

Egypt is an important non-OPEC energy producer. It has the sixth-largest proved oil reserves in Africa. Egypt enjoys a significant amount of energy sources from fossil fuels[16] (i.e., 91% from oil, gas) and some renewable resources (i.e., solar and wind), bringing electricity coverage to 100% of its 102 million population. In fact, Egypt currently produces excess energy and exports to other countries.

Aside generation of hydropower, Egypt uses only about 7% of the water from Nile River for domestic water supply. Most of the water from the Nile (i.e., more than 85%) is used for irrigation for agriculture that Egypt established in the desert. Agriculture accounts for less than 14.5% of Egypt's GDP, 11% of the export, and employs less than 30% of the active population.

On the other hand, less than 40% of Ethiopia's 115 million population has access to electricity coverage, mainly sourced from hydropower developed on several other rivers. Even the 40% is limited to having connections of one ***light bulb*** instead of full electricity services. The population that have some sort of full electricity services is only about 17%. The per capita electricity generated for Egypt is 1760 kWh, which is 17 times higher than that of Ethiopia contributing to the six times difference of GDP per capita (PPP) difference. For every Egyptian farmer that might depend on water for agricultural produce, there are five Ethiopian farmers have been repeatedly suffering from drought and occasionally from famine.

The GERD would help to increase access, particularly for these poorer populations, and improve the livelihood of most Ethiopian people. More than 75% of Ethiopia's population lives in rural areas, and

[16] Central Intelligence Agency (CIA). (2018). The World FactBook: Africa: Egypt. Retrieved From: https://www.cia.gov/library/publications/the-world-factbook/geos/eg.html

their living standard is meager.[17] When comparing the country's GDPs, particularly per capita, the reality of Ethiopian poverty is clear (Figure 4). While the average Egyptian person can comfortable sustain a relatively good quality of life, the average Ethiopian person must seek out access to water for survival.[18] Agriculture is the foundation of the country's economy, accounts for 50% of GDP, 83.9% of the export, and employs 80% of the active population[19].

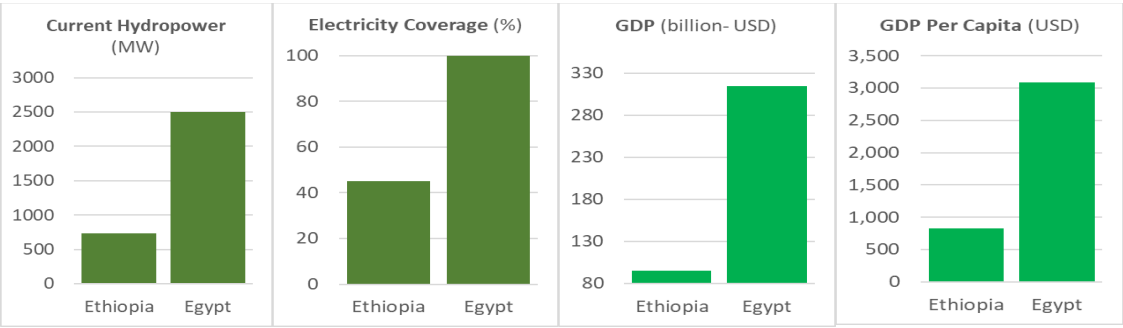

Figure 4: GDP and Electricity in Ethiopia and Egypt

5. **Avoidance of unnecessary waste**: *(Items 9 Under Article 5 (2)* Helsinki Rules*)*

Egypt argues that Ethiopia is building a considerably large dam, but compared to the Aswan Dam, GERD with 74 BCM volume has a reservoir that is approximately 40% volume of Lake Nasser (169 BCM) that is created by the Aswan Dam (Figure 5). Hence, Lake Nasser experiences more than 10 times the water loss compared to that of GERD. Lake Nasser has a maximum length of about 550 km, maximum width of 35 km, and surface area of 5,250 km^2 (i.e. more than the size of Trinidad and Tobago or 1.5 times the size of Beijing). On the other hand, GERD is expected to have a maximum reservoir length of 246 km and surface area of 1,874 km^2 (i.e. only 35% of Lake Nasser). On top of this, GERD compared to the Aswan Dam has more than three times installed capacity of power generation with less than 50% of the water stored in the Aswan Dam. ***Hence, by what measure is that GERD is a larger dam compared to Aswan Dam?***

An important aspect that is not being discussed and will have a significant impact is amount of water wasted in Egypt's agricultural practice. According to two researchers from a university in Egypt, the

[17] World Bank, Ethiopia Urbanization Review: Urban Institutions for a Middle-Income Ethiopia (2015), online: https://openknowledge.worldbank.org/handle/10986/22979

[18] 826 vs. 3,088 GDP per capita

[19] Hanjra, M. A., Ferede, T., & Gutta, D. G. (2009). Pathways to breaking the poverty trap in Ethiopia: Investments in agricultural water, education, and markets. Agricultural Water Management, 96(11), 1596-1604.

expected total amount of saved water using the strategies they outlined in their paper equals 40 BCM[20]. This clearly makes the 'hysteria' in Egypt around the GERD practically not anchored on real concerns of water supply.

Holding the water in GERD dam and releasing it at a regulated rate that Egypt requires for existing development will definitely help to reduce the wastage of more than 10 BCM that would otherwise occur by holding the water at Lake Nasser.

