Hydropolitics of the Nile River: Conflict, Policy, and the Future

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Introduction

In 1979, during the signing of the Egypt-Israel peace treaty, former Egyptian President Anwar Sadat said that "the only matter that would take Egypt to war again is water" (Darwish, 1995). Water scarcity has been a growing problem for many places all over the world, especially along the Nile River, where the arid climate and regional conflict have exacerbated the issue. In this region, overpopulation and rapid urbanization have led to food and power shortages, sanitation issues, and an increased need for irrigation. As these issues put a further strain on existing water supplies, attaining water resources becomes a matter of survival. According to author and political science professor Michael Klare, "[f]rom a resource perspective, water bears many similarities to oil" (Klare, 2001, p. 142). Water is a complex issue given that it is in high demand and is available in limited quantities, and water resources cross national boundaries. Tension over water resources between riparian states along the Nile has existed for decades, and modern political instability, including the Sudanese civil war, has intensified the conflict. Furthermore, while global warming and climate change will very likely cause increased flooding, droughts, and other climate extremes, the magnitude of these effects is uncertain and therefore renders the water situation even more fragile. This dire situation of water scarcity could very well lead to water wars in this already politically unstable area, emphasizing the need for international cooperation. Given that water management is not a zero-sum game, and multiple nations can benefit simultaneously if water is used efficiently, cooperation among basin states is imperative. Riparian states (states existing on the bank of a river) must increase communication, use technology more efficiently, and show a willingness to relinquish some sovereignty in order to maintain peace in the Nile River basin.

A History of Tension

Basin states including Egypt, Sudan, Eritrea, Ethiopia, Uganda, Kenya, Rwanda, Burundi, Democratic Republic of the Congo, and

Tanzania have shared long-term tension over their primary water source – the Nile River. Although the Nile runs through ten nations, Egypt has historically dictated water allocations (Michel, & Pandya, 2009). In the 1929 Nile Treaty between Britain and its Egyptian colony, any upstream nations were forbidden from reducing the water volume flowing into Egypt and northern Sudan. The treaty states that "[w]ithout the consent of the Egyptian government, no irrigation or hydroelectric works can be established on the tributaries of the Nile or their lakes, if such works can cause a drop in water level harmful to Egypt" (Cocks, 2004). Upstream states regard the treaty as an outdated, irrelevant, "colonial relic" that neglects the needs of other riparian nations (Cocks, 2004). Thirty years later, Egypt and Sudan negotiated the 1959 Nile Water Treaty, which gave them rights to 100% of the Nile water and continued veto power over any upstream projects. Under this treaty, other riparian nations could theoretically draw water from the Nile, but treaty details enhanced Egyptian and Sudanese power while hindering upstream nations from pursuing water projects. The annual estimated discharge of the Nile River is 84 billion cubic meters, and this treaty allots Egypt 55 billion cubic meters and Sudan 19 billion cubic meters of water, while accounting for about 10 Billion cubic meters in evaporative losses ("The Nile," 1988). The actual discharge of the Nile can vary considerably, and in many cases is much less than 84 billion cubic meters. This deficit naturally weakens the treaty and further strains the relations between riparian states. In addition, based on the given figures, the treaty does not allot any water to the other Nile Basin states, and it forbids these states from pursuing any water projects without permission from Cairo. From 1977-1985, Egypt exceeded its annual water quota as stated by the 1959 treaty and has met little resistance so far ("A silverish-lining," 1988). The 1929 and 1959 water treaties have placed Egypt in a powerful position that they have managed to maintain for many years. Egypt is able to maintain power over the Nile, despite its poor location, because it is the most powerful state militarily and economically, relative to the other, more impoverished basin states. In fact, "except for Kenya and Egypt, all of the basin countries are among the world's 50 poorest nations" (Kameri-Mbote, 2007, p. 1).

