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Ruling over the Nile: next to the *blue gold* war?
Water security and the relations between Egypt, Ethiopia and Sudan

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Abstract

Water and energy are unavoidably ever more intertwined and essential for each dimension of life, from socio-economic development to human livelihood. Water scarcity's issue is turning these two factors into geopolitical tools which are at the centre of most countries' political agendas. Particularly, in transboundary river basins' scenarios, watercourses and freshwaters become scarce geostrategic resources. Thus, riparian countries must share the only available source of water, rivers, this provoking tensions and disputes over river's water distribution. For instance, in the Nile River scenario, the river – under increasing pressure – is becoming both an instrument of power and development, triggering tensions and deadlocked negotiations over water allocation. The GERD project is going in this direction: the largest African dam ever built is threatening the already fragile regional equilibrium, redrawing regional and extra-regional relations and questioning the hydro-hegemony over the Nile. Throughout the thesis, an all-encompassing approach will be adopted, and the Nilotic dispute will be examined as a multi-faceted phenomenon which revolves around the following conflict-generating factors: water scarcity, population growth, food insecurity, climate change and up-downstream countries' relations. The thesis argues that the interconnection of all the analysed factors could lead to an escalation of Nilotic tensions and cause a real *blue gold* war. Therefore, it would be important to reconcile nationalistic interests and hydro-solidarity on the Nile and work out a cooperative framework within which jointly manage the Nile River.

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Introduction

Water and energy are nowadays ever more essential for each dimension of life, from socio-economic development to human livelihood. These two resources are unavoidably intertwined, and their connection is particularly visible in water-management disputes between conflicting States. Water is used to produce, generate and deliver energy. However, as its resources are becoming less available, the dependence on water is inversely increasing. For that reason, decision-makers are ever more concentrating on water resource management, water supply and ecosystem safeguard. Water scarcity's issue is turning water into a geopolitical tool which is at the centre of most countries' political agendas. Indeed, within the political agendas of African countries, water supply's issues are becoming increasingly high-priority topics for the socio-economic development of most of them. Water is a renewable resource but not sustainable: water's availability is not commensurate with its increasing consumption and its reproduction rate is lower than that of use. Water's non-ubiquity makes it a source of diplomatic and non-diplomatic tensions among the states that share it, transforming it from a primary good to an economic and commercial one. Water is therefore considered a strategic resource capable of destabilising and shaking existing geopolitical balances. Particularly, in transboundary river basins' scenarios, watercourses and freshwaters become scarce geostrategic resources. Rivers and river borders play an important and strategic role in the geography of the postmodern state. In this regard, it is worth underlining the existence of more than 260 international water basins divided into 145 nations in which more than 40% of the world's population resides. Thus, riparian countries must share the only available source of water, rivers, this provoking tensions and disputes over river's water distribution. Focusing on the Nile River area and, more generally, on Africa, it is essential to highlight the alarming increase in population growth, half of which could be experiencing severe water shortages as early as 2025. For instance, in the Nile River scenario, the river – under increasing pressure – is becoming both an instrument of power

and development, triggering tensions and deadlocked negotiations over water allocation. The Ethiopian GERD project is going in this direction: the largest African dam ever built is threatening the already fragile regional equilibrium, redrawing regional and extra-regional relations and questioning the hydro-hegemony over the Nile. Throughout the thesis, an all-encompassing approach will be adopted, and the Nilotic dispute will be examined as a multi-faceted phenomenon which revolves around the following conflict-generating factors: water scarcity, population growth, food insecurity, climate change and up-downstream countries' relations. The thesis argues that the interconnection of all the analysed factors could lead to an escalation of Nilotic tensions and cause a real *blue gold* war. Therefore, it would be important to reconcile nationalistic interests with hydro-solidarity on the Nile and work out a cooperative framework within which jointly manage the Nile River. On this regard, the thesis is inspired by the global egalitarianism theory: each countries' citizen should be given the sufficient amount of water to meet their basic needs. The right to water must be considered a human right and, therefore, its enforcement should be equally granted and of outmost importance. In the name of Pan-Africanism and African Renaissance, the Nilotic countries should broadly cooperate among themselves in order to find alternative ways to preserve their water security and to secure to its citizens the right to water. Besides, the GERD project should be transformed from a geopolitical destabilising factor to an integration-promoting one, which could enhance and protect regional stability and peace.

For the reasons just mentioned, the aim of the thesis is to deepen and analyse the thorny relationship between Ethiopia, Sudan and Egypt, focusing on the priceless value of the Nile as the only source for water demands. Moreover, the thesis's main objective is to analyse and evaluate the conflict-generating factors which could lead the involved countries to a real war for water. The thesis is divided into four chapters: chapter 1 focuses on "who needs the Nile", outlining the essentiality of rivers for riparian states, the geostrategic role of the Nile River and the Nile basin population's reliance on the river; chapter 2 moves to

analyse geopolitically and historically “who owns the Nile”, focusing on Egypt’s hydro-hegemony over the river, Ethiopia’s counter-hydro-hegemony and its huge dam project, the GERD; chapter 3 deals with the assessment of the conflict-risk factors in the Nile basin arena, analysing the GERD’s geopolitical implications and the Nilotic water-related conflict; chapter 4 will firstly concentrate on recent developments and the international community’s role in the Nile dispute and, secondly, it will attempt at reconciling nationalistic interests and hydro-solidarity, working out a cooperative framework for the Nile River’s management.

Chapter 1. Who needs the Nile
The centrality of a transboundary river: geographical perspective

1.1 Rivers' essentiality and geostrategic role of the Nile River

Watercourses and fresh waters are essential but limited resources. As emphasised by King and Brown (2021) only 0.014 percent – precisely 200,000 out of 1.4 billion cubic kilometres – of water on Earth is supplied by freshwater ecosystems. While rivers, deltas, floodplains and lakes occupy less than 1 percent of the earth's landmass, most population rely on these inland waters to survive. Particularly, the WWF 2018 Report "Valuing Rivers" alarmingly outlined that: at least 2 billion people directly depend on rivers for their drinking waters; 25% of the global food production relies on irrigation from rivers; 12 million tonnes of fish come from freshwaters every year; 500 million people live by rivers' deltas completely depending on rivers' sediments. From these numbers, it can be easily deduced that rivers are living ecosystems capable of providing services and benefits for hundreds of million people and their countries' economies. Moreover, it is important to also recall the environmental stabilising role that rivers can play by mitigating natural disasters – such as storing floods in floodplains – and by absorbing carbon through wetlands (King and Brown, 2021). Lastly, they also cover a value in culture and religion, being considered as sacred and mythical elements.

As floods and droughts are increasingly devastating countries and communities all over the world, the aforementioned WWF Report underlined all the "hidden" benefits of rivers in order to stress their priceless value. Indeed, they are considered vulnerable ecosystems and underestimating their huge importance is a threat to economies and sustainable development. The Report sheds light on how is necessary to consider rivers not only as primary sources of water and energy but also as crucial elements for natural flood and sea rising protection and freshwater fisheries. Certainly, if one adds to these factors the UN's projection of the world population reaching 11 billion by 2100 and the evidence that 19 percent of global GDP comes from yet water-stressed basins, one easily gets to the dramatic consequences that less water for more people

could have (King and Brown, 2021). As the WWF Freshwater Practice Lead Stuart Orr underlined "the reduction in freshwater fishing and the extinction of deltas are just two examples of the collateral damage of not recognising the benefits of rivers beyond water and energy" and he highlighted the need to modify the way rivers are valued and managed. On the wake of this need, the thesis is conceived to focus on the way the Nile River, one of the most important rivers in the world, is co-shared and co-managed by its basin states. For this reason, after having clarified the essentiality of rivers for the populations living by them – note that in chapter 2.1 the thesis will deepen the international aspect of rivers – the thesis now moves to geographically analyse the Nile River basin and its centrality for the eleven riparian states that share it.

Back in the 4th century B.C., the Greek historian, geographer and writer, Herodotus[1] studied and analysed the Egyptian civilisation and he defined Egypt as a "gift of the Nile" (Herodotus, 430 B.C.). With this expression the writer intended to underline the extraordinary importance of this river in the life and culture of the Egyptian people. First and foremost, the Nile had a fundamental economic function, making arid and desert lands fertile. But does this observation still hold true nowadays, more than 2000 years after? The aim of this chapter is to geographically analyse the Nile River course and its major basin states in order to confirm and, at the same time, question this observation.

The Nile, together with the Amazon River, is considered one of the longest rivers in the world with its 6.853 km. Despite the focus on the Nile has often been on its delta and on the centrality of the river for Egypt, it is of outmost importance to notice that the Nile crosses a substantial portion of the Africa. With its basin size of 3.254.555 km², the river covers about 10% of the entire continent's landmass and its basin comprises eleven African states, namely Burundi, Egypt, Sudan, Sud Sudan, Ethiopia, Eritrea, Rwanda, Tanzania, Uganda, Kenya and Democratic Republic of Congo. Therefore, the river and its

[1] Herodotus (484-425 B.C.) was an ancient Greek writer, geographer and historian born in the Greek city of Halicarnassus. He is considered the first author to make systematic investigation of historical events and in the book "The Histories" (430 B.C.) he defined Egypt as the "gift of the Nile".

waters are essential for the stability and livelihood of these countries, which constitute almost the 45% of the African population.[2] To better underline the geographical centrality of the river for these countries, it briefly follows a physical and technical analysis of the river.

The Nile, called *an-Nīl* in Arabic, flows in East Africa and, as said, it considered one of the longest rivers in the world by length and basin size. Its main spring branch is the 600 km long Kagera river, the most important tributary of Lake Victoria – the biggest lake of the continent shared between Uganda, Tanzania and Kenya. From the height of 1,334 metres of Lake Victoria, the water course heads north-west forming at 1,000 metres a vast swampy basin, Lake Kyoga in Uganda. From here it falls from the Murchison Falls, leaving Uganda and entering Sudan, where it takes the name of *Bahr al-Gebel* (Nile of mountains). The Nile splits into many branches and receives *Bahr al-Ghazal* (Nile of Gazelle) from the left and the Sobat from the right, which contributes to the river with a flow rate of over 600 m^3/s. After this confluence, the river takes the name of *Bahr al-Abiad*, the so-called White Nile, one its two main tributaries. The White Nile resumes its northward flow, traveling along a region of savannahs and losing part of its waters through evaporation or absorption. It then reaches the 381 metres above sea level Khartoum, the capital of Sudan, where it receives from the right the Blue Nile – the second largest tributary of the Nile, rich in waters and descending from the Ethiopian plateau – with which it finally forms the Nile. It then crosses the granite and sandstone rocks of Nubia where it receives from the right the last of its tributaries, the Atbara. With a series of six waterfalls – the last of which is located right above Aswan – the Nile falls from 350 metres to 85 metres in height into the stream bed which, in periods of low water, has an average width of about 500 metres. Downstream of Cairo, the Nile branches off into its delta – very fertile and densely populated – intersected by artificial canals and limited by two branches, the Rosetta to the

[2] Data inferred from The World Bank online platform. It is estimated that the total population of the Nile basin countries is around 600 million out of around 1.4 billion of the total African population.

west and the Damietta to the east. From here the river ends his water course and it flows into the Mediterranean Sea.[3]

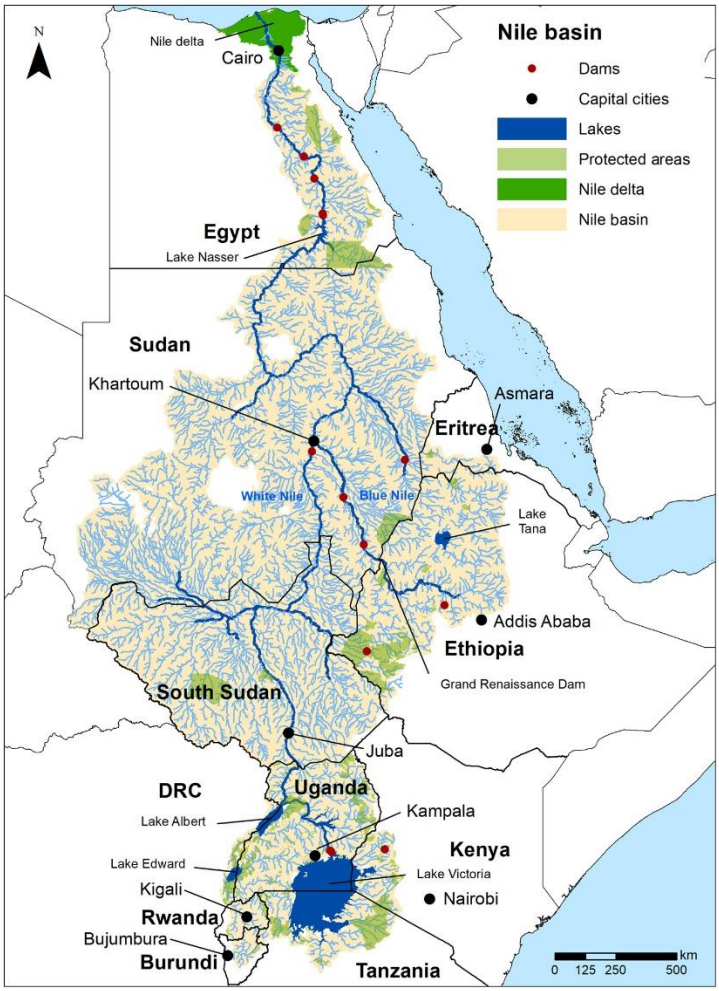

Figure 1. Nile River basin[4]

As just exposed, the Nile River crosses, from south to north the continent and its two main tributaries are the White and Blue Nile. The former conventionally rises in Burundi, flows towards Uganda and South Sudan and reaches Khartoum while the latter comes from Lake Tana in Ethiopia. From Sudan, the Nile continues northwards and, crossing the Sahara, reaches Egypt whose civilisation has since ever been entirely settled along the Nile valley.[5] Indeed, the Nile becomes a single watercourse only downstream, from Khartoum,

[3] Geographical definition taken from De Agostini, C. A. (2000), p.1700.
[4] Figure taken from [https://aspeniaonline.it/il-nilo-della-discordia/].
[5] Geographical definition taken from Treccani, G. (1950).

where the White and Blue Nile meet. The different origin and course that the two tributaries have, mark their main difference: while the White Nile's waters either vanish into endless swamps in South Sudan or evaporate because of the equatorial temperature and sun – notice that only 15% of this tributary's waters reach the Aswan Dam (Manna, 2021) – the Blue Nile's waters keep their intensity and contribute the most to the river flow.

The Nile is the only river in the world that drains tropical, desert and equatorial regions at the same time and connects – through the Saharan barrier – the humid tropical Africa with the Mediterranean and the Arab world. In the period between June and November, the lower course of the Nile River is characterised by flooding, due to the Blue Nile and the Atbara which, with their sediments, give the river a dark colour. Their waters deposit the silt, the fertilising sediment that naturally creates the so-called submergence irrigation (which is the result of a river overflowing onto neighbouring lands). The intensity of the Nile floods depends essentially on the summer monsoon rains that fall on the Ethiopian plateaus from June to September. During the so-called "rainy season", water coming from Ethiopia accounts for up to 90% of the Nile's flow and this suggests the fundamental role played by the Blue Nile tributary in the total amount of Nile's waters. Moreover, the fact that the Nile's floods depend principally on the summer rains, it also underlines how much it is important for the river the percentage of rain that those countries will experience. Particularly, one has to bear in mind that – like other watercourses that pass through the Sudanese-Sahelian area[6] – the Nile River has been considerably affected by hydrological droughts which provoked water shortages, lowering of the Nile's outflow and an anomalous drying up of the soil (Omar-Haroun, 1995). In this regard, it is considered necessary to focus one's attention on the impact that hotter and drier temperature could have on the Nile. A study conducted by Coffel, Keith, Lesk, Horton, Bower, Lee and

[6] The most distinctive feature of the Sahelian ecosystem, in addition to the general aridity of the climate, is the extreme environmental fragility due to the highly irregular rainfall rate.

Mankin (2019) deals specifically with this issue, and it analyses the impact future dry temperatures could have on Nile basin's water scarcity despite the expected precipitation increase. Coffel et al. (2019) state that dry temperatures could reduce crop production and affect water scarcity, particularly in the Upper Nile basin which they define "a chronically water-stressed agricultural region" (Coffel et al., 2019). In the analysis, they demonstrate that the area – whose most agriculture is rainfed – is at high-agricultural-disruption risk due to "climate extremes". With the expression of "climate extremes", the authors refer to hotter and drier temperatures which are likely to rise due to climate change. Indeed, despite present climate models generally predict an increase in the region's rainfall of 10% by 2080 – see figure 2 for graphical evidence – the rise in temperatures could counteract this positive projection and lead to water scarcity increase, regional agricultural stress and food insecurity. The reason why the region could experience such rise in temperatures is due to always higher global greenhouses' gas concentration (Coffel and Mankin, 2020). Indeed, in the study, the authors focus on past crop failures in Ethiopia, and they find out that those failures co-occurred when the temperatures were hot and dry. Their findings demonstrate that hotter and drier temperatures have been ever more likely over the past 40 years and that this trend will probably continue. Moreover, the area concerned presents several exacerbating factors: geopolitical instability, food insecurity and rapid population growth. These three factors further exacerbate the already outlined climate-induced agricultural risks and shocks and couple with the increasing demands for water in a region where most inhabitants rely on a subsistence agriculture. It goes without saying that the population changes and climate extremes could deeply affect the already area's tangled political and socioeconomic panorama. As it can be seen in the simplified graph below (figure 2), the increase in rainfall in future decades is counteracted by hotter and drier climate which will lead to a dramatic rise in unmet water demands for people relying on the Nile River.

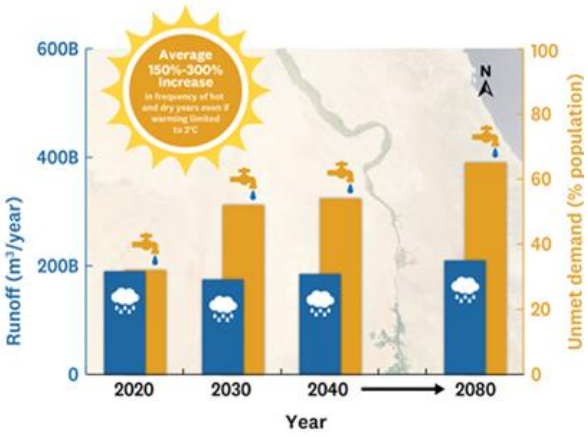

Figure 2. Graph rain precipitation - unmet water demands[7]

This thesis will furtherly focus on the Nile basin's population but, at this point, it is important to mention that, by now, 10% of the population faces water scarcity. Hotter and drier temperatures will further worsen the situation: by 2040 these conditions will affect water availability, trigger crop failures and the number of people facing water scarcity could reach 45% (which means nearly 110 million people) (Coffel and Mankin, 2020). Moreover, despite covering a tenth of the entire Africa's landmass, the Nile River's average annual flow is at 85 million cubic metres of water, much lower than other continent's major rivers, such as the Niger (180 million cubic metres) and Congo (1,250 million cubic metres) (Manna, 2021). It is precisely this comparatively low flow rate of the Nile that makes its waters so valuable. Moreover, despite the Nile River is globally essential for freshwater biodiversity and fishes' richness, its water security is nowadays unstable and only 4.2 percent of the basin is under protection (Allan, Levin, Jones, Abdullah, Hongoh, Hermoso and Kark, 2019). As a result of urbanisation, damming, climate change, droughts, water pollution and industrial development, the river's ecosystem is at danger and both the biodiversity's decline and these threats' effects are expected to worsen very soon.

[7] Figure taken from [https://blogs.agu.org/geospace/2019/08/28/upper-nile-will-experience-more-water-scarcity-due-to-hotter-drier-periods/].

Before moving to paragraph 1.2's analyse on the Nile population's reliance on the river, the thesis will now focus on the geostrategic role played by rivers and, particularly, by the Blue Nile tributary. Freshwater – the only suitable water to be used for agriculture and human livelihoods – is a scarce geostrategic resource. As it is known, sea water could undergo a desalinisation process, but this is a very expensive alternative. Indeed, according to the United Nations[8] freshwater extraction from rivers and lakes has doubled since 1960. The access to this non-ubiquitous resource is certainly vital for human beings and, consequently, the source of ever-growing geopolitical conflicts. There are more than 260 international rivers in the world, shared by several countries running for dominance over them (Marconi and Sellari, 2017). Rivers and river borders play an important and strategic role in the geography of the postmodern state. "This importance is dictated by the evidence that about 44 states, or 22% of the total global states, have no access to the sea" (Marconi, 2017). Furthermore, in the modern era, the economic exploitation of the river – an essential resource which performs a fundamental role for the development and organisation of states, also in terms of communication and trade – has led to the exacerbation of state sovereignty's claims over river basins and has made it necessary to negotiate precise agreements between states. Indeed, in the aftermath of the Second World War, the United Nations felt the need to adopt a resolution concerning the exploitation of natural resources, recommending that: "*all Member States, in the exercise of their right freely to use and exploit their natural wealth and resources wherever deemed desirable by them for their own progress and economic development, should have due regard to the need for maintaining the flow of capital in conditions of security, mutual confidence and economic co-operation among nations; all Member States should refrain from*

[8] See the United Nations World Water Development Report 2020, accessed through [https://unesdoc.unesco.org/ark:/48223/pf0000372985.locale=en].

acts, direct or indirect, designed to impede the exercise of the sovereignty of any State over its natural resources".[9]

Figure 3. Blue Nile tributary[10]

On the basis of these assumptions and, having clarified the strategic centrality of international watercourses, the thesis now focuses on the case of its interest, examining the Blue Nile River and the geo-strategic role it assumes. The Blue Nile is one of the principal tributaries of the Nile River and, as clearly visible in figure 3, it has its source at Lake Tana, which is situated in the Ethiopian plateaus, and flows for 1,400 km to Khartoum, where it joins the White Nile, taking the name of *Bahr al-Azraq* and thus forming the Nile. The area of the Blue Nile water basin is 325,000 km^2 and while its flow rate is scarce during the spring period it reaches very high peaks during the months of July and August, bringing 86% of water to the Nile. The Blue Nile's scenario, particularly involving Egypt, Ethiopia and Sudan, is currently considered as

[9] UN Resolution 626 adopted by the General Assembly on 21st December 1952, accessed trough [https://documents-dds-ny.un.org/doc/RESOLUTION/GEN/NR0/079/69/IMG/NR007969.pdf?OpenElement].
[10] Figure taken from [https://www.researchgate.net/publication/317372179_Nile_River's_Basin_Dispute_Perspectives_of_the_Grand_Ethiopian_Renaissance_Dam_GERD].

fundamental for the geopolitical stability of the Horn of Africa and Eastern and Northern Africa. As the thesis will further analyse, this stability is seriously at risk: the three countries involved are continuously protagonist of inter-state conflicts over the Nile's ruling, particularly because of diminishing resources such as land and water. As already underlined, climate change and population growth deeply affect and worsen poverty, food-water security and employment in the mentioned countries. Therefore, the security and political developments in the Blue Nile's scenario are constantly shaping the geopolitics of the area since its waters' management has been a source of conflicts between the three Nilotic states. Considering that 250 million people are currently living along the Blue Nile, the challenge is of outmost priority and centrality. The above-mentioned data, the demographic evolution that Nilotic States are experiencing, the position and geographic conformation of the Blue Nile, lead the river to assume a geo-strategic importance which cannot, therefore, be neglected and undervalued. Its control triggers geopolitical dynamics and conflicting interests between states, which are all trying to exploit a greater quantity of water. Ethiopia's GERD project is oriented in this direction and is part of the general context of dams' construction projects, which characterise the entire area of the Nile River basin. It is, therefore, redundant to highlight how the management and control of Blue Nile's waters by one of the involved states, would put it in a position of supremacy, mostly for the supply of energy in Africa.

This paragraph 1.1 tried to stress the essentiality of rivers and to reach the aforementioned goal of clarifying which countries need the Nile River and its geostrategic centrality for its eleven riparian states. At this point, it is important to focus on the Nile basin's population in order to determine which countries effectively rely the most on the river.

1.2 Nile basin population and Nilotic states' reliance on the river

The total population of the entire Nile basin area is about 600 million people, and more than half of these populations is totally dependent on the Nile River. Specifically, the Nilotic states are experiencing a notable demographic

evolution and it has been estimated that, in 2050, the total population of the Nilotic states will reach and overtake the threshold of 800 million people (see figure 4) (Gascon, 2015).

