

Mediterranean Sea

DISCUSSION PAPER

EGYPT

Nile

Red Sea

SUDAN

ETHIOPIA

Grand Ethiopian Renaissance Dam

○ Addis Ababa

Hydro-Politics: The Grand Ethiopian Renaissance Dam and the Future of the Nile River Basin

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**The Grand Ethiopian
Renaissance Dam
and the Future of the Nile
River Basin**

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Introduction

The Grand Ethiopian Renaissance Dam (GERD)—a controversial construction project being built by Ethiopia on the Nile River near the border with Sudan—has recently become a point of antagonism between Ethiopia, Sudan and Egypt. Ethiopia began the dam construction in 2011 and plans to complete it in 2020. Officials said the filling process will begin immediately afterwards¹. Ethiopia wants to generate electricity from the giant hydropower dam for its growing economy. The faster it fills the dam's reservoir, the faster it reaps the benefits of the project. However, Egypt, which depends on the Nile for 90 per cent of its water supply, fears that the filling will decrease its share of the water and destroy substantive amounts of farmland and threaten the country's food supply. Therefore, Cairo demands that the filling process spans over 15 years (against Addis Ababa's stated intention of 4 to 7 years.)

There have been several rounds of negotiations between the three countries, all of which have thus far failed. Although both Egypt and Ethiopia have stated their desire to resolve the dispute peacefully, the

row over the dam has again recently reignited. In a speech to parliament in late October 2019, Ethiopian Prime Minister Abiy Ahmed said, "no force can stop Ethiopia" from constructing the dam. Egypt said it was "shocked and holds deep concerns" in light of the Ethiopian comments, and there have even been news in some Egyptian media who have called for a military confrontation to disrupt the GERD construction. As the completion of the upstream Nile dam project nears and with a solution not reached yet, there are fears the deadlock could lead to a water war between Egypt and Ethiopia, threatening security and stability in the Horn of Africa and the Red Sea region.

This paper provides a comprehensive overview of the water discord and links it to the damages done to Africa by colonial rule. First, it briefly discusses long-standing water disputes in the Middle East and North Africa. Second, it discusses the Nile dam dispute in the context of the Nile Basin Initiative. Furthermore, the paper reviews some of the steps that have been taken in recent times to solve the conflict over the Ethiopian dam. Finally, recommendations urging the three parties to bridge the divide and promote regional peace and security are discussed.

Water Disputes in the Middle East and North Africa

The Egyptian conflict with Ethiopia over the Nile River can be linked to the broader water disputes in the greater Middle East and North Africa (MENA), of which Egypt is a crucial part. The people of the MENAⁱⁱ region have long balanced the contesting water demands of households, industry, and agriculture. Careful consideration and handling of the water resources have been an important calculation in this part of the world, which receives average annual renewable water supplies of 623.8 billion cubic meters (BCM), compared to Africa's 3,950 BCM, Asia's 12,009 BCM, and the world total of 43,764 BCMⁱⁱⁱ.

The challenges that present the greatest possibility of risk in the MENA region include, but are not limited to, water scarcity, food insecurity, and political instability. According to the World Bank (2017), one of the potential drivers of these risks is climate change, which adds pressure on already scarce resources, thus contributing to the exacerbation of conflicts and violence. According to a study conducted by Buhaung et al. (2015), there is a clear link between climate change and the rise of violent conflicts. However, the findings particularly mention drought-related agricultural factors and negative economic spill over re-

sults as main signs that relate the two phenomena. Others, such as Werrell and Femia (2013), suggest climate change has played a 'hidden stressor'—"a sudden change in circumstances or environment that interacts with a complicated psychological profile in a way that leads a previously quiescent person to become violent" - role in violent events, such as Syrian civil war. Nonetheless, the correlation between violent conflicts and climate change is difficult to quantify due to the interlinked character of various, often different, determinants involving country-specific economic, political and cultural aspects.

Climate change arguably sits at the heart of the MENA agriculture-water-food security nexus. It is expected that the rising temperatures in the Middle East and North Africa could rise by 2°C by 2030 (NATO Parliamentary Assembly, 2017), and will be 4°C higher in 2050 according to Germany's Max Planck Institute. According to the World Bank's "Quick Notes Series 2018", MENA is already the world's most water stressed^{iv} and food-import dependent region. Climate change has the potential to fuel a further decline in food and water provision, thereby escalating migration and climate-related pressures that will eventually increase the risk of violence and conflict. The MENA region has repeatedly broken temperature levels in recent years. For example, in 2016, the highest temperature level ever in the MENA region was recorded in Mitribah, Kuwait at 54°C while Basra in Iraq reached 53.9°C in the same week. In June in the following year, Abu Dhabi recorded its highest temperature at 50.4°C (Gulf News, 2017). Due to less precipitation, rising sea levels, and increasing heat waves and drought frequencies, some estimates project the major cities in the MENA region might be uninhabitable before 2100 if urgent action to curb global emissions is not taken (Pal et al., 2016). According to David Michel et al. (2012), from a water security perspective, the countries and territories in the MENA region can be largely grouped into two categories. First, those that source most of their water from river systems they share with other countries in the region such as Jordan, Iran, Iraq, Egypt, Syria, Sudan, Lebanon and the Israeli-occupied West Bank. The second group is those who have low levels of renewable water resources and source their water from groundwater and desalination projects. These include Saudi Arabia, Qatar, Bahrain, the UAE, the Gaza Strip, Oman, Kuwait, and Yemen. According to the World Bank (2007), as populations grow in these countries and water demand rises, the situation will likely worsen: per capita water availability in the MENA region will decrease by half by 2050.