The construction of the Aswan High Dam and the Lake Nasser Reservoir in 1971 was another unilateral pursuit on behalf of the Egyptians to maintain control of the Nile waters. Although the dam is located on Egyptian soil and thus cannot influence how much water

Egypt receives, other riparian states still viewed its construction as an aggressive gesture. The dam not only offers Egyptians a source of hydroelectric power to help sustain their growing population, but also gives auxiliary water storage, which provides water security for drought periods. The construction of the dam supplies perennial irrigation, as a consistent water source extends the growing season and can sustain two to three crops a year. The dam also allows the Egyptians to control the potentially destructive nature of Nile floods. Author Fred Pearce notes that "[t]he dam had a political purpose, too. It was a defiant gesture by Nasser to his foes in the West" (Pearce, 1994, p. 28). The Aswan High Dam was a politically advantageous move both in the Nile Basin and in the larger world system. Through its construction, Egypt was not only asserting its own control over Nile waters, but also declaring its ability to be self-reliant in the international system.

Egypt created these water treaties because as the most downstream country, it is in the most vulnerable position of all riparian nations and feels as though it must maintain this control for state survival ("Egypt: Conference of Water Ministers," 2002). Egypt has historically exercised military force in order to maintain control over Nile waters, and due to the fact that "the upstream riparians have lacked the capital or the capacity to build extensive dams and waterworks, Egypt has benefited enormously from its privileged position" (Klare, 2001, p. 148). The Sudan and Ethiopia are very much consumed in their own internal conflicts that "consumed the attention (and the resources) of the governments involved, precluding any new investment in dams and irrigation projects" (Klare, 2001, p. 154). Clearly, Egypt has historically taken advantage of this internal conflict in other nations for its own benefit, by using its own wealth, resources, and power to dominate the region. As we enter the 21st century, the prospect of peace in these war torn areas of Africa is becoming more and more possible, which would change Egypt's situation significantly. Although Egypt has historically controlled allotments of the Nile River, the status quo is not necessarily sustainable.

Current Conflicts

With increased food, power, and water shortages, other riparian states cannot sustain themselves and inevitably will challenge Egypt.

Up-river nations have recently been reacting to Egypt's monopolization of Nile water by threatening to withdraw from the 1959 treaty and instituting water projects of their own. Tanzania recently began a \$27.6 billion dollar project to get drinking water out of Lake Victoria, despite the fact that the Nile Waters Agreement of 1959 calls this illegal. Moreover, Kenya is experiencing increased water shortages and refuses to accept Egyptian restrictions on the usage of the Nile. Demanding that the treaty be revised, Kenya wants the backing of other basin states. Egypt viewed this as a declaration of war, threatening economic and political sanctions. Although Kenya contributes very little water volume to the Nile, if it pulls out of the treaty, others will potentially follow. With its growing population, Uganda is being plagued by energy shortages and wants to utilize the Nile for hydroelectric power projects. Tanzania, an "impoverished country suffering from drought caused by insufficient rainfall, deforestation, and soil erosion," refuses to recognize the 1929 treaty as well (Yongming, 2004). Bordering Lake Victoria, they feel as though they have every right to withdraw water from it, especially with such dire domestic circumstances. Similarly, over the past several years, Ethiopia has been undergoing a severe drought and needs the Nile for large-scale irrigation projects. In 1980, because Ethiopia did not want Egypt to divert Nile water to the Sinai desert, Egypt threatened war (Cocks, 2004). While Ethiopia contributes roughly 86% of Nile water, it only consumes a mere 1% of Nile discharge, and according to Ethiopia's minister for trade and industry, Ato Girma Birru, "Egypt has been pressuring international financial institutions to desist from assisting Ethiopia in carrying out development projects in the Nile basin...It has used its influence to persuade the Arab world not to provide Ethiopia with any loans or grants for Nile water development" ("Politics: East Africans," 2004). Supposedly, Egypt has been softening and now is willing to help Ethiopia with irrigation and hydroelectric power projects, though this does not seem likely due to its continual need to control the waters. It is clear that throughout history, Egypt has not been flexible or amiable in its relations with other Nile basin states, rendering the chances of a successful international treaty slim.

