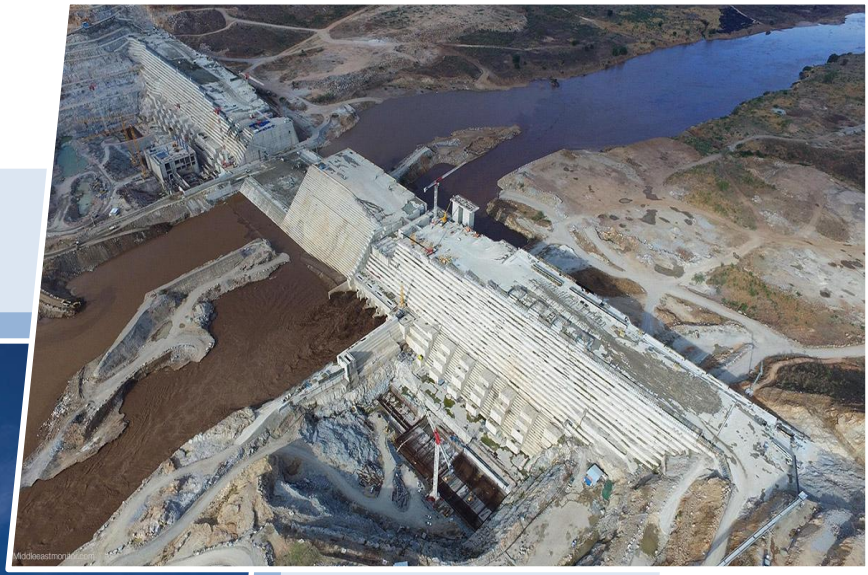
NSDS HUB

NATO STRATEGIC DIRECTION SOUTH

JANUARY, 2019

PREVENTING WATER WARS—WATER DIPLOMACY AS A POSSIBLE DRIVER OF STABILITY



NSD-S Hub, *Via Madonna del Pantano, Lago Patria - Italy 80014*

www.TheSouthernHub.org

The NSDS HUB has been established at Allied Joint Force Command Naples in order to improve NATO's awareness and understanding of the opportunities and challenges from the South, while contributing to the overall coordination of NATO's activities and efforts. The NSDS HUB products are developed with open-source information from governmental organizations, non-governmental organizations, international organizations, academic institutions, media sources and military organizations. By design, the NSDS HUB products or links to open sourced and independently produced articles do not necessarily represent the opinions, views or official positions of any other organization.

PREVENTING WATER WARS—WATER DIPLOMACY AS A POSSIBLE DRIVER OF STABILITY

EXECUTIVE SUMMARY

Access to water is essential to human life, yet water is a scarce resource. According to a 2016 World Bank study, 1.6 billion people live in countries that are water scarce, a number that may double in the next 20 years. Water management is inherently complex because it crosses physical, disciplinary, and jurisdictional boundaries and has political, economic, technological, environmental, and social components. Growing water resource scarcity and variability, fueled by climate change, coupled with increased demands for water due to economic and population growth has the potential to pose a threat to regional and global security. The Middle East and Africa face a particularly challenging set of water-management issues.

In February 2018, a number of headlines declared a looming "water war" in Africa over Ethiopia's construction of a $6.4 billion dam that Egypt believes could reduce the country's access to the Nile River's water, on which its economy depends: "In Africa, War Over Water Looms As Ethiopia Nears Completion Of Nile River Dam" (*National Public Radio*, NPR) and "The 'Water War' Brewing Over the new River Nile Dam" (*BBC News*). Despite intermittent threats between the two countries during the construction of the soon-to-be completed Grand Ethiopian Renaissance Dam (GERD), war has not yet come to pass. Recent progress in ongoing talks between Ethiopia, Egypt, and Sudan (despite significant hurdles remaining) suggest that the case may in fact illustrate the opportunities of water diplomacy to be a potential driver of stability as much as it demonstrates the myriad challenges of transnational water management.

The use of diplomacy to peacefully resolve water-based tensions in the Middle East and North Africa (MENA) and sub-Saharan Africa has the potential to be a driver of stability in the region. Increased regional stability is an outcome that aligns with the North Atlantic Treaty Organization (NATO) member states' national security interests and the goals of NATO Strategic Direction South. A less volatile MENA and sub-Saharan Africa would have a number of benefits to both, African and NATO countries, including lessening the flow of migrants and refugees. Moreover, supporting water-diplomacy efforts in the region dovetails directly with NATO Strategic Direction South's primary aims of developing peaceful and friendly relations and promoting conditions of stability and well-being in the MENA, Sahel, and sub-Saharan African regions.

