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WATER CONFLICTS: THE CASE OF THE NILE RIVER AND THE GRAND ETHIOPIAN RENAISSANCE DAM

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Abstract

The most crucial element of every life form on our planet, water has always been a source of potential animosity between clans, tribes and even states. With the advent of modern technology we have devoted less and less of our attention to this all-needed resource, but pollution, large-scale industrialization and agriculture, the population boom of the last centuries and crucially the climate calamity that it threatens to unleash, forces us to reconsider the key role played by water in the delicate and fragile ecosystem of our planet. This article takes a look at how water is, and will increasingly be, a source of contention and even conflicts between states, as climate changes and increasingly larger populations will be forced to fight over more and more depleted resources. With a focus on the case of the Nile river and the potential conflict over its water resources between Egypt and Ethiopia, this article examines how the mainstream state of water conflict thinking fails to explain the case of the Nile River Basis and the newly built Grand Ethiopian Renaissance Dam (GERD) and why the alternative ideas that are based on the notions of cooperation and justice might ultimately provide a better way of understanding the complex problem of the delicate management and use of water resources.

Keywords: Water conflicts, Egypt, Ethiopia, GERD, The Nile

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Introduction

All forms of life as we know it, from the smallest, microscopic organisms to the largest beings, including mankind, share one crucial aspect: they depend, in a clear, physical way, on the availability of water in order to survive. Indeed, mankind has been, from its tribal origins and up until modern, complex societies, searching and staying close to fresh water sources. We only need to look at a map of any country to see that virtually all settlements, large or small, follow the trail of rivers, streams or springs. While modern technology and society has eliminated the need of people to actively search for fresh and clean water, at least in the developed, wealthy global North, this luxury might very well be a short-lived one.

In the words of Ismail Serageldin, former Vice-President of the World Bank, all the way back in 1995: "Many of the wars of this century were about oil, but wars of the next century will be about water".[1] And this is not just one, solitary voice, calling and drawing attention to a remote and isolated problem. Former UN Secretary General Kofi Annan echoed the same concerns in 2000: "…fierce competition for freshwater may well become a source of conflict and war…".[2] Many scholars also call for a more thorough look at how we use water, and the role of water in future conflicts. Westing draws attention to how "competition for limited..freshwater…leads to severe political tensions and even to war".[3] Furthermore, Butts exemplifies the historic argument, saying that "history is replete with examples of violent conflict over water".[4]

If we were to summarize these arguments, the main point of argument that all these scholars march towards is that water is ultimately a limited resource and given the crucial role it plays in our lives it can always be a point of contention or source of conflict. Furthermore, given the scarce

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[1] Ismail Serageldin, "Water: Conflicts set to arise within as well as between states" in *Nature*, 459, 2009.

[2] Shavkat Kasymov, "Water Resource Disputes: Conflict and Cooperation in Drainage Basins", in *The International Journal on World Peace*, Vol. 28, No. 3, 2011, p. 85

[3] Arthur Westing (ed.), *Global resources and international conflict: environmental factors in strategic policy and action*, New York: Oxford University Press, 1986

[4] Kent Butts, "The strategic importance of water" in *Parameters*, Vol. 27, No.1, 1997, p. 70

nature of fresh and clean water, and the innate transboundary statute of water, conflicts may arise not just at the personal, local or regional level, but at the international level.

In this article we will look precisely at this last level, the international one. When speaking about water and possible conflicts, the case of the Nile River, with a focus on the rising tensions between Egypt and Ethiopia, is certainly one of the first that comes to mind. In the following pages we will take a deeper look at the current paradigm of water conflict theory, then we will focus on the Nile River and GERD. The main focus of this article is to delve, albeit not in a complete or holistic manner, into the topic of water conflicts, a topic that will surely become more and more pressing in the next decades by examining the case study of the Nile River, one of the most cited cases of the mainstream current of thinking on the topic, and questioning if it does indeed prove the theory and predictions of hydroegoism true. This article will also take a look at the alternative ideas that are represented by the hydrosolidarity school of thought and analyze whether it can provide a better solution to the pressing matter of water scarcity stress and its impact on the eruption and escalation of conflicts, violence and war.

The New Oil

Humans need a relatively low amount of water for survival and even for most ordinary activities, but modern human activities such as industry and large-scale agriculture need a staggering amount of water. Estimated by hydrologist to at least 1700 m3 of annual water supply per person, the threshold for 'normal' water levels is not reached for over 2 billion people as of 2018[5] and the forecasts for the future do not look any better. Estimates by UNICEF indicate that with current levels of progress, by 2040, one in four children under 18 in the world will live in extreme water stress[6] and estimates by the UNESCO World Water Development Report say that by

[5] UN Water, "Sustainable Development Goal 6 Synthesis Report 2018", 2018, https://www.unwater.org/publication_categories/sdg-6-synthesis-report-2018-on-water-and-sanitation/, accessed 17 November 2020

[6] UNICEF, "Thirsting for future. Water and children in a changing climate", 2017, https://www.unicef.org/publications/files/UNICEF_Thirsting_for_a_Future_REPORT.pdf, accessed 17 November 2020

2030 water scarcity will displace between 24 million and 700 million people worldwide.[7]

Indeed, it is not hard to see why some politicians and scholars would draw parallels between oil and water as resources that attract the possibility of conflict. Scarcity in some places and the abundance in others – or what could be more academically called as the 'uneven distribution' of oil across the world – alongside the reverse uneven distribution in terms of military power was one of the main driving forces of conflicts in the recent pasts, as oil was, and for the moment still is, the literal fuel of the world economy, and nations would go to extreme lengths and would not shy away even from war in order to gain access to it.

But as crucial as oil is to the functioning of the world, water is important on a completely different magnitude – the very existence of the world is based on it and not just the economic well-being of it. And with the rising global temperatures, climate change, deforestation, pollution, large-scale industry and inefficient large-scale agriculture among others, the already delicate balance of the water resources are threatened even more, and it is not entirely unimaginable that conflicts, if not wars would erupt in the future over access and control of water. Another crucial element of the equation is humanity itself – and the huge growth in numbers of mankind and the inherent pressure this puts on water resources.

Currently, there are 7,8 billion people on our planet, and already 2 billion of us do not have access to a normal or sufficient amount of fresh water. With current estimates placing the world population at 10 billion in 2055[8] and no signs that the current trends of humans-induced global warming, climate change and general destruction of the environment are reversing or even slowing, it is not hard to draw the conclusions that by 2055 water will be a source of contention between more and more people, regions and nations.

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[7] UN Water, "UN World Water Development Report 2009", 2009, https://www.unwater.org/publications/water-changing-world/, accessed 17 November 2020

[8] Anthony Cillufo and Neil G. Ruiz, "World's population is projected to nearly stop growing by the end of the century", Pew Research Center, 2019, https://www.pewresearch.org/fact-tank/2019/06/17/worlds-population-is-projected-to-nearly-stop-growing-by-the-end-of-the-century/, accessed 18 November 2020

Egoism and solidarity

This line of reasoning has led many authors to conclude that future conflicts over water resources are not be a question of 'if', but rather a question of 'when' and 'where'. Thus, many arguments have been made and a great deal of energy has been spent on finding out where the hotspots for such inevitable conflicts will appear, for assuming this concept intellectually we instantly negate even the possibility that such conflicts may be avoided altogether. Following the logic of the argument, we see that because fresh water is, innately, a non-renewable resource (aside from the incredibly costly and difficult de-salinization process), and the world population, especially in the global south where fresh water resources are much more limited, is expanding at a staggering rate, combined with the fact that the majority of the countries in the global south are under-developed and thus are likely to put an emphasis on the implementation of large-scale agricultural processes as well as large-scale, environmentally damaging industries, processes that will increase the pressure on water resources exponentially, so as to improve or at least sustain their already poor economic situation, an economic situation that is only being put under more pressure as population grows, we arrive at the conclusion that it is inevitable that water will become such a scarce resource, but also such a needed one, that conflict will be inevitable.

This line of thinking is underpinned by much of the same fundamental elements as the Realist theories in International Relations. Following the realist, state-centric and self-help principles of functioning, and given the above-mentioned inescapable dilemma of an invaluable resource that is both disappearing and outside the control of a single state given its natural borderless or international character, we can only conclude that states will have no other choice than to resort to conflict or out-right war in order to defend their dwindling water resources from other states that will want to obtain them for their own use. Fittingly, this paradigm, that has been the mainstream current in terms of water-conflict related ideas, has been named 'hydroegoism' given the self-centered nature of the arguments that is presents. Hydroegosim can be excellently

described as "…the belief that individual, competing, interests guide water allocation decisions, with conflict frequently resulting from the interactions by diverse stakeholders."[9]

Given the dominant position of this theory for the last decades, it has indeed developed and been refined and focused on diverse topics, with the case of rivers and the fresh water they provide being one of the most central one. The hydroegoist paradigm can be best resumed, when the matter of rivers is at hand, as per Homer-Dixon and Percival: "wars over river water between upstream and downstream neighbours are likely to occur in a narrow set of circumstances. The downstream country must be highly interdependent on the water for its national well-being, the upstream country must be able to restrict the rivers flow, there must be a history of antagonism between the two countries, and, most important, the downstream country must be military much stronger than the upstream country."[10]

We can see that, assuming the paradigm of hydroegosim, we are bound to look for the scenarios and regions that are most likely to be engulfed by conflict over water resources. Rivers, of course, given their role as fresh water sources as well as the traditional way of populations to settle along the beds of rivers and streams, are at the forefront of this discussion and rivers that span multiple borders are the most likely to be the source of potential conflicts.

However, hydroegoism is, despite its dominant position, not the only theory in the field. Opposing the notions of egoism and the zero-sum game it depicts is the concept of 'hydrosolidarity'. Based, as the name implies, around the notion of solidarity instead of egoism, hydrosolidarity was developed precisely as a response to the mainstream way of thinking by

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[9] Cameron Harrington, "Toward a critical water security: hydrosolidarity and emancipation" in *Canadian Foreign Policy Journal*, 21, 2014, p. 4

[10] Val Percival and Thomas Homer-Dixon, *Environmental Scarcity and Violent Conflict: Briefing Book*, Toronto: University College, 1996, as quoted in Olaf Westermann, "Interstate Collaboration, Local Conflicts and Public Participation in the Nile River Basin" in Jannik Boesen and Helle Munk Ravnborg (Eds.), *From Water 'Wars' To Water 'Riots'?*, Danish Institute for International Studies, 2004 , p. 121

Swedish hydrologist Malin Falkenmark in the late 1990's.[11] Developed as an mixture between human rights, social justice, solidarity but also including the element of good economic management of resources, hydrosolidarity can be best understood as: "…developed so far within a context of sustainable development, the paradigm of development that promotes social equity and environmental protection, while retaining the necessity of maintaining economic efficiency".[12]

The concept gained traction immediately, as it was the only alternative to the more pessimistic hydroegoist current, but it also came under criticism as it did not provide tangible ways of implementing the otherwise noble goals of justice and solidarity.

Since the early days, the notion has been further developed by scholars with the notable addition of the dimensional layer of understanding that differentiates between local, national or regional and even global types of solidarity in terms of water access, usage and management. Latest additions to the concept include the stress put on the "need for cooperative frameworks to manage transboundary waters"[13] as a way to better translate the concept of hydrosolidarity in palpable actions.

The Nile – The Backbone And The Achilles Heel Of Egypt

With the theoretical underpinnings of the world of water crisis briefly explained, we can turn our focus to our case study on the Nile River and the newly finished Grand Ethiopian Renaissance Dam (GERD). To better understand the topic and the context of why the Nile River was and is the source of potential conflict and why supporters of the hydroegoism current were and still are looking at the Nile, and more precisely at Ethiopia and Egypt as the hotbed of a conflict, we must firstly look at the facts.

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[11] Malin Falkenmark and Jan Lundqvist, "Towards Hydrosolidarity, Focus on the Upstream-Downstream Conflicts of Interests" in *Water International*, Vol. 25, No. 2, 2000, see also William J. Cosgrove, "Fulfilling the world water vision – hydrosolidarity" in *Water International*, Vol. 28, No. 4, 2003, pp. 527-531

[12] Andrea K. Gerlak, Robert G, Varady, Olivier Petit and Arin C. Haverland, "Hydrosolidarity and beyond: can ethics and equity find a place in today's water resource management?" in *Water International,* Vol. 36, No. 3, 2011, p. 256

[13] Jacob Petersen-Perlman, Jennifer C. Veilleux and Aaron T. Wolf, "International water conflicts and cooperation: challenges and opportunities" in *Water International,* 42, vol. 2, 2017, p. 13

Figure 1: The Nile River with its tributaries. Source: BBC News

As illustrated in Figure 1, the Nile River is, not just for historic reasons, one of the most important rivers of Africa, as its basin spread across eleven states: Burundi, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania, Uganda and the D.R. of Congo. Out of these countries, the Nile is crucial mainly for the more downstream countries, with Egypt and Sudan being almost entirely dependent upon its waters for agriculture, industry and even day to day water usage.

Egypt, one of the largest countries both in terms of population and from the economic viewpoint, is according to UN data, 98% dependent on the waters of the Nile,[14] waters that come from outside its borders, thus are outside the direct control of the Egyptian state.