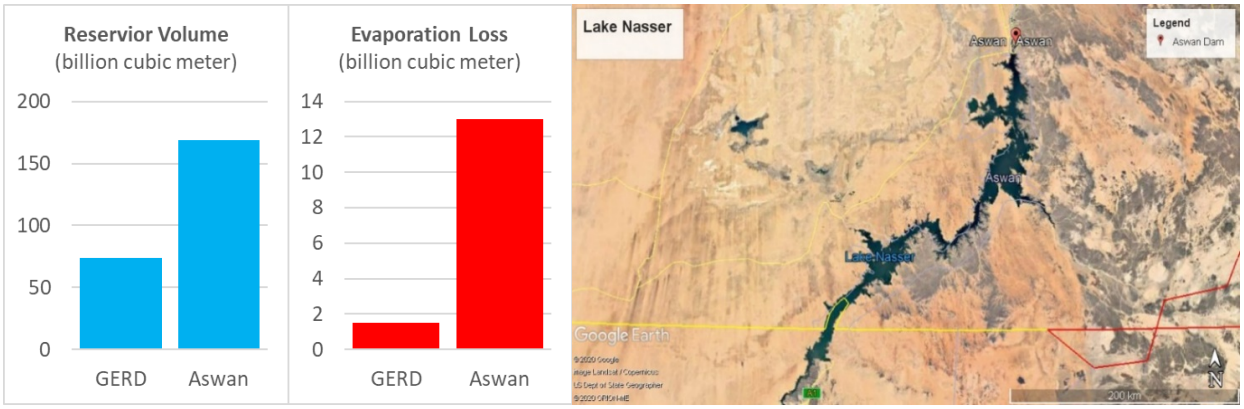

Figure 5: Reservoir size and water loss comparison between GERD and Aswan Dam

6. **Practicability of compensation**: *(Items 10 Under Article 5 (2)* Helsinki Rules*)*

Ethiopian citizens from all walks of life including the very poor invested more than 4 billion USD for the construction of GERD (i.e. about 4% of the GDP). Ethiopia could loss more than 1 billion USD annually because of the delays in the filling of GERD [21]. Hence, if Egypt is genuine about reasonable and equitable use of resources, Egypt should consider to compensate Ethiopia for the losses in revenue from delaying the filling of the GERD instead of sounding a fabricated victimhood alarm.

7. **Satisfying the needs, without causing substantial injury:** *(Items 11 Under Article 5 (2) International Law)*

Considering all aspects, building Ethiopia's GERD will likely have little effect, if any, on Egypt's ability to provide resources to its population. It will result in negligible reduction of water flow from Blue Nile to Egypt. In fact, the project will provide Egypt and Sudan a predictable and regulated flow and thus protecting them from excessive flooding in wet seasons and little to none flows during dry seasons.

[20] El-Nashar, W. Y., & Elyamany, A. H. (2018). Managing risks of the Grand Ethiopian Renaissance Dam on Egypt. *Ain Shams Engineering Journal*, *9*(4), 2383-2388.

[21] Bezabih, M., & Tesfa, B. (2019). Grand Ethiopian Renaissance Dam (GERD) Filling Scenarios: Analysis of Energy and Revenue losses. International Journal of Nile Basin 3(5)

Ethiopia is currently striving to use its own water for its lifting millions of its poor citizens out of poverty. GERD dam is at the heart of Ethiopia's manufacturing and industrial dreams, expanding education and health services to rural girls and women who have been disadvantaged for centuries. When completed it is expected to generate a massive 15,692 GWh of electricity per year. Ethiopia has an acute shortage of electricity, with more than 60% of its population not connected to the grid. The energy generated will be enough to have its citizens connected and sell the surplus power to neighboring countries. In addition, GERD will have the following benefits:

- Neighboring countries including Sudan, South Sudan, Kenya, Djibouti, and Eritrea are likely to benefit from the power generated by the dam.
- For Sudan, there is the added advantage that the flow of the river would be regulated by the dam - meaning it would be the same all-year round. Usually the country suffers from serious flooding in August and September and drought or very low flow for the rest of the year.
- Egypt will benefit by receiving regulated and consistent flows from Blue Nile and also additional flow from the reservoir storage during drought years.

6) OUR FINAL TAKE

It is clear to Egypt and international communities as well that building hydropower such as GERD do not consume water, even though the speed with which Ethiopia fills up the dam's reservoir could have some effect to the flow downstream. To help address any concerns, international technical experts completed an independent review of the effect of construction and operation of GERD. Based on the report from these independent experts, Ethiopia has addressed the issues identified in the report and recommendations forwarded by the technical experts including filling the GERD in stages to minimize the effect on Egypt and Sudan. In some aspects, Ethiopia went far and beyond what is recommended going out of its way to show downstream countries its goodwill.

It is our opinion that Egypt real fear is not about GERD. Egypt's interest to control the entire Nile River water and limit Ethiopia's and other riparian countries future use of the Nile River water for any purpose. By any international law standards and humanitarian standards, it is not acceptable to ignore the rights to water of the remaining eight Nile countries for the survival and sustainable development of their population.

At the end of the day, what should and will prevail is what Mahmoud Salem, an Egyptian writer, articulated rightly in his Daily Egypt opinion as follows:

"Let's start with the fact that Ethiopia is a sovereign nation and is well within its right to build any dam it pleases on its land, as long as it doesn't violate the international agreements governing the water share of downstream nations, and it likely will not."