BACKGROUND

The Middle East and Africa face particularly acute water-related pressures. The World Bank found that "low institutional capacity and high dependency on subsistence agriculture" makes sub-Saharan Africa "one of the most vulnerable regions" to the impacts of climate change, while the MENA, "already the world's driest region … will experience lower water availability and higher temperatures" in the years to come. The same study found that the regions highlighted in red in Figure 1, which include much of MENA and sub-Saharan Africa, could see "growth rates decline by as much as 6 % of GDP by 2050 due to water-related impacts on agriculture, health, and incomes."

Water tensions often play a significant role in civil conflicts, but research shows that many disputes end cooperatively rather than in conflict. This finding suggests that continued improvements in the burgeoning field of water diplomacy can further reduce the risk of conflict. Academic research suggests that the oft-cited prospect of inter-state "water wars" might be overblown. A study by geographer Aaron Wolf looking at the

years spanning 1948 and 1999 found that out of 1,831 "state to-state interactions on water … none resulted in formal war," and two-thirds ended in cooperative agreements.

But water does contribute to other types of conflict in a variety of ways. As recently argued by political scientist Joshua Busby, while a "direct cause/effect relationship between water and conflict is difficult to prove, water issues can indirectly contribute to conflict through their effects on food prices, migration, economic growth, and natural disasters." Indeed, as the World Bank notes, water-based disputes can play a critical role in intra-state conflicts: "Episodes of drought and floods are often followed by spikes in violence, civil war, and regime change in developing countries. The strongest evidence is from sub-Saharan Africa where civil wars tend to erupt following periods of low rainfall."

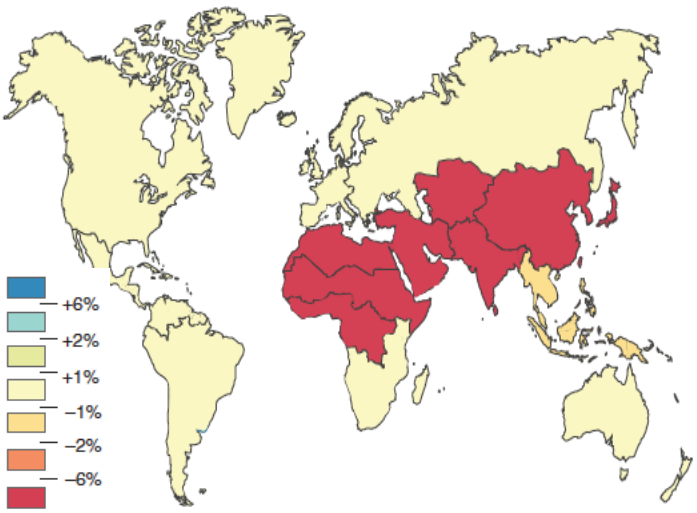


Figure 1. *The Estimated Effects of Water Scarcity of GDP Growth in Year 2050. (Source: World Bank 2016.)*

Successfully resolving complex water-management issues in MENA and sub-Saharan Africa would substantially contribute to regional peace and security. Fostering regional and international water diplomacy is one promising avenue to attain this goal. Water diplomacy is a developing concept that has recently emerged in response to multifaceted international water disputes. The concept has the potential to reframe water-management conflicts as opportunities for cooperation and joint decision-making. Currently, there is not a universally recognized definition of water diplomacy. According to a water diplomacy initiative launched by Tufts University, the Massachusetts Institute of Technology, and Harvard University, the concept can be defined as "a theory and practice of implementing adaptive water management for complex water issues" that "diagnoses water problems, identifies intervention points, and proposes sustainable solutions."

The Grand Ethiopian Renaissance Dam: The Challenges and Opportunities of Water Diplomacy

A number of possible cases in the MENA and sub-Saharan Africa region that are worthy of study could be used to illustrate the complexities of water-management disputes and water diplomacy. These include the Jordan River, Iran water disputes, Libya subterraneous waters, and the aforementioned GERD in the Nile Basin. The GERD case, however, is a particularly fruitful area of study because it spans both the MENA and sub-Saharan Africa regions and aptly illustrates both the ample opportunities and various challenges of water conflicts and water diplomacy in the region.