[14] Food and Agriculture Organization of the United Nations, "Egypt Country Fact Sheet", http://www.fao.org/aquastat/en/countries-and-basins/country-profiles/country/EGY, accessed on 22 November 2020

The Nile river, the longest in the world, has an annual discharge of approximately 84 billion cubic meters of water, a figure that tends to have some, but not large, variations due to the pattern of rainfall in the region.[15] Out of the 84 billion, almost 80% comes from the Blue Nile tributary, that has its source at Lake Tana in Ethiopia and merges with the White Nile at Khartoum, the capital of Sudan, to form the main Nile.

While Egypt is 98% dependent on the Nile, it does not contribute even 1% to its waters, and on the reverse, Ethiopia, the largest country by population in the region, contributes 80% to the water resources of the river, yet it does not benefit from its potential, or it did not until GERD was built.[16]

Ethiopia, with a population of 108 million and a rapidly growing economy,[17] is starting to look more and more as a potential challenger for Egypt's hegemonic role in the region, also given its historic ties and importance. But leaving aside the discussion about strategy, hegemons and the military sector in general, the Nile and its geography, hydrology and the economic and geopolitical position of the countries along its banks, especially Egypt and Ethiopia, presents an inherent and gross inequality of resource allocation.

This inequality, where Egypt, the strongest and wealthiest country in the region is virtually 100% dependent on the resources that (almost entirely) come from Ethiopia, a weaker and poorer country that wants to develop has also historic roots. As per many of the world's problems, especially in Africa or the Middle East regions, this inequality has been forged into the status quo by the British Empire during colonial times. As Egypt was under British Rule and was given a strategic importance by London, treaties were established as to guarantee Egypt's access to the Nile resources. Out of the many treaties of this sort, it is worth mentioning the 1902 Treaty between Britain and Ethiopia, a treaty that prohibits Ethiopia from constructing any dam on the Blue Nile or reduce by any means the

[15] Sam L. Laki, "Management of water resources of the Nile Basin", in *International Journal of Sustainable Development & World Ecology*, Vol. 5, No. 4, 1998, pp. 288-292

[16] *Ibidem*.

[17] Ethiopia's economy grew around 10% annualy in the last decade according to the CIA World Factbook - https://www.cia.gov/library/publications/the-world-factbook/geos/et.html, accessed 24 November 2020

flow of water towards Egypt,[18] the 1929 treaty signed between Egypt and Sudan, allocates the water resources of the Nile as: 4 billion cubic meters to Sudan and 48 billion cubic meters to Egypt. The 1929 Treaty also binds, though it is only signed by Sudan and Egypt, upstream countries to not construct any waterworks without the consent of the downstream nations.[19]

Finally, the 1959 treaty, perhaps the most important and most contentious one as it is still cited by Egypt today when other countries question the legitimacy of their claims[20], states that the waters of the Nile will be allocated entirely between Egypt and Sudan: 55,5 billion cubic meters towards Egypt and 18.5 billion cubic meters towards Sudan. The 1959 treaty also establishes that no further water works such as dams can be built along the Nile and its tributaries without the consent of Sudan and Egypt. The problem arises, just as in the case of the 1929 Treaty, that only Egypt and Sudan signed the 1959 'Treaty for the Full Utilization of the Nile', thus it is hard to see how Ethiopia or other riparian countries would feel the need to abide by it, not to mention the inherent problematic approach of the principle of acquired rights that is espoused by Egypt largely thanks to this treaty, and the opposition by the use of the principle of equity that is not just more morally and lawfully just, but is, of course, preferred by the rest of the riparian countries.[21]

Gerd – A Disaster In The Making?

This threefold complex issue – the inherent unequal distribution of natural resources on the Nile combined with the reversed unequal distribution of economic, military and human resources between Egypt and Ethiopia, the most important riparian countries, on top of the historically unjust and unlawful legal situation – has prompted scholars to assume that the issue of a conflict between Ethiopia and Egypt over the rights to the Nile River and its precious water resources can naturally only lead to a situation of ever-

[18] Sam L. Laki, *op. cit*., p. 291

[19] *Ibidem.*

[20] Dalia Abdelhady, *et. al.,* "The Nile and The Grand Ethiopian Renaissance Dam: Is there a Meeting Poin between Nationalism and hydrosolidarity?" in *Journal of Contemporary Water Research & Education*, Issue 155, 2015, p. 79

[21] Olaf Westermann, *op. cit.,* p. 125

increasing stress and tensions in the face of the unstoppable disappearance of water, thus a war between the two countries was only a question of 'when', not a question of 'if'.

Indeed, if we analyze the situation of Ethiopia and Egypt on the backdrop of the requirements for war over water resources put forward by Homer-Dixon and Percival we see that our case fits almost perfectly the described prescription of a war setting. Egypt, the downstream nation, is not highly dependent on the water of the Nile, but entirely so. Egypt is also much stronger in terms of military capabilities than Ethiopia[22] and antagonism between the two countries is not a new topic.[23]

Thus, when GERD, a massive $5 billion project that will see Ethiopia double its energy production capabilities when at full operational capability,[24] was finally completed in July 2020, and Ethiopia announced that it will start filling the reservoir of the dam[25], thus restricting the flow of water, to a certain extent, towards Egypt, analysts immediately started to look for the signs of escalation from Egypt. To some, the war already started,[26] though in practical sense the threshold of fiery declarations, was never crossed. Indeed, Egypt's response is far from the fiery rhetoric of its declarations, such as the notorious line of former President Mohamed Morsi when he promised that Egypt will "defend each drop of Nile water with our blood".[27]

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[22] Egypt has a military force of around 450,000 troops, compared to Ethiopia's 150.000. Military spending is also much larger in Egypt - ~3 billion $ - compared to Ethiopia's ~800 million $ - facts taken from CIA World Factbook – https://www.cia.gov/library/publications/the-world-factbook/fields/330rank.html#EG, accessed 27 November 2020

[23] For a more in-depth view of the topic, see Fred Lawson, "Egypt versus Ethiopia: The Conflict over the Nile Metastasizes", in *The International Spectator*, 52, 4, 2017

[24] Margaret Suter, "The Politics of Water: What We Know About the Grand Ethiopian Renaissance Dam", 2016, https://www.atlanticcouncil.org/blogs/menasource/the-politics-of-water-what-we-know-about-the-grand-ethiopian-renaissance-dam/, accessed 27 November 2020

[25] ***, "River Nile dam: Reservoir filling up, Ethiopia confirms", *BBC*, 15 July 2020, https://www.bbc.com/news/world-africa-53416277, accessed 22 November 2020

[26] Ayenat Mersie, "The Ethiopian-Egyptian Water War Has Begun", *Foreign Policy*, September 20, 2020, https://foreignpolicy.com/2020/09/22/the-ethiopian-egyptian-water-war-has-begun/, accessed 25 November 2020

[27] Patrick Kinglsey, "Ethiopia rejects Egyptian protests over Nile dam", *The Guardian*, 11 June 2013, https://www.theguardian.com/world/2013/jun/11/ethiopia-rejects-egyptian-protests-nile-dam, accessed 25 November 2020

Quite to the contrary, Egypt and Ethiopia, alongside Sudan, have been involved in a long process of negotiations over a new treaty that could solve once and for all the dispute over each country's claim towards the waters of the Nile. While the process is difficult and has not yet yielded any palpable results, the fact that the countries, especially Egypt, are determined to follow a political solution to the problem,[28] with Egyptian President Al Sisi even going as far as to officially ruling out a military intervention,[29] is a clear sign that hydroegoism is not entirely accurate and that there is hope for a more rational and just solution.

Conclusions

The case of Egypt, Ethiopia and the Nile River is a paramount example for the wider discussion about water conflicts. Indeed, while in this article I have attempted to demonstrate that hydroegoism and the worldview that it envisions are not the only solution, and that there are alternative, more rational, just and conflict-avoiding solutions such as the view offered by hydrosolidarity, the problem of water scarcity and the possibility of conflict that it ensues will not always be so easily solved as in the case of Egypt and Ethiopia. Even our case can always, if the national and regional context allows, slide backwards toward a more egoist and nationalistic confrontation. With the rate at which our climate is changing, combined with the forecasted population growth of the next decades, especially in the poorer, both in terms of economic and water resources, global South, and the apparent lack of interest on a wide-scale of people to actually meaningfully change our ways of consuming and managing resources, conflicts, disputes or even wars over natural resources, water being on the frontline of this, are likely to appear more and more often. This is not to say that they are inevitable, or the natural conclusion of the given situation, but there are still high changes for those situations to arise,

[28] ***, "Nile dam talks between Egypt, Ethiopia and Sudan fail again", *Al-Jazeera*, 5 nov 2020, https://www.aljazeera.com/news/2020/11/5/egypt-ethiopia-sudan-fail-to-succeed-in-disputed-dam-talks, accessed 25 November 2020

[29] ***, "Egypt's Sisi rules out military action over GERD dispute with Ethiopia", *Egypt Independent*, July 5, 2020, https://egyptindependent.com/egypts-sisi-rules-out-military-action-over-gerd-dispute-with-ethiopia/, accessed 28 November 2020

and the struggle to avoid the degeneration of such tensions must always be focused on the finding of alternative solutions that must involve justice, lawfulness, good management practices and, ultimately, solidarity.

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