Water disputes in the MENA region have raged on for over half a century, and have been one of the triggers of violent conflicts in the region. For instance, it is believed a water dispute was a major factor in the eruption of the 1967 Six Day War between Israel and its neighbouring Arab states. Water conflicts started in 1953, when Israel tried to divert

the Upper Jordan River to the National Water Carrier, an Israeli pipeline that carries water from the Sea of Galilee to the Negev desert in southern Israel (Rogers, nd). This is broadly considered as the onset of the water competition among Arab countries and the state of Israel.

Another contentious water disagreement relates to the Tigris and Euphrates Rivers, which both originate in the mountains of eastern Turkey. In the 1950s, Turkish political leadership began discussion on the utilisations of the waters of Euphrates and Tigris with an aim to drive national economic development and meet the country's energy needs. As a result, Turkey launched the GAP (Güneydoğu Anadolu Projesi, or the South-eastern Anatolia Project) in the 1980s with plans for 19 hydroelectric power plants and 22 dams to divert sufficient water for irrigation and electricity generation. The GAP raised concerns among Turkey's neighbours that the project could reduce the flow of both rivers and thereby negatively affecting the flow of water into Syria and Iraq. As a consequence, the three riparian countries launched the Joint Technical Committee for Regional Waters (JTC) in 1983 to address all water-related problems in the Tigris-Euphrates Basin. With a consideration of sharing benefits via a coordinated water management and greater emphasis on environmental cooperation, Turkey, Syria and Iraq formally authorised the establishment of a joint collaborative water institute in 2008. The institute was tasked with mapping the water resources in the Tigris-Euphrates Basin and recommending the most effective method of benefiting all three countries (Gurcanli, 2008).

Case Study: The Nile Dispute

The Nile River Basin consists of eleven countries and covers around 10 per cent of the drainage area of Africa's land mass. The Nile River system, which consists of the Blue Nile, White Nile and the Atbara secondary systems, serves as a commercial lifeline for Nile Basin countries^{vi}, as well as a water source for one of the world's oldest civilisations. The Nile River remains a foundational element for basin countries' economic, political, and social status. However, the Nile is characterised by deep imbalances: the majority of residents in the basin states live in extreme poverty. Over 98 percent of the river's irrigated lands located in Sudan and Egypt that have less annual rainfall than the rest of the Nile riparian countries. This makes Sudan and Egypt dependent on the Nile waters on almost all aspects of the everyday life. The Nile also serves as the primary source of Egypt's freshwater for domestic consumption, agriculture and irrigation. It is estimated that over 95 percent of Egypt's approximately 100 million population live on the banks of the Nile, which provides around 90 percent of the country's water needs. In 1929, Egypt and Great Britain, which was acting in the name of other non-independent Nile states (mostly British colonies excluding Ethiopia), signed an agreement on the usage of Nile water. Under this accord, Egypt was granted 48 billion cubic metres (bcm) of water annually and Sudan 4 bcm out of average annual yield of 84 bcm. The treaty also provided Egypt veto power over projects on the Nile and its tributaries. In 1959, Egypt and newly independent Sudan struck a deal that increased waters to both: Egypt's share became 55.5 bcm and Sudan's 18.5 bcm. The two agreements, however, did not provide allowances to the other Nile basin countries, including Ethiopia where 80 percent of the Nile waters originate (Abdulrahman, 2018). As former colonies became independent, calls for a new deal on sharing the Nile resources gained ground.

In 2010, in an attempt to find common ground for an equitable distribution of Nile resources and address environmental challenges, the Nile Basin countries initiated the Nile River Basin Cooperative Framework Agreement (CFA) as a result of the Nile Basin Initiative^v. However, disagreements continue despite the convergences reached in the documentation. In response, Egypt and Sudan went on to ultimately reject the agreement while only six upstream countries (Uganda, Rwanda, Burundi, Kenya, Ethiopia and Tanzania) have so far signed. More so, none of the basin countries ratified the negotiated framework agreement. The CFA deal, also known as Entebbe agreement, empowers the Nile basin states to develop projects (in a cooperative manner) along the river without prior consent of Sudan and Egypt. The upstream Nile states view the colonial

era agreements (i.e. 1929 and 1959) as lopsided and call for changes to both pacts so that all the Nile countries can exploit the river (Reuters, 2018).

Sudanese and Egyptian concerns revolve primarily around the fact that the CFA agreement does not adequately guarantee their water security, especially as it relates to potential detrimental impacts that they argue are unaccounted for or that may actualize in the future. Sudan demands its rights of 18.5 bcm as specified in the 1959 Nile Accord. Egypt, on the other hand, argues that the CFA agreement infringes on its historical right to the Nile water by undermining the 55.5 bcm as stipulated under the Egyptian-Sudanese 1959 agreement; a modified version of the 1929 Anglo-Egyptian Treaty. Sudan and Egypt do not only reject the Cooperative Framework Agreement, but their interests seem to still conflict in general (Salman, 2013). Egypt's near-total dependence on the Nile for its water, food, and power has resulted in clashes with other Nile basin countries. For example, upon gaining independence in 1956, Sudan requested an immediate revision of the Anglo-Egyptian water agreements and declared that Khartoum would not comply with all the previous deals. Sudan's stance paved the way for political and economic tensions between the two neighbours, which then caused Egypt to send its troops across the border. The dispute was finally settled through the Nile Waters Treaty – an official agreement on the full utilization of the Nile – in 1959.

The case of the Nile is quite different from that of the Euphrates and Tigris. Unlike the Tigris-Euphrates basin, which upstream Turkey is the dominant geopolitical actor, in the Nile basin, it is the downstream Egypt and Sudan who have maintained a dominant position over the years. The two African Nile basin countries^{vi} are heavily dependent on the waters of the Nile for irrigation and receive less rainfall than the rest of the Nile basin countries. Given this fact, Egypt and Sudan have been the main actors determining who has priority over the Nile River. The two countries use about 94 percent of the Nile waters, which is stipulated in the 1929 and 1959 agreements that allocated 18.5 BCM per year to Sudan and 55.5 BCM per year to Egypt. The largest development project on the Nile is Egypt's Aswan High Dam, which epitomized Egyptian hegemony on the Nile in the past sixty years. Sudan also built several mini-infrastructure dams along the river, mainly for irrigation and power generation^{vii}. All these elements provided these two countries, especially Egypt, with water security, electricity and made them more powerful state actors in the Nile geopolitical context.

The Grand Ethiopian Renaissance Dam

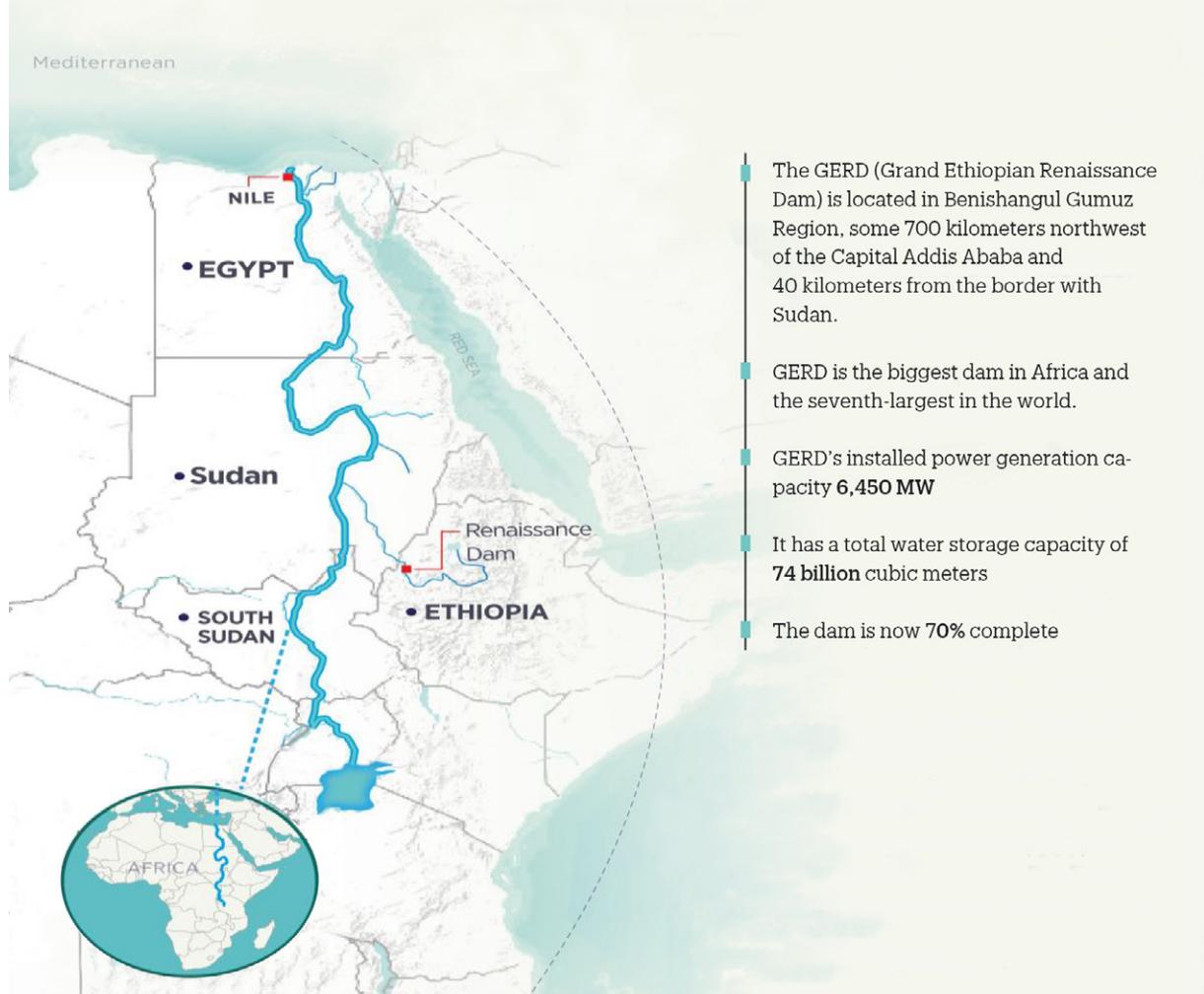
The Grand Ethiopian Renaissance Dam (GERD) represents another challenge on the Nile basin that remains the only major international basin without an inclusive institutional framework for its utilisation and management. Egypt's most significant political and diplomatic battle regarding the Nile stems from Ethiopia – an upper stream country that has no right on the billions of cubic meters of the Nile water that pass through its territory as per the 1959 agreement. Egyptian and Ethiopian relations have also often been fraught primarily due to the Nile waters. In the 1970s, Ethiopia indicated an intention to construct a dam on the Blue Nile, which accounts for around 85 percent of the Nile waters, leading to Egypt amassing 50,000 troops in Sudan in 1979 to ensure the “flow of water” in the Blue Nile. In 1994, Egypt threatened military action against Ethiopia when the latter reportedly unveiled plans to construct a dam on the Nile and in the early 1990s Cairo prevented a loan by the African Development Bank to Ethiopia for dam construction (Arsano, 2007).

Ethiopia envisages the waters of the Nile as a resource to both to advance its power and its fresh water resources, and it subsequently launched the GERD project to generate electricity for its growing economy and population

However, Egypt's most challenging task began in 2011 when upstream Ethiopia started building of the 6,000 megawatt Grand Renaissance dam which is slated to be Africa's largest hydroelectric project. Addis Ababa envisages the waters of the Nile as a resource to both to advance its power and its fresh water resources, and it subsequently launched the GERD project to generate electricity for its growing economy and population. Experts have for many years predicted that upstream Ethiopia's economic and population growth could trigger a greater rivalry with downstream Egypt and Sudan over access to the water resources of the Nile. Additionally, a rapid demographic rise in Ethiopia is believed to be a leading factor towards a shift in the Nile Basin's geopolitical power equilibrium. According to projections from the United Nations, Ethiopia's population is estimated to increase significantly in the next 50 years – jumping from 105 million currently to 171 million by 2050, therefore accelerating the demand for water (Bekele et al., 2014). Insufficient or unsafe drinking water in Ethiopia presents a critical risk to public health and communal wellbeing. It is estimated that only 40 percent of Ethiopians have access to safe water (Modern Diplomacy, 2019) when compared to Egypt's 75 percent who lack access to safe water (UNICEF, nd). Moreover, electricity access of Africa's second most populous country is only at 30 percent which, according to the World Bank publication from 2018, disrupts “basic services”. For example, only 24 percent of primary schools and 30 percent of health clinics have access to electricity. All of these represent driving factors for the GERD construction. In addition, Addis Ababa also insists the GERD project will also be helpful for its neighbours and will generate excess power supply that could be sold to Egypt and Sudan.

The greatest issue regarding the GERD is that Ethiopia did not sign and never recognised the 1929 and 1959 agreements on the Nile water, as mentioned above. These agreements have allowed Cairo to build a series of ambitious irrigation projects, such as Lake Nasser, Aswan High Dam and the Toshka Canal. Ethiopia argued that it too needed the water that originates in its territory. The Ethiopian position on the Nile was put forward by its former Prime Minister and the architect of the GERD project, Meles Zenawi, who once articulated that: “while Egypt is taking the Nile's water to transform the Sahara Desert into something green, we in Ethiopia – who are the source of 85 percent of that water – are denied the possibility of using it to feed our-

KEY FACTS ON GRAND ETHIOPIAN RENAISSANCE DAM



- The GERD (Grand Ethiopian Renaissance Dam) is located in Benishangul Gumuz Region, some 700 kilometers northwest of the Capital Addis Ababa and 40 kilometers from the border with Sudan.
- GERD is the biggest dam in Africa and the seventh-largest in the world.
- GERD's installed power generation capacity **6,450 MW**
- It has a total water storage capacity of **74 billion** cubic meters
- The dam is now **70%** complete

Ethiopia is building the GERD on the Blue Nile, which traverses **Ethiopia, Sudan, and Egypt** and provides 85% of the Nile waters. The Blue Nile originates at Lake Tana in Ethiopia.

Egypt, which depends on the Nile for 90 per cent of its water supply, fears that the filling will decrease its share of the water and destroy substantive amounts of farmland and threaten the country's food supply. Cairo demands that the filling process spans over 15 years.

Sudan backs the GERD hoping the dam will regulate the annual floods and provide cheap electricity. Sudan's concern is that any malfunction of the dam would destroy Sudanese agriculture. Therefore, Sudan demands that Ethiopia allow for a transparent assessment of the dam before it becomes operational.

Ethiopia wants to generate electricity from the GERD for its growing economy. It plans to fill the dam's reservoir in 4 to 7 years. Ethiopia insists the GERD will not affect the downstream countries.

selves.” Over the course of the dam building until 2017, the two countries exchanged hostile and belligerent threats. In 2013, some Egyptian politicians called for military action to sabotage the dam’s construction (Maher, 2013). In the same year, then-Egyptian President Mohammed Morsi threatened a war with Ethiopia, declaring, “The lives of the Egyptians are connected around the Nile. If it diminishes by one drop, then our blood is the alternative” (BBC, 2013). Current president al-Sisi has also warned that the Nile is “a matter of life and death” for his country and that “no one can touch Egypt’s share of the water” (Saleh et al., 2017).

Unlike the 1990s, when Egyptian authorities successfully stopped Ethiopian attempts to build dams, a problem that has limited Cairo’s ability to prevent the GERD was the Arab spring. During this period, domestic issues disentangled Egypt from regional diplomacy and led to a discontinuation of its participation in the Nile Basin Initiative. In his short stint as president, Mohamed Morsi unsuccessfully struggled to assemble a coherent diplomatic effort to freeze the GERD. The military coup in 2013 led to the expulsion of Egypt from the African Union, further deteriorating Cairo’s position to confront the Ethiopian project. Therefore, the success of the GERD project can at least be partially attributed to the diplomatic disarray of Egypt following the Arab Spring events. Since the beginning of al-Sisi Presidency in 2014, Egypt has not focused on opposing the construction of the dam, but mainly focused on ensuring that the reservoir does not significantly reduce the water flow.

In 2010, the Sudanese government froze its participation in the Nile Basin Initiative (NBI) amid concerns that the interests of the downstream states were underestimated. Khartoum was caught off guard by the announcement of the GERD dam which it had opposed fearing its negative impact on downstream countries. During this time, Sudan was grappling with domestic unrest and was preparing for the prospect of the South Sudan’s separation. However, in

the following year, Khartoum shifted its position, accepting the Ethiopian dam and re-joining the Nile Basin Initiative. Although unofficial, it is believed that Khartoum is angling for increased benefits from the Ethiopian project. Sudan is endowed with an abundance of fertile land suitable for commercial agriculture. However, a major problem that faces the sector is the annual Nile floods that force Sudanese authorities to spend millions of dollars on managing sediments. Sudan believes the GERD will regulate the flood, thus benefitting Sudanese farmers and increasing harvests annually with greater crop yields (Maroudis, 2019). Another point on Sudanese backing of the Ethiopian project relates to the prospects of dam’s cheap electricity, which Sudan plans to draw on rather than producing it domestically. Furthermore, according to a 2014 study by Abdul Latif Jameel of MIT, a well regulated yearly water flow will enable Khartoum to efficiently expand its power production in its main dams (i.e. Roseires, Sennar and Merowe). For all these factors, Sudan has supported the GERD in the course of the tripartite negotiations and disputed the Egyptian argument that the GERD would significantly reduce the water flow downstream. The only Sudanese demand regarding the project is that Ethiopia allow for a transparent assessment of the dam before it becomes operational. The primary concern of the Sudanese authorities largely revolves around the worry that any malfunction of the dam would be a disaster for Sudan. The dam is located about 40 km west of the border with Ethiopia and floods would completely swallow crops and houses if the structure were to fail.

Ethiopia repeatedly reiterated its plans to complete the dam construction in 2020 and begin filling the reservoir immediately. It was originally planned to be completed in 2018, but eight years down the line, it is only 70 per cent complete. The dam’s construction has been hit by interruptions. In July 2018, Semegnew Bekele—the main engineer in charge of the dam—was found dead on a busy street in the capital Addis Ababa. A month later, Ethiopian authorities announced that the engineer had committed suicide (Ahmed, 2018). Following the death of the chief engineer, Prime Minister Abiy blamed the Metal and Engineering Corporation (METEC), a military-based local contractor, for the delay in construction of the dam project. Subsequently, METEC’s head was put on trial on corruption allegations together with dozens of the conglomerate’s employees. Reportedly, the contracts to fulfil the remaining dam work were awarded to foreign companies, including Italy’s Salini Impregilo SpA, GE Hydro France, China Gezhouba Group Corp, Voith Hydro Shanghai and China’s Sinohydro Corp. Consequently, reports have emerged indicating the project is now due to be completed by 2022 (Meseret, 2018). Although Addis Ababa has already finished about two-third of the dam, all these events create doubts about the future of the project.

Sudan backs the Ethiopian project hoping the dam will regulate the annual flood and will help Khartoum to efficiently expand its power production

No Settlement

There have been several attempts to break the GERD deadlock. In 2011, following the announcement of the dam construction plan, a tripartite negotiation process between Egypt, Sudan and Ethiopia took place in which the three Nile countries formed a joint technical committee in order to find a solution. The talks reached a milestone in 2015 when the parties agreed to a 'declaration of principles' document that urged all parties to "cooperate based on common understanding, mutual benefit and good faith", and to take measures that discourage significant harm in the utilisation of the Blue Nile. In the course of these talks, Ethiopia recognised the fact that it has an obligation to prevent a "significant harm" from its dam project on the downstream countries of Egypt and Sudan. In a trip to Cairo in mid-2018, Ethiopian Prime Minister Abiy promised to ensure that his country's mega-dam does not harm Egypt's quota of the Nile waters^{viii}. However, a major obstacle for reaching a solution to the dam issue relates to the failure to reach consensus on the impact of the dam when it eventually becomes fully operational. In 2011, Ethiopia turned down an Egyptian proposition to freeze dam construction pending studies on the dam's impact. Addis Ababa also rejected a demand from Cairo to amend the structure and design of the dam so that the flow of water does not diminish in case the main floodgates breakdown.