The Nile is the longest river in the world (6,695 km) and has a drainage area of about 3.2 million km² which is nearly 10% of the landmass of the African continent. It has two main tributaries; the White Nile with its upstream catchments fed by rivers originating in Burundi and in Rwanda and the Blue Nile originating in Ethiopia (Lake Tana), both of which have very distinct hydrologic regimes. Blue Nile contributes 85% of the Nile's annual flow volume while White Nile contributes only 15%. The Nile touches 11 riparian states from

south to north and flows over 35 degrees of latitude, traversing highly diverse landscapes and climatic zones. The Nile Basin is home to over 257 million people, which represents about 54% of the total population (487 million) of the 11 countries that share the Nile. The riparian communities are very heavily dependent on exploitation of the environment and water resource for their livelihoods. Energy is also vital to the future growth of the Nile Basin riparian states. The per capita energy consumption in the Nile riparian states, except Egypt, is below the requirements for rural supply in sub Saharan Africa (250kWh/capita/year) which calls for increased production.

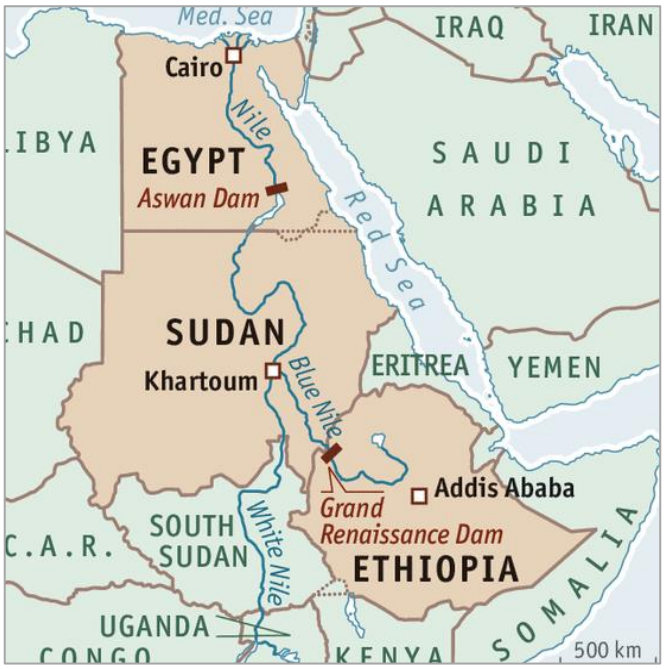


Figure 2. *Map of the Nile Basin and the GERD. (Source: Economist.com)*

Egypt, Sudan, and Ethiopia have a long history of tense negotiation over water-management issues dating to the colonial era. In 1929, while Egypt was a British protectorate and Sudan a British colony, Egypt signed the Anglo-Egyptian Treaty, which granted Egypt approximately 50 billion cubic meters of water to the Sudan's 4 billion. As part of the deal, Egypt enjoyed sole power over all construction projects along the Nile and in upstream countries. In 1956, under President Gamal Abdel Nasser, Egypt launched the Aswan High Dam project, which would protect Egypt's water resources during droughts and produce hydroelectric power.

After independence, and even though two-thirds of the Blue Nile, the largest Nile tributary in volume terms, originates in Ethiopia, Egypt and Sudan inked a new deal in 1959 that largely maintained the status quo in Egypt's favor, based on ancient Egypt's dependence on the Nile, which supplies 90% of its water supply. Through the 1990s Egypt fought tooth and nail to maintain these beneficial terms. As explained by political scientist Steven Cook: "Egyptians haven't been terribly interested in altering the terms of the 1950s-era agreement for one simple reason: The Nile is a matter of life or death. Egypt gets negligible rainfall, and as a result has always relied on the Nile to feed itself and provide for the country's economic well-being."

Egypt's dominance of the Nile Basin waters began to shift in the 1990s, as a number of regional and multilateral water-management initiatives, such as Hydro meteorological Surveys Project of the Upper Nile (Equatorial Lakes) Catchments (HYDROMET: 1967-1992), The Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile (TECCONILE: 1993-1999) and the Nile Basin Initiative (NBI) were implemented.