Nil bleu + Nil blanc			Nil blanc		
États	2013	2050	**États**	2013	2050
Égypte	84,7 M	126 M	Ouganda	36,9 M	114 M
Soudan	34,2	69	Kenya	44,2	97
Sud-Soudan	9,8	21	Tanzanie	49,1	129
Érythrée	5,8	13	Rwanda	11,1	24
Éthiopie	89,2	178	Burundi	10,9	29
Total	223,7	407	Total	152,2	393

Figure 4. The population of the Nilotic states in 2013 and projections for 2050[11]

This population growth leads to a proportional decrease in the availability of water per capita, aggravating the yet critical situation of the states bordering the Nile basin. Except for Egypt and Kenya, the others are considered by the United Nations to be among the least developed countries in the world: around 100 million people live on less than a dollar a day and have very poor living conditions.[12] Moreover, most of these countries are based on purely agricultural economies which require ever-increasing amounts of water to irrigate their fields and meet the growing demand for food. Indeed, the agricultural sector accounts for 80% of total water demand and it is worth highlighting the data for the three countries in the most critical geographical position for the Nile co-sharing: Egypt and Sudan, the main users of the Nile's waters, with 86% and 94% of total demand respectively; Ethiopia – a country where geographically the watercourse takes on such dimensions that it is considered its main supplier – uses 86% for its agricultural needs (Swain, 2008). The disproportionate demand for water, the unfavourable climatic conditions and the repeated periods of drought further increase the already existing tensions for the management of the Nile's waters and could provoke deep geopolitical crises

[11] Table taken from Gascon, A. (2015). *Combats sur le Nil: la guerre de l'eau ?*, p. 156.

[12] List of the least developed countries from United Nations Committee for Development Policy, [https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/ldc_list.pdf].

between the three involved states (Omar-Haroun, 1995). Verhoeven (2021) points out that at least 60% of the African population live in farming-dependent rural areas and that more than 40% of the African population is currently living in arid, semi-arid and dry areas. This evidence clearly shows how water has to be considered as the most essential element for African livelihoods, and not only. Moreover, as already underlined above, the ecology and biodiversity of the Nile basin's area is increasingly unstable and mutable, and this volatility makes countries ever more in need of the river's water (Verhoeven, 2021). Indeed, each Nilotic country depends on the watercourse for their social and economic health. Of course, the eleven riparian countries differ from each other in the per capita/GDP incomes, the national richness and the geographical position they have within the Nile River basin (Tesfaye, 2013). This reliance is further complicated by the already mentioned evidence that the Nile's reserve of freshwaters is finite and that the increasing demand for water is not likely to be met (see figure 2). What to do then? A fair and equitable co-sharing of Nile River's water should be undertaken but, as it is known, the Nile has always simultaneously represented both a source of life and conflict in the area (Wiebe, 2001). The increasing river's degradation and biodiversity's decline are only worsening the yet critical situation, exasperating water shortages and tensions between Nilotic countries. The countries which are mostly relying on the Nile River are for sure Egypt, Sudan and Ethiopia, precisely in order of dependence (Tesfaye, 2013). These three main actors of the Nilotic scenario share the same goal – exploiting the river for their national uses – but vary in their needs and interests. Egypt, for instance, which has always been the main player in the Nile's area is thus faced with the increasing demands of upstream states, whose needs are exponentially growing.

In the Nile basin, each single human development's aspect is deeply intertwined with water. Just to give an idea of this primary, if not essential, good – water – it follows a list of some of the fields unavoidably connected with it: basic hygiene, domestic use (such as food preparation, drinking, growing food, cleaning) and mostly the agricultural and industrial sector. Moreover, the

aforementioned population growth is always more making the water demand's threshold rise: for instance, global and per capita use of water has quadrupled between 1940s and 1990s (Wiebe, 2001). As it is known, this demand for water together with climate change, biodiversity degradation and conflicts over the Nile's ruling are putting at danger the fragile equilibrium of the area and water is becoming increasingly scarce (Deconinck, 2017). Before going to analyse the three most involved countries in the Nilotic scenario, the thesis will focus on water consumption of the Nilotic countries per sector, considering the following table (figure 5) updated to 2017.

	Total annual water withdrawal (km^3)	Municipal (%)	Industry (%)	Agriculture (%)
Burundi	0.3	17.0	5.9	77.1
Egypt	68.4	11.5	2.6	85.9
Eritrea	0.4	5.3	0.2	94.5
Ethiopia	5.6	10.3	0.7	89.1
Kenya	3.2	36.7	3.9	59.3
Rwanda	0.2	24.0	8.0	68.0
South Sudan	0.7	29.3	34.2	36.5
Sudan	26.9	3.5	0.3	96.2
Tanzania	5.2	10.2	0.5	89.4
Uganda	0.6	51.5	7.8	40.7

Figure 5. Water consumption per sector[13]

As it can be seen in figure 5, both the Nile Basin states' water accessibility and patterns of consumption differ from one another. Generally, upstream countries – such as Uganda, Rwanda, Tanzania and Kenya and Burundi – even if they have more water available, they consume far less than downstream countries (see the "Total annual water withdrawal" in figure 5). This happens because, in this area of the Nile Basin, the agriculture keeps being largely rainfed. On the contrary, downstream countries – such as Egypt and Sudan –

[13] Table taken from [https://www.waternet.be/nile-consumption-patterns].

possess quite few internal resources of water: the dramatic decline of rainfall makes the rainfed agriculture mostly impossible. For what concern Ethiopia, still the annual water withdrawal from Nile waters used to be low – thanks to the huge rainfalls Ethiopia can benefit from – but this data is actually changing because of the GERD project that will withdraw water for hydropower and irrigation. Indeed, the numbers of figure 5 clearly point out that water withdrawal by upstream countries of both Nile's branches is far more limited than downstream countries' one: since Egypt and Sudan have very few additional water resources outside the basin, they are ever more reliant on the Nile's waters (Deconinck, 2017). Having clarified the differences between downstream and upstream countries' reliance on the Nile waters, it is important to focus for a moment on the water consumption per sector. As it can be easily inferred from figure 5, most of the countries, if not each of them, manly uses its waters availability for the agricultural sector. Taking into account the data of the three main involved countries in the present Nilotic scenario – Egypt, Ethiopia and Sudan – they respectively consume 85.9 percent, 89.1 percent and 96.2 percent of their total water availability for the agricultural sector. These numbers are not surprisingly, since the thesis has already highlighted that the involved countries are still deeply agricultural societies, relying on irrigation and fertilisation. Lastly, it is important to notice that in figure 5 there are no data for the Democratic Republic of Congo that it is also a Nile's riparian state. This exclusion from the table has to be found in the evidence that: firstly, less than 1 percent of the Democratic Republic of Congo's territory belongs to the Nile Basin; secondly, the Democratic Republic of Congo's internal water's quantities come mainly from the Congo River basin. Therefore, the inclusion of the Congolese water consumption and availability's data would have misrepresented the evaluation (Deconinck, 2017).

Once the thesis has focused on the general reliance that the Nilotic countries place on the river, the chapter now moves on briefly outlining the specific dependence that the three main involved countries – Egypt, Ethiopia, Sudan – have on the river. As it is known, these three countries are presently the three

big players of the Nilotic scenario, and their relations are increasingly fragile and of outmost importance. The three countries together count more than 260 million people, and the following country-by-country brief study will have the role of shedding light on their internal use and dependence of Nile's waters, before moving on chapter 2's deep analysis on the three countries' relations and effective "share" of the river.

Egypt

Egypt is, since ages, considered as unavoidably interconnected with the Nile River. As it has already been underlined in paragraph 1.1, Egypt is often referred to as the "gift of the Nile". Despite this expression dates back the IV century A.D., it does for sure hold true today. Indeed, Egypt relies on the Nile River for more than 90 percent of water to satisfy its water demands. This is the main reason why Egypt is so much concerned about other Nilotic states' activities, particularly to them which could drastically reduce the flow of the river. Since Egypt has always been the main river's exploiter, it considers any potentially dangerous activity on the river as a threat to national security (Manna, 2021). For this reason, its geopolitical and foreign relations have often put at their centre the Nile River's exploitation and Egypt has never put aside its ambitions on the Nile. So far, its strategy has often been to prevent any challenge that could diminish its Nile River's share and it has envisaged the river's control as a zero-sum game (Kendie, 1999). In everyone's one mind the Nile River is commonly associated with Egypt. If it was not for the river's sediment and waters, Egypt would have remained a desertic land and would have hardly developed as a great civilisation. Despite Egypt's geographical position, already clarified in paragraph 1.1, puts the country in a theoretically weaker role, it has been effectively controlling the majority of the river's waters (Wiebe, 2001). As it can be inferred from the graph below (figure 6), Egypt is currently living a huge demographic growth. It is estimated that since 1967 the Egyptian population has tripled with an annual average of 2 million births and in 2020, the annual growth rate was at 1.9. In February 2020, the population reached 100 million and today it is around 105 million, with an estimated

average rate of 1 million people every six months. Moreover, it is important to underline the distribution of people in Egypt: the 95 percent of the population lives in the 4 percent of all the national territory, particularly along the two Nile delta's banks. Only Cairo and the Giza province count 20 million of people and the urban concentration is at its highest. Already in the 2020, the government tried to slow down this enormous and rapid growth with the campaign "Two is enough", referring to the number of children per family. Nevertheless, numbers kept growing and asking for more and more resources, among which primarily water. This pressure further threatens the yet fragile and unstable water security issue. Moreover, Egypt has a predominantly young population, with just over 60% of its inhabitants under the age of 30. Egypt has a predominantly young population, with over the 60% of its inhabitants under the age of 30. Their unemployment is close to 35% and about 1/3 of the population lives below the poverty threshold. And even if a UN Report indicated that population growth in the MENA region seems to be slowing down, expected projections for Egypt are dramatic: by 2050 Egypt could reach 160 million of people. This uncontrolled demographic growth (in 2017 Egyptians were 95 million) is one, if not the main, threat to food and water security in the country. The water demands could be hardly satisfied, if in addition we consider the GERD project and its implications on the amount of water that will arrive to Egypt (Gentili, 2020). Lastly, at political level it is important to report that, in 2020, the "Political stability and absence of violence/terrorism index" was at -1.21 in Egypt, noting that this instability is only worsening the country's external relations with the other Nilotic countries involved in the dispute.

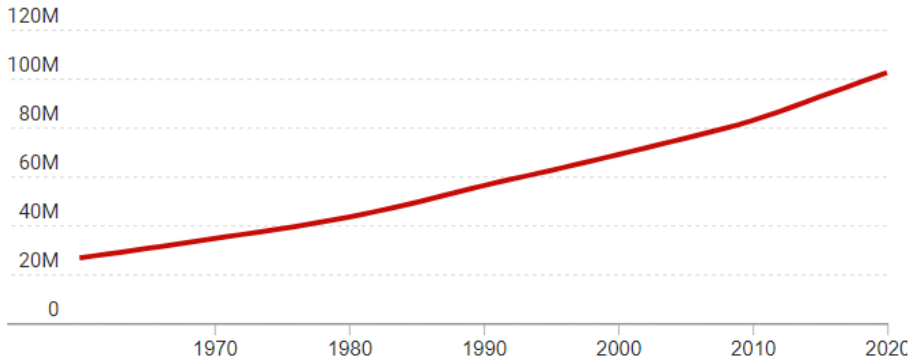

Figure 6. Graph - Egyptian population growth[14]

Ethiopia

Ethiopia can for sure be considered the new emerging player in the Nilotic scenario. As the thesis will further analyse in next chapter, the country has been excluded for decades from the river's ruling and agreements but, from the new millennium on, Ethiopia emerged both as a developing economy and an actor in the Nile area. Nile's waters are certainly also essential for Ethiopia. In only 30 years the country has become the second African most populous country, growing from 48 to almost 120 million people – in 2020, the annual growth rate was at 2.5 percent. Nevertheless, this growth is inversely proportioned to the country's poverty line: despite Ethiopia's economy is growing at one of the highest rates in the world – with an annual GDP growth rate at 6.1 percent (in 2020) – the country, in terms of per capita GDP, remains one of the poorest countries in the world. The mentioned economic growth and the domestic agriculture and industry are demanding for more energy and water (Manna, 2021). Since Ethiopian Blue Nile is the tributary that contributes the most to the river flow – about 86 percent – and to the waters Egypt withdraws from the Nile, Ethiopia could ideally be the leading competitor in the Nile. Despite Ethiopia's geographical strategic position and its very high precipitation rate on Ethiopian highlands, the country has for decades had an uneven access to the

[14] Figure taken from [https://datacatalog.worldbank.org/search/dataset/0037712], [https://datacommons.org/place/country/EGY?utm_medium=explore&mprop=amount&popt=EconomicActivity&cpv=activitySource%2CGrossDomesticProduction&hl=en].

Nile (Verhoeven, 2021). Indeed, Ethiopia's prosperity and self-confidence are directly proportioned to Egypt's concerns: the more Ethiopia is stable, the more Egypt is worried (Kendie, 1999). As mentioned before, about 86 percent of the river's waters come from the Blue Nile and Ethiopian highlands, while only a 14 percent comes from the White Nile – which loses waters in swamps and for evaporation. The thesis already underlined that Ethiopia did not exploit the river's waters for decades, also because its agriculture has for long been mainly rainfed. Nevertheless, the dramatic rise in Ethiopian population (that can be seen in figure 7) pushed the country to change its attitude towards the Nile and to develop great infrastructure projects. Considering that at the beginning of this century, the country was exploiting respectively only the 1% and 0.7% of its irrigation and hydropower potential (Tesfaye, 2013), in 2007 Ethiopia has started to value water as a consumer good and source of energy, developing the Growth and Transformation Plan (GTP) to ensure food and water security. In 2011, the government announced the construction of the multibillion-dollar GERD (Great Ethiopian Renaissance Dam) – the most important project to thesis-focus that chapter 2 will cover – estimated to produce more than 15,000 megawatts of electricity per year. Trough the GERD project, Ethiopia also wants to be integrated in the region and to affirm its regional geostrategic role (Verhoeven, 2021). Indeed, the project is considered a dangerous threat by Egypt and Sudan, which are willing to preserve their historic rights on the Nile and the status quo. So far, it can be said that hydropower – electricity coming from water – accounts for about 90 percent of the energy supply in Ethiopia, this revealing how much the dam building projects are essential (King and Brown, 2021).

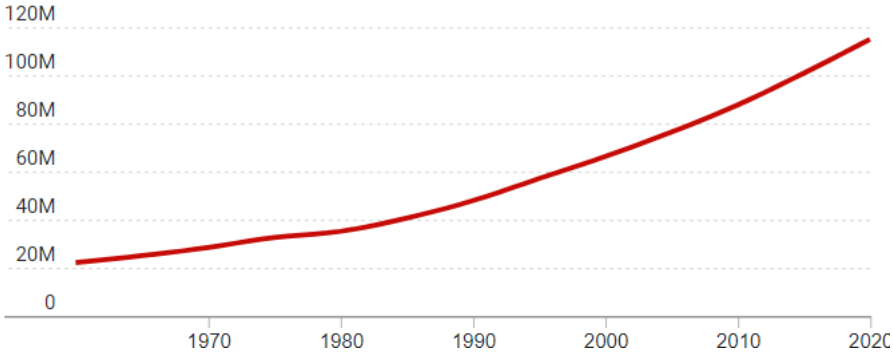

Figure 7. Graph - Ethiopian population growth[15]

As said, since the beginning of this century, Ethiopia is trying to rapidly modernise and industrialise the country to satisfy its populations' increasing needs. One of the central concerns for Ethiopia still remains water: the country understood that it could not only rely on rainfed agriculture because of climate change which is causing rising temperatures and rainfall inconstancy. In this regard, apart from urging more and more resources, the population growth is contributing to the environmental decline: deforestation and inappropriate overgrazing are degrading the land. For these reasons, Ethiopia's priorities are now so much oriented towards electricity production and industrial development as to raise the question "*les Éthiopiens ont-ils désormais plus faim d'électricité que de nourriture?"* Gascon (2015:141). Lastly, at political level it is important to report that, in 2020, the "Political stability and absence of violence/terrorism index" was at -1.74, noting that Ethiopia's instability is also due to the approximately 80 different ethnic groups present in the country.

Sudan

The last most-involved country in the Nile dispute is Sudan. Since the country's independence in 1956, Sudan has been torn apart for much of its recent history by many conflicts, some of which culminated in the secession of

[15] Figure taken from [https://datacatalog.worldbank.org/search/dataset/0037712], [https://datacommons.org/place/country/ETH?utm_medium=explore&mprop=amount&popt=EconomicActivity&cpv=activitySource%2CGrossDomesticProduction&hl=en].

South Sudan in 2011. Indeed, the "Political stability and absence of violence/terrorism index" for Sudan, in 2020, was -1.76, clearly confirming the ongoing country's imbalances. Moreover, the country is experiencing a great population expansion too: as it can be inferred from the graph below (figure 8), in 30 years the population more than doubled reaching at present 45 million inhabitants and, in 2020, the annual growth rate was at 2.4 percent. Sudan is still very much reliant on the agricultural sector, and it goes without saying that water is becoming always more vital for its food security. The country receives about 77 percent of its freshwaters from the Nile and as outlined at the beginning of paragraph 1.2, it uses the majority of these freshwaters in agriculture, industry and domestic use.

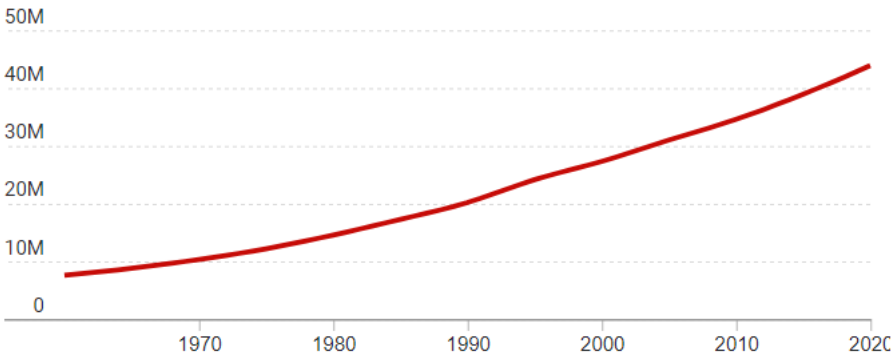

Figure 8. Graph - Sudanese population growth[16]

As it is known, Sudan is an historic ally of Egypt in the Nile Basin's area. Since the country's independence, Egypt has understood that its national security was deeply connected with Sudan (Yihun, 2014). Indeed, throughout the decades the two countries have agreed on several bilateral agreements on the Nile, reaffirming their special relationship. Nevertheless, the mentioned population growth is pushing for more resources and water and is destabilising Sudan role in the Nilotic scenario, making it a potential decisive factor in the dispute (Yihun, 2014). At present, Sudan's position is both geographically and politically central to the confrontation between Egypt and Ethiopia. The country

[16] Figure taken from [https://datacatalog.worldbank.org/search/dataset/003771], [https://datacommons.org/place/country/SDN?utm_medium=explore&mprop=amount&popt=EconomicActivity&cpv=activitySource%2CGrossDomesticProduction&hl=en].

has been pulled from one side to another by the two other countries in order to make it take their side, particularly on the GERD project's issue. Differently from Ethiopia, Sudan has had the possibility to participate on agreements on the Nile ruling with Egypt and now, it recognises the importance to negotiate new water agreements also with Ethiopia. This behaviour is disliked by Egypt which is increasingly afraid of the GERD project's implications on the Nile River flow. In this regard, Sudan too is concerned about the project: the dam is located on the Blue Nile near the Ethiopian-Sudanese border and Sudan is fearing that an accidental opening of the barrage could cause disastrous flooding endangering the Sudanese population (Manna, 2021). Lastly, it is important to mention that Sudan is one of the main Chinese partners in Africa, whit China absorbing about 2/3 of Sudanese imports (mainly oil imports).

These country-by-country descriptions revealed that the Nile River is indeed vital for Egypt, but not only. Other Nilotic states, particularly Ethiopia and Sudan, are main players in the Nile scenario, both looking for a considerable share of the river. In this chapter the thesis attempted at clarifying the complicated and intertwined geo-graphical and political relations between the three mentioned countries in order to shed light on their effective reliance on the Nile River. In the next chapter, the thesis will focus on the agreements over the Nile and on the three countries' relations, trying to understand "who owns the Nile".

Chapter 2. Who owns the Nile
Hydro-hegemony over the Nile: geopolitical perspective

2.1 The concept of international watercourse

International watercourses are nowadays always more intertwined with energy, agricultural and water security. It goes without saying that rivers which cross two or more countries are becoming extremely central to the latter's political agendas. As already underlined in chapter 1, international rivers are about more than 260 in the world, they cover more than 45 percent of the earth's surface, and almost 145 countries and 40 percent of the global population rely on their rich ecosystems. This striking evidence largely confirms and supports the international rivers' centrality and necessity already stressed in chapter 1. The scale of the challenge posed by international watercourses' management is extensively rising, particularly if one focuses on the global threats that climate change is triggering. In this context, the sharing and ruling over an international river (or also called transboundary river) is of outmost importance: the majority of transboundary rivers is still without an adequate legal protection and the tensions around them will determine the framework of cooperation-conflict that the riparian countries will experience. In this regard, it is useful to highlight that a truly cooperative framework exists for only the 40 percent of the global transboundary rivers and that the 80 percent of the existing agreements only involve two of the many riparian countries (Loures, Rieu-Clarke and Vercambre, WWF 2009). For the reasons just mentioned, to continue with the thesis' analysis on the ruling of the Nile River – for sure one of the longest and international rivers – it is essential to shed light on who is effectively "controlling" it. But before shifting one's attention on the hydro-hegemony and hydro-politics on the Nile River, the thesis will now briefly focus on the concept of international watercourse.

International watercourses, as defined in the UN Convention on the Law of the Non-navigational Uses of International Watercourses of 1997 (hereinafter the Watercourses Convention), refers to a system of surface and groundwaters that constitute a unitary whole (a river) and parts of it are located in different

countries. With the use of the word "groundwaters", the Watercourses Convention aims at taking into account also the underground waters of which rivers are widely composed (McCaffrey, 1998). Indeed, with this extensive definition the Watercourses Convention immediately underlines the importance of considering international rivers as whole systems, stressing the necessity of a comprehensive approach by the riparian states. Moreover, the Latin term *finis*, which translated into English means border, indicates the *end* of the territory of a state and its sovereignty over it. It is essential to underline that, in the postmodern state, the so-called *territorialisation* processes of river, lake and sea water have led to an inevitable revision of the concept of territorial border, which has by far abandoned all the rigid and inflexible connotations typical of the modern state. Territorialisation means the assumption of a territorial character by nature and the centrality of the localisation of a given territory; besides, it is one of the paths through which the postmodern State reshapes the concept of sovereignty. These territorial developments and the economic importance of river basins have led to the emergence of new conflicts between states and the subsequent need for action by the United Nations. In light of international law and international conventions there are basically two methods for sharing sovereignty on a "inter-state" river: the water border is drawn on the absolute median line (a line of which every point is equidistant from the nearest point of the shore) in case the waters of the river are not navigable or, on the contrary, on the median line of the navigability channel, the *thalweg*. Certainly, once defined how to geographically draw the states' river boundary, it is necessary to recall that from a legal point of view there are two possible scenarios: in the first – and also the less common – there are no agreements between any riparian state and the river management is ruled by international customary law; while in the second, there are agreements among two or more riparian states and the river's rights and obligations are governed by the mentioned treaties (Gryzbowski, McCaffrey and Paisley, 2010). Indeed, this last scenario entails that the agreements not involving all the riparian states could be in place and affect also the states not party to them, possibly

disadvantaging them. In this regard, it is considered necessary to the thesis analysis to focus on the mentioned international legal framework within which assess such situations: the 1997 Watercourses Convention, entered into force on August 2014. The Watercourses Convention aims at facilitating, promoting and safeguarding transboundary rivers' cooperation between the riparian states and it provides general principles in order to guide international water governance. Specifically, the Watercourses Convention stresses the importance of the two following main principles: the no-harm rule and the principle of equitable and reasonable utilisation of the river.