The Special Case of Sudan

Egypt has had historically shaky relations with its neighbor to the south Sudan, further jeopardizing regional stability over water sources. In June of 1995, Sudan supposedly supported an attempt to assassinate the Egyptian president in Ethiopia, and in response, Egypt sought to overthrow the Sudanese regime "not only to counter the threat of subversion [regarding Nile water allocation], but also to signal other states that any encroachment on the Nile waters will not be tolerated" ("Ethiopia rules out war," 1999). Ann Mosely Lesch, the U.S.-Sudan Watcher academic, said that "Sudan's location on the Nile means that Egypt cannot tolerate a hostile regime in Khartoum" ("Egypt & Sudan," 1995). Egypt's historical control over the Nile has rested on Sudan's tendency to comply. Egypt, however, fears the separation of a southern Sudan, because if the south secedes, this would lead to a renegotiation of the water sharing agreement, inherently threatening Egypt's water security ("Egypt: Sudan rebel impeding peace talks," 2003). In an effort to maintain this security, Egypt's president made a trip to Sudan on November 10, 2008 to encourage the war torn state to stay together (Osman, 2008). It becomes increasingly clear that because Egypt has no other viable water source, it needs to maintain control of the river for survival. This predicament has driven much of the hydropolitics of this region, especially Egypt's unilateral tendencies over the past century, and emphasizes Egypt's vulnerable political position, as it is very much subject to the will of all other upstream riparian states.

International Efforts to Encourage Cooperation

Many international organizations, third party groups, and outside states have stepped in to help alleviate the tension between the Nile Basin states, while attempting to improve the quality of life for these African citizens. For example, the United States wants to take part in the Millennium Development Goals (MDGs) on water and sanitation by allocating a portion of its foreign aid towards affordable water availability in developing countries. Goals of the project include the improvement of human health, water management and productivity, and cooperation (McMurray, 2007). The U.S. is assisting in infrastructure development, protecting public health, science and technology advancements, and humanitarian assistance in times of

Hydropolitics of the Nile River

catastrophe. In addition, the U.S. Agency for International Development (USAID) is working with African partners and institutions to reduce the number of people without access to clean drinking water. USAID's larger aims include helping to improve "governance and regulation of water utilities at local, national, and regional levels" ("State Dept.: U.S Congress examines drinking water crisis," 2007). This goal is important because regional stability and effective water management can only be achieved if governments are willing to participate in international efforts. Fortunately, the U.S. is not responding unilaterally to the water crisis in Africa, as France just donated 66 million Euros to current water management and resources development ("France donates 66 million euros," 2002). In addition, The World Bank offers financial assistance to developing countries and is responding to the water crisis in the Middle East and North Africa with aid for improved resource management, drinking water, sanitation, irrigation, and hydropower ("Water: Middle East and North Africa," 2009). The Overseas Development Assistance or ODA program offers funding to counties or multilateral institutions to promote economic development and general welfare. ODA has historically offered aid to Egypt, and it was third on the ODA's aid list from 1990 – 2004 (Gleick, 2006). Fortunately for Egypt, it is clear that outside parties and international institutions have played a large role in offering financial relief for nations that are suffering from water shortages, especially in Africa and along the Nile River.

The Need for Riparian Dialogue

This outside aid, however, is not a sustainable solution, and the crisis instead requires ongoing positive dialogue among riparian nations. For example, in response to Ethiopian discussions of damming Lake Tana, Boutros Boutros Ghali, Egypt's foreign minister at the time and former secretary-general of the UN, said at the Africa Water Summit in Cairo in 1990 that "[w]e need more water, and there is no possibility of getting more water unless there is stability in the region" (Pearce, 1994, p. 32). He emphasized the need for a better relationship with Ethiopia. Likewise, Ethiopia says it will never go to war with Egypt over Nile waters. Ethiopian foreign minister Seyoum Mesfin said "the utilization of the Nile water is rather an incentive for cooperation in the region on the interests of the two peoples (of Ethiopia and Egypt)" ("Ethiopia rules out war," 1999). Riparian states

need to actively and willingly continue to work together to pursue water development and management initiatives. Nations will need to change policies if they want to overcome the crisis, and current policies that promote "inefficient land use, overuse of nonrenewable water resources, pollution, ecological damage, and poorly maintained infrastructure" will need to be replaced ("Coping with scarce water," 2007). These necessary policy changes require willingness on the part of local, regional, and national governments, and as author Peter Gleick notes, "The failure to meet basic human needs for water is...a failure of governments at many levels" (2006, p. 139). The inability to prioritize and poor management are among the flaws that exacerbate the water crisis.

Riparian nations need to work together towards developing better water management programs, especially by taking advantage of new technologies that have the potential to increase efficiency and communication. As early as 1920, British politician Sir Murdoch MacDonald suggested that a "Central Storage Scheme" be implemented that would involve many dams upstream saving water in times of prosperity and releasing water during droughts (Klare, 2001, p. 151). This scheme is an example of a region-wide development plan, which is one of the only viable options short of war. To reduce water loss due to evaporation, more dams and reservoirs would need to be built upstream on the Nile, which would lower water levels in Lake Nasser but would reduce evaporative losses significantly. This requires states to give up some of their sovereignty – "the states in the region would have to subordinate their own plans for the Nile to a regional scheme that would place the group interest over that of the individual members" (Klare, 2001, p. 160). Today, there have been proposals to create an unbiased scientific organization that would run studies on water projects. Immediate goals include "the establishment of a regional water resources computer, an on-line network, the convening of a workshop/conference, and the initiation of an international co-operative research project" ("Middle East and North Africa," 2009). Water resources development is necessary to solve the fragile water situation in these states. International cooperation can only be achieved through communication and sharing of information, and in this case, a computer based information system would be beneficial. There has also been talk of a Middle East and North Africa Waternet, an Internet database that would provide free and easily accessible information regarding water resources (Driss). Although

realist political theorists might argue that states do not want to readily share information with each other, especially regarding water resources, which are a national security issue in this region, open communication is necessary for conflict resolution. Some claim that "it is unlikely that even with a joint management commission and a common informational database, these countries will readily share their future development plans with each other, much less submit them to joint decision making" (Michel, 2009, p. 65). In an area like the Nile Basin, states are suspicious of each other to begin with, leaving little sharing of information. Open communication between states, however, is critical to the stability of this region and to the improvement of Nile water management.

If they want to maintain an adequate water supply for their people, local, regional, and national governments of the threatened nations are going to have to play a large role and take responsibility, especially through communication. Governments are going to have to prioritize water and sanitation in their policies and look to privatepublic partnerships for aid (McMurray, 2007). Water problems have the potential to promote democracy and equality between nations, but only if the involved states actively participate. Efforts to reach conflict resolution today include the Nile Basin Initiative, which was launched in 1999 and seeks to "develop the river in a cooperative manner, share substantial socio-economic benefits, and promote regional peace and security" ("About Us. nbi," 2009). It is concerned with hydro-electric power, agriculture, and water resource management. Its members include Burundi, DRC, Egypt, Eritrea, Kenya, Rwanda, Sudan, Tanzania, and Uganda. From December 6-8, 2009, the NBI celebrated its 10-year anniversary ("NBI celebrates 10," 2009). Dr. Ali Mohamed Shein, Vice President of the United Republic of Tanzania, said "Ten years ago there was an atmosphere of mistrust, suspicion, and doubts. Today Nile Basin countries are open to each other, ready, and willing to interact and exchange information. This is an achievement to be cherished, nourished, and nurtured by all" ("NBI celebrates 10," 2009). Although he acknowledges the progress made by Nile basin states over the past decade, there is still room to expand water management, which requires increased interactions between riparian nations. Future goals include the improvement of system management, agricultural productivity, water use efficiency, and a reduction of evaporative losses. These are extremely optimistic goals

and unfortunately, due to Egypt's and (to a lesser degree) Sudan's continuation of water monopolization, they do not look promising.

Miscommunications between states have characterized many recent Nile basin interactions and are not facilitating the formation of a successful international treaty. Egypt and Sudan have claimed in the recent past that they moving towards water agreements regarding allocations of Nile water, but have not followed through. On March 7, 2009, Egypt and Sudan made an agreement about the upcoming Nile Basin agenda to be held in July at Alexandria. They said they would "cooperate in full with the Nile Basin countries in order to reach the institutional and legal framework which would achieve cooperation and the complete management of Nile water for the good of the Nile Basin people" ("Egypt: complete Egypt-Sudan agreement," 2009). Only a few months later on July 29, 2009, nine basin countries met in Alexandria to discuss a cooperative framework agreement. There were 39 articles raised that were agreed on by seven NBI member countries ("Ethiopia says all Nile states agreed," 2009). Egypt and Sudan rejected the framework "because it aims at guaranteeing water security for the upper riparian countries of the Nile Basin" ("Kenya says Sudan and Egypt want to monopolize Nile water," 2008). Article 4 of the Nile Water Basin Nile Water Basin Cooperative Framework says "Nile Basin states therefore agree, in a spirit of cooperation, not to significantly affect the water security of any other Nile Basin state" ("Kenya says Sudan and Egypt want to monopolize Nile water," 2008). Egypt and Sudan refused to sign away their rights to the control of Nile waters. Upriver nations really want Egypt and Sudan to reconsider their position, because they are holding everyone else back, although the NWBCF can occur without the consent of the nonsignatories. Egypt refuses to concede and is willing to offer economic incentives to maintain the status quo, though the Nile could provide enough water for all of the riparian states if it was managed properly. Ultimately, the water ministers at the forum "decided to delay signing the proposed accord for six months to give time for the countries to reach a compromise" ("Egypt, Sudan thwart Nile basin sharing pact," 2009).

Conclusion: The Cost of Self-Interest

It becomes increasingly clear that although some people believe that water resources have the ability to promote democracy,

until individual nations can put aside their own self-interest, nothing productive can be achieved. These self-interested nations need to realize the importance of a successful international treaty, as it would improve political relations and create a more sustainable resource for the future. Author Arun Elhance believes that water management can only be achieved if the actors are "tamed" into cooperation, and "[s]omehow riparian states must stand ready to rationalize and compromise their 'core interests and prized goals' in an even handed manner" (Jones, 2003). Kenyan minister for water resources Martha Karua regarded an agreement between Nile riparian states as being "vital to the security and peace of the region" ("Nile basin states flesh out water sharing treaty," 2004). She noted that "security is no longer just about interstate relations, it is also about the sharing and preservation of the environment" ("Nile basin states flesh out water sharing treaty," 2004). By emphasizing cooperation, "we can look forward to peace and prosperity and not backwards to dispute and conflict. We can develop the benefits of the Nile and we can share those benefits in equitable ways" ("Nile basin states flesh out water sharing treaty," 2004). Unfortunately, since the NBI is celebrating its tenth anniversary in a stalemate, "prospects of resolving the infighting are doubtful" (Mayton, 2009). States must recognize that a continued refusal to cooperate may yield future consequences that include economic collapse, widespread conflict, famine, and disease. If conflict resolution is to occur sometime in the future, Egypt must relinquish its tendencies for unilateral action regarding water allocations of the Nile, so that Nile Basin states might cooperate and develop a sustainable agreement to prevent future water wars.

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