The NBI, which was founded in 1999 to encourage cooperative water management in the region, is supported by the World Bank and other international donors. It consists of Burundi, the Democratic Republic of the Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania, and Uganda. Eritrea participates as an observer. After 10 years of negotiations, in 2010, Burundi, Ethiopia, Kenya, Rwanda, Tanzania, and Uganda signed a Cooperative Framework Agreement (CFA) also known as the "Entebbe Agreement that outlines "principles, rights and obligations to ensure long-term and sustainable management and development of the shared Nile waters." Ethiopia, Rwanda, and Tanzania have ratified the

CFA, but Egypt and Sudan refused to sign and objected to certain provisions in the CFA, arguing that their "acquired rights" to the Nile water are not protected.

GERD: From Impending Conflict to Cooperation

Despite progress under the NBI, Ethiopia's decision to launch the construction of the GERD in 2011 marked a significant departure from business as usual in the region. Ethiopia envisioned the GERD as a grand economic and nationalist project that would spur the country toward industrialization. When completed in the next year or so, the massive nearly $5 billion project will be the largest hydroelectric initiative in Africa. It is expected to generate for domestic consumption and export over 6,000 megawatts of energy equivalent to the capacity of almost five Nuclear Power Plants. Currently, 70 million Ethiopians lack electricity, the most in Africa, according to the United Nations' International Energy Agency. Rwanda and Kenya have agreed to purchase thousands of megawatts. The World Bank states that, once completed, the GERD, in combination with other dam projects, could bring Ethiopia $1 billion a year in exports, making it the largest exporter of power in Africa. Ethiopia has touted its indigenous funding of the project, with 80 % of the financing coming from tax collection and 20 % from domestic bond offerings.

Ethiopia announced the GERD project while Egypt was in the midst of its Arab Spring uprising and in disarray. Egypt viewed Ethiopia's encroachment into the Nile Basin as a threat to its water supply and livelihood. Indeed, former president Mohammed Morsi threatened military intervention in 2013: "We will defend each drop of Nile water with our blood if necessary." Egypt has legitimate concerns, because once the GERD is completed, it could exacerbate water shortages for Egypt, as least in the short term. As noted by NPR, "a hydropower dam doesn't steal water from downstream. It only draws power from its flow. Except during one crucial period: just after the dam is built and the reservoir is filled." The Geological Society of America estimates that water levels in the Nile could decrease by 25 % over seven years as the reservoir fills. To lessen the impact, Egypt is pushing for the reservoir to be slowly filled over a decade, while Ethiopia prefers a three-year time frame.

Egypt's stance shifted in 2015, when an agreement was signed between Egypt, Ethiopia, and Sudan. The agreement set the terms for future cooperation and technical discussions around the GERD. The *Christian Science Monitor* hailed the agreement as a radical departure from Egypt's previous stance and as a "diplomatic breakthrough." Egypt's President, Abdel Fattah al-Sisi, went so far as calling the agreement "a new chapter in the history of Egyptian-Ethiopian relations." After the 2015 agreement was signed, however, challenges persisted between Egypt and Ethiopia over how quickly to fill the reservoir and other technical questions.

These disagreements led to renewed tensions that came to a head in November 2017, when tripartite talks were suspended. However, recent progress, including the establishment of a scientific study group in May 2018, suggests that cooperation is back on track. At a joint press conference in Cairo on June 14, Ethiopia's new Prime Minister, Abiy Ahmed, made a promise to el Sisi: "I swear to God, we will never harm you … We will take care of the Nile and we will preserve your share." Sudan, which will benefit from the GERD's surplus electricity, also reiterated its support for the GERD, with President Omar Bashir saying: "We have fully supported the dam since it was at its planning stage … We are assured that the share of Sudan and Egypt in Nile water is completely guaranteed." Despite a rocky road and hiccups in implementation, recent progress between the three countries has increased the prospect of a peaceful and mutually beneficial outcome in the medium to long term.

LESSONS LEARNED

What water diplomacy lessons can be learned from the case of the GERD? First, the case demonstrates that even the most complex and contentious water-management challenges can result in cooperation instead of conflict. Second, economic considerations have been paramount in fostering dialogue and cooperation over confrontation. After years of protests, Egypt decided to accept the GERD and future regional projects promised to deliver tangible economic benefits to Egypt in the long run. As noted by Shafiqul Islam, director of the Water Diplomacy Program at Tufts University: "Egypt found that by allowing this dam they can purchase cheaper hydropower [from Ethiopia]."