The no-harm rule is provided by article 7 of the Watercourses Convention and it states that "watercourse states shall take all appropriate measures", when utilising an international watercourse, to avoid significant harm to other co-riparian states and that if the harm occurs, states must diligently restore a fair equilibrium with other states. The no-harm rule also refers to the protection of watercourses and to avoiding causing harm to the river itself. Nevertheless, as it is known, the majority of international rivers are already over-exploited, and the no-harm rule frequently and mostly refers to the allocation of resources between competing users (Caflisch, 1998). Particularly, the no-harm rule is not directly facing the new challenges that river's managements are creating: the rule alone would have been insufficient to solve and settle the existing controversies between "historical and newcomer users" and it would have corroborated the status quo and existing rights. Indeed, if one focuses on the Nile River situation, the no-harm rule alone would have protected the downstream riparian states' rights – Egypt and, partly, Sudan – and denied the upstream riparian states – mainly Ethiopia – any potential developing use of the river. (Caflisch, 1998). For this reason, the second mentioned principle emerged: the principle of equitable and reasonable utilisation of the river. Article 5 of the Watercourses Convention states that "watercourse states shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner" and that they must respect the duty to cooperate on the river's protection and development. Article 5 read

in combination with article 3 – that provides a duty to cooperate when adopting treaties on the rivers' management – introduces the important principle of mutually good-faith cooperation between riparian states. This cooperation is aimed at achieving an equitable regime of shared allocation of resources and of reasonable use of international rivers (McCaffrey, 1998). And as already outlined at the beginning of chapter 2, international rivers should be treated by riparian states as a whole unitary system to be equally shared. To briefly sum up, the Watercourses Convention requires that riparian states must cooperate and not cause serious damage to waterways, respecting the interests of the other states involved, and establishes that they may conclude water agreements to agree upon the exploitation of shared river waters. Certainly, the adoption of this Watercourses Convention by the UN General Assembly was controversial and revealed many divisions between countries. Particularly important to the thesis focus is the position of Egypt and Ethiopia during the negotiations on the Watercourses Convention. It is needless to say that the two countries had two opposing views: while the former aimed at preserving the status quo and its "historic" rights on the Nile River, the latter believed that harmonisation of existing rights with newcomers' rights should occur. Eventually, article 3 of the Watercourses Convention states that the Convention does not affect existing treaties but that such treaties should be harmonised with the Convention's principles and with states not party to the treaties. The thesis will indeed move through chapters along this tension: historic and new rights over the Nile River, which must prevail? Considering the Watercourse Convention, cooperation should prevail over competition and equal rights' principle should guide international rivers' management. Moving forward, on this point, it is considered relevant to briefly mention three international principles on the exploitation of water basins: the principle of absolute sovereignty over the waterway, which fully favours the upstream country; the principle of absolute territorial integrity, which grants its exploitation to both countries, downstream and upstream; finally, the principle of the first user, on which Egypt, for example, claims greater rights on the Nile, than other states (Marconi and

Sellari, 2017). In an age of water scarcity, these three different principles create ever increasing tensions between riparian states and as just mentioned, the principle of the first user is at the basis of Egypt's claims. Egypt has indeed for long played a hegemonic role in the Nile River basin, despite – as already underlined in chapter 1 – its disadvantaged geographical position of downstream riparian state. As it is known, Ethiopia is challenging downstream countries position, paving the way to new emerging international dynamics. This relation of Egypt and Sudan vis-à-vis Ethiopia easily confirms the fact that "up-streamers use water to get more power, down-streamers use power to get more water" (Zeitoun and Warner 2006:46). The Nile River basin scenario exemplifies this dynamic, and it shows how the upstream-downstream competition can trigger a zero-sum game between the concerned countries. Certainly, as Meredith and Givental (2016) point out, it is essential to underline that, presently, the control of freshwater reserves constitutes a primary objective for riparian states. The control of rivers by states, now called hydro-politics, is becoming central for states' development and is deeply interconnected with what is now termed as hydro-economics. For these reasons, agreements on the use of rivers are at the centre of hydro-politics and set the bases of a cooperation-competition international framework. In this regard, paragraph 2.2 will specifically focus on the Nile River's agreements attempting at underlining the uneven and asymmetric relations between the concerned states.

2.2 Agreements on the Nile: Egypt's hydro-hegemony?

The exploitation of Nile's waters has been the subject of multiple agreements, most of them bilateral. Sudan and Egypt, "*don du Nil et société hydraulique*", have for long shared and exploited almost all the Nile waters which, paradoxically, come most from the Ethiopian highlands (Lacoste, 2006: 341). Bazin and Gascon (2015) believe that: the bilateral and exclusive partition between Egypt and Sudan – which excludes all other riparian states – the position of the upstream and downstream states of the Nile basin and, above all,

the long-standing powers generated "*relations asymétriques*" between the Nilotic States.

As it has already been underlined in chapter 1, the Egyptian civilisation has since ever relied on the control of the Nile River and when in the late nineteenth century, the country became a British Empire's colony, the river's control became a central colonial objective and western powers kept on endorsing Egypt's primacy over the river (Meredith and Givental, 2016). Indeed, until the second half of the twentieth century, the upstream states – such as Ethiopia – have been drastically excluded from all agreements and from an international standing in the Nile River issue. Thus, as mentioned in paragraph 2.1, the upstream and downstream states have respectively tried to support an updated sharing of freshwater resources or to preserve and enforce their historic rights. These dynamics clearly shows how, in hydro-hegemony, a country's ability to hold and preserve power over water resources (Egypt) is far more significant than the geographical position of another country (Ethiopia). On this point, it can be shortly mentioned the "paradox of plenty" and the "resource curse", respectively expressed by Karl (1997) and Wenar (2008). Both authors put emphasis on the paradoxical relation between resources and benefits coming from the latter: resources-endowed countries tend to be unable to exploit and benefit from these resources. This model can be easily recognised in the Egypt-Ethiopia relation: despite Egypt contributes with very few levels of water to the Nile, it exploits and benefits from the river far more than the river's principal "supplier", Ethiopia. Therefore, Egypt has since ever been the hydro-hegemon of the Nile River Basin but, since the second half of the twentieth century, this hegemony has been challenged by upstream countries. Before focusing on these challenges and claims, it is considered necessary to briefly mention the historical excursus of the agreements on the Nile.

With the exception of the agreement signed on the 8th of November 1959 – which the thesis will analyse in few lines – all other conventions and agreements were adopted during the colonial era, under the aegis of the European powers that administered almost the entire region and which, at the Berlin conference

in 1885, strengthened their respective zones of influence in Africa. Particularly, despite the presence in the region of also other colonial powers such as Italy, France and Belgium, Great Britain has always been at the forefront of the Nile River's exploitation for geostrategic reasons. Great Britain was primarily interested in preserving its control over the Suez Canal in order to secure its cotton investments in Egypt – a British protectorate[17] – and in Sudan, over which, from 1899, the Anglo-Egyptian Condominium[18] was created. Indeed, different treaties have been concluded under the British colonial rule, all giving primacy to Egypt in the Nile River's claims. This primacy has been protected as long as, for strategic reasons, Great Britain colonial power defended it. For instance, the Egypt-Great Britain Agreement signed on the 7th of May 1929 endorsed Egypt's hegemony over the river, and it annually attributed to Egypt and Sudan respectively 48 km^3 and 4 km^3 of the total estimated 85 km^3 annual flow (leaving 33 km^3 not allocated). The agreement was signed by Great Britain on behalf of Sudan and it consolidated Egypt so-called "*droit historiques*" over the river: Egypt obtained the right of veto on all works undertaken by Sudan, or any other riparian country, and it received an amount of water twelve times that of Sudan. In turn, Great Britain confirmed its dominant role in the Suez Canal and contributed to the unequal distribution of the Nile's waters at the expenses of the other riparian states. British colonial administration over Egypt and Sudan lasted respectively until 1937 and 1956.

As one can already imagine the 1929 Agreement excluded the river's major supplier, Ethiopia, and other upstream countries, which have never accepted the mentioned agreement and claimed for a fairer utilisation of the river. (Swain, 2011). Indeed, during the second half of the 20th century, these states gradually gained independence, triggering drastic and substantial changes and calling into question the validity and applicability of the colonial agreements. The newly

[17] Great Britain occupied Egypt since 1882; in 1936 Egypt signed a treaty with Great Britain for the withdrawal of British troops from the Egyptian territory, except for the Suez Canal. Egypt gained full independence from Britain with the Egyptian Revolution of 1952.

[18] In 1899, the British Empire imposed to Egypt the condominium – the joint rule – over Sudan, to pursue its economic interest in the textile industry. The Anglo-Egyptian Condominium will last until Sudan's independence in 1956.

independent countries had two opposing attitudes towards the colonial agreement: while the first aimed at guaranteeing legal certainty and avoiding a sudden break with the colonial agreements, the second aimed at obtaining a *tabula rasa*, totally depriving the agreements of their legal effects. Particularly, Sudan gained independence in 1956 and signed a bilateral agreement with Egypt on the 8th of November 1959. It is important to underline that the 1959 Agreement was signed in a very tense climate: cold war, civil unrests and the North-South Sudan nationalism have framed the negotiations of the 1959 Agreement. The treaty strengthened the hegemonic role of Egypt and secured to the two signing countries access to the 90% of Nile freshwaters (Asiedu, 2018). Specifically, in the treaty the two signing parties estimated the annual river flow to 74 km^3 and opted for the same annual allocation quotas of the 1929 Agreement but with an increase for Egypt of 7.5 km^3 (with a total of 55.5 km^3) and for Sudan of 14.5 km^3 (with a total of 18.5 km^3) (Swain, 2011). In addition, the two states, with funding from the USSR, agreed on the construction of the Aswan High Dam, which was to be built between 1960 and 1970. Egypt and Sudan once again ratified the exclusive right to exploit the waters of the Nile and, at the same time, decided to jointly face the claims of the other Nilotic states.

Since the very first years of the 1959 Agreement, the two countries, considered the treaty as the legitimate international legal framework to allocate Nile waters. Nevertheless, this bilateral and exclusive agreement did not include any other Nilotic riparian states which have progressively started to define the Egyptian historical hegemony over the Nile as unbearable and outdated. This progressive rise of other Nilotic states' claims went hand-in-hand with the latter's rapid social and economic development which made them emerge as new regional powers. Particularly, the most newly emerging regional power was undoubtedly Ethiopia, which has, since the very beginning of twenty-first century, been challenging downstream countries' primacy over the Nile River. From the 1990s onwards, the country began to develop relations and agreements with downstream states, especially Sudan and Egypt, in order to get out of the

marginal role to which it had been for long relegated. Other newly independent regional states, namely Burundi, Kenya, Democratic Republic of the Congo, Uganda, Tanzania, and Rwanda, joined Ethiopia's claims and dissent against the status quo. During the colonial era, these countries had not at all exploited the Nile River's waters since their economies were controlled by the European colonial powers. But after the independence, their ambitions and economic development increased, and they started questioning the unfair exploitation of the river (Tesfaye, 2013). In next paragraph (2.3), the thesis will focus on the evolution of the relationships between the Nilotic riparian states and on the international initiatives that emerged from the latter's increased cooperative approach.

2.3 NBI and CFA: towards multilateralism and shared "ownership"?

From the 1990s onwards, a drastic change in excluded Nilotic states' behaviour occurred: they gathered in the *coalition d'amont* (the upstream coalition) and jointly worked for a newly collective "ownership" over the river. Based on the Nyerere doctrine[19], the upstream countries' objective was to disregard the 1929 and 1959 Agreements (considered inapplicable) and to obtain a fairer Nile's waters' allocation, opposing Egypt's hydro-hegemony (Tesfaye, 2013). As previously said, their ambitions over the Nile River's waters rose and so did their ambitions to develop irrigation and hydropower. In the 1990s, Nilotic countries were experiencing an open conflict over the river, and they hoped that cooperation over it could only be beneficial. Particularly, the very first cooperative approach between Nilotic countries occurred in 1993, when the Technical Cooperation Committee for the Promotion of Development and Environmental Protection of the Nile Basin (TECCONILE) was created in order to promote a more inclusive approach to the river's exploitation. Meanwhile, Egypt parallelly signed agreements on general cooperation with

[19] Julius Kambarage Nyerere was a Tanzanian anti-colonial politician and Tanzania's first president from 1964 to 1985. The Nyerere doctrine states that African nations are fully independent sovereign states, not bound by any colonial agreements.

single countries, such as the one with Ethiopia in 1993, which provided that none of the two countries would have pursued projects harmful for the other. These initiatives were all part of a multilateral effort made in order to co-share and co-rule the Nile River and they led to the establishment in 1999 of the Nile Basin Initiative (hereinafter NBI), an intergovernmental partnership set up under the aegis of the World Bank with the aim of preventing possible conflicts over water supply. Finally, other countries raised their voices and claimed for a more equitable utilisation of the river. Thus, the NBI is an all-inclusive Nile Basin institution established, with the aim of promoting coordination and cooperation over the Nile River, by Nilotic States, namely Burundi, the Democratic Republic of Congo, Egypt, Ethiopia, Rwanda, Sudan, South Sudan[20], Tanzania, Uganda and Eritrea (which participates only as an observer member). This multilateral agreement aims at regulating the exploitation of the Nile's waters in order to ensure a fair and steady socio-economic development of the region. Its main aims are to promote efficient management, optimal use of Nile's water resources and cooperation between the riparian states, pursuing a win-win strategy. In this way, its ultimate goals are to ensure "prosperity, security and peace for all its peoples" and to eradicate poverty by fostering economic integration among states (NBI, 1999). The leadership of the NBI is entrusted to the Nile Council of Ministers (Nile-COM) composed by all Nilotic countries' Water Affair Ministers and assisted by a Technical Advisory Committee (Nile-TAC). In 2017, the NBI adopted the so-called *ten years strategy*, which aims at achieving a rapid development of the Nile River Basin by 2027, and all member states have received funding from the World Bank to strengthen equitable sharing of the Nile. In the figure below (figure 9) it is possible to see all the projects that have been developed under the NBI's umbrella during the last 20 years.

[20] South Sudan joined the NBI after its independence in 2011.

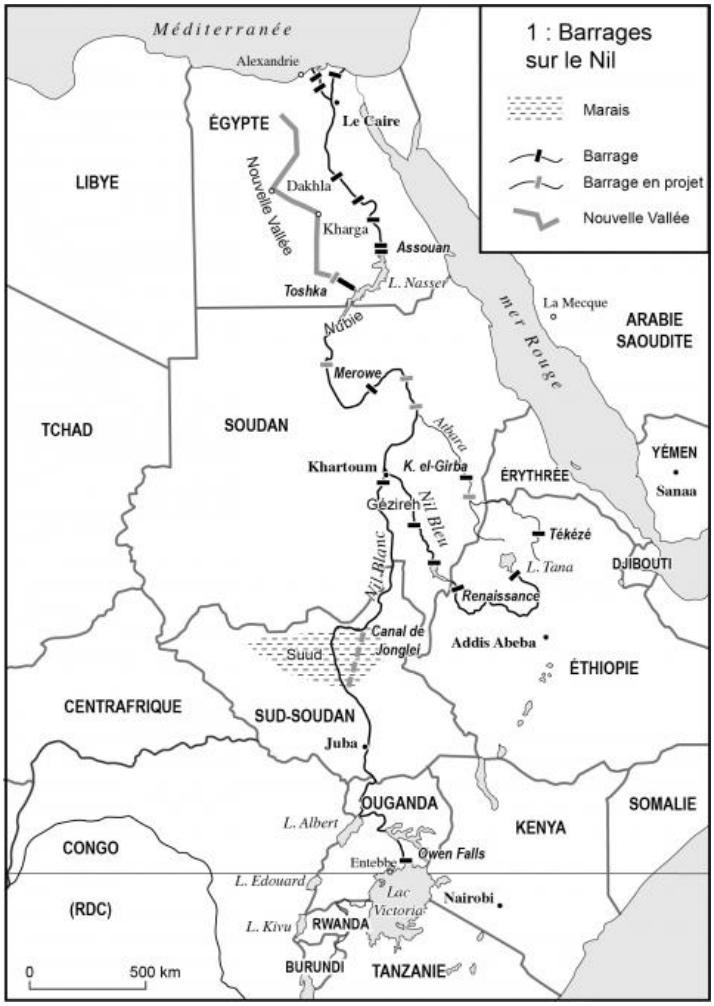

Figure 9. Dam projects on the Nile[21]

It is important to recall that the NBI represented the first attempt to create a multilateral arena where collaboration and consultation were possible. What it could be said is that a multilateral issue (such the 11-states co-shared Nile River) should need a multilateral response, which at the same time brings together different states with different interests. Indeed, this variety of interests and approaches made conflicts and tensions arise, mainly between up-downstream countries. For instance, at the beginning, both Egypt and Sudan realised that a new approach had to be taken and they were active in the establishment of the NBI. Nevertheless, the two countries were looking for the maintenance and preservation of the status quo, while all the other Nilotic states

[21] Figure taken from Gascon, A. (2015). *Combats sur le Nil : la guerre de l'eau?* p. 163.

were looking for the opposite: a new and renovated cooperative framework within which jointly rule over the river. These states' claims and negotiations moved towards a disregard of previous Nile agreements, which would result in Egypt and Sudan losing existing rights. The latter aimed at opening cooperation but still in a conservative approach: historic rights over Nile's exploitation should be respected and secured. Moreover, it is important to underline that Egypt was pushed to accept this cooperation because of its adverse financial situation: it needed the World Bank (under which aegis the NBI was established) in order to face the economic pressures.

The NBI was originally conceived as a transitional agreement, for this reason Nilotic countries' negotiations continued and finally took shape in 2010 at Entebbe, in Uganda: the Cooperative Framework Agreement (hereinafter CFA) was created. The CFA's principles recall the already mentioned UN Watercourses Convention (1997): subsidiarity, prevention of causing significant harm, sustainable development, protection of river's ecosystem and so forth. Specifically, the CFA promotes the benefit-sharing approach which provides that for transboundary rivers, the only way to maximise potential benefits is through basin-wide cooperation and not through individual states' interests. As it will be analysed in chapter 3 and 4, the bottom line is that the win-win cooperative model brings higher benefits than the zero-sum game one.

Nevertheless, the CFA negotiations proved immediately thorny, and the agreement was only signed by six Nilotic countries, namely Ethiopia, Tanzania, Rwanda, Uganda, Kenya and Burundi (in order of ratification). The reason why Egypt and Sudan refused to sign the agreement was mainly because of the dispute over the "current uses and rights over the basin" and the river's quota reallocation (Swain, 2011). Particularly, the controversy about the CFA legal framework was about Article 14: the article can be considered a very innovative article in the international water law, because for the first time "water security" is mentioned and protected – "*Nile Basin States agree to work together to ensure that all states achieve and sustain water security and not to significantly affect the water security of any other Nile Basin State*" (article 14, CFA). This

article was considered flawed by Egypt and Sudan that wanted to add "not significantly affect the current uses and rights over the basin", because they wanted to secure their pre-existing rights (Wehling, 2020: 201). Moreover, the CFA does not provide a notification procedure for planned measures, this resulting in individual states undertaking unilateral projects and causing geopolitical tensions (Ethiopia's GERD project can exemplify these tensions and it will be deepened in paragraph 2.5).

Since these divisions and initiative's shortcomings the CFA and the NBI cannot properly work and this – together with the increasing demand for water and the rise in Nilotic countries' population – pushed the countries to unilaterally act, undertaking hydraulic projects within their own territories to effectively protect their water needs. Yet, neither the NBI nor the CFA have succeeded in settling the dispute between these state-centric policies. The countries, despite their continuous rhetoric on basin-wide cooperation, keep on unilaterally promoting large-scale hydraulic projects in their state territories (see GERD project, paragraph 2.5). Moreover, they are not acting in order to reduce their reliance on the river, considering it the only source of water (Swain, 2011). For instance, Egypt is still trying to "veto" other states' initiatives (see paragraph 2.5) and not by chance its foreign policy is still monopolised by Nile River's concerns (Hassan and Rasheedy, 2007). Certainly, the last-mentioned initiatives have been paving the way towards a more cooperative and fair exploitation of the Nile River and, at first glance, they could seem representing the end of the several struggles for the river. Actually, if from a side the emerging of river's new users and "shareholders" have opened the way to negotiations and cooperation, from the other these new claims have destabilised geopolitical balances, triggering a real war for water. In this *blue gold* war, one of the main players is undoubtedly Ethiopia, also referred to as the main Nile River's supplier. Among the projects that can be seen in figure 9, it is worth mentioning the GERD project that the thesis will deeply analysis in paragraph 2.5. The project is part of what it is known as the Ethiopian Renaissance and counter-hegemony that will be the main topics of next paragraph.

2.4 Ethiopia's counter-hydro-hegemony: challenging Egypt's monopoly?

Ethiopia, an East African state, is at the centre of the great water race that is inevitably triggering the so-called *war for blue gold*, among all the Nilotic states. As aforementioned, Ethiopia has for long been claiming its natural rights over the Nile, opposing them to Egypt's historical ones. Indeed, unlike Egypt and Sudan, the country has a great freshwater-resources' potential but the latter is indirectly proportioned to its development. As mentioned in chapter 1, the tributary Blue Nile conventionally originates in Ethiopia, specifically in *Gish Abbai*, a sacred place for the Ethiopian Church, reason why the Ethiopians call the Blue Nile "*notre*" Abbai (Gascon, 2015). Moreover, the abundance of the Blue Nile flow – it generates 86 percent of Nile waters – led to the famous statement: "*If it is true that Egypt is a gift of the Nile, then the Nile is a gift of Ethiopia*" (Gascon, 2004). This sentence clearly puts emphasis on Ethiopian rhetoric about it being the main source and supplier of the river and, consequently, the first entitled to exploit it.

On the basis of these assumptions, Ethiopia has always been at the forefront in criticising the validity of the Nile's colonial and post-colonial agreements (from which, as mentioned in paragraph 2.3, it had been continually excluded). Already, since the 1956 Suez Canal crisis, the country started to voice its opposition on the Nile's exploitation regime but for years it has been hindered by Egypt in several ways. The Egyptian governments have engaged in both diplomatic and military counter-opposition of Ethiopia's development projects: blocking financial assistance and funding Ethiopia had requested; supporting politically, militarily and financially forces and rebel groups hostile to Ethiopia; threatening military action against Ethiopia (Maru, 2017). Moreover, it is important to underline that despite the evidence that Ethiopia is the only country in the Nile Basin that was not colonised – except for the 5-years Italian occupation (1936-1941) – its sovereignty over the Blue Nile had not been recognised because Great Britain maintained its interests in the Lake Tana's

area (where the Blue Nile has its source). As already mentioned, after decades of tumultuous relations, Ethiopia adopted a multilateral approach to the issue and played a central role in NBI and CFA, showing empathy towards other Nilotic states – also due to its pan-Africanist legacy. Thus, from the 1990s onwards a rapprochement phase between Addis Ababa, Cairo and Khartoum occurred. Nevertheless, this convergence has been gradual and fragile, continually challenged by new states' demands and large-scale construction projects which bring at once both a wave of development and conflicts between competing states (Boëdec, 2003).

Focusing on Ethiopia it is important to recall that, despite the presence of ten river basins, until the 21st century they were underdeveloped and not exploited (Attia and Saleh, 2021). The country's economy has for long depended on its huge rate of rainfall and on rainfed agriculture – from there Ethiopia is referred as the "Africa's water tower". But as climate change, desertification and precipitation rate unpredictability raised, the country has been facing dramatic periods of drought, famine and food insecurity. It, thus, realised that it could not anymore only rely on rainfall and accelerated on hydropower and infrastructural projects' development to secure food self-sufficiency and water security (Yihun, 2014). This situation is further worsened by the evidence that 30 percent of the Ethiopian population still lives in poverty and only 48.2 percent have access to electricity, with the remaining experiencing electric power shortages (World Bank, 2019). For these reasons, Ethiopia turned to the development of its huge hydro-resources to expand the electricity access.

As from the 1990s, Ethiopian leadership has been claiming that the country's economic backwardness, underdevelopment and international marginal role are directly proportional to its inability to exploit its freshwater resources' potential. Indeed, Verhoeven (2021) affirms that water and energy security are creating in the country a new framework where state-building projects represent a new way to effectively control territory, expand regional influence and permeate society. This emerging framework is clearly visible in the county's "securitisation of development" process which is occurring through the

construction of railroads, airports and dams, such as the GERD. From 1991 to 2019, Ethiopia was guided by the Ethiopian People's Revolutionary Democratic Front (hereinafter EPRDF) which advocated Ethiopian Renaissance and initiated the infrastructural process. Particularly, in 2002, the EPRDF launched the Foreign Affairs Policy and National security policy and strategy (hereinafter the FANSPS) which addressed Ethiopia's internal, regional and foreign policy as interdependent spheres. The FANSPS made it clear that Ethiopian elites conceived the national-regional-international arenas as tightly connected: a failure in one of them would affect the others. It is for this reason that Ethiopia relied on infrastructural projects as a matter of both national and international interest. Ethiopian foreign policy, apart from being characterised by continuous conflicts with Eritrea and rising tensions with Egypt, has been mainly focused on the Nile. The FANSPS envisages it as one of the central topics and, as Maru (2017) points out, the long-lasting antagonism with Egypt over the Nile's waters has been for long hindering Ethiopia's peace and stability and the Horn of Africa's geopolitical security. Indeed, over the last two decades, one of the main Ethiopian geopolitical strategies has been to prioritise the Nile River both in domestic and foreign policy, in order to reinforce its grip over the Blue Nile's waters. Ethiopia's demands for the priority exploitation of the Blue Nile's waters are even greater as the state is facing a dramatic rise in the population, which is not expected to stop growing (see figure 7 in chapter 1, paragraph 1.2). As said, the state's current priorities are mainly oriented towards electricity supply and industrial development – no longer only towards irrigation, as in previous infrastructure works – so much as to raise the question "*les ethiopiens ont-ils désormais plus faim d'électricité que de nourriture*" (Gascon, 2015:141). This leads to a consequent increase in the demand for ever larger quantities of cheap energy for agricultural and industrial financing. At the heart of Ethiopia's economic growth strategy there is the increase in its capacity to produce energy, thus aiming at strengthening its regional weight in the Horn of Africa and increasing credibility in the area. Ethiopia's ambition to increase its economic prosperity is focused on

maximising the exploitation of the Nile and to awaken nationalist sentiment among the Ethiopians. The entire Ethiopian population, regardless of ethnicity, envisages these energy development projects and the consequent poverty reduction, as the only way towards a real "renaissance". In this way, infrastructural power – as termed by Mann (1984) – assumes an essential role in the society: it not only allows Ethiopian leadership to effectively control territory but also to permeate society, changing how state operates and how citizens envisage it (Verhoeven, 2021).