In 2015, in another attempt to find a way out, the three parties commissioned two European companies (French and Dutch) to undertake a full assessment of the dam's potential impact. The Dutch firm, nominated by Egypt, withdrew while the French firm produced a preliminary report mapping the conditions for further assessment of the project. Still, the concerned sides could not agree on a next step. In late 2017, Ethiopia rejected an Egyptian offer asking the World Bank to take the lead in conducting an independent study on the subject matter. A third attempt was made in mid-2018 when the foreign ministries and intelligence heads of the three countries met in Addis Ababa and agreed to assemble a joint panel of experts to undertake the necessary impact assessment study. Despite initial enthusiasm, little progress has been made primarily due to the fact that the agreement allowed every country to use its experts and produce non-binding reports. Until recently, the biggest obstacle leading to the realisation of a settlement on the dam was Egypt's poor relations with Sudan and Ethiopia. Several events complicated the situation. In 2016, Addis Ababa denounced Cairo's move for hosting and supporting outlawed Ethiopian armed rebels^{ix}; in January 2018, Addis Ababa blamed Cairo for deploying troops to its arch-enemy Eritrea, reportedly as a display of force against Ethiopia and Sudan, accusations that Eritrea

denied. As a consequence, Sudan amassed troops along its border with Eritrea. In 2017, Sudan accused Egypt of supporting Sudanese rebel groups* to overthrow the Khartoum government and in January 2017, Khartoum recalled its ambassador from Cairo over disputes on the ownership of the Halayeb Triangle border area (Reuters, 2018). In October 2019, Egypt declared that talks with Ethiopia over the GERD project has reached a dead end and asked for a third party mediation. The situation further deteriorated following Ethiopian Prime Minister Abiy Ahmed's remarks that his country was ready to go to war if necessary. In addition to disagreements over the rules regulating the dam's filling process, these tensions exacerbated the breakdown of the talks, thus, necessitating mediations by third parties.

In November 2019, US President Donald Trump hosted the Foreign Ministers of Sudan, Egypt and Ethiopia, which rekindled hopes for breaking the deadlock in the long-running dispute. Following the meeting, Trump tweeted "just had a meeting with top representatives from Egypt, Ethiopia, and Sudan to help solve their long running dispute on the Grand Ethiopian Renaissance Dam, one of the largest in the world, currently being built. The meeting went well and discussions will continue during the day!" (Trump, 2019). On December 2 2019, Irrigation Ministers of the three nations, officials from the US and the World Bank met in Cairo for a new round of talks aimed at resolving the dispute. On December 9, the US Department of Treasury announced that the three Ministers of Foreign Affairs would meet in Washington, DC on January 13, 2020 "to review the

In November 2019, US President Donald Trump hosted the Foreign Ministers of Sudan, Egypt and Ethiopia, which rekindled hopes for breaking the deadlock in the long-running dispute

results of the upcoming technical meetings in Khartoum and Addis Ababa with the goal of finalizing an agreement,” (US Department of the Treasury, 2019). Although the January talks failed to achieve a comprehensive agreement on the Ethiopian project, they produced some progress. Following the meeting between the Ministers of Foreign Affairs and Water Resources of Egypt, Ethiopia and Sudan and the Secretary of the Treasury and the President of the World Bank who were participating as observers, a joint statement released by the U.S. Treasury noted the parties have agreed that the filling of the dam will be “executed in stages” during the wet season in a manner that will take into account “the potential impact of the filling on downstream reservoirs.” Under this condition, the three coun-

tries have agreed to an “initial filling stage of the dam that will provide for the rapid achievement of a level of 595 meters above sea level and the early generation of electricity, while providing appropriate mitigation measures for Egypt and Sudan in case of severe droughts during this stage,” (for a complete view of the joint statement, see appendix A). Although the parties seem to differ on how these plans will be executed, there is a political will to advance the negotiations. According to the U.S. Treasury statement, the “ministers agreed to meet again in Washington, D.C. on January 28-29 to finalize a comprehensive agreement on the filling and operation of the GERD, and that there will be technical and legal discussions in the interim period.”

Bridging the Divide

The GERD—Africa’s biggest hydraulic power plant with a cost of USD 5 billion—is 70 percent complete and is expected to be operational by late 2020. As completion of the dam nears, the stakes could not be higher for the new leaders in Ethiopia and Sudan, Prime Minister Abiy Ahmed and Prime Minister Abdalla Hamdook, as well as Egypt’s general-turned-president Abdel Fattah al-Sisi. The stakes are even higher for the millions of people who depend on the Nile’s waters for their livelihood and survival. Accordingly, as many analysts state, the GERD project will force Cairo to spur long-delayed domestic reforms in water consumption. Regionally, Egypt has a prime opportunity in African affairs from which it can put forward its case. In February 2019, al-Sisi took over the rotating chair of the African Union. Egypt was re-admitted into the fold of the African Union in June 2014, after almost a year of suspension due to the 2013 military coup. Consequently, On December 11 2019, he launched the ‘Aswan Forum for Sustainable Peace and Development’ in which some analysts believe Egypt intends to demonstrate its diplomatic force in regional affairs. However, eyebrows have been raised over the lack of Sudanese and Ethiopian representatives in the more than 4 dozen African leaders and high-level participants^{xi}. In November 2019, Prime Minister Hamdook of Sudan took over the one year chairmanship of IGAD (Intergovernmental Authority on Development), an eight-nation trading and security bloc in east Africa in which both Ethiopia and Sudan are among its members. Mr Hamdook can use his position of regional authority to push for a comprehensive and mutually beneficial accord on the filling and operation of the GERD. Similarly, Ethiopian Prime Minister Abiy who has recently received the Noble Peace Prize 2019 has a greater opportunity and goodwill to reach a deal with Egypt and Sudan before the dam begins operating. Finally, South African President and the incoming term-chair

of the African Union Cyril Ramaphosa, which Ethiopian Prime Minister recently asked to intervene the dispute over the dam, can play a significant mediation role in ensuring a peaceful resolution is found.

There is no quick fix of the discord given its magnitude. However, to avoid a serious water conflict when the dam goes in effect, the three countries need to take immediate steps to address the issue. One of these steps could be striking a deal on the filling process of the GERD’s reservoir, which could reduce the downward water flow. A second option to mitigate the problem is to turn the GERD into a multinational project, with joint ownership and shared socioeconomic benefits between the three countries. Since Addis Ababa singlehandedly financed 70 percent of the dam building, it could ask Cairo and Khartoum to complete the rest as well as the costs of filling the reservoir. This could be achieved by putting together a tripartite agreement to establish a mutual fund for infrastructure development. In return, the dam will be a joint ownership with Ethiopia claiming 70 percent while Egypt and Sudan divide the rest. Through this agreement, Ethiopia will accomplish its development ambitions vis-à-vis the utilisation of its water resources while, addressing the concerns of the downstream countries, and promoting regional peace and security. Moreover, the three Nile basin nations should work on a comprehensive long-term transboundary arrangement that seeks collaborative partnership with the rest of the Nile riparian countries, balances their water needs (both up and down stream) and provides a cooperative structure for solving disputes on similar potential Nile-related projects. Finally, the international community will have to maintain diplomatic efforts to mediate between the three Nile riparian states and provide financial and technical backing for a sustainable settlement.

Conclusion

People in the Middle East and North Africa have long witnessed a greater challenge emanating from insufficient water resources. The MENA is the world's most water stressed region with an average annual renewable water supplies of 623.8 bcm, compared to the global average of 43,764 bcm. It is believed that the rising temperatures due to climate change will result in further decline in food and water supply, thereby escalating migration and climate-related pressures that eventually might upsurge the risk of violence and conflict in the MENA.

Although disputes over water resources have persisted in the MENA region for many years, a significant water disagreement involving MENA is the Nile dispute between Egypt, Ethiopia and Sudan. Ethiopia is constructing a controversial dam, known as Grand Ethiopian Renaissance Dam (GERD) on the Blue Nile. Ethiopia considers the GERD as a significant national development project to fuel its growing economy and create electricity for its increasing population—Africa's second largest. Sudan eyes the dam's expected inexpensive electricity and increased agricultural production. In other words, Sudan will import cheap electricity from the GERD and hopes the project will help in the development of its agriculture sector by controlling the annual floods. However, the greatest challenge vis-a-vis the GERD comes from Egypt, which worries the dam will decrease its share of the Nile—the source of about 90 percent of its water supply. With around 70 percent complete, it is now thought that construction of the GERD will be complete in 2020.

As the completion of the upstream Nile dam project nears, there are fears the deadlock could lead to a conflict between Egypt and Ethiopia, thus threatening to derail security and stability in the Horn of Africa and the Red Sea region. There have been several attempts at finding a viable solution between the three countries, but they have consistently failed to break the deadlock. Tension has recently eased following the intervention of the US President Donald Trump who met the Ministers of Foreign Affairs from the three Nile basin countries in November this year. The three top diplomats convened in Washington, DC, on January 13, 2020 but fell short of reaching an accord. The diplomats will again meet in D.C. on January 28-29 with the aim of concluding a comprehensive deal on the filling and operation of the dam.

Since the GERD project will affect millions of people who depend on the Nile, the stakes are high for the new leaders in Ethiopia and Sudan, Noble laureate Prime Minister Abiy Ahmed and Prime Minister Abdalla Hamdook, as well as Egyptian President al-Sisi. It is critical that these leaders reach an understanding on how fast Addis Ababa will fill the dam's reservoir before it begins operation, and eventually come to a comprehensive agreement on sharing of Nile water with the rest of the Nile basin states. Equally important is a sustained international technical and financial support for reaching an accord.

Notes

- i There is no officially agreed filling policy of the GERD and negotiators are currently discussing the way forward. However, the Sudanese Minister of Irrigation recently told media that the three parties agreed on filling the reservoir "over a period of up to seven years." Available: <https://aawsat.com/english/home/article/1996606/khartoum-announces-deal-filling-renaissance-dam-7-years>. Previous independent studies have shown that "eight to nine years is likely required to fill the reservoir with 20% of the annual flow of each year held back. With a historical average Nile annual flow of 84 bcm at Aswan, the 132 bcm volume of the High Aswan Dam took six years (1971–1976) to reach full capacity with full river flow. Historical average Nile annual flow at Aswan is 84 bcm." Available: https://link.springer.com/chapter/10.1007/978-3-319-97094-3_7
- ii For the purposes of this paper, the MENA region includes the following states and territories: Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Sudan, Tunisia, Turkey, United Arab Emirates, and Yemen.
- iii Regional total for the 20 MENA countries and territories derived from FAO, AQUASTAT database, 2012, Food and Agriculture Organization of the United Nations, accessed 30 November 2019. World, Africa, and Asia figures from FAO, Review of World Water Resources by Country (Rome: FAO, 2003), p.20. 1. BCM = 1 cubic kilometre (km³).
- iv With approximately 5% of the world's population, it only has 1% of the world's renewable water resources: Al Humaid, N. (2015). Water Shortages Drive Switch from Irrigation to Hydroponics (Dublin: Farrell and Mitchell, 2015) Available at: <http://farrellymitchell.com/wp-content/uploads/2015/04/Insights-April-2015.pdf>.
- v Nile Basin. (nd) "Cooperative Framework Agreement" available: <https://www.nilebasin.org/nbi/co-operative-framework-agreement>
- vi Other upriver Nile countries include Kenya, Uganda, Rwanda, the Democratic Republic of the Congo, Burundi, South Sudan and Tanzania.
- vii FOA. (nd) "Water Infrastructure in the Nile Basin: Existing Dams and main irrigation areas." Available: <http://www.fao.org/3/an529e/an529e.pdf>
- viii In a joint press conference with the Egyptian president, the Ethiopian leader swore that he will not hurt Egypt. "My government and my people have no intention to harm the people of Egypt and the government of Egypt. We will work with the people of Egypt in any area...I swear to God, we will never harm you" available: <https://qz.com/africa/1301915/ethiopia-promises-not-to-cut-egypts-share-of-nile-river/>
- ix Ethiopia accused that the Egyptian government "provided training and financing to the Oromo Liberation Front", a then terrorist-designed organization by Ethiopia. Available: <https://www.time-softisrael.com/ethiopia-blames-egypt-for-supporting-outlawed-armed-group/>
- x Khartoum claimed that Cairo extended support to the Sudanese rebels (namely Sudan's Liberation Movement) in the country's war-torn southern Darfur region. Available: <https://www.reuters.com/article/us-sudan-egypt-relations/sudan-accuses-egypt-of-backing-rebels-ahead-of-foreign-ministers-trip-idUSKBN18J24K>
- xi Aswan Forum (nd). "Speakers and High Level Participants." Available: <https://www.aswanforum.org/list-of-speakers>

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Appendix A: January 15 Joint Statement of Egypt, Ethiopia, Sudan, the United States and the World Bank

January 15, 2020,

Washington, DC - The Ministers of Foreign Affairs and Water Resources of Egypt, Ethiopia and Sudan and their delegations met with the Secretary of the Treasury and the President of the World Bank, participating as observers, in Washington, D.C. on January 13-15, 2020. The Ministers noted the progress achieved in the four technical meetings among the Ministers of Water Resources and their two prior meetings in Washington D.C. and the outcomes of those meetings and their joint commitment to reach a comprehensive, cooperative, adaptive, sustainable, and mutually beneficial agreement on the filling and operation of the Grand Ethiopian Renaissance Dam.

Toward that end, the Ministers noted the following points, recognizing that all points are subject to final agreement:

1. The filling of the GERD will be executed in stages and will be undertaken in an adaptive and cooperative manner that takes into consideration the hydrological conditions of the Blue Nile and the potential impact of the filling on downstream reservoirs.
2. Filling will take place during the wet season, generally from July to August, and will continue in September subject to certain conditions.
3. The initial filling stage of the GERD will provide for the rapid achievement of a level of 595 meters above sea level (m.a.s.l.) and the early generation of electricity, while providing appropriate mitigation measures for Egypt and Sudan in case of severe droughts during this stage.
4. The subsequent stages of filling will be done according to a mechanism to be agreed that determines release based upon the hydrological conditions of the Blue Nile and the level of the GERD that addresses the filling goals of Ethiopia and provides electricity generation and appropriate mitigation measures for Egypt and Sudan during prolonged periods of dry years, drought and prolonged drought.
5. During long term operation, the GERD will operate according to a mechanism that determines release based upon the hydrological conditions of the Blue Nile and the level of the GERD that provides electricity generation and appropriate mitigation measures for Egypt and Sudan during prolonged periods of dry years, drought and prolonged drought.
6. An effective coordination mechanism and provisions for the settlement of disputes will be established.

The Ministers agree that there is a shared responsibility of the three countries in managing drought and prolonged drought.

The Ministers agreed to meet again in Washington, D.C. on January 28-29 to finalize a comprehensive agreement on the filling and operation of the GERD, and that there will be technical and legal discussions in the interim period.

The Ministers recognize the significant regional benefits that can result from concluding an agreement on the Grand Ethiopian Renaissance Dam with respect to transboundary cooperation, regional development and economic integration that can result from the operation of the Grand Ethiopian Renaissance Dam. The Ministers of Foreign Affairs reaffirmed the importance of transboundary cooperation in the development of the Blue Nile to improve the lives of the people of Egypt, Ethiopia, and Sudan, and their shared commitment to concluding an agreement.

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