Third, regional organizations such as the NBI, in tandem with increasing populations and rapid economic growth, helped to shift the long-held balance of power in the region away from downstream countries like Egypt and toward upstream countries like Ethiopia. Eventually, Egypt was outnumbered by its neighbours, and holding onto agreements negotiated during colonial times—which gave the country disproportionate benefit—became untenable. Regional water-management initiatives, supported by international actors, can have a beneficial impact in fostering cooperation, particularly in the long run.

Finally, while regional initiatives, such as the NBI, have seen some success and helped set the stage for later agreements, the negotiations around the 2015 agreement on the GERD between Egypt, Ethiopia, and Sudan was largely a tripartite affair. According to Ana Elisa Cascão and Alan Nicol, "Cooperation on GERD is country-driven and has almost no involvement from external partners, counting on technical and financial support from the countries themselves (and not development partners)." This finding shows that bilateral or trilateral water diplomacy can also bear fruit.

A POSSIBLE WAY AHEAD

Although significant challenges remain and success is not preordained, the case of the GERD in the Nile Basin illustrates that water diplomacy holds promise as a potential driver of stability and cooperation, in both the MENA and sub-Saharan African regions and beyond. As argued by Cascão and Nicol, the dam has: "helped champion dialogue over dispute. It has shown that countries that have hitherto held largely antagonistic positions on upstream development can, through dialogue, achieve compromise and agreement." Supporting water-diplomacy efforts in the MENA and sub-Saharan African regions aligns directly with the idea of developing peaceful and friendly relations and promoting conditions of stability and well-being in the MENA, Sahel, and Sub-Saharan African regions.

Specifically, to overcome water-based tensions in the region, support should focus on encouraging cooperative water-management practices with economic benefits for all. Effective water-management policies can help alleviate the most negative impacts of climate change, which will disproportionately affect the MENA and sub-Saharan regions, as highlighted in Figure 1.

The World Bank found that "bad water-management policies can exacerbate the adverse growth impacts of climate change, while good policies can go a long way towards neutralizing them." Countries in the region should be encouraged to adopt more efficient and effective water-management policies to help reduce growing water scarcity and other pressures.

Second, water-diplomacy initiatives should also be supported at the local, regional, and international levels and strengthen domestic and regional water-management institutions. As Busby notes, "transboundary water agreements are usually facilitated by robust institutions. River basins with stronger institutions—characterized by mechanisms to allocate water, manage water variability, resolve conflicts, and govern river

basins—tend to have less conflict." While support to the NBI and other multilateral institutions is important, the GERD case demonstrates that external partners should also consider supporting smaller scale initiatives if they are more appropriate for a particular task at hand.

The International Community could also consider providing support to enhance domestic and multilateral early-warning capabilities to get ahead of water-based disputes and droughts, as well as supporting creation of a multilateral water diplomacy mediation unit, perhaps in the context of the EU that could deploy experts with experience to the field on short notice. Together, these steps would help build a framework in which water-diplomacy efforts can succeed, which could enhance stability over the medium to long term in the region.

REFERENCES

Africa News. "Nile Dam Won't Harm Egypt, Says New Ethiopian Leader." Africa News, May 4, 2018. http://www.africanews.com/2018/05/04/nile-dam-won-t-harm-egypt-says-new-ethiopian-leader// .

Ahram Online."President Morsi Calls for Egyptian 'Unity' in Face of Threats to Nile Water." Ahram Online, June 11, 2013. http://english.ahram.org.eg/NewsContent/1/64/73683/Egypt/Politics-/President-Morsi-calls-for-Egyptian-unity-in-face-o.aspx .

Aman, Ayah. "Egypt Unmoved on Ethiopia's Plan to Fill Renaissance Dam Reservoir." Al-Monitor, March 21, 2018.https://www.al-monitor.com/pulse/originals/2018/03/ethiopia-briefs-egypt-about-plan-filling-renaissance-dam.html#ixzz5Hk8AdLg f.

BBC News. "The 'Water War' Brewing Over the New River Nile Dam." BBC News, February 24, 2018. https://www.bbc.com/news/world-africa-43170408 .