Through infrastructural power Ethiopia is currently challenging its historical disadvantages and Egypt's hydro-hegemony over the Nile. Over the last decades Ethiopia has been undertaking a solid stance in regional policy with the aim to foster its pivotal role and to become a protagonist in the Horn of Africa. Particularly, the topic of distributive justice – mainly on the Nile River – has been launched by the political society and then strengthened by the civil one. The historical injustices – that continue up to today with local and global Egypt's allies preventing Ethiopia's access to funding and expertise – have been counterposed by the rhetoric of the "downstream lions starving the upstream countries" and as Meles Zenawi[22] affirmed in 2010: "*some people in Egypt have old-fashioned ideas based on the assumption that the Nile belongs to Egypt, but circumstances have changed and Ethiopia is ready to build infrastructures on the Nile*"[23]. This view was expressed by the then prime minister right one year before the announcement of the GERD project, whose unilateral construction is not only a matter of national development project, but it also aims at changing the power dynamics in the Nile Basin. In the next paragraph, the thesis will deeply analyse the GERD project putting emphasis on its regional role and considering dam-building projects as a new form of nationalism.

[22] Meles Zenawi was the prime minister of Ethiopia from 1995 until his death in 2012. He is considered as the founder of Ethiopian ethnic federalism.
[23] Taken from the Egyptian Gazette of 20th of May 2010.

2.5 GERD project in Ethiopia: between nationalism and regionalism

The Great Ethiopian Renaissance Dam (hereinafter GERD) is part of the Ethiopian "Growth and Transformation Plans I and II" (GTP I and II), five-year plans which respectively covered the period 2010-2015 and 2015-2020. As already anticipated in paragraph 2.4, these GTP should lead Ethiopia towards a real transformation and renaissance, ensuring rapid and broad-based growth. One of these plans' main objective is to make Ethiopia become a middle-income country by 2025. The construction of the GERD goes exactly in the same direction. The project is the main representative of the EPRDF discourse about the new Ethiopian millennium, started back in 2007, which underlined that Ethiopia was entering a new era. Not by chance, the project's first name was the "Millennium dam", later renamed *Hidassie*, which in Amharic means Renaissance, to get something new from the old (Verhoeven, 2021).

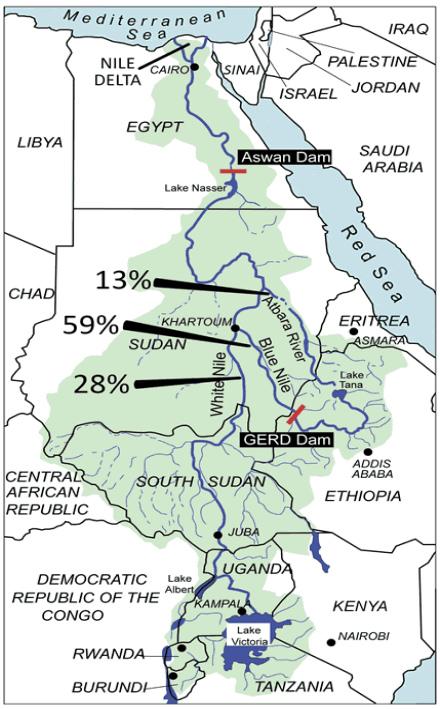

Figure 10. The GERD project[24]

[24] Figure taken from Gascon, A. (2015). *Combats sur le Nil: la guerre de l'eau?* p. 163.

On the 30th of May 2011, taking advantage of the fall of Mubarak, the subsequent weakening of Egypt[25] and the secession of South Sudan[26], the Ethiopian Prime Minister, Meles Zenawi, announced the project and laid the first foundation stone of the GERD. Ethiopia commissioned the project to the Italian company *Salini Impregilo*, now *We build*, which since 1958 had already completed 22 infrastructural projects in Ethiopia. The GERD (see figure 10 above) is located 30 km upstream from the border with Sudan and 500 km northwest from Addis Ababa, in the Benishangul-Gumaz region and along the Blue Nile tributary. Once the construction will be completed, the GERD will be the Africa's biggest hydroelectric dam and 10th largest in the world: 1.800 m long, 155 m high, 74 billion m^3 of water total storage volume and a reservoir area of 1874 km^2. The GERD comprises 16 turbines which will be able to generate 6.000 MW of electricity (the equivalent of 5/6 nuclear plants), with an estimated production of 15.000 GWh per year. Apart from Chinese financial aid, the dam project is nearly entirely financed by Ethiopian itself and the initial estimated cost of $3.4 billion has throughout the years rose to $5 billion. While Chinese Banks have financed $1.8 billion in associated equipment and turbines, the project has received little World Bank's financing: the WB, at the beginning reluctant to support the project, only in 2018 approved a $375 million International Development Association (IDA) credit in order to support Ethiopian ambitious objective of access to universal electricity by 2025 (Meredith and Givental, 2016). Therefore, Ethiopia had to raise funds for the project domestically. The Ethiopian government is financing through public finance and fundraising initiatives among the population: widespread propaganda and mobilisation campaigns all over the country; state employees are compelled to a collective pay-cut (one month of their annual salary); public bonds were issued and sold to citizens, thus giving a popular and national value

[25] The Egyptian Arab spring began in January 2011 and the country mainly focused on its internal situation and instability.

[26] South Sudan obtained the independence on the 9th of July 2011, following a referendum passed with 98.83% of the votes.

to the project. Indeed, the Ethiopian leadership immediately recognised the essential role that the GERD could play in legitimising the government and the institutions. For instance, Meles Zenawi conceived that national capital mobilisation could strengthen integration both domestically (between all the different ethnicities) and regionally (particularly with its Horn of Africa's neighbours). For this reason, the GERD became a symbol of nationalism and Ethiopian Renaissance: meetings with the slogan "there was a grave injustice in the past, but the dam is changing history", lotteries, SMS contests, athletic events, news bulletins, social media posts (e.g., using #ItsmyDam hashtag) are examples of the mediatisation and popularisation of the project. (Verhoeven, 2021). A great interdependence between GERD and the Ethiopian population occurred: Ethiopians perceive that they have an extremely high stake in this 100 percent Ethiopian people's project. The latter has become the main representative of the last-two-decades Ethiopian optimism which hopes to unify the country through megaprojects and economic development. Indeed, the actual Ethiopian Prime Minister Abiy Ahmed affirmed[27] that they are putting immense emphasis on the GERD because it is a symbol of Ethiopian unity and sovereignty. All this legitimisation process is part of the infrastructural power that the thesis mentioned in paragraph 2.4. The construction of the GERD (and so infrastructural power) is succeeding in reshaping the state-civil society relation, reinforcing – or maybe creating – the state-society bond, and the project is an instrument of territorial control and unification, tying together different parts of the territory.

For what concerns regionalism and the GERD's impact on Ethiopian regional role, it is firstly important to recall that Ethiopia conceived the project as a way to get out of the marginal condition in the Nile Basin, in which it had been confined by the colonial and post-colonial agreements. Trough the GERD, Ethiopia attempts at exploiting the abundant water resources present in the

[27] Taken from the Ethiopia News Agency "*GERD: The Symbol of Our Sovereignty and Unity*" of 1st of April 2020, [https://www.ena.et/en/?p=13594].

country (note that the Ethiopia plateaus contribute to the Nile flow with almost 86% of waters and it probably rises to 90% during the rainy season) in order to guarantee the satisfaction of the internal demand for water. Indeed, with an estimated growth in electricity production of 270%, Ethiopia will be able to cover its national needs and also export the surplus to neighbouring countries (Manna, 2021). Ethiopia would thus take on the role of exporting a large surplus of energy it produces, becoming the first energy supplier to other countries in the region. Addis Ababa has for long emphasised the regional integration role of the GERD project: Meles Zenawi spoke about "Ethiopian benign hegemony" and the need to make the other region's countries recognise the immense value of the project. By accepting the GERD project, its potential could also serve the other countries' interests, which having access to the sea – note that Ethiopia is landlocked – can exploit the Ethiopian-exported energy in the global markets. Moreover, the Ethiopian government stressed the argument that the project was not intended to harm its neighbours but to create positive benefits also for them.

Nevertheless, the construction of the Africa's greatest dam has been controversial since the very beginning. Ethiopia has been accused of having unilaterally began to build the dam, without any prior consultation with other countries (on this see the absence of notification procedure in the CFA framework in paragraph 2.3). On his side, Ethiopia states that these countries' opposition to a multilateral equitable agreement, left Ethiopia no other choice than undertake unilateral actions (Meredith and Givental, 2016) and Meles Zenawi defended the project by saying: "*They don't want to see developed Africa; they want us to remain undeveloped and backward to serve their tourists as a museum*" (Gascon, 2015:149). To downstream populations and government – who are willing to preserve their historical rights over the river – the GERD project raised vital concerns about food and water security (Verhoeven, 2021). What mostly concerns them, particularly Egypt, is the amount of water that will arrive to their countries once the dam would be completed and operational – it is estimated that the influx of water could decreased by 25%. In February 2021, Seleshi Bekele, the Ethiopian Minister of

Water and Irrigation said that the dam's engineering work had reached 91%, while the total construction was at 78.3%. Once completed, the reservoir could take between five and fifteen years to be filled with water, depending on the hydrological conditions and agreements reached between Ethiopia, Sudan and Egypt. It is precisely the filling of the dam one of the most controversial issues on which the three countries have been debating. Khartoum and Cairo are strongly supporting a slow reservoir's filling which, in their opinion, should take more than ten years. In addition, GERD also preoccupies Sudan because of its closeness to Sudanese border: an accidental opening of the dam could cause flooding, threatening 20 million Sudanese people's lives. On the other side, Addis Ababa wants a far more rapid filling and during the rainy season of summer 2020, it already started the dam filling (Manna, 2021). Indeed, as Maru (2017) points out, Ethiopian "aggressive" dam development has compelled Egypt to question its historical advantaged position and is currently triggering tensions between the mentioned countries. As the thesis will analyse in chapter 3, paragraph 3.2, some observers fear that GERD could lead to a water war between Egypt, Ethiopia and Sudan, while others believe that the project could facilitate cooperation (Maru, 2017). In any case, the GERD is representing a clear shift in these countries' relations and hydro-hegemony over the river. Some scholars have highlighted and detected a similarity between the potential value of the GERD project and that of the South-Eastern Anatolian Project (GAP)[28] for Turkey in the Middle East. Moreover, it has been underlined Ethiopia's alignment with China – which with its soft power policy it is increasingly interested in investing in the region and, as said, has financed the GERD project – and with the Chinese and Asian model of rapid and steady growth (Gascon, 2015). As Gascon (2015:142) recalls, GERD should not be considered a "*cathédral dans le desert*" but is part of a 25-year national plan that should lead to the improvement of Ethiopia's living conditions, energy

[28] GAP is the South-Eastern Anatolian Project, a complex of 22 dams on the Tigris and Euphrates rivers in the Turkish territory, intended to power 19 hydroelectric stations.

independence and the consecration of the country as an emerging power in sub-Saharan Africa. Thus, the project has the ambition to incentivise the renewable sources' energy and to reduce the annual emissions of carbon dioxide by 2 million tonnes per year, moving to carbon neutral energy by 2025. In conclusion, it can be said that the GERD is playing several roles: firstly, it is reshaping Ethiopian domestic relations and fostering long-term economic development; secondly, it is geographically and politically redrawing the Nile Basin's relations; thirdly, it is mitigating the impact of rainfall variability and rising temperatures in Ethiopia; fourthly, it is challenging Egyptian hegemonic role in the Nile River's scenario; fifthly, it is changing the regional outlook of Horn of Africa's relations, setting the stage for a potential *blue gold* war. Next chapter, chapter 3, will focus on the assessment of conflict-risk factors in the Nile River arena, particularly putting emphasis on the GERD as an instrument of geopolitical unbalances.

Chapter 3: Who is fighting for the Nile
Assessing the conflict-risk factors in the Nile basin's area: next to a water war?

3.1. Water as a strategic (re)source of conflict

Primary resources are essential for human and economic development. Water is certainly among these vital resources and human life would be impossible without it. For this reason, it is considered of outmost importance to deeply focus on water both as an essential and geostrategic resource. Water is a renewable but not sustainable resource: water's availability is not commensurate with its increasing consumption and its reproduction rate is lower than that of use (Marconi and Sellari, 2017). Following the 2019 United Nations World Water Development Report (hereinafter, UN Water Report of 2019), the mentioned increasing consumption is mainly due to three factors: population growth, socio-economic development and new consumption model. Since the 1980s, these latter have made the use of water yearly increase by 1% at the global level and it is estimated that the water demand will keep the same pace until 2050. The projections affirm that, by 2050, water demand will exceed the actual demand by 20-30%, mainly because of its ever-increasing use in industrial and domestic sector (UN Water Report, 2019). Currently two billion of people already live in water-stress[29] countries and almost four billion are in a severe water scarcity condition once a year. Moreover, particularly in Sub-Saharan Africa, people do not have access to drinkable water and are obliged to drink from non-protected sources. Figure 11 (note that the map is updated to 2018) makes the water-stress situation around the world even clearer. In figure 11, physical water stress is calculated as the ratio of total freshwater annually withdrawn by a country to the total renewable resources' amount (expressed as percentages). From the map, it can be inferred that despite global water stress

[29] The water-stress indicator is calculated on water availability per person. The World Bank estimated that a person, to meet basic needs, daily requires 100 to 200 litres of water. Adding to basic needs, energy production, agriculture and industry's water uses, the annual average need is 1000 m^3 per person. If the annual available water per person is below the 1000 m^3 threshold, the area is defined as water stressed.

is about 11%, at least 31 countries experience a water stress (25-70% on the map), while 22 live in high-water stress (>70% on the map). For instance, for what concerns the thesis-focus' area, it has to be mentioned that, in 2018, both Egypt and Sudan were already considered as high water-stress areas (>70%) – note that in few lines, through a specific map (figure 13), the thesis will concentrate on Africa's water scarcity.

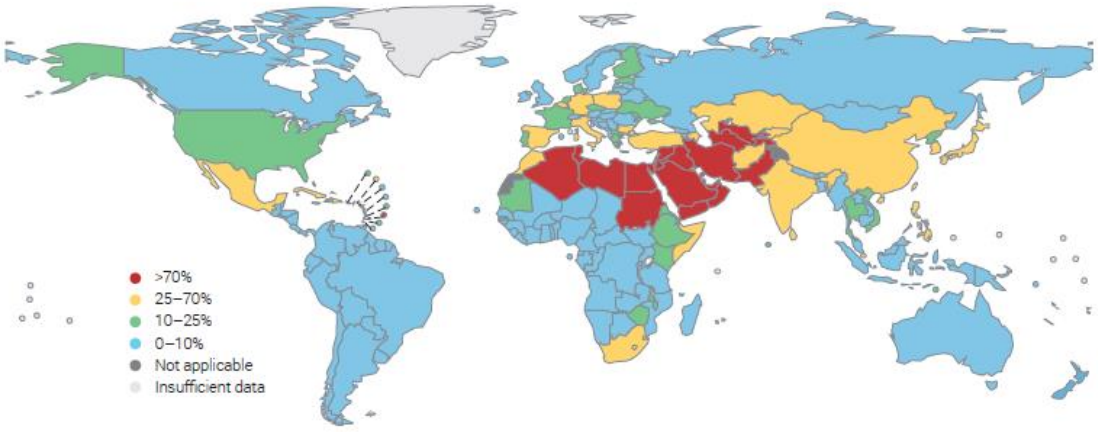

Figure 11. Level of physical water stress in the world[30]

It goes without saying that increasing water scarcity has to be considered as a threat to human life, both at regional and global level. Indeed, since the 21st century a great deal of attention was put on the issue. For instance, in April 2000, Kofi Annan[31] referred to water supply as one of the most central goals of the new millennium (Abdullah, Dyduck and Ahmed, 2020). As of 2020, one quarter of the global population was experiencing water deficit and it is estimated that by 2025 at least 1 billion of people will live in absolute water hunger's condition and have no access to safe water – this leading to malnutrition, waterborne disease, poverty and economic-political instabilities.

[30] Figure taken from UN World Water Development Report 2019, *Leaving no one behind*, p.14.
[31] Kofi Annan was the UN Secretary-General from January 1997 to December 2006. On the 3rd of April 2000, at the UN General Assembly, Kofi Annan presented the *Millennium Report* and addressed the issue of global water supply.

The World Water Council[32] estimated that, by 2050, 2/3 of global population will experience freshwater resources' shortages and global population will rise to about 9 billion. Plus, it is important to envisage this alarming data together with the evidence that 97.5% of global water is polluted or salt and, of the 2.5% remaining, only 0.01% is available in rivers, lakes, reservoirs and aquifers for human use. In this regard, it has to be recalled that freshwater resources' distribution around the world is considered unfair: Abdullah, Dyduck and Ahmed (2020) put emphasis on the fact that only 9 countries in the world have the 60% of freshwater resources and, among them, only Indonesia, Canada, Brazil, Colombia, Russia and Democratic Republic of Congo have a freshwater resources' surplus related to their populations' needs. Thus, countries with high population growth rates and with as main water source a river shared with other countries, could experience high water stress, mainly considering that 3/5 of international rivers is shared by at least 2 countries. In this way, water's non-ubiquity makes it a geostrategic resource, transforming it from a primary to an economic and commercial good. As a source of diplomatic and non-diplomatic tensions among states that share it, water is therefore considered a strategic resource capable of destabilising and shaking existing geopolitical balances. Particularly in areas of high water stress, conflicts could take on such dimensions as to trigger a real war for water, also called the *blue gold.* Indeed, countries could engage in water conflicts in order to protect their own water security. On this point, it is important to clarify the meaning of water security. As said, in chapter 2, paragraph 2.3, the CFA defined water security as "the right of all Nile Basin States to reliable access and use the Nile River system for health, agriculture, livelihoods, production and environment". As already said, this was one of the first legal agreement including the definition of water security. On his side, the World Water Council defines water security as "the availability of the resource in sufficient quantity and quality to ensure socio-

[32] The World Water Council, also known as the *Conseil Mondial de l'Eau*, is an international multi-stakeholder organisation, founded in 1996 and with its headquarters in Marseille. Its main goal is to mobilise action on critical water issues at all levels, envisaging water as a political priority.

economic development, livelihoods, health and ecosystems". Therefore, from these definitions and conducted analysis, it can be deduced that water's essential and geostrategic roles are two sides of the same coin: water can be considered both an instrument of development and force. The thesis will now move to analyse the latter aspect, focusing on the concept of water conflicts.

Since the 21st century, the evidence that water conflicts would have been at the centre of international relations, reshaping global geopolitics, has been clear. Since then, the international community, particularly through different United Nations' Secretary-Generals, has been stressing the centrality of water conflicts[33] and water grabbing[34] and underlining that the "conflicts of the future" will be mostly waged over water. But is this risk so imminent and real? In order to answer to this question, the thesis must analyse the concept along two different assumptions: water conflicts have been increasing since the late 20th century (see the graph in figure 12) and, so far, water conflicts have not military engaged.

[33] Water conflicts are defined as conflicts related to water issues, such as the bad managing of the resource or the complicated water allocation between states or ethnic groups.

[34] The Water Grabbing Observatory defines water grabbing as situations in which powerful actors take control over water resources to their own advantage: in this way, water becomes a private good controlled by those who hold power. Water grabbing is indeed considered a violation of human and social rights.

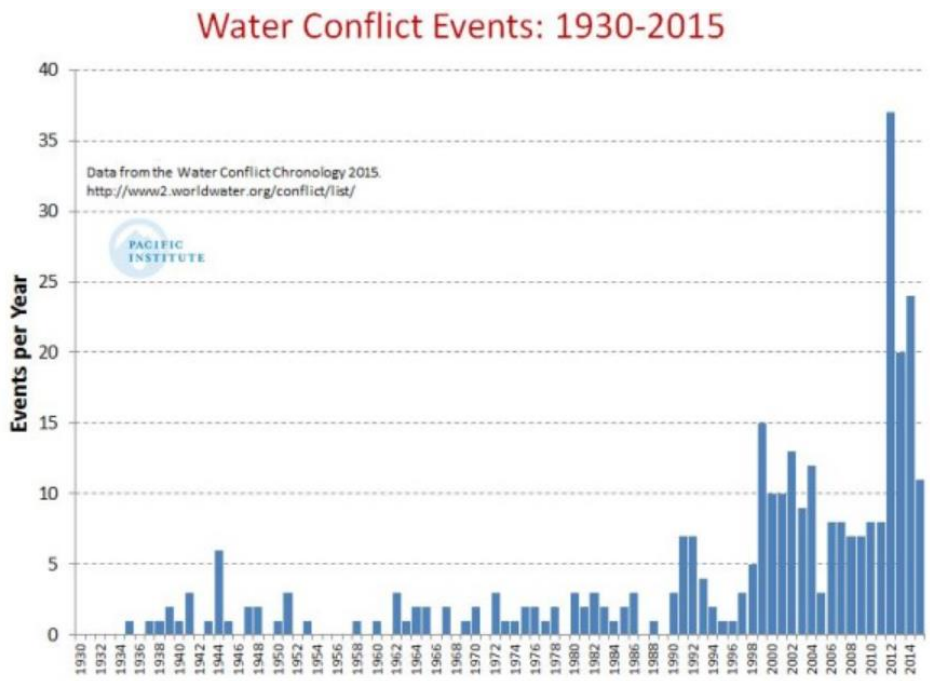

Figure 12. Water conflicts 1930-2015[35]

Many scholars have been examining the global situation to assess if, in the 20th century, water had led to war, but they found out that no war was waged because of water, while 149 water's agreement were signed. As it can be seen in figure 12, water-conflict events have been increasing since last century, although few of them have led to violence (Levy and Sidel, 2011). It can be inferred that competition over water is mostly fought through non-conventional wars, reshaping the concept of conflict. This theory is also backed by World Atlas of Global Issues[36] which, in 2018, underlined that in 20th century water has often been the protagonist of political disputes and competition but seldom the cause of military action. Up to now, during the 21st century no armed conflict has been fought over water (water could have been an additional factor, but not the main one), nevertheless transboundary rivers have been at the centre of geopolitical tensions, risking triggering a real war for water. Despite few conflicts have led to violence, the majority of them arouse in widespread-violent contexts, where they could have become violent. Moreover, it is important to

[35] Figure taken from [https://pacinst.org/water-security-and-conflict-violence-over-water-in-2015/].
[36] The World Atlas of Global Issues is a Sciences PO's project that created an open edition of multimedia scientific content for a wide audience, available online and trough a printed edition.

highlight that it is not only water shortage that led to water conflicts but the way through which water is managed. Even if it is difficult to demonstrate that water will be the main geopolitical destabilising factor, it is considerably evident that both water scarcity and water bad management are conflict-generating (Abdullah, Dyduck and Ahmed, 2020). Particularly, it is important to recall that the increase in global population could only intensify the disputes over water, which could explode in social conflicts and violence. The Water, Peace and Security[37] has introduced innovative mechanisms to identify water-related risks, such as the *Global Early Warning Tool*, an interactive map which, combining socio-economic and environmental variables, attempts at foreseeing the world's areas risking water conflicts.

Going back to thesis focus, rivers, it is important to put the accent on the cross-border character of water which create an interdependence between riparian states – as in the case of the Nile. The river-countries' interdependence – countries relying on the river as their main or only source of water – and hydro-hegemony – assessing if it is oriented towards cooperation or competition – could be the keys to understand Nilotic water-related conflict. Nonetheless, in order to have a comprehensive view of the phenomenon, the Nilotic water conflict has to be analysed within a multi-faceted approach: which are the factors that could lead to a water-related conflict? The Nilotic water conflict revolves around several factors: water scarcity, population growth, food insecurity, climate change and up-downstream countries' relations. The thesis will now move to briefly – see chapter 1 for further analysis of the issues – apply the mentioned factors to the Nile River area, attempting at clarifying how they could further destabilise the Nilotic scenario.

Water scarcity is indeed the first factor that is worth to mention in the Nile River scenario. The yet chronic lack of water is one of the main obstacles to the area's development, contributing to exacerbating widespread poverty. Water

[37] The Water, Peace and Security is a partnership founded in 2018, which develops innovative services and tools in order to help understand and address water-related security risks.

scarcity has already been deeply analysed at the beginning of this paragraph, but in figure 13, it is clearly visible that, by 2025, both Ethiopia and Egypt will be under severe water scarcity, this intensifying their water insecurity and their subsequent water race and disputes over the management of Nile's waters.

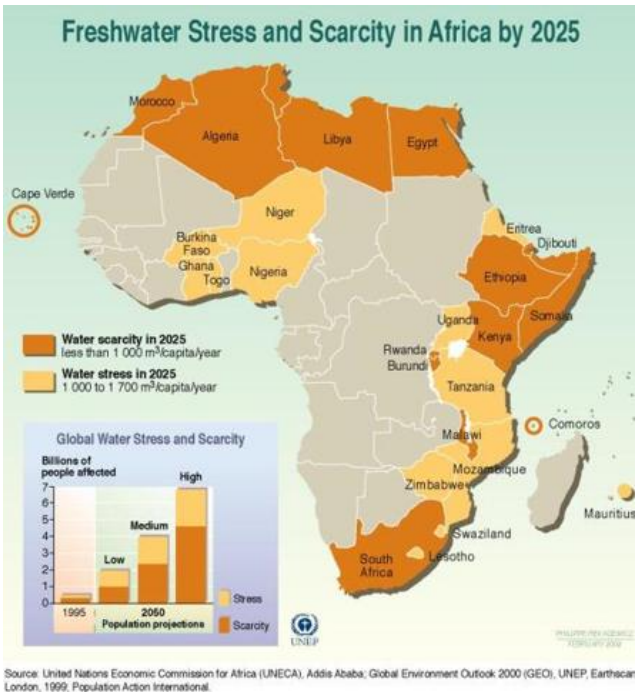

Figure 13. Freshwater stress and scarcity in Africa by 2025[38]

The exacerbation of water scarcity in the Nilotic area is also due to population growth. As already analysed in chapter 1, the area of interest is growing at an increasing rate and, as it can be seen in the graph below (figure 14), the situation in Eastern Africa will worsen by 2050. If we add to this the evidence that, apart from Egypt and Kenya, the other Nilotic countries are among the fifty poorest countries in the world, it is self-explanatory that shared water's allocation becomes ever more complicated (Abdullah, Dyduck and Ahmed, 2020).

[38] Figure taken from *United Nations Economic Commission for Africa*, [https://www.uneca.org/].

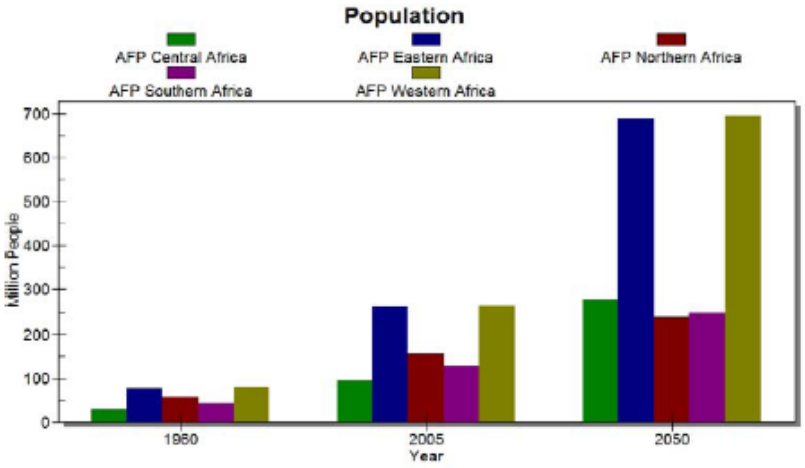

Figure 14. Projections of African population per areas[39]

Moreover, as Maru (2020) points out, population growth and projections of future urbanised population (it estimated that numbers will raise from 38% in 2020 to 54% in 2050) will make water-food-energy consumption and demand greatly exceed their availability – for instance, in 2020, Egypt already exceeded by 25% the water needed (compared to its available water). Considering that, in 2020, 90 percent of hydroelectric potential was untapped, we can easily understand why more than 80 percent of Nilotic population have no access to electricity (Maru, 2020). On this point, population growth and water scarcity also lead to food insecurity since the Nile is the only resource for water itself but also for its ecosystem – essential for food security. Droughts and subsequent famines are exasperating the gap between the increasing demand for food and its availability.

Droughts and famines are also directly related to climate change. The relation between water and climate change is further worsened by the latter which, in the case of water conflicts, can be considered as a threat multiplier. The evidence that climate change makes natural disasters more likely (such as extreme droughts and floods) could further aggravate the already dramatic situation. Rapid degradation of environment and water quality is affecting

[39] Figure taken from Maru, M.T. (2020). *The Nile Rivalry and Its Peace and Security Implications: What Can the African Union Do?* p.3.

agriculture and fisheries and rise in temperature might reduce the productivity of crops (endangering food security). Hydrosphere's climate-change-related problems are increasing always more, and the Nile River is experiencing severe alteration due to them. For instance, the river is losing great amount of water in Sudan and Egypt because of evaporation and rainfall unpredictability and variability are affecting the river's flow. Indeed, it can be said that water-stress levels are directly dependent on climate change, which is playing a central role in the Nilotic scenario.

Lastly, it is important to underline that when a river is shared, the different riparian countries could be in an uneven position, both geographically – up-downstream – and historically – as in the case of Egyptian historic rights over the Nile. In transboundary rivers the up-downstream countries' relations are essential in water-related conflicts and shape the framework within which riparian countries operate (be it competitive or cooperative). For instance, in the Nilotic arena, Egyptian historical "upstream hydro-hegemony" has for long dominated over the river but, as said in chapter 2, "the GERD is changing history" and thesis affirms that it is reverting the geopolitical balances, confirming the theory that "upstream countries are in a better position and can control the river". Moreover, in recent years, there has been an increase in conflicts between up-downstream countries, this also due to the construction of large-scale projects, such as dams (see paragraph 3.2 for GERD's geopolitical implications) and irrigation canals, which might potentially reduce the availability of river's water (Rasi, 2021).

In conclusion, from the factors' analysis conducted it can be inferred that in the Nilotic scenario, a multi-faceted approach has to be taken in order to assess the likelihood of water conflicts and to answer to the question asked few lines ago (is water conflicts' risk so imminent and real?). What it can be said is that those factors are certainly contributing to destabilising the Nilotic area's already fragile balances and they could be all defined as water conflicts' warning signals. For all the mentioned reasons, it is of outmost importance to underline that water conflicts are certainly water scarcity-driven (which is often

considered as the main water conflicts' cause) but population growth, food insecurity, climate change and riparian states' relations are all sides of the same coin. Water scarcity alone is hardly the cause of water conflicts, the socio-political, economic and environmental contexts need to be taken into account, in order to comprehensively assess water conflicts. All the analysed factors are turning water always more into a geopolitical instrument of power which could likely lead to inter-state conflicts. In this way, food-water-energy security have become central topics in the Nilotic agendas and the GERD project – that next paragraph will assess from the geopolitical implications' perspective – is the main representative of this trend. The project can be considered as an additional water conflict's factor which has for a decade been affecting and redrawing the Nilotic context and geopolitical relations.

3.2 GERD's geopolitical implications

3.2.1 Regional GERD's implications

In chapter 2, paragraph 2.5 the thesis has introduced the GERD project and underlined the Ethiopian domestic context in which the dam project was conceived. But which are the geopolitical implications that the project had on the other riparian countries? Even if the situation is involving all riparian countries – which, as already highlighted in chapter 2, are all willing to exploit the Nile River's water to foster their socio-economic development and to tackle food insecurity – the two main involved countries in the GERD dispute are indeed Egypt and Sudan. These latter, together with Ethiopia, have been at the centre of the last-decade's regional geopolitics and therefore the thesis will now move to deeply analyse their thorny relations and the geopolitical turmoil that they triggered. Particularly, it has already been affirmed that the GERD can be considered as an instrument of geopolitical unbalance which, since a decade, has been undermining the already fragile stability of the region. As previously mentioned, in recent years, there has been an increase in conflicts between up-downstream countries, mainly because the construction of large-scale projects,

such as the GERD, might potentially reduce the availability of river's water (Rasi, 2021). In a nutshell, one could affirm that all the dispute between the three countries revolves around water availability, but this would result in an underestimation of the phenomenon and its consequences. In order to attempt at exhaustively representing the Nilotic scenario, it is important to reiterate that an all-embracing approach has to be followed.

The on-going dispute between Egypt, Ethiopia and Sudan escalated when, in 2011, Ethiopia announced the construction of the GERD on the Blue Nile tributary. At the beginning of the thesis, in chapter 1, it has already been stressed the geostrategic role of the Blue Nile tributary for its huge contributions to the Nile's waters flow – it contributes with 86% and in rainy season even 90% of waters – which takes on an increasing central role as demographic evolution and climate change are undermining the yet few available food and water resources. After Ethiopia's unilateral decision of building the GERD and during the last decade, the three countries have engaged on intricate negotiations which more than often resulted in a political stalemate. As said in chapter 2, paragraph 2.5, the GERD, can be really considered as a destabilising factor which, since 2011, is shaking the regional traditional balance between Egypt, Ethiopia and Sudan in the management of the Nile. As Maru (2020) points out the competition and dispute over the river represents one the main obstacles to the Horn of Africa's security and stability. The Nilotic countries' different national priorities have been for long hindering cooperation, pushing the countries to embark in a (so far) diplomatic rivalry. There are two main topics around which the dispute is revolving: the CFA legal framework and the GERD's impact on water quantity, quality and safeness of the dam. About the CFA legal framework, the thesis has already in chapter 2, paragraph 2.3, analysed the legal stand-off on the pre-existing agreements and on Nile waters' allocation. For what instead concerns the GERD's impact and geopolitical implications, it is now considered essential to deepen the issue, focusing on the three mentioned countries' demands and relations. Particularly, geo-economical and geopolitical developments have fuelled tensions between the Nilotic countries which, as

said, are all willing to exploit the river in order to face electricity's shortages, famine and droughts. But which role is the GERD playing in this national and regional developments? The thesis has already stressed both aspects, but in this paragraph the latter will be further analysed to better understand how the project will positively or negatively affect the three involved countries. In this way the thesis will try to unveil the countries' stakes in the dispute, so as to attempt at identifying the factors that could be conflict-generating. Moreover, given the fact that the dam realisation is going apace, and its filling has already been initiated by Ethiopia, the long-running tensions marked a redrawing of regional relations and could drag the other regional states in the dispute (Lawson, 2017). Thus, to understand the actual political deadlock on the GERD, the thesis will firstly clarify each involved countries' stance in the dispute (Egypt, Sudan and Ethiopia) in light of their domestic context and, secondly, retrace the last-decade's negotiations, assessing whether the GERD has been a source of competition or cooperation and considering the extra-regional geopolitical implications. When the project was announced in 2011 by Meles Zenawi, Egypt and Sudan were both domestically fragile, respectively experiencing the outbreak of the Arab Spring (and fall of Mubarak) and the secession of South Sudan. From what the thesis has analysed before, it could be easily deduced that the two countries were on the same wavelength towards the Nile's management: they both wanted the pre-existing agreements to be respected and honoured and they had both opposed the CFA legal framework and subsequently frozen their NBI membership in 2010. But how did these latter react to the GERD project? Did they keep their "downstream united front" against it? The thesis will now move to separately examine the three countries' stances on the GERD and river management, mainly considering the domestic geopolitical context.

Egypt's conservative stance

As already underlined in chapter 1, Egypt is the country that relies the most on the river with more than the 90% of its total water resources coming from the Nile (FAO, 2016). For Egypt, the river is indeed the main (if not the only)

source of water but also the source of its culture and civilisation. Egypt's interconnection with the Nile is an all-encompassing one which involves the social, economic, cultural and political spheres. From this perspective, one can easily understand why the country has since ever tried to hold and reinforce its grip over the river. Mainly, Egypt has always threatened to undertake actions if the Nile's use of another country would have affected the regularity, quantity and quality of the water that arrives downstream. Indeed, for what concerns the GERD, Egypt makes it an issue of national security: the project could undermine the flow of the Nile by 25%, putting Egyptian food and water security at risk. Moreover, Egypt needs additional water also to reduce its increasing food imports. The following image (figure 15) graphically clarifies Egypt's necessity of the river. As it can be seen, already in 2019 Egypt was experiencing relative water scarcity with 570 m^3 available annually per person. The projections for 2025 are even worse with the country experiencing absolute water scarcity with only 500 m^3 available annually per person. Moreover, the Egyptian Aswan High Dam[40] (see figure 15) could suffer from energy production's reduction by 30% if the GERD reservoir is filled within 5-7 years (Von Lossow, Miehe and Roll, 2020).

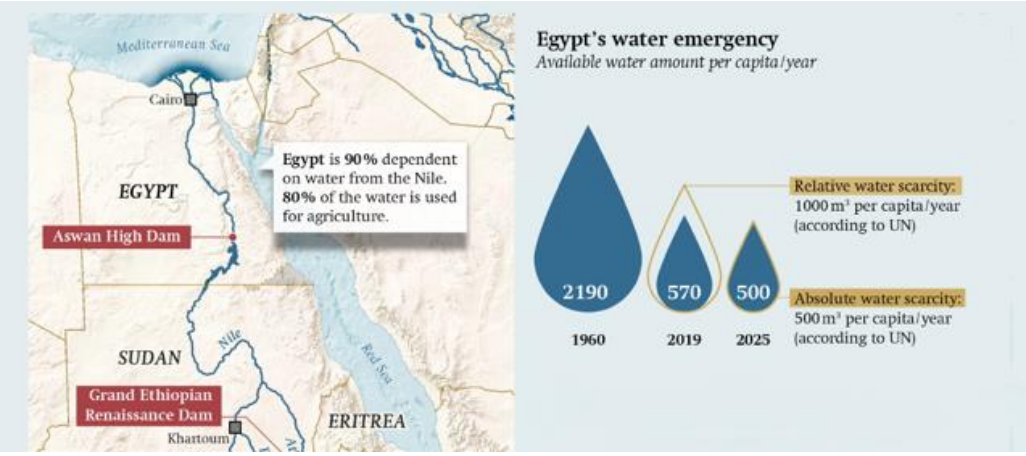

Figure 15. Egypt's water emergency[41]

[40] The Aswan High Dam was unilaterally built by Egypt from 1960 to 1970, without prior negotiations. The Aswan High Dam plays a significant role in the economy and culture of Egypt.
[41] Figure taken from Von Lossow, T., Miehe, L., Roll, S. (2020). *Nile conflict: compensation rather than mediation. How Europeans can lead an alternative way forward*, p. 3.

For the mentioned reasons, Egypt has been demanding the enforcement of the pre-existing agreements which would secure to the country a huge amount of water (see chapter 2, paragraph 2.2 for further details), regardless of the other Nilotic countries' needs and interests (Maru, 2020). Even if Egypt is trying to exit from the Nile's dependency condition, investing in other water sources – such as $4 billion desalination plant to make seawater useful for human consumption, announced in 2018 by President Abdel Fattah al-Sisi[42] – the Nile still represents its principal water source. Indeed, Egypt has often stressed the evidence that while it is almost totally dependent on the Nile, other countries have other water resources of which they could take advantage (such as abundant equatorial rains). Depriving Egypt of its benchmark – the Nile – would be for the country a real catastrophe: all sectors should be reoriented towards different water resources and energy production, creating a vacuum and deep domestic instability. Although the exact impact of the GERD is still not precise, Egyptian projections of the mentioned catastrophe are in no way reassuring: GERD project could deprive the country of 10 billion kilolitres, destroying at least one million acres of lands cultivated along the river (Meredith and Givental, 2016). The most affected Egypt's area could be the Nile delta region – considered the Egyptian agriculture's lung – and already suffering from saltwater intrusion[43] which could undermine more than one third of the delta's freshwaters. There are 30 million people living in that area and basing their entire life on the river's waters. For centuries, Egypt has completely depended on the Nile and if water diversion by upstream countries (in the GERD case, by Ethiopia) would have a dramatic impact on food production and public health, losing its historical rights would undermine its domestic security (Swain, 2014). As above underlined, for what concerns water quantity the project could reduce the downstream countries' share of Nile waters, altering and interfering with the functioning of the downstream dams (such as the

[42] Abdel Fattah al-Sisi is the president of Egypt since June 2014.
[43] Saltwater intrusion phenomenon occurs when saline water moves into freshwater aquifers, causing water quality and drinking water sources' degradation.

Aswan High Dam). It is important to recall that Egypt is considered a dry country and that it already loses some amount of Nile waters because of evaporation. An Egyptian experts' report, in 2013, stated that the projected reduction of water could make two million Egyptian lose their income (Yihdego, Salem and Khalil, 2017). Moreover, it has also been estimated that the GERD could leave half of Egypt – the upper part – without electricity, which could experience a decrease by a range of 25-40% (Yihdego, Salem and Khalil, 2017). The Aswan High Dam could lose 100 MW of hydropower production and the water level could decrease of 3 metres. Thus, Egypt has been highlighting that the project would dramatically reduce the country's water minimum requirement and, for instance, President al-Sisi has affirmed that the Nile to Egypt was a "matter of life and death" and that "no one could touch its share of waters" (Asiedu, 2018). Al-Sisi has often called for the interruption of the GERD's building and the previous President, Morsi, even threatened military action against the project.

Having stressed Egypt full reliance on the Nile, it becomes self-explicatory to understand why the country has been so stubbornly conservative over the river management. As already underlined before, the river has been the main driver of the country's foreign policy (Attia and Saleh, 2021). The GERD project is seen as a national threat which could jeopardise both food, environmental and water security and the international standing of the country. The greatest practical anxiety of Egypt revolves around artificial droughts, decreased Aswan High Dam's hydropotential and water shortages. Thus, as Tawfik (2019) argues, Egypt has been subordinating cooperation "beyond the river" to cooperation "over the river", considering the Nile as its main foreign priority. However, since the GERD building proceeded apace and is yet near to completion, Egypt had limited options left and accepted some of the GERD's downsides (such Aswan High Dam's reduction of hydropower). With the dam filling started, Egypt's current concerns are all about it: Egypt is willing to have a say in the filling speed, hoping to obtain the longest dam filling period possible. Indeed, it can be observed a recent gradual shift in Egypt's hard-line

stance: the country started wondering that upstream countries' cooperation could be necessary in order to keep on exploiting the Nile. Thus, it moved from severe opposition to a gradual concessive behaviour, putting at stake the possibility for other Nilotic countries to have access to Egyptian more advanced markets. Nevertheless, Egypt keeps on insisting that the project should not undermine its own Nile's share and is actually looking for international actors to put pressure on Ethiopia (Attia and Saleh, 2021). Yet, during the last decade, Egypt has been regionally quite isolated, what have happened to its relationship with Sudan? Is their relationship as stable as it seemed during the second half of the 20th century? Next sub-paragraph will deepen Sudan's reaction to the project and how GERD "redrew" its relationship with Egypt.

Sudan's in-between stance

The GERD has caused a shift in the regional alliances, putting some allies at odds. This is indeed the case of Egypt and Sudan: the former felt betrayed by the latter – its historical ally in the region – since it supported the building of the GERD. Historically aligned with Egypt, Sudan has for long been overshadowed by the former and has rarely played a determinant role in Nile management (Bach and Bat, 2018). But since the GERD announcement and the regional consequences that it has brought, Sudan – place where the Blue and White Nile tributary converge – appeared to be as the needle of the scale of the hydro-hegemonic dispute between Ethiopia and Egypt. Sudan's geographical position became also its political and regional one: the country has been caught between two fires. Therefore, it is important to dwell upon Sudan's last-decade geopolitical role.

Firstly, the country has since the 21st century experienced an economic rise, mainly thanks to the oil sector and dam projects' building – Sudan's new economic development's key. The dam building-based development has contributed (even before the GERD) to question and revise the Egyptian hydro-hegemony on the Nile. When analysing Sudan last-two-decades' development, it is important to mention that while the World Bank has little engaged in Sudan,

two of the main country's extra-regional "supporters" have shaped its development: the Gulf states and China. While the former has been essential for Sudan's socio-economic development, particularly involving it in the Arab-Islamic context trough the Arab Fund, the latter has exported to Sudan an economic model particularly based on dam building – similar to Chinese soft power in Ethiopia, as it has been underlined in chapter 2, paragraph 2.5. The Chinese economic model's incubation that Sudan – as well as Ethiopia – experienced and the several dam projects' construction played a role in the deconstruction of Nilotic balances and hydro-hegemony (Bach and Bat, 2018). Indeed, the last-decade dispute and arm wrestling over the Nile between Ethiopia and Egypt, has made Sudan emerge from the shadows as a diplomatic actor. This also strengthening the opening of Sudan towards the international community that has been characterising its last-decade foreign policy.

For what concerns the GERD, when the project was announced in 2011, Sudan was internally fragile because of South Sudan's independence and it initially opposed the GERD, concerned about the dam safety – that could cause inundation in Sudan – and about the reduction of its Nile shares (note that mainly because of unpredictably of rainfall and drought season, Sudan relies on the Nile for 77% of water). As said, also Sudan had frozen its membership in the NBI in 2010, fearing that the CFA would disregard its historical rights (see chapter 2, paragraph 2.2) and its first reaction to the GERD was in line with these claims. Nevertheless, if at the very beginning Sudan seemed uncertain and worried about the project, the country has, since 2012, supported it for several reasons. Firstly, after the oil-rich South Sudan's secession and, as other Nilotic countries backed Ethiopia hydro-challenge to Egyptian monopoly, Sudan started to shift its stance and returned to NBI membership in 2012. It has since then been more incline to cooperate with the other Nilotic countries, trying to get free from the too tight Egyptian grip. Secondly, in 2013, the Muslim Brotherhood were ousted from power in Egypt and Omar al-Bashir[44] – who had

[44] Omar al-Bashir was the president of Sudan from 1989 to 2019, when he was ousted by a coup d'état.

supported them – changed his stance on the GERD and started a rapprochement with Ethiopia, setting its economic ties with the latter. Sudan became convinced that the project could have helped its development and the Sudanese discourse shifted towards the benefits of the GERD, mainly because of economic considerations that prevailed over the historical alliance with Egypt. Sudan believed that the GERD would bring wide-basin benefits: the regulation of the river flow and the subsequent improvement of the upstream dams' functioning (such as the Merowe Dam in Sudan and the Aswan High Dam in Egypt); the prevention of seasonal flood (a reduction of about 40 km); the imports of cheaper electricity from Ethiopia; the reduction of silt deposit in the upstream part of the river, making Sudan save all the money that it annually spends to clean the lands from sediments and subsequently fostering Sudan crop yields. Indeed, Sudan could benefit from the GERD to irrigate new farmlands and invest in the agricultural sector. Sudan was, and is still, hoping to benefit from agricultural development in order to attract foreign investments, mainly from Gulf states and Turkey. For instance, Saudi Arabia and Sudan have, throughout the last two decades, developed a tight relation: Port Sudan (only 400 km from Jeddah) is considered by Saudi Arabia a central hotspot as Sudan is playing a role in Saudi Arabian food security. Indeed, Riyad has been investing in Sudan's agricultural sector and hopes to get benefits from the GERD project as well. Plus, Turkey and United Arab Emirates are also willing to invest in Sudan's agricultural sector so the GERD could represent for Sudan a boost in foreign investments.

For the mentioned reasons, Sudan has, since 2012, been supporting the project and the latter's benefits have outweighed its negative impacts. While Sudan envisaged the project as an opportunity, Egypt referred to it as an obstacle and a threat (Asiedu, 2018). The worsening of Egypt-Sudan relations, already complicated by the Halaib triangle[45] issue, was fuelled by these opposed views and the following several factors. Firstly, Sudan started feeling that Cairo

[45] Halaib is a triangle of land on the Red Sea coast, on which both Egypt and Sudan claim sovereignty.

wanted it to remain weak in order for Egypt to be strong. Indeed, some Sudanese observers noted that political contributing factors to the deteriorating of their relations can be found in the evidence that Egypt had supported Sudanese political opposition and rebel groups, supported South Sudan and backed opposition movements in Darfur. All these strong Egyptian actions to the detriment of Sudan have been envisaged as a strategy to make Sudan change its mind on the GERD project (Tawfik, 2019). Secondly, Egypt feared a Sudanese expansion of Nile's water use that could undermine even more Cairo's share of waters. Egypt accused Sudan to support Ethiopia and it proposed to exclude it from negotiation over the GERD. Thirdly, as said, Gulf countries are investing in Sudan and Ethiopia, this contributing to the weakening of Cairo-Khartoum relations. It is important to underline that Sudan's close relations with Qatar and Turkey – two of Egypt's enemies – can be considered as an additional factor for Egypt and Sudan's distancing, since Cairo envisaged Sudan's decision over the Nile management as extra-regional alliances-driven (Tawfik, 2019).

If the Sudanese relations with Egypt were declining, on the opposite the ones with Ethiopia got closer: the two countries started and reinforced a cooperation that, as Tawfik (2019) defined it, was "beyond the river". The thesis already stressed the Chinese influence in both countries and the evidence that it created a similar economic model both in Sudan and Ethiopia. Thus, Tawfik (2019), highlighted how the mentioned cooperation "beyond the river" (between Sudan and Ethiopia) prevailed over the enduring cooperation "over the river" between Egypt and Sudan. Therefore, Khartoum has been focusing on the GERD's positive aspects and pushed Cairo to recognise basin-wide dam's benefits. Since 2012, Sudan has played a pivotal role in the tripartite talks pushing them forward (as it will be mentioned in few lines). Indeed, the safety of the dam remains one of its main concerns and the country, this time agreeing with Egypt, has urged Addis Ababa to give a transparent project study of the dam. During the last decade, Sudan served as a bridge between Egypt (historical ally) and Ethiopia (new emerging partner). Nevertheless, since 2019, Omar al-Bashir's fall and the dispute with Ethiopia over the border area of al-Fashaga (in

Sudan)[46], made the geopolitical relations between the three countries change again. Sudan has made a shift taking a stronger position against the GERD and its position has been defined by Attia and Saleh (2021:5) as a "fluctuating" one. Currently, it is more difficult for Sudan to trust Ethiopia with which it has the mentioned dispute over the border and its position can be considered as hanging in the balance and precarious: it has not a strong stance as Egypt's one, but in recent times it has retied relations with Egypt (Attia and Saleh, 2021). As Abdullah, Dyduck and Ahmed (2020) recall the regional alliances' shifts represent an evolution of regional geopolitics and need to be analysed in order to detect the region's potential conflict-risk factors.

Ethiopia's uncompromising stance

In chapter 2, paragraph 2.5, the thesis has already deeply dwelled on the reasons behind Ethiopian decision to build the GERD, but this subparagraph will briefly focus on further details necessary to better understand the Nilotic scenario.

As already stressed, compared to Egypt and Sudan, Ethiopia water resources' potential is huge (it contributes to the Nile with 86% of water), but little tapped. As said, since only 48.3 % of Ethiopian population have available electricity (World Bank, 2019), Ethiopia is more than ever convinced to develop its hydropotential (Attia and Saleh, 2021). Indeed, the country stresses the inapplicability of the pre-existing agreements and wants to economically develop, also exploiting its share of the Nile. Ethiopia puts emphasis on its growing population, socio-economic development and geographical natural rights over the Nile. Although within the NBI's framework other projects had been realised before, the GERD is the real leap towards the undermining of Egypt's crystallised monopoly since it challenges the historical Egyptian veto power on other countries' projects on the Nile. In this way, the project is not

[46] The Ethiopian-Sudanese clash is about the disputed border region of al-Fashaga, in Sudan.

only considered as a national instrument to become a middle-income economy, but also as a geopolitical tool to change the Nilotic relations.

During the last decade, Ethiopia has been insisting that the dam would create no harm to downstream countries and stressed the positive aspects of the project: flood control, electricity export and the non-evaporative reservoir – since the storage is located in Ethiopian plateaus, the GERD will reduce the water evaporation (12% of water) that normally occurs at Aswan High Dam. In this way, the project could also improve the downstream countries' dam capacity – however, note that for what concerns the social and environmental impact, Ethiopian government has not yet produced a document on the GERD's impact and, as the thesis will mention, this is one of the most discussed topics (Yihdego, Salem and Khalil, 2017).

In the last two decades, Ethiopia has increased its regional influence and it has consolidated its role as a great powers' ally, such as an US one. On this, it must be said that US has for long been one of the largest donors to Ethiopia, which is a US geostrategic ally for the Global War on terrorism. Nevertheless, with the Trump administration (2017-2021), Ethiopia was less central to US foreign policy than Egypt was and – as it will be seen in next subparagraph – US has more than often interceded for Egypt. Egypt and Ethiopia's relationship worsened when the latter accused the former to have financially and diplomatically supported the rebel and opposition groups within Ethiopia. These accusations are also the consequence of the psychological warfare that Egypt launched against Ethiopia and the several threats that it has made, saying that it would take all the necessary measures to stop the GERD construction. To Egypt's strong stance, Ethiopia responded that the GERD was a matter of life and death also for Ethiopian economic resurgence and, not fearing Egypt's pressure, it firmly continued the construction of the dam – for this reason its stance is defined as "uncompromising" (Asiedu, 2018). The country recognised to the project so many benefits that it strongly tried to maintain a cooperative relation with Egypt and to avoid military confrontation. Ethiopia understood that, once the dam will be operational, it will need foreign electricity's

consumers for the produced surplus and, therefore, cooperative relations with its neighbours – mainly Sudan, the first potential export market.

Thus, Ethiopia stresses that the GERD could enhance regional cooperation and be a source of sustainable energy production for the energy-needy area. It could foster the regional economic development – think about the electricity at cheaper prices – and, questioning Egypt's monopoly, it could "open the Nile market" and push other countries to invest and develop on it. While Ethiopia's cooperation over the river prevails over the one beyond the river, with Sudan (as already underlined in the previous subparagraph) the relation beyond the river has proved only to a certain extent possible. Nevertheless, Ethiopia keeps stressing the importance of cooperation over the Nile and, thanks to the GERD, it has become a major player in the Nilotic area and the project could play a pivotal role in fostering development both in Ethiopia and in the region.

To sum up, the involved countries' internal instability has been the first analysed factor. The three countries' domestic contexts have more than often been characterised by internal turmoil and, consequently, cooperation among the Nilotic countries has been nearly impossible (Maru, 2020). Egypt, since the Arab Spring and Mubarak's overthrow, had to reshape its regional relations and to question its predominance over the Nile River. Al-Sisi had to re-tie relations with the Nilotic countries and its rhetoric has for long revolved around its environmental injustice of depending by one only water source – the Nile (Maru, 2017). The river has a national value and al-Sisi would lose credibility if he was to "sell it off". This link GERD-legitimacy of the government is addressed by Attia and Saleh (2021:9) as the "politicisation" of the GERD dispute, meaning that any river concession would be "politically costly". This process of politicisation occurred also in Ethiopia, where the GERD represents a symbol of nationalism and an anchor around which rally the population. In the country, the tensions with the Tigray People's Liberation Front (hereinafter TPLF) that escalated in November 2020 in a military confrontation, is considered a shaking factor. The Tigray War made the legitimacy of Abiy

Ahmed crumble and, even if in June 2021 he was re-elected, his legitimacy is precarious and could worsen if the GERD's negotiations would go in favour of Egypt and Sudan. The latter, since the 2011, has also experienced a difficult decade. The South Sudan's secession and the ethnic dispute in Darfur and Port Sudan have for long been hindering the country's internal stability. Moreover, the Ethiopian accusations of having taking advantage of the situation in Tigray to accelerate on the al-Fashaga's border dispute, generate mistrust which is hindering cooperation over the GERD.

3.2.2 GERD: a source of competition or cooperation?

The thesis now moves to assess whether the GERD has enhanced cooperation among the Nilotic countries or if it has prompted competition. In order to do so, the thesis will firstly focus on the GERD's negotiations and secondly on the extra-regional geopolitical implications. As the thesis has already stressed in paragraph 3.1, dam building can create deep tensions between riparian countries and, in the case of the Nile River basin, the GERD's construction triggered a ten-years dispute that continues up to today. Since after the GERD's announcement, in 2011, the three countries engaged in thorny negotiations that are still lasting today, it is considered of outmost importance to retrace the main turning points of this path, underlining how the regional and extra-regional relations fluctuated around the project (and not only).

After the start of the dam's construction in May 2011, the then Egyptian Prime Minister Sharaf – extremely concerned about the project – visited Ethiopia in 2012 and coordinated, together with the latter and Sudan, the creation of the International Panel of Experts (hereinafter IPoE), which can be considered as the first step of the trilateral negotiations. The three countries formed an experts' panel composed by Egyptian, Sudanese, Ethiopian and international experts, whose role was to assess the GERD's environmental and socio-economic impact and to find a way of mitigating it. The first IPoE report showed that there were no evident dam's shortcomings and that clean energy coming from the GERD would have benefited the three countries. Nevertheless,

it also argued for the need to deepen the impact that the project could have on Egypt and Sudan. During this initial phase, the then Egyptian President Morsi repeatedly urged Ethiopia to stop the dam building before an agreement was found, hinting that Egypt would have undertaken all the possible measures, even waging a war. On the other side, the then Ethiopian Prime Minister Desalegn repeatedly referred to the project as a "win-win" one, stressing that its completion would bring benefits and advantages for all the peoples involved. In the following years, there were numerous meetings between the political leaders of Ethiopia, Sudan and Egypt, none of which succeeded in breaking the deadlock in diplomatic relations between the countries. For instance, in 2014, they formed the Tripartite National Council (hereinafter TNC) composed by three countries' members, whose role was to select international consultants to conduct the studies that IPoE had recommended. Still, the TNC could not find an agreement on the selection of the consultants and Egypt urged again the stop of the building – which Ethiopia refused – until the mentioned studies were conducted. Shortly after, in March 2015, the three involved countries signed, in Khartoum, the Declaration of Principles (hereinafter DoP) whose aim was to make the project a source of regional integration and trilateral cooperation, rather than of tensions. The DoP is considered as a keystone in the negotiation process – mainly if compared to the mentioned hostilities around the CFA framework – and it temporarily represented a truce between Ethiopia, Egypt and Sudan. The DoP urged the countries to conduct the IPoE-recommended studies and to resolve the dispute through the agreed principle of "no significant harmful actions" and "equitable and reasonable use of Nile waters" (Agreement on Declaration of Principles, 2015). To enhance cooperation beyond the river, other steps followed the DoP (Tawfik, 2019). For instance, in October 2016, Egypt and Sudan signed a partnership over agriculture, tourism, education, commerce and transportation. These new partnerships seemed to satisfy the expectations that the GERD would foster cooperation among the Nilotic countries, and they seemed to support the theory that transboundary disputes

could really represent a limit to the countries' cooperation beyond the river (Tawfik, 2019).

Nevertheless, a new standstill occurred in 2018 when the National Independent Research Scientific Group (hereinafter NIRSG) was created and tasked with the selection of international consultants to conduct the IPoE studies. If at the beginning, the NIRSG made some progress in the discussions about the filling procedures, it then failed to meet a compromise on long-term cooperation on the dam and tensions were exacerbated by the difficulty in reaching an agreement on the technical studies presented by the NIRSG. The countries were again in a stalemate and countries entrenched themselves behind their positions, namely Egypt arguing that an impact assessment study should have been made before the dam building and Ethiopia uncompromisingly going ahead with the project. Indeed, in August 2019, Egypt declared that it had already lost 5 billion m^3 of water and, in October 2019, it issued a communiqué, arguing the need of a "third country" mediation and calling for an international community intervention in the dispute, since the negotiations were deadlocked (Abdullah, Dyduck and Ahmed, 2020). Particularly, Cairo wanted the World Bank and the United States to intervene as observers and to mediate in the conflict. Thus, at the end of 2019, the Washington talks were brokered by the US and a US-proposed agreement was advanced to solve the dispute. Nevertheless, in February 2020, Ethiopia walked out from the meeting and refused to sign the mentioned agreement that had been drafted when the latter was not present. Ethiopia found the agreement "too limiting" for the GERD's potential energy production's capacity and saw it as infringing its national sovereignty – since a key disagreement was about the Egyptian claim that Ethiopia should owe water to downstream countries in case of flow reduction. Ethiopia underlined that such agreement would immortalise Egypt's historical "unjust" rights over the river, regardless of the other Nilotic states (Ylönen, 2020). Moreover, the critical point in the US's intervention in the dispute was that the Trump administration instead of being a mediator, took Egypt's side – its long-standing geostrategic partner since the 1978 Camp David agreement –

reason why the US, at the time, could hardly be considered an unbiased mediator (Maru, 2020). Therefore, Ethiopia refused to sign the agreement and left the negotiations because it was suspicious of the partisan objectives behind the US's moves. On this regard, the thesis now considers essential to dwell on the importance of the extra-regional alliances that are at the time shaping and being shaped by the GERD's dispute.

3.2.3 Extra-regional alliances' geopolitical implications

As already highlighted, the competition over the Nile River has been one of the main obstacles to the security and peace in the Horn of Africa. Indeed, hydro-hegemony on the Nile has to be analysed in order to understand which reconfiguration of the regional and extra-regional balance of powers occurred in the area. If from a side the GERD is repositioning the region's alliances – strengthening some historical ones and breaking others – on the other the GERD is deeply influenced by the latter (Bach and Bat, 2018). It is important to stress that this alliances' realignment widens the likelihood of a conflict that would involve several extra-regional actors (Lawson, 2017). As the just mentioned US's involvement in the negotiation process, it is important to also recall some of the most important geopolitical relations of the area. Firstly, it should be mentioned that the area where the GERD is located is a resource-rich one, which is attracting always more extra-regional actors, such as Saudi Arabia (that the thesis has already mentioned in the Sudan's subparagraph), Qatar (that has agricultural projects in the region) and China. For what concerns the latter, even if already recalled, it is important to underline that China, since the 21st first century, is a major player in the region, which is indeed resource-enriched but lacks the means to exploit and market these resources (Swain, 2011). Thus, China's involvement – which Swain (2011:698) defines "the China factor" – in Sudan and Ethiopia have helped the two countries to overcome their economic weaknesses and to raise their voices against Egypt's hydro-hegemony. Secondly, the Egypt-Ethiopia-Turkey triangle is also playing a central role in

the dispute. As it is known, Turkey is in an open dispute with Egypt over Libya, and this is deemed to have fostered relations between Turkey and Ethiopia. Turkey is the second-largest foreign investor in Ethiopia – it invested more than $2.5 billion in the country – and the two countries signed economic partnerships (Booth, 2020). Moreover, Turkey is actually supporting Ethiopia in the GERD's dispute and the former's "invasion" in the region is worrying Cairo which, as said, is already at odds with Turkey. This scenario interconnects with the arising tensions between Egypt and Saudi Arabia on a side and Turkey and Qatar on the other – Turkey backed Qatar in its diplomatic impasse with the Gulf Countries[47] (Booth, 2020). Plus, after the GERD's second filling that Ethiopia started last summer (summer 2021), Saudi Arabia has declared that it would be on Sudan and Egypt's side to help them preserve their rights over the Nile. Thirdly, for what concerns the regional context, Egypt is trying to tie relations with the Democratic Republic of Congo, Rwanda, Kenya, Burundi, Uganda and, of course, Sudan in order to regionally isolate Ethiopia. If with the Democratic Republic of Congo, Egypt is ready to economically support – with an investment of $10 million – the dam construction on Congo River, with the others it has organised joint military operations' exercises. The "Nile Eagle 1 and 2" between Egypt and Sudan worth a mentioning. These two operations have respectively taken place in November 2020 and in April 2021, at Merowe airbase (in Sudan). The two countries reported that the scope of the operation was only to improve their joint air operations' skills and, even if they continue to publicly exclude the military option to settle the GERD's dispute, the latter remains in the background. All the mentioned alliances and geostrategic partnerships could lead to partisanship and favouritism, further complicating the fragile relations among the three main involved countries.

Lastly, it is important to briefly recall some accelerating and contributing factors to the instability of the Horn of Africa. Firstly, the economic development of the area, mainly of upstream countries, has made them raise

[47] The Qatar diplomatic crisis with the Saudi-led coalition was about the allegations of Qatar's support for terrorism.

their voices and question Egypt's hydro-hegemony on the river. Secondly, the involved countries' internal instability fuelled competition rather than cooperation. The three countries' domestic contexts have more than often been characterised by internal turmoil and, consequently, cooperation among the Nilotic countries has been nearly impossible (Maru, 2020). Thirdly, the shift in alliances is playing a fundamental role. As stressed, the region has acquired an international importance both in the West and East and this is further aggravating the already fragile regional situation. Thus, it can be summed up that geopolitical and geo-economic developments are shaping the present (and the future) of the Nile Basin's tensions. Indeed, some experts believe that the GERD could bring to a military confrontation, while other understate that option, arguing that the project could foster cooperation. In next paragraph (3.3), the thesis will attempt at putting all the analysed elements together, taking the stock of the conducted analysis. What it can be lastly said is that the several meetings that have been so far held, certified the difficulty to find an agreement. The game remains opens and, in the last two years, it has certainly trigger new and unpredictable developments that thesis will deepen in chapter 4, paragraph 4.1.

3.3. Nile River *blue gold* war analysis

As just mentioned, this paragraph will try to take the stock of the conducted analysis and will attempt at assessing whether the Nile scenario's disputes could escalate in a water conventional war. The thesis added the adjective conventional to "water war" because, as it will be in few lines underlined, the ongoing tensions can already be considered a water war, even if fought through diplomatic actions.

To start with the analysis, it is important to briefly mention again the potential conflict-generating factors. Particularly, Boëdec (2003) – even if the study is twenty years old, it still represents the current reality – argues that the problems of the Nile Basin can be summarised in seven main factors: the

increasing population that causes a consequent increase in needs; the global resource deficit in a sparse and populated region; unfair distribution of resources; socio-economic and developmental differences between the different states that cause unbalanced consumption of resources; the complexity of geological structures and water systems; the interdependence between neighbouring states that share the same basin; the negligent management of water resources by governments due to institutional weaknesses that lead to significant losses and waste. Throughout chapters 1, 2 and 3, the thesis has deeply dwelled on the mentioned factors, mainly focusing on three aspects as *fil rouge*: who needs, who owns and who wants the Nile. The actual stale situation in the Nilotic scenario is the result of the interconnection and interdependence of these common threads. Firstly, population growth, water scarcity and climate change are leading to an increasing geo-economic development of upstream countries, which are willing to exit from their historical disadvantaged position and to exploit their "due" resources. Secondly, the same reasons together with the "unjust" hydro-hegemonic Nile's management – by Egypt – are driving countries to always "want" more Nile's shares and waters. Thirdly, the entry into the scene of extra-regional actors and alliances widens the "who wants" the Nile and make the ratio between available resources/actors' demands always smaller. Moreover, it is important to recall that this is all happening in one of the most unstable and poorest areas in the world, where most of the countries (except for Egypt and Kenya) are considered by the United Nations to be among the least developed countries in the world: around 100 million people live on less than a dollar a day and have very poor living conditions. The poverty condition makes the centrality of water and food security even more valuable. For what concerns the instability of the region, it is important to bear in mind that the fragile domestic contexts of the regional actors involved (mainly Egypt, Sudan and Ethiopia) have been further aggravating the Nilotic tensions given that, for instance, the countries have politicised the GERD and tried to delegitimise their counterparts in order to legitimise their governments. Even if with the NBI and the CFA, cooperation

could have been enforced, the countries' last-decade approaches have gone always more towards a competitive behaviour rather than a cooperative one. The challenges set by population growth, climate change and water scarcity are making national interests prevail over the longed-for basin-wide cooperation (Swain, 2011). The risk, then, is that after a decade of failure in negotiations and of extra-regional mounting involvement, Nilotic countries will always more entrench themselves, not willing to give any concession to their rivals. Indeed, it has to be highlighted that the present balance of powers could hardly lead to a win-win situation since the involved countries are playing the "water game" as a zero-sum one: if the status quo is preserved or changed, it would respectively affect the upstream or downstream countries (Abdullah, Dyduck and Ahmed, 2020).

As recalled, all the mentioned factors have been fuelling water competition rather than cooperation and are deemed to lead to a water war. Nevertheless, as underlined in chapter 3, paragraph 3.1, no water armed conflict has been so far fought. Even if water has been a conflict-generating factor, the disputes have yet been fought through diplomatic actions. For what concerns the Nile River basin, as it will be shown in chapter 4, paragraph 4.1, together with diplomatic actions and normative level dispute (see the CFA dispute in chapter 2, paragraph 2.3), the countries also engaged in joint military exercises, cyberattacks and flights ban. These latter can of course be considered as new ways of fighting a non-conventional war and could also be early signals of a potential conventional (armed) water war. As Attia and Saleh (2021:3) points out, given that the Nile is already overstretched and intensively used, urbanisation, population growth, climate change, water scarcity and countries' alliances make the Nile basin one of the "world's most conflict-prone riparian area". On this regard the thesis will lastly consider a study on transboundary rivers' conflicts made by Zeitoun and Warner (2006). The two authors' objective is to propose a transboundary rivers' conflicts framework that can be applied to different riparian scenarios and the thesis will try to apply it to the Nilotic scenario. Firstly, they underline that the intensity of water conflicts has

to be analysed so as to detect which potential escalation those conflicts might have. Plus, to comprehensively define the concept of "conflict", they take the NATO (1999) conflict scale which envisaged five stages in the conflict development: 1. Durable peace 2. Stable peace 3. Unstable peace 4. Crisis 5. War. These stages help the authors to classify the different scenarios and to understand at which stage the countries involved are. Secondly, Zeitoun and Warner (2006) report an even more detailed scale of conflict intensity, created by Edward Azar and adapted by Yoffe and Larson (2001) to water conflict's intensity. The scale (which can be seen in figure 16) is a very useful tool to understand at which grade of intensity water conflict's scenarios are. Moreover, this scale further reiterates that even low-intensity water conflicts (thus in the upper part of the scale) have to be considered conflicts and, as Zeitoun and Warner (2006:441) underline, the absence of war is not equal to the absence of conflict. Thirdly, the authors put together the two mentioned scales and create a conflict intensity frame (that can be seen in figure 17). In this frame, conflicts are classified into three categories: "no significant conflict", "cold conflict" and "violent conflict". The three categories are obviously not fixed, and some river scenario can move from one to another. Lastly, the authors present a comprehensive framework (figure 18), adding to the already mentioned scales and frame, the form of interaction and the water distribution.

Scale	Event description
7	Voluntary unification into one nation
6	Major strategic alliance (International Freshwater Treaty)
5	Military, economic or strategic support
4	Non-military economic, technological or industrial agreement
3	Cultural or scientific support (non-strategic)
2	Official verbal support of goals, values, or regime
1	Minor official exchanges, talks or policy expressions – mild verbal support
0	Neutral or non-significant acts for the inter-nation situation
−1	Mild verbal expressions displaying discord in interaction
−2	Strong verbal expressions displaying hostility in interaction
−3	Diplomatic–economic hostile actions
−4	Political–military hostile actions
−5	Small scale military acts
−6	Extensive war acts causing deaths, dislocation or high strategic costs
−7	Formal declaration of war

Figure 16. Yoffe and Larson (2001) water conflict intensity scale[48]

[48] Figure taken from Zeitoun, M. and Warner, J. (2006). *Hydro-hegemony-a framework for analysis of trans-boundary water conflicts,* p. 441.

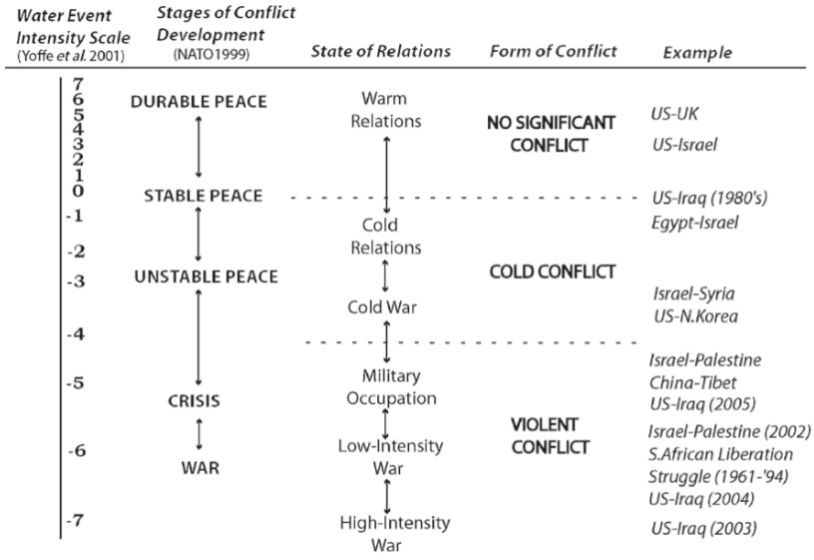

Figure 17. Zeitoun and Warner (2006) conflict intensity frame[49]

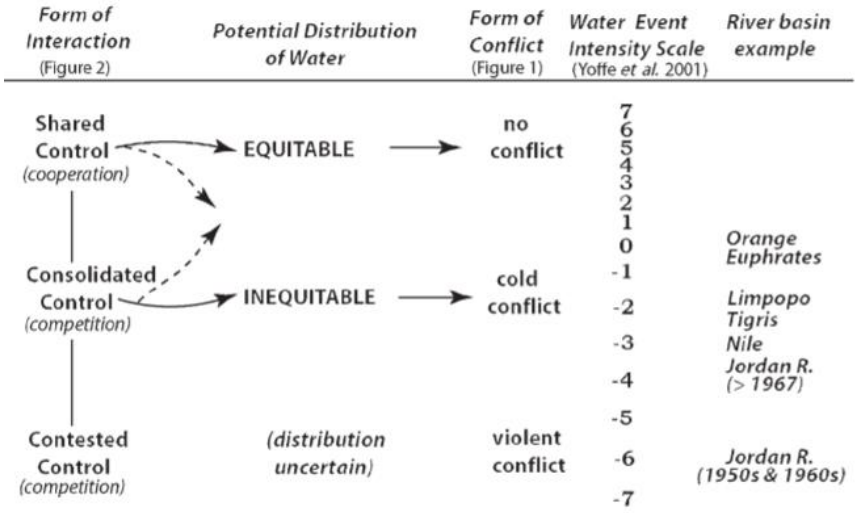

Figure 18. Zeitoun and Warner (2006) comprehensive framework[50]

Following the just analysed framework, for what concerns the Nile River's scenario, it is firstly important to define in which of the five mentioned conflict development's stages it is. The thesis has extensively highlighted that the Nilotic and Horn of Africa area experiences an "unstable peace". Both domestically and regionally, the area has been characterised by intra-state and

[49] *Ibidem*.
[50] *Ivi*, p. 453.

inter-state turmoil, this leading to an unstable balance. From the socio-economic point of view the thesis underlined how water scarcity, population growth and climate change are affecting these countries' food and water security, further aggravating their poverty dramatic conditions. Moreover, in chapter 3, paragraph 3.2, the thesis has deeply dwelled on the Nilotic countries' relations and if one takes into account the Yoffe and Larson's (2001) water conflict intensity scale, it could be argued that the last-decade Nilotic intensity scale has fluctuated between -3 and 2, from diplomatic-economic hostile actions to official verbal support of goals, values or regime (figure 16). Therefore, in figure 17, the thesis suggests collocating the Nilotic transboundary conflict in the second conflict category, the cold conflict one, since the Nilotic dispute can be so far considered as a "cold war". Nevertheless, if one considers the comprehensive framework (figure 18), the Nilotic scenario's collocation could change. As it can be seen from figure 18, Zeitoun and Warner (2006) put the Nile River conflict in the second category where consolidated control, which entails competition and inequitable water distribution, leads to a cold conflict scenario. This would confirm the thesis's just mentioned argument of Nilotic water conflict as a cold war scenario but, since 2006 Zeitoun and Warner's study, the relations and the form of interaction over the Nile River have deeply changed. As it has been deeply analysed, upstream countries – mainly Ethiopia – have started challenging Egypt's hydro-hegemony and have raised their voices against its consolidated power. Therefore – following figure 18 framework – it could be affirmed that the Nilotic water conflict is moving from a "consolidated control" to a "contested control" form of interaction, thus not anymore potentially leading to a cold conflict but to a violent one. Of course, this is a *caeteris paribus* assumption and takes into consideration the worst possible scenario. Plus, the data analysed in chapter 3, paragraph 3.1, showed that recently no armed conflict has been fought over water alone. But what about the other factors? The thesis argues that, even if water will not be the only conflict-generating factor, the interconnection of all the analysed factors could lead to an escalation of Nilotic tensions and this is the reason why the thesis has

attempted at adopting an all-embracing approach. Thus, it would be important to reconcile nationalistic interests and hydro-solidarity on the Nile, in order to try to mitigate the sour poison that flows in the river. For this reason, next chapter (chapter 4) will: firstly, focus on recent developments and international community's role; secondly, attempts at proposing some possible ways out of the Nilotic conflict.

Chapter 4: How to cooperate on the Nile
Towards an equitable utilisation of the Nile

4.1 Nilotic dispute: need of an external mediation? Recent developments and international community's role

In this paragraph the thesis will retrace the latest developments in the Nilotic scenario and focus on the international community's role in the dispute. As already mentioned in chapter 3, paragraph 3.2.2, in October 2019, Egypt issued a communiqué, urging for the need of an external mediator, namely the US and the WB, to exit from the stalemate. As said, the US brokered the Washington talks and proposed an agreement to the three countries. Nevertheless, in February 2020, Ethiopia – not satisfied with the "too limiting" agreement's conditions and suspicious of the partisan objectives behind the US's moves – walked out from the meeting and refused to sign the agreement. The thesis has already underlined that the then US's mediation has been defined by many scholars as biased and partisan, given that it aimed at endorsing its long-standing geostrategic partner, Egypt. After the Washington talks' failure, Egypt was more than ever convinced to "internationalise" the dispute, which it brought to the United Nations Security Council (hereinafter UNSC). Nevertheless, Ylönen (2020) notices that the UNSC path could hardly decide in Egypt's favour given that China – an Ethiopian major ally – would veto such decision. The impasse pushed Egypt to invoke the Arab League as well. The latter, in March 2020, passed a resolution, which endorsed the Egyptian historical rights' argument and urged Ethiopia to avoid actions that would harm the mentioned rights (Ylönen, 2020). Besides, the Arab League's condemnation of Ethiopia for not signing the tripartite agreement proposed during the Washington talks, provoked an escalation of tensions between Cairo and Addis Ababa which resulted in reciprocal accusations and diplomatic distancing (Mthembu, 2020). On his side, Ethiopia made clear that it would have returned to talks if impartial meetings were held and, possibly, under the African Union (hereinafter AU). The country, during the rainy season of summer 2020, made a move that would

have further distanced the three countries: it started the first filling of the GERD even if no agreements had been found. Egypt and Sudan were furious, and the latter affirmed that, in that period, less water was arriving downstream, this leading to frequent power cuts in Khartoum. Moreover, as already mentioned in chapter 2, paragraph 2.5, the GERD's dispute is also "fought" by the Egyptian and Ethiopian civil society which, mostly on social networks, respectively defend their countries' stakes. For instance, in June 2020, the *Cyber Horus Group* hacked more than ten Ethiopian government's websites hiding it with a skeleton dressed as a pharaoh that said the following sentence: "if the river's level drops, let all the pharaoh's soldiers hurry" (De Silva, 2020). Furthermore, in September 2020, the dam filling provoked the Trump administration to suspend $130 million of financial aid to Ethiopia, hoping to pressure the latter back to negotiations. One month later, President Trump told Sudanese prime minister that, if a deal was not found, Egypt might take a more violent stance against the dam (Booth, 2020). In this same month, Ethiopia prohibited flights over the GERD, fearing an Egyptian air strike. Besides, the Tigray War escalation of November 2020 and the Ethiopian accusations against Sudan of having taken advantage of the fragile situation to accelerate on the al-Fashaga's border dispute, further exacerbated the two countries' hostility. However, on this it is important to mention that the March 2021 United Arab Emirates' proposal to mediate in the Sudan-Ethiopia dispute – both over the al-Fashaga and the GERD's issue – was welcomed by both states, with Abiy Ahmed underlining that Addis Ababa wanted to solve the dispute pacifically (Gentili, 2021). The cyberattacks, the US's suspension of financial aid to Ethiopia, the Ethiopian ban flight and the al-Fashaga's dispute are key-events that altogether represent an escalation of the Nilotic conflict which do not bode well.

If in March 2021, Egypt and Sudan opted again for an internationalisation of the dispute, namely hoping for the formation of an international quartet led by the AU and composed by the EU, the UN and the US, Ethiopia still refuses it and recognises only the AU's role (Gentili, 2021). The following month, in

April 2021, the new (and the latest) meeting, organised in Kinshasa (in the Democratic Republic of Congo, which hold the 2021 AU's presidency), turned out to be a failure since any agreement was found and the countries demonstrated a very competitive approach. What should have been a technical negotiation resulted in a political deadlock and in further tensions (Attia and Saleh, 2021). In Attia and Saleh's (2021) opinion, the failure of the April 2021 meetings, the latest ones, and the consequent stalemate is mainly due to three factors: firstly, the three countries have different goals and needs, part of the different traditional Nile management's approaches and historical roots; secondly, the GERD is situated in a strategic hotspot and it is making the Nilotic scenario a theatre of extra-regional competition, whose actors are interested in the area's natural resources (such as hydropower, oil, natural gas and precious metals) – this leading to overlapping alliances over several conflicts; thirdly, the three countries have engaged in negotiations with a nationalist rhetoric and this puts more pressure on the countries' shoulders. Attia and Saleh (2021) also stress the importance of other conflicts such as border disputes, which contribute to the general mistrust between the countries and slow down the cooperative integration process that the GERD could foster. Besides, on the 9th of July 2021, arguing that the filling during the rainy season is a natural consequence of the dam's building process, Ethiopia announced that it had completed the second dam's reservoir filling and that the dam was ready to generate electricity (Al-Monitor, 2021). Al-Sisi reacted to this unilateral move, stating that him and the army would do anything to protect each Egypt's drop of the Nile and underscoring that the GERD was a threat to Egypt's national security (Al-Monitor, 2021).

Therefore, the thesis argues that Ethiopia's unilateral dam filling can be considered as a threat multiplier in the Nilotic scenario's dispute and is, thus, inflaming more tensions. These tensions' escalation fuelled the fears of a military confrontation and, even if most of the scholars downplay the military option and recall that the Egyptian nearest airbase is at Aswan (1.500 km from the GERD), it is important to underline that the inconclusiveness of diplomatic

actions and the Ethiopian unilateral dam filling could prompt Egypt to take stronger, some observers believe, even violent actions. Thus, it is outmost importance to focus on which role the international community could play. Is there a need of an external mediator? If so, who to invoke? The thesis will now attempt at clarifying which role the international community is (and should be) playing.

Firstly, the thesis will focus on the AU's role in the GERD dispute. Until June 2020, the AU has been absent in the tripartite negotiations as a mediating interlocutor, side-lined by other actors – such as the US. Mthembu (2020) underlined how the AU should take part to the negotiation process, particularly during the "Silencing the guns" year[51], dedicated to conflict resolution and peace stability. Indeed, the AU stepped in, for the first time, the GERD dispute in June and July 2020, organising and leading two meetings between the three involved countries. The AU stated that these latter should avoid any harmful action or declaration that could undermine the AU-led negotiations. It stressed the need of a cooperation that went beyond the GERD, enhancing the importance of a more general agreement on the Blue Nile tributary. Maru (2020) underlined that, although the AU-led negotiations made no effective progress in the matter, the evidence that the African body had finally stepped in, could represent a positive step in the trilateral negotiations process. As also Asiedu (2018) highlighted, the failure of last-decade negotiations, made clear that the dispute over the GERD needed a neutral mediator and that the AU could play a role promoting regional cooperation and encouraging the states to find an agreement. The AU's mediation seems to strengthen the "African solutions to African problems[52]" principle which, as it is known, aims at making the African continent exit from past centuries' marginalisation. Indeed, the AU's involvement has a symbolic meaning: extra-regional actors must recognise that

[51] The African Union's "Silencing the guns" year was a project implemented in 2020, which aimed at preventing genocide, targeting the illegal weapons and promoting a conflict-free Africa.
[52] The "African solutions to African problems" principle was coined by the political economist George Ayittey, in response to the international community's behaviour in the Somalia crisis.

the political and institutional dynamics in the African continent and in the Nile River basin are changing (Maru, 2020). On the other side, the Nilotic tensions made also clear that the NBI needs to be revised with a stronger institutional and legal framework. Furthermore, during the AU-led negotiations, the most controversial issue among the three countries was about the dam filling period and Egypt pointed out that it would refer again the issue to the UNSC, if Ethiopia would still demonstrate uncompromising. Maru (2020) also believes that the military option is unlikely, but he strongly underlines the need of finding a cooperative agreement on the GERD issue, in the name of African Renaissance and Pan-Africanism. The NBI and the CFA, as said, needs to be valued by the AU and to be reinforced. In Maru's (2020) opinion, the AU should push Egypt to sign the CFA and, considering the regional contexts, it should work on the elaboration of an African declaration on the adoption of the UN Watercourses Convention. African Peer Review Mechanism[53] (hereinafter APRM) should also play a role, focusing on the shared resources' governance and assisting the involved states in these resources' management.

Secondly, the thesis will deepen the UN's role in the GERD dispute. As already mentioned, Egypt and Sudan invoked the UN in the dispute, for the first time, in March 2020. The UN, as well as the AU, had been absent in the last-decade negotiation process and in June 2020, it underlined that, even if it had not taken part to the process, it had been following the issue and supporting the three countries in their talks (UN, 2020). The UN has more than often underlined that it supports the three involved countries in their negotiation process and promotes a win-win resolution of the dispute. In May 2020, the UN Secretary-General António Guterres, encouraged the three countries to overcome their different stances and find an agreement on the project. Guterres stressed the importance of a cooperative solution which could lead to mutual benefits. The main difference between the countries is that while Egypt and

[53] African Peer Review Mechanism, established in 2003, is an instrument that the African Union's Member states can voluntarily use to self-monitor their governance performance.

Sudan propose an internationalisation of the dispute (to pressure Ethiopia), the latter refuses the UN role, considering the matter out of the UNSC's mandate, and prefers to solve the issue within trilateral negotiations and under the auspices of the AU. Ethiopia is wary about an international involvement in the negotiations since it fears that Egypt's international leverage could favour its interests and endanger Ethiopia's ones. For this reason, the latter argued that if a mediator was to step in the negotiations, it should be an African body – e.g., the AU, where Ethiopia has more influence. (Ylönen, 2020). Notwithstanding, Egypt and Sudan continued the UNSC's path and brought the issue to the UN for the second time, in March 2021. Egypt and Sudan invoked the UNSC to intervene and help to solve the GERD's issue, Ethiopia, on his side, refused the UNSC's involvement and Seleshi Bekele, the Ethiopian Minister of Water, Irrigation and Energy, defined Egypt and Sudan's referral to the UNSC as "regrettable" (Nichols, 2021). The UNSC finally dedicated an open session to the issue on the 8th of July 2021. In this meeting, Tunisia presented a resolution asking Ethiopia to stop the filling of the GERD and the three countries to avoid harmful actions. The Tunisia-proposed resolution invited the three countries to return to negotiations and find, within six months, an agreement on the GERD's completion and functioning. Such agreement should respect both the Ethiopian hydro-power energy generation's capacity and the downstream countries' water security. Moreover, during the 8th of July's open session, the UN's special envoy for the Horn of Africa, Mr. Onanga-Anyanga, has affirmed that the AU-led process had made few progresses in the dispute and similarly, the head of UN's Environment Programme, Ms. Andersen, urged the involved parties to resume negotiations and expressed support to the AU in the mediation process (UN, 2021). The UNSC largely debated on the Tunisia-proposed resolution but, for the moment, it underlined that the AU is the appropriate place where to resume discussions and adopt an agreement, given that some UNSC's diplomats are concerned that an UNSC's involvement in the dispute could create a precedent for other water disputes (Nichols, 2021). Indeed, so far, the UN has limited its role to urging the countries to go back to negotiations and to stressing

the importance of a win-win solution. The president of the UNSC for the month of July, Nicolas de Rivière, underlined that apart from pushing the states back to talks, the UNSC could not do much more (The Arab Weekly, 2021). In September 2021, the president of the UNSC issued a statement – approved in the open session of the 15th of September by consensus– which stated that the three countries should cooperatively resume negotiations under the auspices of the AU and conclude a legally binding agreement "within a reasonable time" (Egypt Today, 2021). Egypt has defined this statement as an important step and incentive in the negotiation process, since the country has more than often reiterated that the absence of a binding agreement would create a deep instability if its Nile's shares were to diminish. On the contrary, Ethiopia believes that the dam reservoir should be filled during the rainy season, and it continues to stress that the project will create benefits and development for the whole region. Indeed, the main disagreement between Egypt and Sudan on a side and Ethiopia on the other is that, while the former push for a legally binding agreement which would include a binding dispute-settlement mechanism, the latter argues for the definition of a nonbinding guidelines' agreement. It seems that Ethiopia is trying to "take time" in order to put the other countries in front of the *fait accompli* and start the filling (as it did) without any agreement that could put restrictions on it. As Attia and Saleh (2021:6) defines it, the "Ethiopian non-agreement goal" and uncompromising behaviour is generating more mistrust and making the situation deadlocked.

As already underlined, since the second dam filling of summer 2021, tensions between the three involved countries, mainly Ethiopia and Egypt, are escalating. Even if several observers downplay the military option – see for instance Attia and Saleh, (2021:9) who point out that military action is not likely because of its high cost – the three countries are key partners of the US and of some EU countries which, given their interests in the region, should care about the very tense regional situation. In a yet conflictual region (see for instance the al-Fashaga's dispute border between Ethiopia and Sudan), further instability would only damage the EU partners and the US. The June 2021 elections in

Ethiopia and the July 2021 UNSC's session on the GERD dispute, could represent a good moment to resume negotiations. Nevertheless, the negotiations must be resumed with a different approach than the last-decade zero-sum game one. The only way to take steps forward is to adopt a cooperative approach: countries should be ready to make concessions and abandon their rigid positions in the name of the global distributive justice's principle of burden-benefit sharing. If some countries share the same resource – e.g., the same river, in this case, the Nile – they should be ready to commonly share both the benefits/rights and burdens/responsibilities that said resource entails. In Attia and Saleh's (2021) opinion, Ethiopia should show more flexibility in accepting the international community's mediation. Moreover, Von Lossow, Miehe and Roll (2020) underlined that the negotiations should not stubbornly revolve around water allocation but should focus on solutions that could mitigate the negative consequences of the project.

For what concerns the EU's role, Attia and Saleh (2021) believe that the EU should care about the GERD dispute, since it could benefit from the security and development of the area, and propose the carrot and sticks strategy: in terms of the former, the EU should focus on enhancing mediation and cooperation, while in terms of the latter the EU could economically pressure the three countries – if they prove competitive – to go back to peaceful solutions. Similarly, Saudi Arabia, United Arab Emirates and the Gulf countries could play a role in resolving the dispute, given their always larger political and economic influence and interests in the area. Moreover, the importance of a regional legal and institutional framework should not be underestimated. The NBI could be such framework, but it should be reinforced, and Egypt should join it again – differently from Sudan, which re-joined the NBI in 2012, Egypt has still its membership frozen. This NBI's reinforcement also needs a revision of the framework, considering the possibility to create a dispute-settlement mechanism. The GERD has demonstrated that the absence of said framework and dispute-settlement mechanism, could create severe consequences on the Nilotic area's stability. Therefore, the solution that must be found to the

GERD's dispute should not be only a problem-based solution but should attempt at framing the issue in a more comprehensive framework. For this reason and for the yet ineffectiveness of the last-decade negotiations, it would be important to understand how to reconcile nationalism and hydro-solidarity in the Nilotic scenario. Next, and last, paragraph will try to formulate possible ways out of the Nilotic stale situation.

4.2 Possible ways out of the Nilotic conflict: how to reconcile nationalism and hydro-solidarity?

The water scarcity issue is deemed to persist and even intensify, and the transboundary rivers' management will acquire always more centrality in the countries' political agendas (Abdullah, Dyduck and Ahmed, 2020). Thus, considering the analysis the thesis has so far conducted, it is of outmost importance to improve the transboundary freshwater resources' allocation and use, in order to create more benefits for all riparian states and more geopolitical stability between them. The thesis has analysed the different conflict-generating factors that are further worsening the Nilotic dispute and fuelling a competitive approach to it: population growth, climate change, water scarcity, domestic instability and food-water insecurity are all factors that have to be tackled to improve the Nilotic relations and the Nile River's management. Particularly, given that the thesis has already argued that the Nilotic dispute has to be addressed with an all-encompassing approach, it now argues that to an all-encompassing problem, an all-encompassing solution has to be found. Apart from considering each problematic and risky factor alone, the approach that the thesis proposes is indeed a cooperative one. The thesis argues that only through cooperation and joint coordination, the Nilotic countries can attempt at resolving their dispute. In the previous paragraph (4.1) the thesis has already underscored the importance of the international community's role and it has presented some approaches and solutions that the latter could adopt. In this paragraph the thesis will: firstly, consider the Nilotic dispute and try to

formulate a problem-based solution; secondly, attempt at proposing a wide-basin solutions that goes beyond the current dispute.

In the first place, the thesis will focus on the Nilotic dispute and try to find a problem-based solution. As the thesis has just underlined, it is very important to analyse the Nilotic issue as all-encompassing phenomenon. The thesis has already mentioned the several conflict-generating factors that altogether represent a threat to the region's stability and security. Indeed, as also Tawfik (2019) underlines, a holistic approach is needed and cooperation – the only way forward that the thesis imagines – must go beyond the river and encompass other sectors as well. This is the first way that the thesis proposes as a possible reconciliation between nationalism and hydro-solidarity: the three involved countries in the Nilotic dispute should avoid their state-centric approach and opt for a wider and more integrated cooperation which should embrace also the social, economic, cultural and political sector. The last one is perhaps one of the most central to the Nilotic dispute: the inter-state and intra-state turmoil and instabilities should be avoided and reduced, given that they fuel tensions, nationalism and competitive approaches. Indeed, as said, the countries' hostility and wars have been, since ever, destabilising the region and are one of the main regional cooperation and stability's obstacles. On the contrary, the mentioned cooperation beyond the river could foster development and stability in the region and could yield more well-being and benefits to the entire region's population. Particularly, Ethiopia and Egypt should respectively abandon their uncompromising and conservative stances on the GERD's dispute and show a greater degree of flexibility during the negotiation process. Nor Egypt neither Ethiopia, but rather the GERD could really represent "a gift of the Nile": the project, if jointly and cooperatively managed, could represent a source of regional cooperation and integration. If the involved countries put aside their nationalistic approaches and envisaged the GERD as an integrative project, which could bring benefits to all riparian countries, tensions are likely to ease and lessen. The Nile could turn the countries' interdependence – which the involved countries currently perceive as negative – into a positive one: what if

one's focused on the benefits that interdependence could bring to Nilotic countries? The first benefit could be a regional economic cooperation, such as a free-trade area, free of fees and charges, which would incentivise countries to exchange and cooperate always more between them. Moreover, if one focuses on the GERD project, Nilotic countries could import energy at cheaper prices and cut the transportation costs. On this regard, for instance, Ethiopia has recently decided to export water to Djibouti without charging any fees. This is just one the initiatives that the Nilotic countries could (and should) be undertaking to strengthen their neighbouring relations and cooperation. If Ethiopia could represent a hydropower hub and export the produced surplus at cheaper prices to its neighbours, Egypt could offer its greater technical expertise and more developed economy and Sudan could embrace cooperation to invest on agriculture and to attract the international funds it craves for (International Crisis Group, 2019). In this way, the economic exchange could enhance the political and social one which, as underlined, are playing a big role in the dispute. The countries could only benefit from cooperation rather than from war, which is indeed more economically expensive and politically inconclusive. Therefore, the three countries should: firstly, rebuild reciprocal trust – that as it is known is currently more than ever fragile and suspicion-filled; secondly, they should exit from the stale situation and go back to the negotiation tables, adopting a concessive behaviour; thirdly, they should negotiate both an agreement on the GERD's functioning and, a broader one, on the Nile River management; fourthly, they should avoid conceiving the Nile with a hydro-hegemonic perspective – which is not anymore possible – and turn to a cooperative approach; lastly, it would be important for the countries, to de-politicise the GERD's issue domestically in order to overcome the perception that a concession on the Nile's issue means political weakness. Instead, for what concerns practical solutions, the countries should foster a more efficient and not wasteful water use and they could try to diversify their water sources. Mainly Egypt, that as it is known is the most dependent country on the Nile, could invest more on desalinisation projects – even if more costly and complicated –

and try to use the sea as another water source. Besides, Yihdego, Salem and Khalil (2017) propose the ambitious project (and even difficult to realise[54]) of connecting the Nile's water system to the Congo's one to divert water and give it to Egypt – that will suffer from water shortages. Lastly, the thesis puts emphasis on the necessity of wide-basin institutions in the Nilotic dispute. While in the previous paragraph, the thesis has already deepened the AU's role – to which it could be only added that the latter should be more incisive in the negotiation process – in this paragraph the thesis will focus on the essentiality of a transboundary river's institution (which in the case of the Nile could be the NBI) where all the needs and interests of the riparian countries could merge and find a place of discussion and negotiation. Trough the NBI, regional integration could be fostered, and it would in turn promote an integrated Nile River's management. Nevertheless, Egypt should re-join the NBI, and the latter should be strengthened and given more authority in the Nilotic dispute, so as to work as a real mediator. For instance, a dispute-settlement mechanism could be created within the NBI's framework in order to prevent future water conflicts and to have an appropriate place where to solve them. The lack of a strong NBI's role and of a common agreement on the Nile's management (which could be the CFA, if Egypt and Sudan would sign it) can also be considered the cause of the last-decade negotiations' inconclusiveness. The NBI should be given more tools and mechanisms to assess the countries' management of the Nile River and to promote transparency and coordination between them. In this way the NBI could represent both a cooperation-enhancing and conflict-resolution institution.

In the second place, having attempted at giving a problem-based solution to the Nilotic dispute, the thesis will now try to propose a conflict-prevention solution which tackle the Nile River's issue more in general. Firstly, as Levy and Sidel (2011) propose, the following approaches could reduce the risk of

[54] The mentioned project is difficult to realise because the two rivers have different altitudes and massive infrastructures should be built to link them.

water conflicts and securitise the freshwater availability: wasteful and inefficient uses should be avoided; new groundwater wells should be established; desalinisation projects could be implemented; industrial water pollution should be controlled and reduced (Levy and Sidel, 2011). Secondly, a clear and equitable agreement on the Nile River's management and use should be found and signed in order to create a legal certainty and efficiency. In this way, future water disputes would have a legal basis on which grounding their arguments and could be resolved within the said legal framework. If the CFA could be the Nile River's legal framework – which should be signed by all the Nilotic countries, mainly by Egypt and Sudan that have for long opposed it – the NBI could enforce it and acquire a more central role in the regional security's promotion. Thirdly, the Rowland-Ostrom framework could be applied to the Nile River's management. This framework was introduced, in 2005, by Rowland, who adapted Ostrom's (1990) study to transboundary water conflicts. The Rowland-Ostrom framework proposes a two-step solution: once the crisis that put at risk the resource – in this case, the Nile – is detected and acknowledged (first step), the involved countries have to abandon their self-interested scopes and move to a "common pool resources management system" (second step) (Rowland, 2005:704). The common pooling of resources could create benefits for all Nilotic countries and could prevent conflicts between them. On this regard, one might venture a comparison with the European Coal and Steel Community where it is generally recognised that, the pooling of the so much contested resources (coal and steel), has indeed contributed to the European peace and stability. Fourthly, Maru (2020) stresses the importance of climate change, water scarcity and conflict's early warning tools. As mentioned in chapter 3, paragraph 3.1, the Water, Peace and Security has introduced innovative mechanisms to identify water-related risks, such as the *Global Early Warning Tool*, an interactive map which, combining socio-economic and environmental variables, attempts at foreseeing the world's areas risking water conflicts. These preventive tools are an important weapon to tackle transboundary river's conflicts: study and understand which situation is at risk

– may it be for climate change, water scarcity or inter-state conflicts – is necessary to identify the potential water-related threats and try to mitigate their effects. These tools could reduce in advance the risk of armed conflicts which could escalate if people have no access to clean water and basic needs. Lastly, the thesis underscores that through cooperation and coordination, efficient water use and management could be achieved. For instance, sharing both the benefits and burdens of the Nile River could help the Nilotic countries. On this regard, the thesis is inspired by the global egalitarianism theory: each countries' citizens should be given the sufficient amount of water to meet their basic needs. The right to water must be considered a human right and, therefore, its enforcement should be equally granted and of outmost importance. In the name of Pan-Africanism and African Renaissance, the Nilotic countries should broadly cooperate among themselves in order to find alternative ways to preserve their water security and to secure to its citizens the right to water. The GERD project should be transformed from a geopolitical destabilising factor to an integration-promoting one, which could enhance and protect regional stability and peace.

Conclusion

Water and energy are unavoidably ever more intertwined and essential for each dimension of life, from socio-economic development to human livelihood. Water scarcity's issue is turning these two factors into geopolitical tools which are at the centre of most countries' political agendas. Particularly, in transboundary river basins' scenarios, watercourses and freshwaters become scarce geostrategic resources. Thus, riparian countries must share the only available source of water, rivers, this provoking tensions and disputes over river's water allocation. Therefore, the thesis has aimed at clarifying the following assumptions: rivers are essential for human and states' development and their waters' scarcity makes them assume a significant geostrategic role; countries that share the Nile's waters are in very poor socio-economic conditions, with the majority of the resident populations living in absolute poverty; until last century, the Nile's exploitation has generated asymmetric relations with Egypt playing as the hydro-hegemon of the river; Ethiopia is questioning Egyptian-Sudanese pre-existing agreements on the Nile that repeatedly excluded the former; water scarcity is playing a central role in the Nilotic scenario; Nile River's waters are at the centre of the Nilotic countries' thorny relations and rivers' management can lead to water-related conflict between riparian states; several factors, defined as conflict-generating ones, are concurrent causes to the Nilotic dispute and must be analysed to comprehensively assess the Nilotic scenario; the Ethiopian GERD project is redrawing regional and extra-regional geopolitical relations; the international community should intervene in the Nilotic dispute and push the countries to find an agreement; Nilotic cooperation and coordination would yield more benefits and well-being rather than the costly and inconclusive competitive approach.

Throughout the thesis, an all-encompassing approach has been adopted, and the Nilotic dispute has been examined as a multi-faceted phenomenon which revolves around the following conflict-generating factors: water scarcity,

population growth, food insecurity, climate change and up-downstream countries' relations. Chapters 1, 2 and 3 have deeply dwelled on the mentioned factors, mainly focusing on three aspects as *fil rouge*: who needs, who owns and who wants the Nile. The actual stale situation in the Nilotic scenario is the result of the interconnection and interdependence of these common threads. The thesis has, indeed, demonstrated that population growth, water scarcity and climate change are leading to an increasing geo-economic development of upstream countries, which are willing to exit from their historical disadvantaged position and to exploit their "due" resources. Besides, the entry into the scene of extra-regional actors and alliances widens the "who wants" the Nile and make the ratio between available resources/actors' demands always smaller. Moreover, it is important to recall that this is all happening in one of the most unstable and poorest areas in the world, where most of the countries (except for Egypt and Kenya) are considered by the United Nations to be among the least developed countries in the world.

Therefore, the thesis has concluded that a solution to the Nilotic dispute should not only be a problem-based solution but should attempt at framing the issue in a more comprehensive framework. Indeed, the ineffectiveness of the last-decade negotiations has strengthened the need to reconcile nationalistic interests and hydro-solidarity on the Nile and work out a cooperative framework within which jointly manage the Nile River. For this reason, in chapter 4, the thesis has deeply dwelled on the current Nilotic scenario to shed light on which role the international community should play and to propose said cooperative framework. The thesis has argued that the international community should intervene in the dispute and urge the countries to find both a specific and a broader agreement on the Nile River's management. Indeed, a win-win solution to the Nilotic dispute should be found: each involved country should abandon its state-centric approach and opt for a wider and more integrated cooperation which should embrace also the social, economic, cultural and political sector. Particularly, the last one is the most destabilising factor in the Nilotic dispute: the inter-state and intra-state turmoil and instabilities should be avoided and

reduced, given that they fuel tensions, nationalism and competitive approaches. Indeed, as said, the countries' hostility and wars have been, since ever, destabilising the region and are one of the main regional cooperation and stability's obstacles. On the contrary, a holistic approach is needed and cooperation – the only way forward that the thesis imagines – must go beyond the river and encompass other sectors as well. The thesis has demonstrated that said cooperation could foster development and stability in the region and could yield more well-being and benefits to the entire region's population. On this regard, the thesis has been inspired by the global egalitarianism theory: each countries' citizens should be given the sufficient amount of water to meet their basic needs. The right to water must be considered a human right and, therefore, its enforcement should be equally granted. In the name of Pan-Africanism and African Renaissance, the Nilotic countries should broadly cooperate among themselves in order to find alternative ways to preserve their water security and to secure to its citizens the right to water. Besides, the GERD project should be transformed from a geopolitical destabilising factor to an integration-promoting one, which could enhance and protect regional stability and peace. Lastly, all the Nilotic dispute is part of a water emergency's context that all Africa is experiencing. The UN Economic Commission for Africa has estimated that, by 2050, the population of African states will double, further burdening the yet water-stressed regions. Thus, tensions between states competing for water – also called the *oil of the future* – could trigger the *blue gold* war and create complex and difficult-to-read international scenarios.

In conclusion, the thesis attempts at answering to the title's question "Ruling over the Nile: next to the *blue gold* war?". In the light of the conducted analysis and of the demonstrated assumptions, the thesis argues that, even if it is difficult to demonstrate that water will be the main geopolitical destabilising factor, it is considerably evident that both water scarcity and water bad management are conflict-generating. Particularly, even if water will not be the only conflict-generating factor, the interconnection of all the analysed factors, namely population growth, climate change, food insecurity and inter-state relations,

could lead to an escalation of Nilotic tensions and this is the reason why the thesis has attempted at adopting an all-embracing approach. These tensions' escalation fuels the fears of a military confrontation and, even if most of the scholars downplay the military option and recall that the Egyptian nearest airbase is at Aswan (1.500 km from the GERD), it is important to underline that the inconclusiveness of diplomatic actions and the Ethiopian unilateral dam filling could prompt Egypt to take stronger, some observers believe, even violent actions. Thus, it is urgent to reconcile nationalistic interests and hydro-solidarity on the Nile, in order to try to mitigate the sour poison that flows in the river.

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Executive summary

Water and energy are nowadays ever more essential for each dimension of life, from socio-economic development to human livelihood. These two resources are unavoidably intertwined, and their connection is particularly visible in water-management disputes between conflicting States. Water is used to produce, generate and deliver energy. However, as its resources are becoming less available, the dependence on water is inversely increasing. For that reason, decision-makers are ever more concentrating on water resource management, water supply and ecosystem safeguard. Water scarcity's issue is turning water into a geopolitical tool which is at the centre of most countries' political agendas. Indeed, within the political agendas of African countries, water supply's issues are becoming increasingly high-priority topics for the socio-economic development of most of them. Water's non-ubiquity makes it a source of diplomatic and non-diplomatic tensions among the states that share it, transforming it from a primary good to an economic and commercial one. Water is therefore considered a strategic resource capable of destabilising and shaking existing geopolitical balances. Particularly, in transboundary river basins' scenarios, watercourses and freshwaters become scarce geostrategic resources. In this regard, it is worth underlining the existence of more than 260 international water basins divided into 145 nations, in which more than 40% of the world's population resides. Thus, riparian countries must share the only available source of water, rivers, this provoking tensions and disputes over river's water distribution. Focusing on the Nile River's area and, more generally, on Africa, it is essential to highlight the alarming increase in population growth, half of which could be experiencing severe water shortages as early as 2025. For instance, in the Nilotic scenario, the river – under increasing pressure – is becoming both an instrument of power and development, triggering tensions and deadlocked negotiations over water allocation. The Ethiopian GERD project is going in this direction: the largest African dam ever built is threatening the yet fragile regional equilibrium,

redrawing regional and extra-regional relations and questioning the hydro-hegemony over the Nile. Throughout the thesis, an all-encompassing approach is adopted, and the Nilotic dispute is examined as a multi-faceted phenomenon which revolves around the following conflict-generating factors: water scarcity, population growth, food insecurity, climate change and up-downstream countries' relations. The thesis argues that the interconnection of all the analysed factors could lead to an escalation of Nilotic tensions and cause a real *blue gold* war. Therefore, the thesis underscores the importance of reconciling nationalistic interests and hydro-solidarity on the Nile and of working out a cooperative framework within which jointly manage the Nile River.

For the reasons just mentioned, the aim of the thesis is to deepen and analyse the thorny relationship between Ethiopia, Sudan and Egypt, focusing on the priceless value of the river as the only source for water demands. Moreover, the thesis's main objective is to analyse and evaluate the conflict-generating factors which could lead the countries to a real war for water. The thesis is divided into four chapters that will be summarised as follows.

Firstly, in chapter 1, the thesis focuses on "who needs the Nile", outlining the essentiality of rivers for riparian states, the geostrategic role of the Nile River and the Nile basin population's reliance on the river. Watercourses and fresh waters are essential but limited resources. Only 0.014 percent – precisely 200,000 out of 1.4 billion cubic kilometres – of water on Earth is supplied by freshwater ecosystems. While rivers, deltas, floodplains and lakes occupy less than 1 percent of the earth's landmass, most population rely on these inland waters to survive. Particularly, the WWF 2018 Report "Valuing Rivers" alarmingly outlined that: at least 2 billion people directly depend on rivers for their drinking waters; 25% of the global food production rely on irrigation from rivers; 12 million tonnes of fish come from freshwaters every year; 500 million people live on the river deltas completely depending on river's sediments. From these numbers, it can be easily deduced that rivers are living ecosystems capable of providing services and benefits for hundreds of million people and their countries' economies. Moreover, it is important to also recall the environmental

stabilising role rivers can play by mitigating natural disasters, such as storing floods in floodplains, and by absorbing carbon through wetlands. Lastly, they also cover a value in culture and religion, being considered as sacred and mythical elements. As floods and droughts are increasingly devastating countries and communities all over the world, the aforementioned WWF Report underlined all the "hidden" benefits of rivers in order to stress their priceless value. Indeed, they are considered vulnerable ecosystems and underestimating their huge importance is a threat to economies and sustainable development. The Report sheds light on how is necessary to consider rivers not only as primary sources of water and energy but also as crucial elements for natural flood and sea rising protection and freshwater fisheries. Certainly, if one adds to these factors the UN's projection of the world population reaching 11 billion by 2100 and the evidence that 19 percent of global GDP comes from yet water-stressed basins, one easily gets to the dramatic consequences that less water for more people could have. Therefore, the thesis argues for the need to modify the way rivers are valued and managed. On the wake of this need, the thesis is conceived to focus on the way the Nile River, one of the most important rivers in the world, is co-shared and co-managed by its basin states. Thus, the thesis concentrates on the geostrategic role played by rivers and, particularly, by the Blue Nile tributary. Freshwater – the only suitable water to be used for agriculture and human livelihoods – is a scarce geostrategic resource. As it is known, sea water could undergo a desalinisation process, but this is yet a very expensive alternative. Indeed, according to the UN, freshwater extraction from rivers and lakes has doubled since 1960. The access to this non-ubiquitous resource is certainly vital for human beings and, consequently, the source of ever-growing geopolitical conflicts. Rivers and river borders play an important and strategic role in the geography of the postmodern state. Furthermore, in the modern era, the economic exploitation of the river – an essential resource which performs a fundamental role for the development and organisation of states, also in terms of communication and trade – has led to the exacerbation of state sovereignty's claims over river basins and has made it necessary to negotiate

precise agreements between states. For what concerns, the Blue Nile, the river is one of the principal tributaries of the Nile River and has its source at Lake Tana, which is situated in the Ethiopian plateaus. The tributary contributes with at least 86% of water to the Nile River. The Blue Nile's scenario, particularly involving Egypt, Ethiopia and Sudan, is currently considered as fundamental for the geopolitical stability of the Horn of Africa and Eastern and Northern Africa. The mentioned stability is seriously at risk: the three involved countries are continuously protagonists of inter-state conflicts over the ruling on the Nile, particularly because of diminishing resources such as land and water. Besides, climate change and population growth deeply affect and worsen poverty, food and water security in the mentioned countries. Therefore, the security and political developments in the Blue Nile's scenario are constantly shaping the geopolitics of the area since its waters' management has been a source of conflicts between the three Nilotic states. Considering that 250 million people are currently living along the Blue Nile, the challenge is of outmost priority and centrality. Therefore, the position and geographic conformation of the Blue Nile, lead the river to assume a geo-strategic importance which cannot, therefore, be neglected and undervalued. Its control triggers geopolitical dynamics and conflicting interests between the States, which are all trying to exploit a greater quantity of water. Moreover, the total population of the entire Nile basin area is about 600 million people, and more than half of these populations are totally dependent on the Nile River. Specifically, the Nilotic states are experiencing a notable demographic evolution and it has been estimated that, in 2050, the total population of the Nile States will reach and overtake the threshold of 800 million people. This population growth leads to a proportional decrease in the availability of water per capita, aggravating the yet critical situation of the states bordering the Nile basin. Except for Egypt and Kenya, the others are considered by the UN to be among the least developed countries in the world: around 100 million people live on less than a dollar a day and have very poor living conditions. Besides, most of these countries are based on purely agricultural economies which require ever-increasing amounts

of water to irrigate their fields and meet the growing demand for food. The disproportionate demand for water, the unfavourable climatic conditions and the repeated periods of drought further increase the already existing tensions for the management of the Nile's waters and could provoke deep geopolitical crises between the three involved countries. Moreover, the ecology and biodiversity of the Nile basin's area is increasingly unstable and mutable, and this volatility makes countries ever more in need of the river's water. Indeed, each Nilotic country depends on the watercourse for their social and economic health. This reliance is further complicated by the already mentioned evidence that the Nile's reserve of freshwaters is finite and that the increasing demand for water is not likely to be met. The countries which are mostly relying on the Nile River are for sure Egypt, Sudan and Ethiopia, precisely in order of dependence. These three main Nilotic scenario's actors share the same goal – exploiting the river for their national uses – but vary in their needs and interests. Egypt, for instance, which has always been the main player in the Nilotic area is thus faced with the increasing demands of upstream states, whose needs are exponentially growing.

Secondly, chapter 2, moves to analyse geopolitically and historically "who owns the Nile", focusing on Egypt's hydro-hegemony over the river, Ethiopia's counter-hydro-hegemony and its huge dam project. International watercourses are nowadays always more intertwined with energy, agricultural and water security. It goes without saying that rivers which cross two or more countries are becoming extremely central to the latter's political agendas. The scale of the challenge posed by international watercourses' management is extensively rising, particularly if one focuses on the global threats that climate change is triggering. In this context, the sharing and ruling over an international river (or also called transboundary river) is of outmost importance: most transboundary rivers are without an adequate legal protection and the tensions around them will determine the framework of cooperation-conflict that the riparian countries will experience. In this regard, it is useful to highlight that a truly cooperative framework exists for only the 40 percent of the global transboundary rivers and that the 80 percent of the existing agreements only involve two of the many

riparian countries. Focusing on the ruling of the Nile River – for sure one of the longest and international rivers – it is essential to shed light on who is effectively "controlling" it. Exploitation of the waters of the Nile has been the subject of multiple agreements, most of them bilateral. Sudan and Egypt have for long shared and exploited almost all the Nile's waters which, paradoxically, come most from the Ethiopian highlands. Indeed, it is believed that the bilateral and exclusive partition between Egypt and Sudan, the position of the Nilotic upstream and downstream states and, above all, the long-standing powers, generated asymmetrical relations between the Nilotic States. The Egyptian civilisation has, since ever, relied on the control of the Nile River. Indeed, until the second half of the twentieth century, the upstream states – such as Ethiopia – have been drastically excluded from all agreements and from an international standing in the Nile River issue. The upstream and downstream states have respectively tried to support an updated sharing of freshwater resources or to preserve and enforce their historic rights. These dynamics clearly shows how, in hydro-hegemony, a country's ability to hold and preserve power over water resources (Egypt) is far more significant than the geographical position of another country (Ethiopia). On this point, it can be mentioned the "paradox of plenty" and the "resource curse", respectively expressed by Karl (1997) and Wenar (2008). Both authors put emphasis on the paradoxical relation between resources and benefits coming from the latter: resources-endowed countries tend to be unable to exploit and benefit from these resources. This model can be easily recognised in the Egypt-Ethiopia relation: despite Egypt contributes with very few levels of water to the Nile, it exploits and benefits from the river far more than the river's principal "supplier", Ethiopia. Therefore, Egypt has since ever been the hydro-hegemon of the Nile River basin but, since the second half of the twentieth century, this hegemony has been challenged by upstream countries. From the 1990s onwards, a drastic change in excluded Nilotic states' behaviour occurred: they gathered in the *coalition d'amont* (the upstream coalition) and jointly worked for a newly collective "ownership" over the river. Based on the Nyerere doctrine, the upstream countries' objective was to

disregard the pre-existing agreements and to obtain a fairer Nile's waters' allocation, opposing Egypt's hydro-hegemony. Their ambitions over the Nile River's waters rose and so did their ambitions to develop irrigation and hydropower. It is important to recall that the NBI represented the first attempt to create a multilateral arena where collaboration and consultation were possible. What it could be said is that a multilateral issue (such as the 11-states co-shared Nile River) should need a multilateral response, which at the same time brings together different states with different interests. Indeed, this variety of interests and approaches made conflicts and tensions arise, mainly between up-downstream countries. Actually, if from a side the emerging of river's new users and "shareholders" have opened the way to negotiations and cooperation, from the other these new claims have destabilised geopolitical balances, triggering a real war for water. In this *blue gold* war, one of the main players is undoubtedly Ethiopia, also referred to as the main Nile River's supplier. Ethiopia, an East African state, is at the centre of the great water race that is inevitably triggering the so-called *war for blue gold*, among all the Nilotic states. As just mentioned, Ethiopia has for long been claiming its natural rights over the Nile, opposing them to Egypt's historical ones. Indeed, unlike Egypt and Sudan, the country has a great freshwater-resources' potential but the latter is indirectly proportioned to its development. Therefore, Ethiopia has always been at the forefront in criticising the validity of the Nile's colonial and post-colonial agreements (from which it had continually been excluded). As from the 1990s, Ethiopian leadership has been claiming that the country's economic backwardness, underdevelopment and international marginal role are directly proportional to its inability to exploit its freshwater resources' potential. Indeed, it can be affirmed that water and energy security are creating, in Ethiopia, a new framework where state-building projects represent a new way to effectively control territory, expand regional influence and permeate society. This emerging framework is clearly visible in the county's "securitisation of development" process which is occurring through the construction of railroads, airports and dams, such as the GERD. Through infrastructural power Ethiopia

is currently challenging its historical disadvantages and Egypt's hydro-hegemony over the Nile. Over the last decades Ethiopia has been undertaking a solid stance in regional policy with the aim to foster its pivotal role and to become a protagonist in the Horn of Africa. Indeed, it can be said that the GERD is playing several roles: firstly, it is reshaping Ethiopian domestic relations and fostering long-term economic development; secondly, it is geographically and politically redrawing the Nile Basin's relations; thirdly, it is mitigating the impact of rainfall variability and rising temperatures in Ethiopia; fourthly, it is challenging Egyptian hegemonic role in the Nile River's scenario; fifthly, it is changing the regional outlook of Horn of Africa's relations, setting the stage for a potential *blue gold* war.

Thirdly, chapter 3, deals with the assessment of the conflict-risk factors in the Nile basin arena, analysing the GERD's geopolitical implications and the Nilotic water-related conflict. Primary resources are essential for human and economic development. Water is certainly among these vital resources and human life would be impossible without it. For this reason, it is considered of outmost importance to deeply focus on water both as an essential and geostrategic resource. Water is a renewable but not sustainable resource: water's availability is not commensurate with its increasing consumption and its reproduction rate is lower than that of use. Following the 2019 UN World Water Development Report, the mentioned increasing consumption is mainly due to three factors: population growth, socio-economic development and new consumption model. Since the 21st century, the evidence that water conflicts would have been at the centre of international relations, reshaping global geopolitics, has been clear. Since then, the international community, particularly through different United Nations' Secretary-Generals, has been stressing the centrality of water conflicts and water grabbing and underlining that the "conflicts of the future" will be mostly waged over water. But is this risk so imminent and real? In order to answer to this question, the thesis analyses the concept along two different assumptions: water conflicts have been increasing since the late 20th century and, so far, water conflicts have not

militarily engaged. Focusing on rivers, it is important to put the accent on the cross-border character of water which create an interdependence between riparian states – as in the case of the Nile. The river-countries' interdependence – countries relying on the river as their main or only source of water – and hydro-hegemony – assessing if it is oriented towards cooperation or competition – could be the keys to understand Nilotic water-related conflict. Nonetheless, in order to have a comprehensive view of the phenomenon, Nilotic water conflict has to be analysed within a multi-faceted approach: which are the factors that could lead to water-related conflict? The Nilotic water conflict revolves around several factors: water scarcity, population growth, food insecurity, climate change and up-downstream countries' relations. From the factors' analysis conducted, the thesis infers that in the Nilotic scenario, a multi-faceted approach has to be taken in order to assess the likelihood of water conflicts and to answer to the question asked few lines ago (is water conflicts' risk so imminent and real?). What it can be said is that those factors are certainly contributing to destabilising the Nilotic area's already fragile balances and they could be all defined as water conflicts' warning signals. For all the mentioned reasons, it is of outmost importance to underline that water conflicts are certainly water scarcity-driven (which is often considered as the main water conflicts' cause) but population growth, food insecurity, climate change and riparian states' relations are all sides of the same coin. Water scarcity alone is hardly the cause of water conflicts, the socio-political, economic and environmental contexts need to be taken into account, in order to comprehensively assess water conflicts. All the analysed factors are turning water always more into a geopolitical instrument of power which could likely lead to inter-state conflicts. In this way, food-water-energy security have become central topics in the Nilotic agendas and the GERD project is the main representative of this trend. The project can be considered as an additional water conflict's factor which has for a decade been affecting and redrawing the Nilotic context and geopolitical relations.

Fourthly, chapter 4 firstly concentrates on recent developments and the international community's role in the Nile dispute and, secondly, it attempts at reconciling nationalistic interests and hydro-solidarity, working out a cooperative framework within which jointly manage the Nile River. The last-two-years tensions' escalation fuelled the fears of a military confrontation and, even if most of the scholars downplay the military option and recall that the Egyptian nearest airbase is at Aswan (1.500 km from the GERD), it is important to underline that the inconclusiveness of diplomatic actions and the Ethiopian unilateral dam filling could prompt Egypt to take stronger, some observers believe, even violent actions. The thesis argues that Ethiopia's unilateral dam filling can be considered as a threat multiplier in the Nilotic scenario's dispute and is, thus, inflaming more tensions. Thus, it is outmost importance to focus on which role the international community could play. Is there a need of an external mediator? If so, who to invoke? The thesis attempts at clarifying which role the international community is (and should be) playing, mainly focusing on the AU, UN and EU's role. The thesis argues that the international community should mediate in the dispute and urge the three countries to find both a specific and a broader agreement on the Nile River's management. Besides, the water scarcity issue is deemed to persist and even intensify, and the transboundary rivers' management will acquire always more centrality in the countries' political agendas. Thus, it is of outmost importance to improve the transboundary freshwater resources' allocation and use, in order to create more benefits for all riparian states and more geopolitical stability between them. Particularly, given that the thesis argues that the Nilotic dispute has to be addressed with an all-encompassing approach, it affirms that to an all-encompassing problem, an all-encompassing solution has to be found. Apart from considering each problematic and risky factor alone, the approach that the thesis proposes is indeed a cooperative one. The thesis argues that only through cooperation and joint coordination, the Nilotic countries can attempt at resolving their dispute. Moreover, the thesis underscores that through cooperation and coordination, efficient water use and management could be

achieved. For instance, sharing both the benefits and burdens of the Nile River could help the Nilotic countries. On this regard, the thesis is inspired by the global egalitarianism theory: each countries' citizens should be given the sufficient amount of water to meet their basic needs. The right to water must be considered a human right and, therefore, its enforcement should be equally granted and of outmost importance. In the name of Pan-Africanism and African Renaissance, the Nilotic countries should broadly cooperate among themselves in order to find alternative ways to preserve their water security and to secure to its citizens the right to water. The GERD project should be transformed from a geopolitical destabilising factor to an integration-promoting one, which could enhance and protect regional stability and peace. Therefore, the thesis concludes that a solution to the Nilotic dispute should not only be a problem-based solution but should attempt at framing the issue in a more comprehensive framework. Indeed, the ineffectiveness of the last-decade negotiations has strengthened the need to reconcile nationalistic interests and hydro-solidarity on the Nile and to work out a cooperative framework for the Nile River's management. Moreover, all the Nilotic dispute is part of a water emergency's context that all Africa is experiencing. The UN Economic Commission for Africa has estimated that, by 2050, the population of African states will double, further burdening the already water-stressed regions. Thus, tensions between states competing for water – also called the *oil of the future* – could trigger the *blue gold* war and create difficult-to-read international scenarios.