Busby, Joshua. "Water and U.S. National Security." Council on Foreign Relations, 2017. https://cfrd8-files.cfr.org/sites/default/files/pdf/2017/01/Discussion_Paper_Busby_Water_and_US_Security_OR.pdf .

Cascão, Ana Elisa, and Alan Nicol. "GERD: New Norms of Cooperation in the Nile Basin?" Water International 41, no. 4 (2016): 550–73. http://dx.doi.org/10.1080/02508060.2016.1180763 .

Cook, Steven. "Is War about to Break out in the Horn of Africa? Will the West Even Notice?" Salon, January 16, 2018. https://www.salon.com/2018/01/16/is-war-about-to-break-out-in-the-horn-of-africa-will-the-west-even-notice/

Economist.com Map of the Nile Basin and the GERD https://cdn.static-economist.com/sites/default/files/images/2016/01/articles/body/20160116_mam964.png.

GIZ. "Supporting Hydro Diplomacy in the Nile Basin." Accessed June 22, 2018. https://www.giz.de/en/worldwide/43308.html .

Harris, Michael. "Leaders of Egypt, Ethiopia Agree to Mutual Cooperation in Nile River Management." Hydroworld.com, June 14, 2018. https://www.hydroworld.com/articles/2018/06/leaders-of-egypt-ethiopia-agree-to-mutual-cooperation-in-nile-river-management.html .

Kimenyi, Mwangi, and John Mukum Mbaku. "The Limits of the New 'Nile Agreement.'" Brookings, April 28, 2015. https://www.brookings.edu/blog/africa-in-focus/2015/04/28/the-limits-of-the-new-nile-agreement/ .

Magdaleno, Johnny. "Egypt Signs Nile Dam Deal with Ethiopia after Years of Dispute. What Changed?" Christian Science Monitor, March 27, 2015. https://www.csmonitor.com/World/Africa/2015/0327/Egypt-signs-Nile-dam-deal-with-Ethiopia-after-years-of-dispute.-What-changed .

NATO Strategic Direction South – Hub. "Mission." Accessed June 22, 2018. https://www.thesouthernhub.org/about-us/mission.aspx

Nile Basin Initiative, "Cooperative Framework Agreement." Accessed June 22, 2018. http://www.nilebasin.org/index.php/nbi/cooperative-framework-agreement

NPR. "In Africa, War Over Water Looms As Ethiopia Nears Completion of Nile River Dam," February 27, 2018. https://www.npr.org/2018/02/27/589240174/in-africa-war-over-water-looms-as-ethiopia-nears-completion-of-nile-river-dam .

Pohl, Benjamin, Alexander Carius, Ken Conca, Geoffrey D. Dabelko, Annika Kramer, David Michel, Susanne Schmeier, Ashok Swain, and Aaron Wolf. "The Rise of Hydro-Diplomacy: Strengthening Foreign Policy for Transboundary Waters." Berlin: Adelphi, 2014. https://www.adelphi.de/en/system/files/mediathek/bilder/the_rise_of_hydro-diplomacy_adelphi.pdf

Raphelson, Samantha. “Don’t Torpedo The Dam, Full Speed Ahead for Ethiopia’s Nile Project.” NPR, March 26, 2015. https://www.npr.org/sections/goatsandsoda/2015/03/26/395321624/dont-torpedo-the-dam-full-speed-ahead-for-ethiopias-nile-project .

The Telegraph. “Death of the Nile: Egypt Fears Ethiopian Dam Will Cut into its Water Supply,” October 2, 2017. https://www.telegraph.co.uk/news/2017/10/02/death-nile-egypt-fearsethiopian-dam-will-cut-water-supply/

The Nile Basin Water Resources Atlas. http://nileis.nilebasin.org/content/nile-basin-water-resources-atlas ; 2016. Accessed March 10, 2018.

Veselinovic, Milena. “Ethiopia’s $5bn Project That Could Turn It into Africa’s Water Powerhouse.” CNN, October 20, 2015. https://www.cnn.com/2015/03/06/africa/grand-reneissance-dam-ethiopia/ .

Water Diplomacy. Accessed June 22, 2018. https://waterdiplomacy.org/ .

World Bank. “High and Dry: Climate Change, Water, and the Economy,” World Bank, 2016. http://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy .