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INSTITUTE OF DIPLOMACY AND INTERNATIONAL STUDIES

DIPLOMACY OF WATER SHARING: A CASE OF EGYPT AND ITS NILE BASIN COUNTERPARTS

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DECLARATION

This research study is my original work and has not been presented for the award of a degree in this University or any other institution of higher learning for examination.

Signature……..…….. Date……..…….

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This project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this study to my wife and children who were both my sponsors and encouragement. Without their love, understanding and support it would have been impossible to undertake and complete this work.

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ABSTRACT

This study examines the diplomatic exchanges between Egypt and Sudan on one hand and the other members of the Nile basin in as far as their relationships are concerned. It looks at Egypt and Sudan's position as desert countries that almost entirely depend on the Nile River for their water needs as opposed to their upper riparian neighbours which have the advantage of numerous sources of water including more than sufficient rainfall. The fact that Egypt has clung on to the pre-colonial water treaties and considers any possible interference with the Nile as a national security matter has affected relationships in the whole basin causing rebellious responses from Ethiopia, Uganda, Tanzania and Kenya.

The study proposes viable ways of harmonizing these relationships through equitable and harmonious water sharing mechanisms rather than escalated conflict and soft diplomatic interaction.

ABBREVIATIONS AND ACRONYMS

EAC: East African Community

ENSAP: Eastern Nile Subsidiary Action Programs

FAO: Food and Agriculture Organization

GWP: Global Water Partnership

ICCON: International Consortium on the Cooperative Development of the Nile

KIIs: key Informant Interviews

NBCs: Nile Basin countries

NBD: Nile Basin Discourse

NBI: Nile Basin Initiative

NELSAP: Nile Equatorial Lakes Subsidiary Action programs

NEPADS: New Partnership for Africa's Development

Nile-COM: Council of Ministers of Water Affairs of the Nile Basin

Nile-TAC: Technical Advisory Committee Secretariat

NRBAP: Nile River Basin Action Plan

SAPS: Subsidiary Action programs

SPLA: Services Provider License Agreement

TECCONILE: Technical Co-operation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin

UN: United Nations

UNEP: United Nations Environment Programme

UNPD: United Nations Population Division

CHAPTER ONE: INTRODUCTION

1.1 Background of the Problem

This study is based on the notion that there exists a disharmony among the countries that share river Nile and its resources. The whole community of the river Nile countries is ideologically divided into two distinct groups; Egypt and Sudan on one hand and the rest of them. This division is partly fuelled by the widespread underdevelopment among the so called Nile upper riparian states as opposed to Egypt and Sudan. It is further deepened by statements issued by prominent leaders from the region, which are deemed by the opposing side as reckless and provocative, such as the one made by the Egyptian President Mohamed Morsi in response to a call by his own Ministers urging the country to take military action against Ethiopia over its construction of the Renaissance Dam; "As president of the republic, I confirm to you that all options are open…If Egypt is the Nile's gift, then the Nile is a gift to Egypt….If it diminishes by one drop then our blood is the alternative."[1]

With approximately 97 percent of its water resources coming from the Nile, scholars have argued that Egypt should have taken keen interest in the development of sub-Saharan Africa which is the source of that water. However, Egypt has variously been accused of neglecting Africa in its foreign policy during the reign of President Hosni Mubarak. Through the creation of the African Fund for Technical Cooperation with Africa, it is deemed to have offered half hearted assistance to various African governments with a bias to the Nile upstream countries. Although this assistance is mainly viewed as compensation for Nile waters, most of the recipients view it with scepticism. Courtesy of the Nile waters, however, Egypt has managed to develop its agricultural potential and is currently able to compete adequately in the global market while its neighbours in the Nile Basin continued to wallow in

[1] Verhoeven, Harry: Aljazeera, 13th June, 2013.

abject poverty, hunger and under-development. It is in this respect that they look at Egypt as one who is taking advantage of them while completely ignoring their own plight for sustainability.

Looking at the definitions of the concept of diplomacy by most scholars, its bottom line is cooperation and negotiation aimed at furthering the foreign policy of a state with a view to achieving its national interest.[2] Diplomacy therefore aims at managing relations between states and between states and other actors. It is variously concerned with advising, shaping and implementing a country's foreign policy with a view to achieving its interest.[3] The measure of how much a country's diplomatic practice is effective therefore depends largely on how much the state is able to achieve what it deems as its national interest.

In his book, the Changing Nature of Diplomacy, Barston[4] outlines four major tasks of diplomacy as Ceremonial, where a state's diplomats are only concerned with carrying out protocol procedures, representation and facilitation of official visits. The second one is Management, where foreign missions engage for purposes of solving the sending state's day to day problems, promoting its national interests as far as economics, politics, military etc are concerned and bilateral and multi-lateral co-operation. The third task is concerned with information and communication and the forth one is to do with participation in international order. According to Barston therefore effectiveness of a country's diplomacy will also depend, to a large extent, on the tasks that it assigns to its diplomats.

All these diplomatic functions have been attempted in the Nile Basin and the NBI was particularly concerned with the achievement of multilateral cooperation. The fact that there

[2] Tariqul, M. (2005). *Changing Nature and Agenda of Diplomacy*: A critical Analysis, Asian Affairs, Vol. 27, No.1, 56-71, January-March.

[3] Barston, R. (2006). *The Changing nature of diplomacy, Modern Diplomacy*, Third Edition, Pearson education Limited.

[4] ibid

still exists a stalemate among these players may be considered as a failure of diplomacy among them. However, Egypt's success in implementing its water policy may be considered as a diplomatic success in as far as the Nile basin is concerned.

1.1.1 Objectives of diplomacy and its players

As opposed to the traditional diplomacy where the field was specifically reserved for diplomats and state officials, a wide array of issues and actors has recently been introduced into the field of diplomacy.[5] These new actors in the case of NBI include regional blocks such as the East African Community (EAC), South African Development Community (SADC) and even the African Union (AU), The Nile Basin Initiative (NBI) and even the Arab League to which Egypt belongs. Some of these organizations have variously been involved in resolving and even deepening the conflict in the Nile Basin. As one of the objectives of this paper is to examine the effectiveness and weaknesses of diplomatic engagements within the Nile basin, it will continue to focus on how the Nile states have pursued their security in line with Tariqul's suggestion that "the basic interest of every state is its own security"[6] He notes further that new developments in the world have induced new diplomatic agenda, new spheres for diplomatic engagements and new approaches. The central task of diplomacy has also changed from merely managing international relations to encompass management of the emerging changes in the global environment. The Nile basin has been an arena for engagement over all the above issues.

1.1.2 The Nile River Basin

The Nile Basin possesses through diverse geo-physical characteristics along its path to the Mediterranean Sea. It is the longest river worldwide with a length of 6.650 km and a

[5] Ibid

[6] Tariqul, M. (2005). Changing Nature and Agenda of Diplomacy: A critical Analysis, Asian Affairs, Vol. 27, No.1, 56-71, January-March,.

catchment area of about 3.260.000 km2.[7] In terms of freshwater quantity, however, the Nile is only considered as a middle-range basin because it only holds an equivalent of 2% of the water mass of the Amazon and not more than 20% of the Mekong.[8] For this reason, the Nile River can be distinguished from other great rivers of the world due to the fact that around 50% of its course flows through countries with no effective rainfall. In addition, nearly all the water of the Nile is generated on an area that only comprises 20% of the total basin area. The rest of the basin is located in arid or semi-arid regions where water supply is very limited and where evaporation and seepage losses are very high.[9] Despite the dry climate along its path to the North, the limited water supply is further a result of the situation that no tributary joins the Nile on the last 3000 km of its journey. A study that compared the population and the available runoff of five world regions (China, South Asia, Southeast Asia, West Africa and the Nile region) came to the conclusion that "the Nile region is by far the most water scarce".[10]

From the highest point at 5.120 m above mean sea level in the Ruwenzori mountain range to the Quattarah Depression at 159m below mean sea level, the Nile Basin consist of several drainage catchments and lakes that are presently linked by steep channels or flat reaches. In addition, important geo-physical features of this area include mountains, high and low altitude wetlands, sub-tropical and tropical vegetation and some of the driest areas in the world as well as some of the largest inland water bodies.[11] Therefore, along its length and breadth, the Nile Basin can be divided into several geographical zones with characteristic

[7] Kirby, M., Eastham, J., Mainuddin, M. (2010). Water-use Accounts in CPWF Basins. Simple Water-use Accounting in the Nile Basin. In: CPWF Working Papers, Basin Focal Project Series, BFP03, Colombo.

[8] Menniken, T. (2008). Hydrological Regionalism in the Mekong and the Nile Basin. International Politics along Transboundary Watercourses. Albert-Ludwigs University, Freiburg.

[9] Karyabwite, D. (2000). Water Sharing in the Nile River Valley. UNEP (United Nations Environment Programme), Geneva.

[10] Varis, O. (2000). The Nile Basin in a Global Perspective: Natural, Human and Socioeconomic Resource Nexus. In: Water International, Vol. 25, No. 4, pp. 624-637.

[11] Nicol, A. (2003). The Nile: Moving Beyond Cooperation. In: Technical Documents in Hydrology, PCCP Series, No. 16, UNESCO, Paris.

features of elevation, topography and land cover. The north-south orientation of the Nile Basin, which extends over 36 degrees of latitude, further causes extreme climate variability between the extremes of the basin. That is why its climate range varies between aridity in the north and tropical rainforest in the south. In this context, the Nile Basin in Sudan and Egypt is rainless during the northern winter, whereas the Ethiopian Highlands, as well as the southern parts of the basin, experience heavy rainfall during the northern summer.[12]

Furthermore, most parts of the basin fall under the influence of the northeast trade winds, which are causing a prevailing aridity between October and May. As a result, the precipitation regime of the Nile Basin can be characterized as irregular, which varies widely from season to season, from year to year and from region to region. Starting from the south, the streams of the Nile River flow towards north and expand over eleven countries: Burundi, DR Congo, Kenya, Rwanda, Tanzania, Uganda, Eritrea, Ethiopia, South Sudan, Sudan and Egypt.

1.2 Problem Statement

The Nile River is shared by ten countries (Egypt, Sudan, Ethiopia, Eritrea, Tanzania, Uganda, Burundi, Rwanda, D.R. Congo, and Kenya). It is home to more than 60 million people; the population is growing by 2−3% per year. 86% of the Main Nile's water stems from the Ethiopian highlands in the Eastern Nile Basin, the rest originate mainly from the watersheds of the equatorial lakes. Many countries in the Nile Basin are highly dependent on the Nile's water, as they are situated in arid or semi-arid regions. Eight of the ten countries of

[12] Ibid, p11.

the Nile Basin (Egypt and Kenya are the exceptions) are among the 47 "least developed countries" worldwide.[13]

On the international level, the absence of a basin-wide water agreement has caused tensions between the riparian states and hindered access to international development support. The principles of colonial water agreements, especially the principle of "acquired rights," are upheld by Egypt and rejected by most of the upstream countries. Egypt and Sudan are committed to the only non-colonial water agreement in the basin, the "Agreement between the Republic of the Sudan and the United Arab Republic for the full utilization of the Nile waters," signed at Cairo on 8th November 1959. The agreement allocates 55.5 km^3 water/year to Egypt and 18.5 km^3 water/year to Sudan, under condition that the Nile flow, measured at Aswan, remains the same (Agreement 1959). The upstream countries, however, do not consider the Agreement of 1959 to be relevant for them, as they were not invited to the negotiations that led to the agreement and did not sign it. Many international development banks require the consent of all affected riparian countries before financing development projects on international rivers, thereby protecting the geographically weaker downstream states.[14] This has been the bone of contention for many until now.

There is need therefore to show how the Nile Basin member countries have employed diplomacy and corporation to come into a collective agreement with a view to diffusing the tension caused by the pre-colonial treaties. In its attempt to do so, this study will answer the following research questions; what was the British colonial government's agreement with Egypt over the use of the basins resources on behalf of East African countries?, has Egypt

[13] ECOSOC, 2001. Statistical Profiles of LDCs, 200□. Economic and Social Council (ECOSOC), United Nations Conference on Trade and Development UNCTAD

[14] World Bank, 1994. World Bank Operational Policies: Projects on International Waterways. Operational Policy 7.50

taken full and unfair advantage of the treaty to exploit its Nile counterparts? Do the upper riparian countries have a valid need to wrestle the Nile out of Egypt's total control?

1.3 Objective of the study

The general objective of this study is to examine the diplomacy of water sharing with a focus on Egypt and its Nile Basin counterparts.

1.3.1 Specific Objectives

Based on the main objective, the following are the specific objectives of this study;

1. To critically examine the British colonial government's agreements with Egypt over the use of the basins resources on behalf of East African countries.
2. To investigate if Egypt has taken full and unfair advantage of the treaty to exploit the Niles resources.
3. To assess whether the upper riparian countries have a valid reason to wrestle the Nile and its resources out of Egypt's total control.

This research is expected to conclude that the Egyptian government has lived to the expectation of its citizens by taking advantage of its Nile basin neighbours and acted fairly in its efforts to achieve its national security.

1.4 Research Questions

i. What were the British colonial government's agreements, acting on behalf of the East African countries with Egypt over the use of the basins resources
ii. Has Egypt taken full and unfair advantage of the pre-colonial treaties to exploit the Niles resources and deny its upstream counterparts of the opportunity to develop?

iii. Do the upper riparian countries have a valid reason to wrestle the Nile out of Egypt's total control?

1.5 Justification of the Study

1.5.1. Academic Justification

This research is deemed important in the academic discipline of international relations and International Conflict Management and security studies. This is because it highlights the key diplomatic moves employed by Egypt and Sudan with a view to retaining the monopoly of rights over the utilization of the Nile waters and the attempts by the Upper Riparian states to wrestle this right from the two. In addition to that, it also exemplifies the Malthusian theory in understanding how population growth, human consumption needs will eventually exceed the availability of natural resources, causing a myriad of negative social outcomes like war, disease, and famine. It therefore contributes to theory building in the field of international studies and conflict management.

1.5.2. Policy Justification

In as far as policy is concerned; the study will go a long way in helping to shape water related policies in the riparian states. The idea is to find a framework or ideal process through which the riparian states can engage in cooperative arrangements that will enable all countries to equitably benefit from the water resources of the River basin. Of specific importance should be the creation of mutual understanding among the states and the need to share the scarce resources in a peaceful atmosphere. The study is thus expected to be helpful in designing better strategies for promoting diplomacy, problem solving, peace and security among Nile basin states.

1.6 Literature Review

1.6.1 Formation of the NBI

The Nile is Africa's longest and one of the most resourceful rivers running approximately six thousand eight hundred kilometres from East and Central Africa and from the Ethiopian highlands all the way to the Mediterranean Sea through Africa's hottest deserts in Sudan and Egypt. Its sources include the White Nile which runs through the countries of Burundi, Rwanda, Tanzania, Kenya, Zaire and Uganda on one hand and the Blue Nile emerging from the Ethiopian highlands to meet in Sudan. Its basin consists of an area of about 3.1 million square kilometres while Egypt and Sudan alone account for more than 2 million square kilometres of land mass.

It is interesting to note that the areas at the source of the Nile receive an average annual rainfall of about one thousand millimetres while the countries at the northern end of the river receive a mere twenty to twenty four millimetres annually. This disparity of rainfall in itself spells doom for parts of the basin that therefore have to entirely rely on the water resources of the river for their domestic, agricultural as well as industrial needs.

While the population of the entire Nile Basin region currently falls slightly short of 400 million people, it has been projected to overshoot 600 million by the year 2025[15] while the Gross Domestic Product (GDP) is as low as 394.25 US Dollars (the Democratic republic of Congo)[16]. The region is prone to armed conflict with at least seven out of the eleven countries of the region having experienced serious conflicts in the last decade. Economic development is low in the region and access to electricity is limited to only 15 percent of the population; except in Egypt and Sudan where it is higher. Despite the fact that most of the basin, with exception of Egypt and Sudan, experiences tropical climate with fairly distributed

[15] The Nile Basin Initiative report, 2009
[16] IMF Word Economic Data Base, 2013

rainfall and arable land, the population is still food insecure. With exception of Egypt again, land under irrigation is a mere 10 percent of the total irrigable land. The table below, extracted from the World Economic Data Base by the IMF, summarizes the economic disparity among the countries of the region.

World's Poorest Countries, Based on Gross Domestic Product - GDP (Purchasing Power Parity - PPP) Per Capita- 2009 to 2013

	Position from the top of the list	Country	GDP in USD
	1.	DRC	394.25
	3	Burundi	648.58
	5	Eritrea	792.13
	14.	Ethiopia	1,258.60
	18.	South Sudan	1,324.10
	21.	Uganda	1,459.62
	25.	Rwanda	1,591.71
	26.	Tanzania	1,670.21
	30.	Kenya	1,884.57
	41.	Sudan	2,550.10
	76.	Egypt	6,652.92

It is evident from the figures above that in spite of the Basin's overall potential including its endowment with natural resources; the region consists of some of the poorest countries, not only in Africa but in the world. Among the countries, however, Egypt, and to a lesser extent, Sudan, have emerged with strong economies that are able to support their populations. It is arguable that this capability has been directly derived from the opportunity to exploit the potential of the Nile basin especially by improving its agriculture output as well as improving the living standards of their populations. While most of the Nile countries basically practice small scale agriculture, mostly for subsistence, Egypt has utilized over 3

million hectares of land within the Nile valley and Delta for commercial agriculture under irrigation.[17]

The Nile Basin initiative was formed in 1999 by member states of countries that fall within the Nile basin. It followed the realization of the upper riparian states including Kenya, Uganda, Tanzania, Rwanda, Democratic Republic of Congo Burundi and Ethiopia that they were left out of the benefits of the basin which were exclusively reserved for Egypt and Sudan as a result of the 1929 and 1952 agreement. The objective was to enhance cooperation and facilitate peaceful sharing of the resources of the river.

1.6.2 Evolution of Colonial Treaties

The first half of the 20th century can be referred to as an era of hegemonially steered basin-wide collaboration in the interest of the British Empire, which first conceptualized the Nile Basin as a political and hydropolitical-planning unit.[18] Under the British-Egyptian condominium, a shortage of cotton on the world market brought pressure on Egypt and Sudan to cultivate this summer crop. The consequent need for summer water and flood control therefore induced an intense phase of water development along the Nile Basin with disputes between supporters of Egyptian and Sudanese interests concerning whether the focus for development should be located further upstream or downstream.

Two measures, which both occurred in 1920s, underline the hydropolitical attitude of Britain: the Nile Projects Commission and the Century Storage System. The Nile Projects Commission, which was formed through representatives from India, Britain and the US, was a response to Britain`s awareness that any regional Nile Basin development plans had to be regulated with a formal agreement on water allocation. In this relation, the Commission estimated that the water needs of Egypt would be 58 billion cubic meters per year. For

[17] Water and Agriculture in the Nile Basin, Nile Basin Initiative Report, 2000
[18] Ibid, p11.

comparison, the rivers average annual flow was estimated at 84 billion cubic meters. Despite the fact that the Nile flow fluctuates significantly, they also recommended that Sudan would be able to meet its irrigation requirements alone from the Blue Nile.

However, the findings of the Commission were never implimented. During the same year, Britain also published the Century Storage Scheme, so far the most extensive concept for water development along the Nile. The plan included designs for a water storage facility next to the Ugandan-Sudanese border, a dam at Sennar, which was located south of Khartoum, and a dam on the White Nile in order to store summer floodwater for Egypt. During that time, the scheme was far too ambitious to be implemented because of political, technical and natural reasons. Egypt was also worried that these major storage systems would be located outside of the Egyptian area of influence.[19]

When the riparian countries of the Nile Basin consecutively became independent from colonial powers, riparian disputes on water allocation, especially between Egypt and Sudan, became more intensified. After the formal declaration of independence of Egypt (1922), a new commission made suggestions that were based on the 1920 Nile Projects Commission`s estimates and finally resulted in the 1929 Egyptian-Sudanese Nile Waters Agreement. This agreement, which fixed quantities of water to be allocated to each country, was signed on the 7th May 1929 between Egypt and Britain, with Britain acting on behalf of Sudan and other East African colonies. Based on the Nile`s mean annual discharge of 84 billion cubic meters, of which 32 billion cubic meters were lost to evaporation and seepage, the agreement included that 4 billion cubic meters were annually allocated to Sudan. A relatively small

[19] Wolf, A. & Newton, J. (2007). Case Study of Transboundary Dispute Resolution: The Nile Waters Agreement. Oregon State University, Corvallis.

amount due to the fact that the entire time flow from January to July (dry season) and a total amount of 48 billion cubic meters per year was reserved to Egypt.[20]

This obviously imbalanced distribution reflects the power equation at that time, the British-Egyptian hegemony, and shows in essence that the agreement prohibited upstream countries from undertaking any kind of major water works without consulting Egypt. Consequently, it was binding on all Nile Basins countries which had been under British administration at that time. For being inequitable the agreement that indeed placed priority on Egypt`s water needs, was latter challenged by upstream states and was repudiated by Tanzania, Uganda, Kenya and Sudan after gaining their independence.

Another bilateral agreement, which also reflected the British long-term interest in securing water for Egypt, was the Owen Falls Agreement of 1953. In this connection, Egypt and Britain, with Britain acting on behalf of Uganda, agreed to construct the Owen Falls Dam in order to generate electricity for Uganda and control the outlet of Lake Victoria. However, irrigation in Egypt and Sudan remained the priority area of Britain`s hydropolitics. That is why the flow regulations of this dam had to be approved by an Egyptian technical committee in order to ensure that Ugandan water utilization would not negatively impact Egypt`s interests.[21]

Due to the aspects mentioned above, it is worth noting that in relation to its water needs Egypt benefited greatly from the English occupation. Although Egypt was already the strongest Nile Basin`s riparian country at that time, it would have never been able to assert such demands to the other riparian's without the assistance of Great Britain.[22] The situation changed after World War II because many of the British colonial territories attained their

[20] Kameri-Mbote, P. (2007). Water, Conflict, and Cooperation: Lessons from the Nile River Basin. In: Navigating Peace, No. 4, pp. 1-6.
[21] Ibid, p19.
[22] Ibid, p11.

political independence. The uncertainty, which came along with the political changes at that time, made it necessary for Egypt to establish new bi- and multilateral agreements, especially with the military regime of Sudan that gained power in 1958.[23]

Besides the new political climate in this region, this new strategy of Egypt was also caused by the need to obtain funding (mainly from the World Bank) to construct the Aswan High Dam. This dam, with a project storage capacity of 156 BCM/yr, was another attempt by Egypt to solidify its hydropolitical hegemony in the Nile Basin and to secure emerging water demands. After the Egyptian revolution in 1952, the construction of the Aswan High Dam, therefore, became one of the key objectives of the Egyptian government. In order to receive funding from international donors, Egypt was consequently adopting a more conciliatory tone to its neighbours. The result was the adoption of the 1959 Egyptian-Sudanese Agreement for the Full Utilization of the Nile Waters (1959 Nile Water Treaty).[24]

While it is agreeable that Egypt has undertaken numerous diplomatic steps to appease its upper riparian neighbours, the conflict has continued to flare even under the framework of the Nile Basin initiative. Kenya, Uganda, Tanzania, Rwanda, Burundi, the Democratic Republic of Congo (DRC); purportedly under the leadership of Ethiopian, have been seen to agitate for equal opportunity with Egypt and Sudan over the exploitation of the Nile's resources. This has continued, notwithstanding the fact that Egypt and Sudan receive almost zero rainfall and have modelled their existence one hundred percent around the Nile. Their pleas, based on the argument that their counterparts have more than enough water and can survive without touching the Nile have fallen on deaf ears, leading to the crafting and efforts

[23] Okoth, S. (2009). A `Seat at the Table`: Exploring the Relationship between Pluralist Structures and Involvement in Decision-Making – The Case of the Nile Basin Initiative. Murray State University, Richmond.

[24] Salman, M. (2007). The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: Perspectives on International Water Law. In: Water Resources Development, Vol. 23, No. 4, pp. 625-640.

to operationalize the Comprehensive Framework Agreement (CFA) with a view to opening up all types of developments around the basin.[25]

Given the fact that agriculture is the main economic activity in all these countries, their main desire has remained to be the development of agricultural capacity through establishment of dams for irrigation. To a large extent, electricity is also seen as a major booster both to agriculture and manufacturing sector which is hardly developed among them. Hence Ethiopia's development of the Millennium dam which has threatened to trigger a violent conflict with Egypt.

1.6.3 Comprehensive Framework Agreement (CFA)

Since February 1999, the riparian countries of the Nile have been engaged in serious negotiations for a Cooperative Framework Agreement under the auspices of the Nile Basin Initiative. This negotiation process includes all the Nile basin countries, and this makes it qualitatively and politically different from all previous negotiations. It is indeed encouraging to note that all the riparian states agreed to accept the Nile Basin Initiative as an interim organisation that has the authority and means to facilitate a more permanent legal and institutional arrangement for the regulation of the Nile basin. It was hoped that these negotiations would finally abolish the colonial treaties, agreements and assumptions that legitimised the lingering downstream hegemony that persists in the Nile basin.[26]

The Cooperative Framework Agreement (CFA) negotiations were conducted under the leadership of the Council of Water Ministers of the Nile basin countries, and they involved protracted phases of negotiation. These negotiations continued for more than ten years and concluded with differences of opinion about one particular sub-article. The

[25] Robertson, K. (2004). Design Considerations for an International Facility to Promote Cooperation between States Sharing a Common Water Resource. A feasibility Study on the International Water Cooperation Facility Initiative. UNESCI-IHE (Institute for Water Education), Delft.

[26] Yacob A. (2007). *Ethiopia and the Nile: dilemmas of national and regional hydropolitics*, Zurich: Swiss Federal Institute of Technology, 2007, 25.

negotiators were not able to reach agreement about some of the wording of Article 14(b). The words that were the cause of the disagreement read as follows: '… not to significantly affect the water security of any other Nile Basin State'. Negotiators from Egypt and Sudan wanted these words to be revised so that they would read: '… not to adversely affect the water security and current uses and rights of any other Nile Basin State'.[27]

The final form of the Cooperative Framework Agreement was finally adopted by seven votes to one in May 2009 by the Nile COM during an extraordinary meeting that was held in Kinshasa. They also agreed that the wording of sub-article 14(b) should be included in the CFA instrument and that any dispute about the precise wording of the sub-article should be resolved by the Nile Basin Commission (NBC) within six months of its establishment. But all subsequent efforts to get the representatives of Egypt and Sudan to agree with the wording that the other members wanted were of no avail.[28]

The CFA instrument has been open for one year from 14 May 2010 for signature by member countries. Ethiopia, Rwanda, Uganda, Tanzania and Kenya have already signed it while the other countries were expected to sign before the closing date of 14 May 2011. The NBC would then be established upon ratification of the CFA instrument by means of a majority of six member states.[29] However, this is yet to be a reality, courtesy of Egyptian diplomacy that has managed to maintain a stalemate to date.

1.6.4 Egypt's regional supremacy

Asymmetric power relations in the Nile basin account for the current, inequitable distribution of the river's waters in favour of Egypt and, in doing so, challenge the prevailing

[27] Fadwa T. (2010). The history of the Nile waters in the Sudan, in Terje Tvedt (ed), *The River Nile in the post-colonial age: conflict and cooperation among the Nile basin countries*, London: I B Tauris, 2010, 179.

[28] See, for example, the significance of the Joint multi-purpose projects for Egypt, Sudan and Ethiopia, as shown in the Project appraisal document […] for Eastern Nile first joint multipurpose program identification, Eastern Nile Technical Regional Office (ENTRO), 24 June 2009.

[29] Ibid, p23.

discourse surrounding a physical supply-side crisis, as outlined in the previous section. An analysis of four foundational pillars of riparian state power serves to confirm Egyptian dominance in the spheres of 'structural', 'bargaining' and 'ideational' capacity, and is used to explain the means with which Egypt has maintained its position as hydro-hegemon since its realization under British rule.[30]

According to FAO[31] 97 per cent of Egypt's water resources originate in the territories of upstream states. Paradoxically, as a downstream riparian state contributing little or nothing to the Nile's flow, Egypt has historically enjoyed the largest share of its waters, officially (but rather more than) 55.5 BCM or two thirds (as dictated by the 1959 Treaty), at the expense of its upstream neighbours. For years it has successfully thwarted attempts to re-allocate Nile waters equitably and further entrenched its position as the basin's 'hydro-hegemon' by means of its dominant power position.[32]

Lowi observes that the survival of the naturally arid Egyptian state depends wholly on unobstructed access to Nile water resources.[33] Indeed, an analysis of current water usage in Egypt set out in the second part of this section emphasizes the importance of Nile water for a variety of state operations - household and industrial consumption, irrigation and sanitation, for example. For popularly elected Egyptian policy-makers then, any diminution (in this case following attempts to capture water upstream) or degradation of Nile water resources constitutes a threat to national security (given the possible negative effect on citizen welfare), and must therefore be averted. Since the 'equitable' distribution of Nile waters called for by upstream riparian states requires the ceding of a significant part of Egypt's consumption

[30] Carles, A. (2006.) 'Power asymmetry and conflict over water resources in the Nile River basin: the Egyptian hydro-hegemony' http://protosh2o.act.be/VIRTUELE_BIB/Water_in_de_Wereld/CONWaterconflicten_en_rampen/W_CON_E5_Power_assymetry.pdf

[31] FAO (1997) 'The Nile basin*', FAO*. http://www.fao.org/docrep/W4347E/w4347e0k.html.

[32] Rahman, M. (2011) 'The geopolitics of water in the Nile river basin', *Global Research*, 24 July.

[33] Lowi, M. (1999). Water and conflict in the Middle East and South Asia: are environmental issues and security issues linked? *Journal of Environment and Development* 8(4), pp. 376-396.

(deemed essential by Egypt to meet its current requirements), voluntary adjustment of water apportionments on behalf of the state is therefore improbable, while sustained resistance to revisionist demands may be expected.[34]

After shedding the burden of British imperialism, an independent Egypt perpetuated its hydrologic dominance and asserted its historic and legal rights, as established by Egypt's established pattern of water usage and legitimized under British colonial rule, to an uninterrupted flow of vital Nile waters. According to Tesfaye Tafesse's article *The Hydro political Perspective of the Nile Question*, "the Egyptians inherited the colonial-era mentality after independence pursuing the same protectionist policy[35]" The current hierarchy of power echoes the British colonial system and many existing conflicts were forged during that period.

Despite its vulnerable geographic location as the most downstream nation, Egypt has historically been the dominant force in the basin. Egypt is virtually devoid of precipitation, save for a small area on the Mediterranean coast, and derives 95% of its water resources from the Nile River. Egypt's heavy dependence on the Nile has necessitated the intertwining of its water development strategy with national security policy[36]. In a 1979 speech, then President Anwar Sadat poignantly asserted the importance of water in the Egyptian foreign policy by announcing "the only issue that would prompt Egypt to declare war again would be water.

Sadat's threats were directed at Ethiopia, where the majority of Egypt's Nile waters originate". In order to compensate for its geographic vulnerability and maintain its control of the Nile Waters, Egypt exploited the asymmetrical power structure of the Nile Basin via its economic, military, and political dominance over the other riparian nations.

[34] Ibid, p24.

[35] Kameri-Mbote, P. (2007), "Water, conflict, and cooperation: Lessons from the Nile Basin" *River Navigating Peace*. 4.

[36] Mandel. (1994), the changing face of National security; A Conceptual Analysis, Westport Connecticut, London, Greenwood press

On several occasions, Egypt threatened the use of military force to stop upstream Nile development. According to Stroh, Egyptian dominance in the basin was so overwhelming that: "Egypt was able to enforce its will without having to take into consideration the interests of the other states due to its military, political, and economic supremacy.

Egypt's political and military dominance lent certain credibility to repeated warnings of military intervention and made it a realistic option for Egyptian politicians." Egyptian hegemony has been reinforced by the inability of other riparian nations to successfully develop their hydrological resources due to civil war, regional conflict, natural disasters, and a lack of international financing. Egypt has been the primary beneficiary of the extended instability of other riparian nations[37]

While the other riparian nations were engulfed in civil war, Egypt was developing its water resources and funnelling support to the very rebel groups that they were battling. These subversive actions greatly angered the other riparian nations, but allowed Egypt to maintain its supremacy and continue constructing massive water infrastructure projects. The Egyptian hydro political strategy is also built upon the series of colonial and post-colonial agreements that legitimated Egyptian water rights. The bi-lateral 1929 Agreement remained unchallenged until 1959.

As noted by Treffner et al., assuming an 84 BCM annual average flow of Nile waters (with 10 BCM set aside for evaporation and seepage losses) (Wolf & Newton 2013), the 1959 Full Utilization of the Nile Waters Treaty granted Egypt a fixed 55.5 BCM (75 per cent) annual share of Nile waters, whilst allocating 18.5 BCM (25 per cent) to Sudan.[38] Since the

[37] Mason, S.A. (2003), "Conflict to cooperation in the Nile Basin: interaction between Water Availability, Water management in Egypt and Sudan, and International Relations in the Eastern Nile Basin Conflict Sensitive Interviewing and Dialogue workshop Methodology" Doctoral Theses ETH No. 15211, Swiss Federal Institute of Technology, Zurich.

[38] Treffner, J. et al. (2010) International river basins – Nile Basin. In: K. Wegerich, J. Warner, (eds.) *The Politics of water: a survey.* London: Routledge, pp. 361-364.

combined water needs of upstream riparians were considered negligible at the time (estimated at no more than 1-2 BCM), these states were excluded from negotiations.[39]

Kliot argues that the same Nile water allocations still stand today, some 54 years later, yet they remain inequitable and, crucially, do not correspond to factors such as a riparian's territorial share in the river basin area or related water contribution, in direct contradiction to the 1966 Helsinki guidelines for equitable utilisation of international river basins.[40] Ethiopia remains the most important contributor to the Nile, providing 86 per cent of the river's water annually, and 96 per cent during flood periods, yet it was (and is still is) excluded from 1959 Treaty negotiations. Similarly, Sudan (prior to South Sudanese independence) possessed the largest share of the drainage area, yet was granted only a minor share of Nile waters in 1959 (and before that in 1929).

As a downstream riparian with a minimal share in the White Nile only, and contributing little to nothing to the Nile's total flow, Egypt continues to control a majority share of water resources in spite of the needs of other basin riparians. This would suggest that water insecurity amongst the basin states cannot be wholly attributed to a physical shortage of water resources, and that problems of inequitable access must be considered.

1.7 Theoretical Framework

This study was guided by the problem-solving framework of negotiations as argued by Murray. The problem-solving negotiations offer 'prescriptive superiority of their mode of conflict resolution in terms of outcomes. Several authors have referred to this theory by different terms such as coordinative (Pruit), cooperative (Williams), problem-solving

[39] Wolf, A.T., Newton, J.T. (2013) 'Case Study of Transboundary Dispute Resolution: the Nile Waters Agreement*', Institute for Water and Watersheds.* http://www.transboundarywaters.orst.edu/research/case_studies/Nile_New.html.

[40] Kliot, N. (1994). *Water resources and conflict in the Middle East*. London & New York: Routledge.

(Menkel-Meadow), integrative (Raiffa) and developmental model (Gulliver)[41] but whatever adjective is used, it comes to the problem-solving model. This theory was first articulated by Roger Fisher and William Ury and advocates that negotiators need to work together for an agreement that is better for both, rather than no agreement at all.[42]

The fundamental postulation of this theory, and which places it apart from the more egocentric self interest and competitive model is that, a problem-solver views the world as being controlled by an enlightened self-interest. It postulates that states should focus on the common interests for the benefits of cooperation to materialize even as they try to maximize returns for their own self. Menkel-Meadow asserts that negotiation is not about maximizing individual gain but about looking for joint gain.[43] Aviva emphasized the point of cooperation, asserting that cooperation should even go beyond states to non-state actors and individuals.[44] Aviva further quoted Niwat Roikaew, a Thai activist in the village of Chiang Kong, located on the Mekong River who was protesting an agreement among China, Laos, Burma and Thailand to blast rapids and reefs in a section of the upper Mekong River to make it navigable for ships up to 100 tones. The blasting would have denied the villagers the opportunity to collect edible seaweed and fishing. "Mekong is our mother. It provides all things for us and will do so forever, so we must fight for the life of the river," Roikaew quoted by Aviva, said in protest to the blasting. Niwat's efforts, Imhof reported gained support of activists in Thailand, Cambodia, Yunnan Province of China, the US, Australia Japan, Canada and other countries. The communities, as problem-solvers joined efforts t

[41] Murray, J. (1986). *Understanding Competing Theories of Negotiation* in Negotiation Journal April 1986, New York, Plenum Publishing Corp pp 5-13.

[42] Fisher, R. and Ury, W. (2008). 'Getting to YES' cited in Harvard Law School (2008); *Programme of Negotiation: Problem-Solving Approach*; http://www..pon.harvard.edu/tag/problem-solving-approach/

[43] Menkel-Meadow, C. (2009). *Chronicling the Complexification of Negotiation Theory and Practice*; 2009, p416, Georgetown Law Library http://scholarship.law.georgetown.edu/facpub/29

[44] Aviva, I. (2002). *Fighting for their lives: Mekong River Communities take on Basin-Wide River-Development Schemes*; World Rivers Review Vol. 17 No. 5/6/December 2002; International Rivers Network, California p4

protect their river, their homes and the ecosystem. Aviva summarized that more than before, this cooperation is needed.[45]

For the problem-solver, cooperation is of utmost importance in order that it gains by trying to understand the merits as objectively as possible. The problem-solver also avoids confrontational debating techniques in the hope of convincing the others of its points from where it will gain. In this case, the negotiator ought to have a better grasp of the complex issues, factors and human dynamics behind important policy issues (Alfredson and Cungu).[46]According to Murray, the problem-solver is competitive but not antagonistic and considers negotiation and other voluntary processes as superior to non-voluntary methods such as adjudication. The goal of the problem-solver is a mutually-agreeable solution that is fair to all parties and efficient for the community since the goal is the public welfare, natural resource management and local subsistence economies in order not to jeopardize the development and poverty reduction prospects of mainly the developing nations and avoid an increase in domestic conflicts.[47]

The theory is relevant to this study because, states who share trans-boundary water resources are dependent upon each other for their hydrological security; they are 'hydrologically interdependent'. For example, the consumption of water in one country impacts on its availability in other countries. Crucially, with hydrological interdependence also comes social and economic interdependence, since water plays a fundamental role in the generation of wealth and well being. Thus, in the Nile basin, the near-absolute control of Nile river water resources by one of the members has the twofold effect of not only undermining water security upstream, but also affecting state social and economic security, with implications for future growth and development.

[45] Ibid p21.
[46] Ibid, p21.
[47] Ibid, p21.

1.8. Hypotheses

The study will be guided by the following hypotheses;

I. That the pre-independence treaties signed by the British colonial government are still valid and objective.

II. That restrictions posed by the treaties denying the upstream countries from utilizing the Nile's resources have been a hindrance to their economic development.

III. That Egypt and Sudan continue to utilize River Nile to achieve greater development in their respective territories without minding the status of their upstream counterparts.

1.9. Scope and Limitations of the Study

Although the research involves the entire Nile basin that comprises of ten countries, the study will be undertaken in Kenya, one of the riparian states, which is also the country of the nationality of the researcher. The study will rely mainly on secondary data because of the geographical distance, cost and time involved in carrying out surveys and primary data collection in all the riparian states. Thus accessing primary data would be a serious constraint to the researcher.

1.10. Methodology

The research shall exclusively make use of secondary data in its investigation. The sources of data collection will mainly be from sources such as academic books, journal articles by eminent scholars found in libraries of institutions of higher learning, Ministries of Foreign Affairs, Water and Irrigation, the Attorney General's office. Additionally, credible and verifiable internet websites and reliable organizational publications such as those from the United Nations, World Bank and the African Union among other organizations will be

reviewed. The use of this secondary data is justifiable based on the fact that access to primary information would require immense proportions of financial and logistical capabilities that are not within the access of the researcher.

1.11 Chapter Outline

This thesis will be organized into five chapters with an introduction and conclusion of the themes discussed in every chapter. Therefore, chapter one gives a general introduction to the thesis. It provides the problem statement, objectives, hypothesis, theoretical framework, literature review and methodology in relation to diplomacy in water sharing: a case of Egypt versus its Nile basin counterparts. Chapter two critically examines the British colonial government's agreement with Egypt over the use of the basins resources on behalf of East African countries. Chapter three investigate if Egypt has, as hypothesized, taken full and unfair advantage of the treaties to exploit its Nile counterparts. Chapter four assesses whether the upper riparian countries have a valid reason to wrestle the Nile out of Egypt's total control. Chapter five discusses, concludes and makes recommendations on the findings.

CHAPTER TWO: CRITICAL EXAMINATION OF THE BRITISH COLONIAL GOVERNMENT'S AGREEMENTS WITH EGYPT OVER USE OF THE NILE WATERS ON BEHALF OF EAST AFRICAN COUNTRIES

2.0 Introduction

This chapter critically examines the British colonial government's agreements with Egypt over the use of the basins resources on behalf of East African countries.

2.1 Overview

The past few years have seen an increasing interest in the management of the Nile River and the disputes surrounding the use of the world's longest river. The same period has witnessed a number of initiatives aimed at addressing various components of the management of the Nile river resources. The increasing concern is attributable to two main factors. First, an estimated 160 million people depend on the Nile waters for survival. This population is expected to double within the next 25 years, placing additional strain on the scarce water and other natural resources available to them. Second, despite the extraordinary natural endowments and rich cultural history of the Nile Basin, its people face significant challenges. Today, much of the Basin is characterized by poverty, instability, rapid population growth, environmental degradation, failing rains, recurring droughts and famine, as well as declining land resources, productivity and frequent natural disasters. Some of the countries are among the world's poorest with annual per capita incomes of less than $250.[48]

[48] (http://www.worldbank.org/afr/nilebasin/overview.htm).

The Nile River traverses a total distance of about 6700 km and over 35 degrees of latitude. It drains a basin area of about 3,350,000 sq km stretching over ten east-central and northeast African countries namely Burundi, Rwanda, the DR of Congo, Tanzania, Kenya, Uganda, Ethiopia, Eritrea, the Sudan, and Egypt. However, the development and exploitation of the hydropower and irrigation potentials of the Nile River has been the exclusive domain of Egypt and the Sudan. Chronic political instability and economic underdevelopment in the upper Nile has prevented the riparian countries from utilizing the resource fully. Currently, the only recognized arrangement for water sharing within the Nile basin is the 1959 treaty between Egypt and the Sudan, which provides for the 'full utilization of the Nile waters' by the two countries (1959 Agreement between Sudan and United Arab Republic for the Full Utilization of the Nile Waters).

Against this background, it is imperative to undertake an academic study on the impact of the British treaties on the Nile waters on peace, stability, and development in the region. It is generally viewed that where multiple countries share water supplies, the risk of conflict is especially high. This article examines the legal relevance and implications of the 1929 treaty on stability in the region hosting the Nile basin.

2.2 The Colonial Era

For millennia, various internal and external forces molded the evolution of water resource management in the Nile Basin. The patterns of water management and utilization in the Nile Basin have shifted according to the environmental and political circumstances. The dynamic interplay between humanity and the environment has shaped the course of the river and the lives of countless Nile citizens. The Ancient rulers of Egypt, Nubia, and Ethiopia employed complex irrigation and canal systems, but were still at the mercy of environmental fluctuations and endured devastating floods and crippling droughts. These harsh experiences

emblazoned into the mentalities of future water managers a desire to harness the waters of the Nile.

According to Allan,[49] the blockade of Confederate ports by the Union Navy during the American Civil War (1861-65) effectively severed the British Empire's source of cotton thereby damaging the profitable British textile industry. The British occupation of Egypt in 1882 can be seen as a response to this event as Great Britain moved to compensate for the loss of the American cotton supply by expanding irrigated agriculture in the Nile Basin and securing the strategic Suez Canal. In 1898, the British defeated a French expeditionary force sent to secure the source of the Nile River. The British responded to this threat to their prized African colony by mobilizing efforts to protect the headwaters of the Nile.

Ahmed[50] observes that the British summarily expanded their colonial possessions during the late 19th and early 20th centuries to include the territories of the modern nations of Kenya, Sudan, Tanzania, and Uganda. Eventually, the British African colonial possessions included the entirety of the Nile basin, excluding Ethiopia and small areas around the Equatorial Lakes. Repeated British attempts to colonize Ethiopia were unsuccessful as they were unable to defeat the native Ethiopians in their rugged homeland and secure the source of the Blue Nile. Despite their failure to unify the Nile Basin, the British embarked on a hydraulic infrastructure campaign not seen since the pharaohs.

According to Tafesse[51] "...the British colonial forces came out with a full-fledged plan of controlling and harnessing the waters of the Nile by employing various water regulation

[49] Allan, J.A. (1999). *The Nile Basin: Evolving Approaches to Nile Water Management.* Occasional Paper 20, SOAS Water Issues Group, University of London. p. 1-11.

[50] Ahmed, S. (1990). Principles and Precedents in International Law Governing the Sharing of Nile Waters. in P. Howell; J. Allan (eds.): *The Nile: Resource evaluation, resource management, hydropolitics, and legal issues*. London at the Royal Geographic Sociert and the School of Oriental and African Studies, University of London. Pp. 225- 238

[51] Tafesse, T. (2002). *The Nile Question: Hydropolitics, Legal Wrangling, Modus Vivendi, and Perspectives*. Lit Verlag: London. p. 25-130.

mechanisms, including damming, canalization, and diversions." Fueled by an influx of highly skilled engineers from recently completed water projects in the Indian subcontinent, Britain unilaterally embarked on a hydrologic mission to expand irrigated agriculture and control the flow of Nile waters to Egypt. They constructed a series of barrages and small dams at Asyut (1902), Zifta (1903), Esna (1909), Nag Hammadi (1930), and Edfina (1951) and brought large tracts of land under cultivation in their Egyptian and Sudanese colonies including the enormous Gezira Cotton Scheme.

Shahin[52] observes that the most important infrastructure project during the colonial period was the Old Aswan Dam in southern Egypt. Constructed by Great Britain from 1892 to 1902, the Old Aswan Dam was designed to provide flood protection and offer yearly water storage. The Dam's initial 1 billion m³ (BCM) storage capacity was soon shown to be insufficient to accommodate the seasonal flood and the dam was raised twice in 1912 and 1937 increasing the storage capacity to 5.1 BCM. Even with this increased capacity, the Old Aswan Dam was incapable of protecting Egypt from the Nile's floods and regional droughts and the dream of providing Egypt with reliable water security went unfulfilled.

Shahin[53] further asserts that the British also unilaterally constructed two dams in their Sudanese colony, the Sennar in 1925 and the Jebel Aulia in 1937. The Sennar Dam on the Blue Nile was built 350 km downstream of Khartoum just south of the confluence of the Blue and White Nile Rivers with the blessings of the Egyptian colony. It served the dual purposes of providing irrigation waters to feed the large and highly profitable Gezira cotton scheme and providing 1 BCM of water storage for Egypt. The Gezira (Island) Irrigation Scheme was constructed just south of Khartoum in the fertile land between the White and Blue Nile. The Scheme has expanded from approximately 100 hectares (ha) in 1912 to over 420,000 ha by

[52] Shahin, Mamdouh, 2002. *Hydrology and Water Resources of Africa*. Kluwer: Boston. P. 271-599.
[53] Ibid, p28.

1970 and continues to provide Sudan with a valuable cotton export crop.[54] The Jebel Aulia Dam, designed to provide Egypt and Sudan with water storage, had an initial storage capacity of 3.5 BCM. However, the annual deposition of silt by the Blue Nile flood has dramatically reduced this capacity and rendered the Jebel Aulia virtually defunct. Financing for these infrastructure projects were a unilateral British venture, as no other riparian power was a significant party to the financing of the period's infrastructure projects. These mutually beneficial projects and the British colonial power structure, which favored the two downstream colonies, intermeshed Egyptian and Sudanese interests and forged a hydrologic alliance between Egypt and Sudan that was legitimated by a succession of agreements and treaties.

Nicol[55] the first of these water related agreements were between Great Britain on behalf of its colonies and other European and African powers. Great Britain made agreements with Ethiopia in 1902 and Italy in 1891 and 1925 that established the supremacy of British interests by ensuring the undiminished supply of water to Sudan and Egypt. These agreements severely restricted development of the Blue Nile and permitted limited Italian infrastructure projects, which were never realized. Agreements were also reached with Belgium in 1894 and the Congo in 1906 that established spheres of influence and prevented the Congolese from constructing any work that would diminish the flow of the White Nile.

According to Wichelns et al.,[56] the most influential agreement of the colonial period was a bi-lateral water rights agreement signed between the newly independent Egypt and Great Britain of behalf of its Sudan, Kenya, Tanganyika, and Uganda colonies in 1929. The objective of this treaty was to ensure the unimpeded flow of the Nile to Egypt. This treaty bi-

[54] Ibid, p27.
[55] Nicol, A. (2003). *The Nile: Moving Beyond Cooperation*. UNESCO Water Policy Program. p. 1-33.
[56] Wichelns, D.et al, (2003). Cooperation Regarding Water and Other Resources Will Enhance Economic Development in Egypt, Sudan, Ethiopia, and Eritrea. *Water Resources Development* Vol. 19, No. 4, December 2003, pp. 535-552.

laterally allocated 48 BCM of the annual flow of the Nile to Egypt and 4 BCM to Sudan with no other colony receiving any water allocation. Egypt also received the entire flow of the Nile during the low flow period from January to July and assurance that no water project that would diminish the flow of the Nile's water to Egypt would be constructed without Egyptian permission. Mageed[57] further asserts that this legitimated the Egyptian stranglehold on the flow of the Nile at the expense of upstream riparian powers. The 1929 Agreement also provided the legal basis for Sudan to construct the Sennar and Jebel Aulia dams. The obvious beneficiaries of the agreement, Egypt and Sudan, continue to assert the validity of the agreement to date, while the other riparian nations claim it to be invalid due to the fact that their colonies at the time and their interests were not represented.

In 1949, Egypt and the British colony of Uganda reached an agreement over the construction of the Owen Falls Dam at the source of the Victoria Nile. This agreement required the dam to be jointly operated by Egyptian and Ugandan engineers and essentially ensured that the use of the dam would promote Egyptian interests.[58]Completed in 1950, Owen Falls raised the level of Lake Victoria by 3 m, provided Uganda with 150 MW of hydroelectricity, and regulated the flow of the Victoria Nile.[59] Later, a bi-lateral 1952 agreement between Egypt and colonial Uganda increased the storage of water in Lake Victoria and diminished the flow of water through Owens Falls.

Whittington[60] notes that the British were also responsible for developing the first comprehensive water management strategy. In 1902 the famed British hydrologist William Garstin developed an unprecedented basin-wide development scheme designed to regulate

[57] Mageed, Y.A., (1994). The Central Region: Problems and Perspectives. in P. Rogers& P. Lydon (eds.) *Water in the Arab World: Perspectives and Progress*. Cambridge, MA, Harvard University Press.
[58] Mohamoda, D.Y. (2003). Nile Basin Cooperation. *Current African Issues* No. 26. Nordiska Afrikainstiutet p. 3-31.
[59] Ibid, p25
[60] Whittington, D. (2004). Visions of Nile Basin Development. *Water Policy* Vol. 6 2004, 1-24.

the flow of the Nile with the aim of maximizing the flow of water to Egypt and promoting British economic interests. This so-called Century Storage Scheme was comprised of four primary projects: An over-year storage reservoir at Lake Albert in Uganda (combined with water regulation on Lake Victoria). A diversion canal designed to carry water around the Sudd swamps (the Jonglei Canal), over-year storage in Lake Tana Ethiopia at the source of the Blue Nile and an additional seasonal storage reservoir on the Main Nile in the region between the Atbara and Wadi Halfa (northern Sudan).

The combination of over-year storage in the Equatorial Lakes and Ethiopian Highlands and the water savings from by-passing the Sudd swamps were designed to provide an adequate and controllable supply of water for Egypt to meet its burgeoning population and increase irrigated agriculture. Although none of its four main components were ever completed, the British Century Storage Scheme has profoundly impacted the water management of the Nile by providing the first comprehensive basin-wide water management strategy. Despite the Scheme's obvious bias towards Egyptian interests, experts such as Waterbury and Whittington assert its value as a strategy for maximizing water availability.

The hydrologic and political developments of the Colonial Era continue to profoundly influence Nile water management to date. Many of the current roadblocks to cooperation are deeply rooted in British colonial traditions from this period.[61] The primacy of Egyptian interests in British colonial water policy and the exemption of Ethiopia set a legal precedent that has allowed Egypt to claim the lion's share of the Nile waters at the expense of the very country that provides 86 percent of the resource. The current socioeconomic disparities of the Nile Basin can also be partially attributed to by events of the colonial era.

[61] Beyene, Z. and Wadley, I. (2004). *Common Goods and the Common Good: Transboundary Natural Resources, Principled Cooperation, and the Nile Basin Initiative*. Center for African Studies at the University of California at Berkeley.

Britain's preoccupation with developing the Egyptian economy at the expense of its upstream territories established Egypt as the regional hegemon and undermined the economic and developmental needs of the upstream nations.[62] This has resulted in a dearth of technical expertise and financial resources with which to develop upstream water resources. A categorical examination of the total water related decisions made by the riparian powers during the Colonial era effectively reveals a pattern of unilateral infrastructure development and bi-lateral agreements.

A strong tendency toward bi-lateral agreements and unilateral infrastructure projects clearly illustrates the colonial period's water management paradigm. This is evident in every decision, save for Ethiopia's abandoned Lake Tana development project, included by Great Britain on behalf of its colonies or by Egypt's Pro-British monarchy that lasted until the Nasserite Revolution of 1956. During the colonial period, water was unilaterally allocated by Great Britain, often with the support of the pro-British Egyptian Monarchy.

Only minor water concessions were made to Italy and Britain's Uganda colony for the Owens Falls Dam. The sharing of technical data during the colonial period was largely dictated by British colonial interests who viewed this information as proprietary and vital to Egyptian security. However, the British set an important precedent by creating the first basin-wide water management plan (The Century Storage Scheme). This water management strategy was designed to maximize the flow of water to Egypt, but it also exemplified the interconnectedness of the entire Nile Basin and transformed the mindset of Nile water managers. The sole multi-lateral agreement was a tripartite 1906 treaty between Great Britain, France, and Italy that paved the way for the Italian invasion of Ethiopia, hardly an example of cooperation over shared Nile waters.

[62] Ibid, p27.

Collins[63] states that during the Colonial period, Great Britain established a pattern of unilateral hydrological development by constructing a total of 6 major infrastructure projects designed solely to benefit its economic interests in Egyptian and Sudanese agriculture. British hydrologic interests were legitimized via 12 agreements with European and African powers that solidified Britain's legal claim to the Nile Waters and ensured the undiminished flow of waters to the productive fields of Egypt and Sudan. These colonial agreements established a pattern of unilateral and bi-lateral decision making that was continued by Egypt after it gained independence in 1922. The Colonial Era set the stage for Egypt and its hydro-political ally Sudan, to dominate Nile water management in the Post- Colonial Era.

2.3 The Post-Colonial Era

According to Elhance[64] After shedding the yoke of British imperialism, an independent Egypt perpetuated its hydrologic dominance, asserted its historic and legal rights, as established by Egypt's established pattern of water usage, and legitimized under British colonial rule, to an uninterrupted flow of vital Nile waters. According to Tafesse's article *The Hydro political Perspective of the Nile Question*, "the Egyptians inherited the colonial-era mentality after independence, pursuing the same protectionist policy." The current hierarchy of power echoes the British colonial system and many existing conflicts were forged during that period.

El-Fadel[65] observes that despite its vulnerable geographic location as the most downstream nation, Egypt has historically been the dominant force in the basin. It is virtually devoid of precipitation, except for a small area on the Mediterranean coast, and derives 95%

[63] Collins, R.O. (2002). *The Inscrutable Nile at the Beginning of the New Millennium*. University of California at Santa Barbara.

[64] Elhance, A.P. (1999). The Nile Basin (Chapter Two). In Arun P. Elhance: *Hydropolitics in the Third World: Conflict and Cooperation in International River Basins*. Washington, D.C. United States Institute of Peace Press. Pp. 53-83.

[65] El-Fadel, M Et al, 2003. The Nile River Basin: A Case Study in Surface Water Conflict Resolution. *Journal of Natural Resources and Life Science Education* Vol. 32 2003 p. 107-117.

of its water resources from the Nile River. Its heavy dependence on the Nile has necessitated the intertwining of its water development strategy with national security policy. In a 1979 speech, then President Anwar Sadat poignantly asserted the importance of water in Egyptian foreign policy by announcing, "the only issue that would prompt Egypt to declare war again would be water. Sadat's threats were directed at Ethiopia, where the majority of Egypt's Nile waters originate."[66] In order to compensate for its geographic vulnerability and maintain its control of the Nile Waters, Egypt exploited the asymmetrical power structure of the Nile Basin via its economic, military, and political dominance over the other riparian nations.

On several occasions, Egypt threatened the use of military force to stop upstream Nile development. According to Stroh[67], Egyptian dominance in the basin was so overwhelming that: "Egypt was able to enforce its will without having to take into consideration the interests of the other states due to its military, political, and economic supremacy. Egypt's political and military dominance lent certain credibility to repeated warnings of military intervention and made it a realistic option for Egyptian politicians."

Egyptian hegemony has, however, been reinforced by the inability of other riparian nations to successfully develop their hydrological resources due to civil wars, regional conflicts, natural disasters weak economic policies, and a lack of international financing. She has been the primary beneficiary of the extended instability of other riparian nations. While the other riparian nations were engulfed in civil war, Egypt was developing its water resources and funneling support to the very rebel groups that they were battling.[68] Ethiopia and Sudan are such examples. These subversive actions greatly angered the other riparian

[66] Dinar, S. (2002). Water, Security, and Cooperation. *SAIS Review* Vol. XXII No. 2 (Summer-Fall 2002).

[67] Stroh, K. (2003). Water: Advocate for Reason, Win-win Solutions for the Nile Basin. *Internationale Politik und Gesellschaft* Vol. 4 2003 pp. 95-109.

[68] Tesfaye, A. (2006). Hydropolitics and Regional Stability in the Nile Basin.

nations, but allowed Egypt to maintain its supremacy and continue constructing massive water infrastructure projects on the Nile.

Swain[69] notes that the Egyptian hydropolitical strategy is also built upon the series of colonial and post-colonial agreements that legitimated Egyptian water rights. The bi-lateral 1929 agreement remained unchallenged until 1959, when an Egypt independent of the decadent pro-British Monarchy was preparing to realize its dream of water security by building the Aswan High Dam. The overthrow of the pro-British Monarchy in Egypt in 1952 and the establishment of Colonel Gamal Abdel Nasser's government ushered in a new era in the history of Nile water management.

Almost immediately after rising to the Presidency, Nasser began planning a massive water infrastructure project at par with the Great Pyramids and Suez Canal. Nasser's government disliked the Century Storage Scheme because it placed the control of the Nile reservoirs in foreign hands. His plan therefore involved building a new dam at Aswan, south of the Old Aswan Dam that would be large enough to capture the annual Blue Nile flood, secure an adequate water supply in times of drought, and provide cheap abundant hydroelectricity for Egyptian economic development.

The project immediately encountered stern resistance from the newly independent Sudanese government who believed it to be in violation of the 1929 Nile Water Agreement. The Sudanese also seized the opportunity to protest the invalidity of the1929 Agreement by arguing that it was forced upon them by the British government and unfairly gave Egypt unilateral authority of the Nile's waters.[70] Sudan pushed for a more favorable water rights agreement, but the new Egyptian government would not concede and insisted that the 1929

[69] Swain, A. (2002). The Nile River Basin Initiative: Too Many Cooks, Too Little Broth. *SAIS Review* Vol. XXII, No. 2. p.293-308.

[70] Ibid, p28

Agreement was valid. Egypt continued planning construction efforts and tensions rose between 1956 and 1958 as threats of military action were exchanged and Egyptian troops relocated to the Sudanese border. However, civil war broke out in the Sudan in late 1958 and a regime more favorable to Egyptian water rights came to power in northern Sudan, which signed a new water rights agreement in 1959 that paved the way for the Aswan High Dam.[71]

The 1959 Treaty for the Full Utilization of the Nile between Egypt and the Sudan had four primary components. First, it bi-laterally allocated water to Egypt and Sudan without consideration for other riparian powers. National water quotas were established by Egypt and Sudan with the estimated annual flow of the Nile at 84 BCM. Egypt was allocated 55.5 BCM with Sudan receiving 18.5 BCM, and 10 BCM lost to evaporation from the scorching desert sun and seepage in the Aswan High Dam's reservoir, Lake Nasser/Nubia.[72] In addition to dividing the entire flow of the Nile between them, Egypt and the Sudan agreed to develop a unified view when negotiating with other riparian nations, thereby officially marrying Egyptian and Sudanese water interests.[73] This hydrologic alliance dominated Nile water management until relations between the two nations soured in the early 1990's.

According to Mohamoda,[74] The third component of the 1959 Agreement was the institutionalization of Egyptian-Sudanese cooperation via the creation of the Permanent Joint Technical Commission on the Nile (PJTC). This institution was charged with three primary tasks: To monitor the discharge at all storage sites to ensure the release of the agreed upon allocation, to negotiate the reduction of discharges in the event of prolonged regional

[71] Waterbury, J. (1997). Is the Status Quo of the Nile Basin Viable? *Brown Journal of World Affairs* Vol4, No. 1:287-98.

[72] Waterbury, J. (2002). *Nile Basin: National Determinants of Collective Actions*, New Haven: Yale University Press. p. 15-179

[73] Ibid, p36.

[74] Mohamoda, D.Y. (2003). Nile Basin Cooperation. *Current African Issues* No. 26. Nordiska Afrikainstiutet p. 3-31.

drought. To commission and supervise the engineering for any joint water related infrastructure improvements.

Since its creation, the PJTC has functioned almost uninterrupted through times of political turmoil and environmental uncertainty. This bi-lateral technical sharing reinforced the Egyptian-Sudanese hydro-alliance and further segregated the upstream riparian nations. The Treaty's final component established the legal right for Egypt to pursue the Aswan High Dam that dramatically altered the hydrology of the Nile and international politics and for Sudan to construct the Roseires and Kashem el-Girba dams. The 1959 Treaty profoundly influenced the future of Nile water management and utilization. It set a post-colonial precedent for bi-lateral cooperation at the exclusion of the other riparian nations.[75]

Hassan[76] notes that 30,000 man construction crew labored for over 10 years to build the Aswan High Dam, located in the extremely arid desert of southern Egypt 50 km north of the Sudanese border and approximately 5 km south of the Old Aswan Dam. The exact location was chosen at a relatively narrow stretch of the river that also featured bedrock that would minimize seepage and erosion. Construction officially began in 1960 and the first phase of the project was completed in 1964, which allowed the giant reservoir, Lake Nasser, to begin filling. Construction was completed on July 21 1970 and the dam became fully operation within the same year.

The Aswan High Dam is a pyramidal rock fill dam composed primarily of granite blocks, sand, and a core of impermeable clay. The amount of material that went into the dam's construction is equivalent to 17 great pyramids.[77] The dimensions of the completed dam stand at 3,600m in length, 984m in width at the base, 40m in width at the crest, and

[75] Ibid, 16

[76] Hassan, O. (2000). *Hydro Development in Egypt- Lessons from the Aswan High Dam*. The World Commission on Dams.

[77] Ibid, p37

111m in height. A complex network of high tension 500kv power lines was constructed to carry the Aswan High Dam's 2,100 Megawatts (MW) of electricity across the country. In case of high water, 30 emergency sluices we reconstructed to divert the flow into holding ponds.

The construction of the Aswan High Dam flooded a gigantic section of the Nile Valley south of the site. This created Lake Nasser, then the world's largest reservoir, which extends 480 km southward through Egypt and northern Sudan and covers an area of 5,250 km². 83% of the lake lies within the borders of Egypt and the remaining 17% lies in the Sudan, where it is called Lake Nubia. When the reservoir finally filled its capacity of 9 BCM in 1976 it was large enough to be the world's 20th largest lake, approximately three times the size of the Great Salt Lake.[78]The Aswan High Dam greatly benefited the Egyptian economy by providing cheap and abundant hydroelectricity and protecting the nation from flood and drought. It also provided the agricultural sector with a constant year round supply of water, thereby increasing cultivated land in Egypt by 30% and transforming marginal farmland into highly productive fields.

Tarek[79] notes that this constant water supply made it possible for farmers to harvest three times per year instead of twice, significantly increasing agricultural output and water demand. The cultivation of more water-intensive crops, such as wheat, cotton, and grapes greatly increased, as did the profits from exporting these valuable crops. Egyptian farmers have greatly benefited from the Aswan High Dam and are free to tap into irrigation canals as they please without paying user fees or taxes on the waters they utilize. However, the Aswan High Dam has also negatively impacted on the environment. Soil salinizaation and river bed

[78] Shahin, M. (2002). *Hydrology and Water Resources of Africa*. Kluwer: Boston. P. 271-599.

[79] Tarek, A. (2004). *Role of the Aswan High Dam in Promoting the Nile River System Management*. The World Commission on Dams.

erosion have greatly increased since the Dam's construction due to the loss of the annual flood, which previously flushed the soil and deposited nutrient rich silt.

The Aswan High Dam and the 1959 agreement were met with a chorus of discord from upstream riparian nations who insisted that the treaty was invalid and that they had the right to utilize the water resources within their borders.[80] Another result of the 1959 Treaty was the dismissal of the basin-wide management approach pioneered by the British Century Storage Scheme. Plans for comprehensive basin-wide management fell to the wayside as a new Egyptian-Sudanese power structure that stressed state-centric decision-making and inter-basin intimidation became the paradigm. This system allowed Egypt and Sudan to impose their will by manipulating the political and economic arenas to their favor, largely at the expense of the upstream riparian powers.[81]

Egyptian and Sudanese claims to a valid legal entitlement of Nile waters stem from the 1959 bilateral water rights agreement. Beyene and Wadley, in their article entitled *Common Goods and the Common Good: Transboundary Natural Resources, principled Cooperation, and the Nile Basin Initiative*, provide a detailed analysis of the historic aspect of the Nile Basin's legal regime during the colonial and post-colonial eras. They conclude that the majority of the era's treaties, including the 1959 agreement, failed to be binding for a multitude of reasons. First, "[these] agreements fail to accommodate all the riparian countries of the basin. They are isolationist, reflecting the colonial policy of divide and rule." Secondly, they were created to favor British colonial interests in Egypt and Sudan and allow these nations to unilaterally pursue their interests at the expense of non-consulted nations. Finally, the absence of distributive justice and "the Egyptian protectionist policy embedded with inherited colonial-era mentality" makes these treaties unacceptable to any riparian other than

[80] Howell, P.P. and Alan, J.A. (1994). *The Nile: sharing a scarce resource*. Cambridge University Press.

[81]

Egypt and Sudan. The obvious bias towards downstream interests and lack of any notion of fairness or equity has crippled the validity of the bi-lateral 1959 water rights treaty in the eyes of the international community and revealed the need for a comprehensive multi-lateral treaty.[82]

Upstream dissatisfaction with the hydro-political status quo was amplified by the inauguration of an Egyptian project to expand irrigated agriculture in the desolate Sinai Peninsula. The idea to divert the flow of the Nile eastward into the Sinai Peninsula was first envisioned by Theodore Herzl, founder of the Zionist movement, in 1903, and reborn as a goodwill gesture towards Israel after the signing of the Camp David Peace Accords in 1978 by Egyptian President Anwar Sadat as the North Sinai Agriculture Development Project (NSADP). Officially launched by President Sadat in 1976, its goal was to expand irrigated agriculture and relieve crowding in the Nile Valley.[83] Unofficially referred to as the el-Salaam or Peace Canal, the first phase of the NSADP was completed in 1997. Comprised of a series of underground water pipelines capable of diverting 160 million cubic meters per second (MCM) to the Suez Canal region for municipal, industrial, and agricultural use, the NSADP has consumed untold amounts of water in the name of desert reclamation. Egypt anticipated that it could provide adequate water to the NSADP without violating the terms of the 1959 Agreement. However, years of low precipitation led to lower water availability and left Egypt looking for additional water savings in the swamps of southern Sudan.

In response to this need, Egypt and Sudan revisited the Century Storage Scheme, which called for a diversion canal that would bypass the 30,000 km² of Sudd swampland in southern Sudan in order to increase the flow of the White Nile. The Jonglei Canal was to be the first phase of an Egyptian-Sudanese Master Water Plan that closely resembled the

[82] Metwie, A.F. (2004). History of Cooperation in the Nile Basin. *Water Resources Development* Vol. 20, No.1 pp.47-63.

[83] Ibid, p31

Century Storage Scheme. The Canal was expected to save approximately 4.7 bimanually from evaporation and improve navigation in the labyrinthine Sudd.

The project was launched in 1978 and 250 km of the planned 360 km were excavated by French Company until attacks by the Sudanese People Liberation Army forced its abandonment.[84] Scholars such as Brunee and Toope[85] have suggested that the Canal played a significant role in the renewal of the Sudanese Civil War because the southern Sudanese "considered the scheme a pawn in the hands of the Northerners who seek to dominate the South and extract the advantages of the project without bearing its costs. This conflict forced Egypt and Sudan to postpone their hydrologic plans and pursue alternative infrastructure projects.

However, the prospect of revisiting the Jonglei Scheme remains a high priority for Egyptian and Sudanese policy makers who cite the enormous water savings that could be achieved. Regardless of scholarly criticism and political dissent, Egypt continues to assert the validity of the 1959 agreement and its right to utilize the 55.5 BCM allocation. The tone of numerous Egyptian press releases and official statements concerning Nile water rights remain unwavering in their support for and validity of the 1959 water rights agreement.

In contrast, upstream nations have been equally persistent in their resentment and disregard for the contentious treaty. These competing viewpoints embody the broader water based conflict between upstream and downstream interests that threatens to tear the hope for cooperation and basin-wide prosperity out of the realm of possibility.

[84] Ibid, p35.

[85] Bruneee, J. and Toope, S.J. (2002). The Changing Nile Basin Regime: Does law matter? *Harvard International Law Journal*. Vol. 43, No. 1:105-159

2.4 Chapter Summary

The years 1929, 1959 and 1999 represent key tipping points in the hydropolitical relations between riparian countries in the Nile basin. 1929: Eighty years ago, the first *Nile Water Agreement* was signed between Egypt and Great Britain on behalf of Sudan and other British colonies in the basin (Uganda, Kenya, and Tanzania). The Agreement included specific volumetric water allocations, 48 billion m3 (Bm3)/year (yr) to Egypt and 4 Bm3/yr to Sudan and helped to institutionalize the belief that Egypt and Sudan had "natural and historic rights" to the Nile water. Ethiopia was not part of the Agreement and refused to acknowledge it. With the Independence in the 1960s, Uganda, Tanzania and Kenya contested the validity of the Agreement and refused to be bound by what they considered to be a colonial agreement, as suggested by the Nyerere Doctrine.[86]

1959: Fifty years ago, the 1929 Agreement was replaced by the *1959 Agreement for the Full Utilization of the Nile Waters*. After the Independence of Sudan in 1956, Egypt's plans to build the Aswan High Dam and the need to renegotiate existing water allocations under the 1929 Agreement prompted the two countries to come up with new volumetric water allocations – 55.5 Bm3/yr to Egypt and 18.5 Bm3/yr to Sudan under a new agreement. The 1959 Agreement reinforced down streamer claims of "natural and historic rights" to the Nile waters, and became both Sudan and Egypt's 'redline' for future negotiations in the basin. The upstream riparian nations were not included in the Agreement, and have continuously criticized its bilateral nature. The 1959 Agreement represents the backbone of the hydro political dilemma in the Nile basin – downstream riparians want to maintain it, while

[86] Godana, B.A. (1985). *Africa's shared water resources: Legal and institutional aspects of the Nile, Niger and Senegal river systems*. London: Frances Pinter.

upstream riparians want to replace it with a multilateral agreement based on equitable sharing.[87]

Egypt, without making any contribution, still has the lion's share of the Nile water. This type of uneven distribution can no longer continue. The Egyptian hegemony, through its foreign policy aims to have full control of the Nile instead of negotiating a rational and equitable share of the Nile water. The reason is simple. The other riparian countries of the Nile all have a rapidly growing population and also have plans for the development of their water resources. The challenge facing the riparian countries of the Nile Basin requires the development of mechanisms for a joint solution comprising of legal, economic and ecological issues with the objective to forge cooperation amongst the riparian members, most of who have done very little in the past to benefit from the blessings of this immense natural resource.

[87] Waterbury, J. (1979). *The hydro-politics of the Nile*. Syracuse, US: Syracuse University Press; Waterbury, J. (2002). *The Nile basin national determinants of collective action*. New Haven: Yale University Press.

REFERENCES CHAPTER THREE: EGYPT'S CONTROL OF THE NILE BASIN

3.0 Introduction

This chapter investigates the hypothesis that Egypt has taken full and unfair advantage of the pre-independence treaties to exploit its Nile basin counterparts and deny them the opportunity for development presented by River Nile.

3.1 Egyptian Hegemony

Egypt's determination to monopolize utilization of the Nile's water revolves around its historic claim of prior appropriation and total dependence on the Nile given that the country is 98 percent desert. This hegemony has resulted from both its military and economic strength, and thanks to the lack of capital, as well as political instability in all the upstream states. To the extent that upstream states remain ravaged by conflicts and underdevelopment, Egypt will continue to maintain its hegemony over the Nile. This trend has continued since the opening of the Suez Canal in 1869, which then attracted British colonization at the source of the Nile. All subsequent Nile treaties sought to preserve the British position in Egypt, and secure the Suez Canal, as well as the sea route to India.

Egypt's hegemony over the use of the Nile is evident in its military strength in the region. Egypt developed a strong military to be able to engage in the Israeli-Arab conflict, and after the Camp David accord in 1979, developed friendly relations with the West. That has made it a big recipient of western financial and military aid. Debay Tadesse, for instance, reports that Egypt receives $2 billion in financial aid per year from the United States, and in 2001 received $400 million worth of arms from the Bush administration. This arms deal saw enabled Egypt to acquire the most sophisticated military hardware including fighter jets, tanks and ammunition from America, with which it continues to intimidate its impoverished

and conflict ridden neighbours. In 1995, of a total expenditure of $6 billion on military equipment by the Nile basin countries, Egypt's portion was $4 billion. As an ally of the West, Egypt is able to access development funds from world lending bodies—e.g., the International Monetary Fund (IMF) and World Bank – that are unwilling to support any projects in the upstream states that might disrupt the Nile flow to Egypt and cause instability. The West's interest in Egypt is not only because of the Arab-Israeli conflict, but also thanks to its geopolitical importance in terms of the Suez Canal, especially after the 1956 Suez Crisis. The crisis followed the United States withdrawal of its pledge to fund construction of Egypt's Aswan High Dam when the latter refused to join the United States-sponsored Baghdad Pact that aimed to prevent the Soviet expansion into the Middle East. Instead, Egypt sought Soviet support to crush Israel. The United States' move prompted Egypt to nationalize the canal in order to raise revenue for construction of the dam.

The industrialized countries' interest in Egypt during the Cold War period involved each superpower trying to win Egypt to its side by providing economic and military grants. As a result of Egypt's political and economic leverage with the World Bank and IMF, the upstream states never received the capital to develop irrigation and hydropower projects on the Nile that could have helped alleviate poverty and improve their food security. In the past, Egypt blocked World Bank financial aid to Ethiopia for the development of the Finchaa hydropower project, and in the early 1990s, it prevented Ethiopia's loan application from the African Development Bank for water projects that Egypt feared would reduce the Nile's flow.

However, while Egypt is able to undertake unilateral water projects due to external aid, it is also hugely indebted to its international creditors. For example, despite being the largest recipient of United States aid in Africa, it had a $31 billion external debt in 1996. This debt factor and reliance on external aid leaves Egypt vulnerable to the international

community, which could use its economic advantage to compel Egypt into cooperation—a "debt-for-cooperation" swap.114

What is uncertain is whether Egyptian professionals holding senior positions in world institutions in the past have defended Egyptian interests regarding the Nile water control. Influence at key institutions could have enhanced Egypt's defiant position on the Nile water-sharing agreements. Senior Egyptian personalities who have held key positions in world institutions include the former United Nations Secretary-General Beutros Ghal, a former vice president of the World Bank, and a former head of the United Nations Environmental Program. Egypt's position in respect to the Nile has therefore continued to revolve around natural, acquired, and historical rights governed by the hydro-political doctrines of "prior use", "primary need," and "acquired rights".115

3.2 Egypt and Diplomacy issues in the Nile Basin

In 1998, all the Nile riparian states (except Eritrea) joined in dialogue. Together they designed a transitional institutional mechanism that included all the Nile Basin countries as equal members, to function until a formal cooperative framework could be implemented. This transitional mechanism was officially launched in 1999, and comprised a Council of Ministers of Water Affairs of the Nile Basin (Nile-Com), a Technical Advisory Committee (Nile-Tac), and a Secretariat (Nile-Sec) located in Entebbe, Uganda. The overall process was officially named the Nile Basin Initiative (NBI).[88] The NBI is a transitional regional partnership that united the ten countries of the Nile Basin. The Nile Council of Ministers, which comprised the Minister of Water Affairs from each riparian state, constituted the highest body of the NBI. The daily work included the preparation of project documents and

[88] Allan, J. (1999). Nile Basin Water Management Strategies." in Howell, P.P and Allan, J.A.(eds) The Nile: Sharing a scarce resource Cambridge University Press. p.317

was undertaken by the Nile Secretariat and assisted by the Nile team. The Nile Technical Advisory Committee (Nile-Tac) was a composition of legal and water experts.[89]

Nile-Tac was divided into two working groups to evaluate the preparation work and give their approval at key points during the process. These working groups met for the first time at the NBI Secretariat Offices in Entebbe, Uganda, at the end of 1999. They met again in Entebbe in 1999 and in Addis Ababa, Ethiopia, early in 2000 following the 8th Nile 2002 Conference.[90] The initiative was guided by a shared vision to achieve the sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources. To achieve the shared vision, the riparian countries developed a strategic action program that focused on the two complementary ideas: a shared vision and action on the ground. These ideas were mutually reinforcing a common vision providing a framework for practical activities, which would make the vision a reality.[91]

The envisaged cooperative framework charted a parallel approach towards the development of the Nile. The task of the first project, under the shared vision, would be the creation of an enabling environment for investment and action on the ground, within a basin-wide framework. It comprised five broad themes: Cooperative Framework (Project D3, ongoing), confidence building and stockholder involvement, socio-economic, environmental and sectoral analysis, development and investment planning and applied training.

There are several factors which hindered genuine diplomatic cooperation in the past. The main factors can be summarized as follows: Firstly, the continuous reluctance of the downstream states, especially Egypt, to engage in an open negotiation process on the

[89] Ntambirweki, J. (1996). Colonial treaties and the legal regime of the Nile Valley: Re-thinking the legal framework into the 21st century", paper presented at the 4th Nile 2002 Conference, Kampala, Uganda,.

[90] Ibid p41.

[91] Ibid, p38

equitable distribution of the waters.[92] Egypt was particularly reluctant to involve major upstream states (such as Ethiopia) in its water management regimes despite Ethiopia's substantial contribution to the in-flow of the waters. Secondly, the divergence of views among the riparian states on how to use the waters, taking into account their contributions and demands.[93] Egypt, for example, argued that the absence of sufficient data and information was an obstacle to any negotiation on the sharing of the waters of the Nile. Therefore it tactfully avoided discussing the key issues of the river by skipping key discussions organized by the group.

Thirdly, the biased treatment by international agencies and donor countries has also adversely affected the bilateral as well as the multilateral relationships among the riparian states. The former Soviet Union at one point gave a substantial amount of financial assistance for the construction of the Aswan High Dam which has greatly increased the irrigation capacity of Egypt and to a certain extent made this country the only beneficiary of the water at the expense of others. The African Development Bank, on the other hand, denied a loan to Ethiopia that was aimed at harnessing the Blue Nile (Aleltu Hydro-electric Project) as Egypt managed to have the loan blocked using its political and diplomatic leverage.[94]

The lending policy of the World Bank also calls for a 'no objection stance' by co-basin states for projects submitted to the bank by one of these countries. Although the operational directive of the bank requires the consent of all the affected riparian states before releasing funds for water projects, the condition in the Nile Basin is such that the downstream countries are consulted for projects undertaken in the upstream countries for a 'no objection statement

[92] Shinn, D. (2006). *Nile Basin Relations: Egypt, Sudan and Ethiopia*, Elliot School of International Affairs, George Washington University,Washington,DC, http://elliott.gwu.edu/news/speeches/shinn0706_nilebasin.cfm.

[93] Vidal, J. (2010). How food and water are driving a 21st century 'land grab', *Guardian*, 7 March, www.guardian.co.uk/environment/2010/mar/07/food-water-africa-land-grab,

[94] Tafesse, T.: Hydropolitics of the Nile Valley: Retrospect & Prospect, Addis Ababa University, 1997, p. 8

while the upstream countries are not consulted on projects undertaken in the downstream countries.[95] For example, the Ugandan Government was instructed by the World Bank to obtain a permit from Egypt in order to secure a loan for the hydraulic works in Lake Victoria.[96] Lastly, civil war and political instability in most of the upstream countries have often changed the political climate of each state, and made it extremely difficult to achieve long-term basin cooperation.[97] In the 1970s and 1980s Ethiopia was, for example, in a continuous civil war, that rendered the development and cooperation of the Nile almost impossible. Likewise, due to the ongoing civil war in its territory, the Sudanese Government is currently not in a position to participate in any major cooperative schemes of the Nile.

3.3 Developments in Egypt's Control of the Nile Basin

Over the last decade, the Nile basin region has experienced several political and economic changes that are expected to promote shifts in the current balance of power in the basin and bear on hydro political relations between Egypt and its upstream neighbours. Historically, upstream countries have been mainly characterized by colonial rule, economic underdevelopment, internal conflict and political instability, lack of external financial support, and an absence of concrete water policies or strong water institutions, combined with weak bargaining strategies. These structural weaknesses have undermined their position in the basin's hydro politics and affected their utilization of the Nile water. As result, until recently, the Nile's water upstream has remained mostly unutilized. But the last decade has witnessed significant changes.

[95] World Bank (1998) *Map of the Nile Basin for NBI and Nile Equatorial Lakes Subsidiary Programme (NELSAP)*, http://siteresources.worldbank.org/INTAFRNILEBASINI/About%20Us/21082459/Nile_River_Basin

[96] Ibid, p. 44

[97] IFPRI (International Food Policy Research Institute) (2009) *'Land Grabbing' by Foreign Investors in Developing Countries*, IFPRI publication written by Joachim von Braun, Ruth Meinzen-Dick and Ruth Suseela, www.ifpri.org/publication/land-grabbing-foreign-investors-developing-countries.

Currently, the Nile basin is characterized by a highly dynamic political environment which has the potential to impact upon regional hydro political relations. This section identifies and analyses, in power-relation terms, the changes that have recently taken place in the region, how they have occurred and, furthermore, what the ramifications of these dynamics in overall hydro political terms are. Two major changes can be identified. First, the upstream Nile region is currently more politically and economically stable than a decade ago, and the riparian states are increasingly willing to develop their water resources to meet national development needs. Second, upstream riparian states currently have access to alternative financial support – including their own resources, if the development of oil in Sudan is included. Most new financing have been sourced from China, a key external player in the basin. Such support was not available a decade ago. As a result of these two contextual changes, the upstream Nile countries have decided to move forward with unilateral hydraulic infrastructural development despite the ongoing multilateral cooperation processes. Such dynamics may significantly affect the relations among the Nile riparian states and challenge Egypt's enduring hydro-hegemonic position in the basin. Several 'counter-hegemonic strategies' employed by the upstream riparian countries can already be observed in the current hydro political relations in the Nile basin.[98]

The Nile basin region: Increasing political and economic stability

For decades several of the upstream riparian states were conflict-stricken and politically unstable; and large proportions of their national budgets were devoted to military expenditure. National economies were poorly developed and the development of major hydraulic projects was not a main political priority. The substantial potential for irrigation and hydropower in Sudan, Ethiopia and the rest of the members was scarcely exploited;

[98] Cascão. A. (2008). Ethiopia – Challenges to Egyptian hegemony in the Nile basin. *Water Policy* 10(2): 13-28

upstream water resources remained mostly untapped and unutilized. Since the mid-1990s, and despite the fact that some conflicts in the region remain unsolved, the upstream Nile countries have paved the way for peace negotiations, agreements and have achieved a greater degree of political stability.[99] Increased political stability has been followed by an improvement in national economic indicators, such as GDP growth, direct foreign investment and development assistance, although the figures in the table do still present a high degree of asymmetry when compared to Egypt. Nevertheless, upstream countries, historically constrained by several structural weaknesses, now appear as stronger parties in the competition for the Nile water.

These factors have influenced the upstream Nile basin members to proceed with new development plans, new regional integration institutions, as well as unilateral projects to develop the Nile within their territories. More than ever before, most of them, including Sudan, now stress an urgent need for the development of Nile water resources (mainly potential for hydropower and irrigation) and they increasingly demonstrate the new-found political and financial capacities that may allow for the implementation of these projects on the ground. Some of the recent political developments in the equatorial and eastern Nile basin, and their impacts on trans-boundary water management processes are enumerated below;

3.3.1 The equatorial Nile basin: Towards integration

In the equatorial Nile basin, the riparian states are progressing towards a more cooperative setting, in which efforts towards regional economic integration have been undertaken and issues pertaining to the development of water resources addressed. In 1999, Kenya, Uganda and Tanzania established the East African Community (EAC), a regional

[99] Kaiser, P. and Okumu, W. (Eds). 2004. *Democratic transitions in East Africa*. Aldershot, UK: Ashgate.

intergovernmental organization which, in 2001, concluded a partnership agreement with various development goals. Burundi and Rwanda joined the organization in 2006. The EAC "aims at widening and deepening co-operation among the partner states in, among others, political, economic and social fields for their mutual benefit."[100] To more systematically develop the regional water resources is considered to be an important element of future regional economic development. The EAC's main water-related program is the Lake Victoria Development Program. In 2001, the EAC established the Lake Victoria Basin Commission, as a "mechanism for coordinating the various interventions on the lake and its basin and serving as a centre for promotion of investments and information sharing among the various stakeholders".[101] These institutional goals include the development of hydraulic infrastructure such as irrigated agriculture and hydropower energy – in the Lake Victoria basin. Similar water developments are planned for another Nile sub-basin, the Kagera river, which is shared by Rwanda, Burundi, Tanzania and Uganda.[102]

The White Nile upstream riparian states are currently more determined, organized and integrated than they were during previous decades. The EAC is considered a key element in the mitigation of internal divisions in East Africa, apparently enabling the organization's members to forge unity in water policies. Ever since its formation, the equatorial countries have more vigorously asserted their rights to the utilization of the Nile water resources.[103] Furthermore, although the White Nile system (to where the Lake Victoria and Kagera river basins belong) only contributes 14% to the total Nile flows, the potential for development of these projects in itself represents a challenge to the regional hydro political configuration and

[100] EAC (East African Community). 2008a. About the East African Community. www.eac.int/about-eac.htm

[101] EAC (East African Community). 2008b. Lake Victoria Basin Commission (LVBC). www.eac.int/lvdc.html

[102] Phillips, D.; Daoudy, M.; McCaffrey, S.; Öjendal, J. and Turton, A.R. (2006). *Trans-boundary water cooperation as a tool for conflict prevention and for broader benefit-sharing.* Stockholm, Sweden: Ministry of Foreign Affairs.

[103] Kagwanja, P. (2007). Calming the waters: the East African community and conflict over the Nile resources. *Journal of Eastern African Studies* 1(3): 321-337.

the current Egyptian hegemony in the Nile basin. The development of hydraulic projects in the equatorial region is not expected to significantly affect the total water inflow to Egypt, but it sends a strong message downstream: the equatorial upstream riparian states are now ready to embark on their own 'hydraulic missions'.

Another important challenge related to the equatorial projects pertains to the basin's thorny legal issues. Several of the White Nile riparian nations recently revived their long-standing opposition to the colonial-era water treaties – including the 1929 and 1959 Agreements – which remain in force in the Nile basin. These countries have stated their refusal to be bound by colonial-era agreements.[104] This attitude has posed serious "strategic implications as they form a fundamental element in the logic that underpins the contestation of the volumetric allocations in the Nile"[105]. Simultaneously, the water authorities from the equatorial Nile region have been some of the most vocal countries favouring the ratification of the new Nile Cooperative Framework Agreement.[106] For the past two years, since the conclusion of the legal negotiations, media in the equatorial countries have also been the most critical of the positions of Egypt and Sudan, accusing them of blocking not only the conclusion of the multilateral agreement but also of deliberately preventing future water developments upstream.[107]

In brief, political and economic changes in the equatorial region have, to a certain extent, contributed to changes in the balance of power in the basin. The equatorial countries are currently stronger in terms of 'material power' through their increasingly stable and integrated economies, more foreign investment and better relations with international donors.

[104] Knobelsdorf, V. (2006). The Nile waters agreements: Imposition and impacts of a transboundary legal system. *Columbia Journal of Transnational Law* 44(2): 622-648.

[105] Ibid, p56.

[106] The New Vision (Uganda). 2008. River Nile treaty talks hit deadlock. 9 November 2008.

[107] The Standard (Kenya). 2007. Egypt, Sudan against equitable sharing of Nile water. 29 June 2007; East African Business Week (Uganda). 2007. River Nile agreements – No change for poorer downstream countries. 20 August 2007; The New Times (Rwanda). 2008. Rift widens over Nile basin pact as Egypt, Sudan remain reluctant. 29 February 2008.

These factors, taken together, facilitate the development of the planned water projects. These countries have also become stronger in terms of collective 'bargaining power': they are influentially involved in multilateral negotiations and they have some ability to influence the regional agenda and even to pressurize the downstream countries over the legal issues.

Although the political and economic changes in the equatorial Nile basin represent significant challenges to the basin's current hydro political regime and power relations, they are only of limited magnitude when compared with the ongoing major changes that are occurring in the eastern Nile basin. By its hydrological and political nature it is the most important sub-basin in geopolitical terms.

3.3.2 The eastern Nile basin: Towards unilateral developments

The eastern Nile basin is of critical geopolitical importance to the Nile's overall hydro political configuration. Several factors explain this. The eastern Nile Rivers (Blue Nile, Sobat, Atbara) contribute around 85% to the total Nile flows arriving at lake Nasser.

The potential for irrigation and hydropower development is higher here than in any other place across the basin. Ethiopia has the basin's most suitable locations for hydropower production due to its geographical characteristics.[108] Sudan has the basin's largest potential for agricultural development, including extensive irrigated agriculture.[109] Because these potential projects could also have considerable knock-on effects on the Nile flows they are enormously controversial. Both Ethiopia and Sudan have retained an enduring interest in the development of this potential but several internal and external factors have blocked this in the past. The main external factors had been a lack of external financial support and persistent

[108] Block, P.; Strzepek, K. and Rajagopalan, B. (2007). *Integrated management of the Blue Nile basin in Ethiopia: Hydropower and irrigation modeling.* IFPRI Discussion Paper 700. Washington, DC: International Food Policy Research Institute.

[109] Knott, F. and Hewitt, R. (1994). Future water development planning in Sudan. In Howell, P. and Allan, J.A. (Eds), *The Nile – Sharing scarce resources: A historical and technical review of water management and of economic and legal issues*, pp. 205-216. Cambridge, New York: Cambridge University Press.

Egyptian opposition to projects upstream. For example, Egypt was often successful in preventing the securing of international funding for projects in Ethiopia.[110] However, the current situation displays some changes: Sudan and Ethiopia, now with increased economic and political strength, are starting to implement unilateral projects, underscoring the challenges to the basin's hydro political regimes that are now emerging.

3.3.3 Changing Power Relations in the Nile Basin

Hydro political cooperation in the Nile basin was initiated in the mid-1990s. The ten Nile riparian states, with the support of several international donors, became engaged in regional dialogue at the highest political levels, and the partners began to work on the design for a multilateral cooperation institution. Cooperation has entailed two tracks: the institutionalization of the NBI and the legal negotiations for a Nile Cooperative Framework Agreement (CFA), as mentioned earlier. The NBI has been considered an important departure from earlier political conflicts over water and unilateralism towards multilateral cooperation and one of the most notable examples of transboundary water cooperation initiatives so far.[111] Moreover, the Nile basin exhibits unprecedented levels of financial assistance from international donors for cooperation in transboundary river basins[112], a fact that was a crucial element in the basin's earlier cooperation process.

The political landscape of the mid-1990s, when cooperation was initiated, was characterized by strong material, bargaining and ideational asymmetries. The NBI's implicit aim was to reduce these asymmetries, while contributing to the "sustainable socio-economic development [of all riparians] through the equitable utilization of, and benefit from, the

[110] Shapland, G. (1997). Rivers *of discord: International water disputes in the Middle East*. London, UK: Hurst & Company.

[111] Nicol, A.; van Steenbergen, F.; Sunman, H.; Turton, A.R.; Slaymaker, T.; Allan, J.A.; de Graaf, M. and van Harten, M. (2001). *Transboundary water management as a international public good.* Stockholm, Sweden: Ministry of Foreign Affairs.

[112] GTZ (Gesellschaft für Technische Zusammenarbeit).(2007). *Donor activity in transboundary water cooperation in* Africa*: Results of a G8-initiated survey 2004-2007*. Report Commissioned by the German Federal Ministry for Economic Cooperation and Development. Eschborn, Germany: GTZ.

common Nile basin water resources."[113] This would be achieved, principally, through the development of multilateral hydraulic projects, and, in addition, through improved institutional and knowledge capacities, increasing economic development, integration and trade, sharing of cooperation benefits among the Nile riparians and, ultimately, the formulation of a multilateral legal agreement around the principles of the equitable utilization of water resources. Eventually, the NBI would "level the playing field" in the basin while contributing to the building capacity of the weaker riparians.[114]

A decade later, the NBI has partially failed to successfully implement most of its projects and has still to deliver the forecasted benefits. In legal terms, so far, it has also failed to accomplish a new cooperative legal and institutional framework agreement for the basin. After decades of negotiations (1997-2007), and two years since the negotiations were concluded, no political decision has been taken and the CFA agreement has neither been signed nor ratified. Instead a political-legal deadlock dominates regional cooperation, contributing to delays in establishing a river basins commission and future investment projects.[115] Consequently, the NBI and the cooperation process have not yet significantly contributed to a reduction or neutralization of the basin's existing asymmetries, or to substantially leveling the upstream countries' playing field. Conversely, while focusing exclusively on the potential benefits of cooperation, the NBI has perhaps contributed to a downplaying of the key importance of power relations in the asymmetric utilization of the water resources, wherein it 'back grounded' the problematic basins' water-sharing agreements. Simultaneously, "outside" the cooperation process, power relations in the Nile basin have significantly changed during the last decade and a major corollary has been the

[113] NBI (Nile Basin Initiative). 2002. Nile Basin Act. faolex.fao.org/docs/pdf/uga80648.pdf

[114] Jägerskog, A. and Phillips, D. (2006). Managing trans-boundary waters for human development. Background Paper Human Development Report 2006.

[115] Cascão, A. (2009). (forthcoming). Ambiguity as the solution for the Nile legal deadlock? In Proceedings of the II Nile Basin Development Forum. Khartoum, Sudan, 17-19 November 2008.

increasing unilateral development of the Nile water resources, rather than increasing multilateral cooperation, with substantial (alternative) external support.

Sudan, Ethiopia and the equatorial riparians are politically and economically stronger than they were a decade ago. They have also developed stronger bargaining tactics and are more vocal in their claims for renegotiation of the basin's volumetric water allocations. These riparians seem determined to develop their water resources and have a new external partner, China, which is keen to assist them in those ventures. Unilateral trends upstream are becoming more visible, such as the construction of the Merowe dam (Sudan), the Tekezze dam (Ethiopia) and the Bujagali dam (Uganda). Moreover, it is not only the upstream riparians who are going ahead with unilateral projects. Egypt too is doing the same thing.

First, the unilateral trends show that despite ongoing hydro political cooperation, the Nile riparian states have not abandoned what can be called a "hydro-sovereignty" strategy;[116] neither have unilateral projects that can bring economic and political benefits at the national level, regardless of the impacts they may have in other riparians. Indeed, these unilateral developments appear to be elements of a bigger hydropolitical strategy wherein all riparians aim to increase their water utilisation, to put facts on the ground, and subsequently claim legal rights to these resources during potential renegotiations of volumetric water allocations. Such trends clearly show that the NBI has failed to materialise a "shared vision" in the basin or promote an effective basin-wide framework for the management of transboundary water resources. And, in the end, national factors are still the main "determinants for collective action." [117]

[116] Wouters, P. (2000). The relevance and role of water law in sustainable development of freshwater: From "hydrosovereignty" to "hyrosolidarity". *Water International* 25(2): 202-207.

[117] Ibid, p49.

Second, the unilateral projects may collide with the ideal of basin-wide water-resources management, with the principles of cooperation, and may even undermine efforts at the promotion of multilateral projects currently being identified by the NBI. Nevertheless, the NBI authorities, in addition to the external donors, have remained silent about the unilateral projects, and no official statements have been made to publicly criticise any unilateral moves. In the absence of a multilateral agreement ratified by all riparians and a clear legal status the NBI appears to have little space to maneuver its efforts to prevent the Nile riparians proceeding with unilateral projects and has only limited capacity to influence national water policies. Moreover, the slow pace of cooperation, the failure to advance with projects on the ground and deliver benefits, may indeed encourage individual riparian states to favour unilateralism.

So far, the Nile riparians have tried to combine unilateral and multilateral strategies, most likely attempting to derive the benefits of both kinds of projects. Countries like Ethiopia, for example, are very keen to have the NBI projects – which are financially supported by the World Bank and widely accepted by the downstream riparians – implemented in their territories. But they remain aware that other projects, including large-scale irrigation, may never be included in the NBI project portfolio and, in order to come to existence, the projects would have to be implemented unilaterally.

But can unilateral and multilateral projects co-exist in the basin? On the one hand, during the past decade, the NBI has tried to change the policy environment towards a basin-wide approach and harmonisation of projects, but it has partially failed to implement it and, on the other, the riparian states have moved forward with national projects, often without consideration for a holistic and basin-wide approach. As the goal of the NBI was not to replace absolutely the riparians' national policies and initiatives, the coexistence of unilateral

and multilateral projects has, so far, been possible. But the coexistence of unilateral and multilateral developments in the basin is unlikely to last in the medium and long term if water demands collide in practice. This situation forms the cornerstone of the Nile basin's current hydropolitical dilemma.

What is certain, however, is that implementation of current and future unilateral projects might endanger the basin's cooperation process. Several risks may be identified. The confidence and trust among riparians facilitated by the NBI in the last decade may break apart. On the one hand, the NBI may fail to demonstrate that cooperation brings a greater number of (higher-value) benefits than do unilateral strategies and, on the other, the win-win and benefit-sharing scenarios promoted by the cooperation partners may prove illusory. Additionally, the legal negotiations may become more complex due to the inability of individual countries to operationalize the principle of equitable utilization and negotiate volumetric water allocations. And, as a consequence of the failures to promote a greater degree of integration in the basin, the willingness of the international donors to invest in the cooperative process in the basin might fade. In the worst-case-scenario the NBI may lose its *raison d'être* – namely the desire to cooperate – and collapse as past cooperative attempts in the Nile basin have done. Nonetheless, there might be other political options available, namely a restructuration of the NBI mandate and scope of action, as discussed further.

3.4 Summary

The recent shift in power relations in the basin indicates the increasing strength, in economics, diplomacy and bargaining terms, of upstream riparians, new infrastructural-financiers and developers (such as China), and a greater number of opportunities for the development of unilateral projects in the basin. These factors will certainly have a bearing on the future success of cooperation in the Nile basin and of the NBI

itself. Obviously, the future of cooperation and the NBI is in the hands of riparian states themselves and two divergent political scenarios are possible. First, riparians may choose a basin-wide approach to the management of the shared Nile water resources, reinforce political commitment to the cooperation process, establish a river basin commission and work together for the effective implementation of the multilateral projects. This is what the NBI has been attempting to build. A sub-option of this scenario is that the NBI develop a different role in the basin and instead of focusing on multilateral projects that run in parallel to the national 'unilateral' projects, it might assume a new role in which it binds together unilateral projects within a common basin-development approach. In the second scenario, the riparians might opt for a free-rider approach, increasing their own water resource utilization through unilateral projects, whilst disengaging from multilateral processes.

CHAPTER FOUR

ANALYSIS OF THE UPPER RIPARIAN COUNTRIES' NEED TO CONTROL THE NILE'S RESOURCES

4.0 Introduction

This chapter assesses whether the upper riparian countries really have a valid need to change the status quo by denying Egypt the full control of the Nile waters as per the ongoing discourse within the Nile Basin Initiative.

4.1 Overview

Control of the Nile basin's shared water resources is characterized by a high degree of asymmetry brought about by factors including the riparian's different capacities to technically control, utilize and allocate the water resources. In terms of their technical control, the ten riparian sztates demonstrate varying capacities to harness the resource, based on their particular hydraulic infrastructural and storage capacity. Egypt began to develop its "hydraulic mission" in the 19th century and expanded it greatly during the 20th Century, under the British Condominium.[118] The construction of the High Aswan Dam, in the late 1960s, determined Egypt's full technical control over the Nile resources. The dam has a total storage capacity of 169 Bm3/yr – more than enough to store a full flood of the Nile. Sudan's development of hydraulic infrastructure in the Nile was initiated under the Anglo-Egyptian Condominium and expanded in the post-independence period (1956-1965).[119] The dams built in these two periods, Sennar, Jebel Aulia, Khashm El-Girba and Roseires have a limited storage capacity (total of 6.9 Bm3/yr) when compared with those of Egypt.[120] No more

[118] Collins, R.O. (2002). *The Nile.* New Haven & London: Yale University Press.

[119] Tvedt, T. (2006). *The River Nile in the age of the British – Political ecology and the quest for economic power.* Cairo: The American University of Cairo.

[120] Kundell, J. (2008). Water profile of Sudan. In Cutler, J.C. (Ed), *Encyclopedia of Earth.* Washington, DC: Environmental Information Coalition, National Council for Science and the Environment.

storage dams were constructed in Sudan between 1965 and 2008. In contrast, the upstream members have only initiated their 'hydraulic missions' comparatively recently and their storage capacities remain extremely limited.[121] However, new projects are under construction in the upstream Nile region.

The riparian states have also exhibited contrasting levels of water utilization. Egypt is by far the main regional water user, withdrawing far higher levels of water from the basin than do its neighbours. According to official statistics, Egypt utilizes around 55.5 Bm3 of Nile water per year.[122] However, it is suspected to be using more than it declares: first, because 84 Bm3/yr measured at Aswan is an underestimation of average Nile flows, according to some observers[123]; second, because Egypt has been benefiting from the unutilized quota of Sudan.[124] The Government of Sudan declares a utilization of around 12.5 Bm3/yr however current utilization might already be reaching 14.6 Bm3/yr.[125] Withdrawals by Ethiopia and equatorial countries (Uganda, Tanzania, Kenya, Burundi, Rwanda, and D. R Congo) remain, by contrast, very limited. The situation is similarly asymmetric in terms of the riparians' water allocation as defined by the bilateral 1959 Agreement, as mentioned earlier.

4.2 The Nile Riparian Countries

The principal economy of the Nile Basin is agriculture, accompanied by pastoralism and agro-pastoralism. The countries of the Nile's upper basin include Ethiopia, Kenya, Uganda, Tanzania, Rwanda, Burundi, Democratic Republic of Congo and Eritrea. These

[121] Ibid, p49

[122] MIWR. Sudan MIWR – Proposed Projects (by the Sudanese Minister of Water Resources Kamal Ali Mohamed). Paper presented at the Second International Investment and Trade Conference – Sudan Invest 2006, Khartoum, Sudan, 12-14 September 2006.

[123] Ibid, p49

[124] El-Zain, M. (2007). *Environmental scarcity, hydropolitics, and the Nile.* Maastricht, Netherlands: Shaker Publishing.

[125] Mohieldeen, Y. (2007). Sudan's Nile waters and the eastern Nile Basin: Hydropolitics in a highly politicized environment. Unpublished PhD thesis. London, UK: School of Oriental and African Studies, University of London.

countries depend mainly on rainwater for agricultural cultivation. Their utilization of the Nile headwaters within their respective territorial jurisdictions, both for irrigation and hydro-electric power, is almost negligible. The two lower riparians: Sudan and, especially Egypt, are very dependent on the Nile water for their irrigation and hydroelectric power generation.[126]

4.2.1 Ethiopia

Ethiopia is Africa's tenth largest country, lies in the northeastern Horn of Africa, and shares its borders with Somali and Djibouti in the east, Kenya in the south, Sudan in the west and Eritrea in the north. Ethiopia lies between latitude 3' and 18'N and longitudes 33' and 48'E with and area of 1.1 million km. Ethiopia occupies the most extensive highland mass in Africa, rising from below sea level in the Danakil depression to about 46,000 m in the northern highlands. Ethiopia is the major contributor and key headwater country from where 86 % of the waters rise, and start their long journey to downstream countries. The rivers that drain the western highlands of Ethiopia contribute to the bulk flow of the Nile as measured in the Aswan Dam. Out of the 84,00 billion cubic meters (billion cu.m) of water that is carried by the Nile River, 72,00 billion cu.m of the total flow is contributed by the three major rivers, the Atbara, the Blue Nile and the Sobat (Ako-Bo-Baro).[127]

When the revolution gained momentum in Egypt after 1952, and after the revolutionary leader of that nation successfully re-incorporated the Suez Canal back to Egypt in 1956, the question of water security figured itself among the top priorities in Egyptian development strategy. With some negotiated and limited agreement with the newly independent Sudan, Egypt went ahead with the design and the actual construction of the

[126] Abraham, K. (2002). The Nile Basin disequilibrium, *Perceptions, Journal of International Affairs,*Vol VII.

[127] Joy, C. (1967). Islands in the Desert: The challenge of The Nile. Coward McCann New York. 1967 p.87

Aswan high dam with the obtained and promised assistance from the former USSR during the late 1950's. Ethiopia, the closest neighbour, was not consulted. Ethiopia went ahead dealing with the United States Engineering firm, Balton Hennessey & Partners to conduct a comprehensive study of the Abbay (Blue Nile) Basin survey which was conducted from 1957 - 1962.[128] The survey-included studies consisting of stream flow, soils, hydro-electric power potential, land use, marketing, communications, dams and irrigation potentials. During this period, Egypt and Sudan were engaged in intensive negotiations to apportion the entire Nile waters just between their own two countries. These negotiations led the two countries to conclude and institute the 1959 agreement. This agreement by its nature is a bilateral, rather than an inclusive water sharing agreement. In the 1959, Egypt and Sudan's continuous and exclusive negotiations deliberately ignored Ethiopia as well as the interests of the other upstream riparians. Then the Ethiopian Government declared that it would not sit idle and made it clear that it would develop its own water resources within its territorial jurisdiction. The free flow of the Nile has always been a national security issue for Egypt, Therefore, its leaders sometimes spoke openly to deter upstream countries, particularly Ethiopia, not to unilaterally use the Nile.[129]

Direct conflicts have not taken place between Ethiopia and Egypt since the early 19th century, but psychological warfare and mutual suspicion have always shrouded Ethiopian-Egyptian relations. In the history of the two countries, it has been observed that the Egyptians aim to keep Ethiopia under constant pressure, so that the latter would not threaten the continued discharge of the Nile waters. The hard environmental reality is that nature has accorded Ethiopia the potential command of the most essential headwaters of the Nile, while

[128] White Engineering Corporation New York. Report on Lake Tana outlet control works and Ethiopian highway from Addis Ababa to Lake Tana. New York. 1934 p.2

[129] Klerru, W. (1958). The Nile Waters questions: Political aspect of utilization of the Nile Waters. Unpublished PH.D dissertation. University of California. 1962 P. 6 27 Ethiopian Observer. Vol. II, Number 2, P. 93

life in Egypt and lower Sudan can only sustain a portion of these water resources. Under the current political conditions, since the eruption of the Ethiopian-Eritrean conflict two years ago, the role of Egypt remains in the background with the motivation of supporting and backing Eritrea in its conflict with Ethiopia. In addition to this, despite the OAU intervention in particular, Ethiopia's role to bring peace in Somalia has been challenged by Egypt, with the view to establish a puppet state in order to match Ethiopia. These Egyptian policies reflect on Egypt's permanent interest in the Nile and the Blue Nile in particular.

4.2.2 Eritrea

Eritrea is a relatively small Red Sea state, situated in northeastern Africa along the Red Sea coast and has a total area of about 121,144 km. The country shares its borders with the Red Sea on the North and East, Ethiopia on the South-East, Djibouti on the south and Sudan in the north and north-west. The cultivatable land is about 1.6 million hectares which is 13 % of the total area. The Cultivated and is 439,000 hectares, i.e. 26 % of the cultivatable area and 4 % of the total area.[130]

Eritrea has three main drainage systems: The Mereb-Gash and Tekeze Setit River systems, draining into the Nile; The eastern escarpment and the Barko-Anseba River systems, draining into the Red Sea, and the river systems of a narrow strip of land along the south-eastern border with Ethiopia, draining into the closed Denkel Badin. Although no measurement of run-off available a rough estimate puts internally produced water resources around 2.8 km per year most of which are located in the western part of the country. The most important river course is the Tekeze River, on the border with Sudan. The Tekeze (Atbara) subsystem, whose upper streams rise in northern Ethiopia and southern Eritrea, perennially replenishes at the main Nile in northern Sudan. The rivers Tekeze, Angarab and

[130] Maxon, R. (1993). East Africa, Washington. p. 8.

Guang are the main headwaters of Atbara. The Mereb and Tekeze Rivers at different sections, mark the Ethio-Eritrean border. This most important river course has 90 % of its catchment area situated in Ethiopia. In general, Eritrea controls some of the relatively small upstream tributaries.

4.2.3 Kenya

Kenya covers an area of 592,000 square kilometers and bordered with Ethiopia in the North. It has a water surface area of 11,230 square kilometers and is divided into five drainage basins, including the Lake Victoria Basin Kenya has diverse morphology, which comprises of the highlands rising to Mount Kenya at a height of 5200 m, dissected by the Rift Valley with lowlands around the Lake Victoria Basin. In the north the residue of the highlands, join the Indian Ocean coastline. The highland areas comprise of volcanic rock with fertile soil and a temperate climate with good reliable rainfall. The lowland areas (with the exception of the Lake Victoria Basin and the coastal belt) cover large sparsely populated areas with low rainfall, poor soil and a fragile ecosystem.[131]

Hydrologically, Kenya is divided into five drainage systems, determined by the great Rift Valley which runs north-south. The rivers drain the eastern flanks of the highlands and flow into the Indian Ocean. Those drain the western flanks flow into Lake Victoria. The five drainage Basins are the Relative to its land mass and population, Kenya has limited water resources, i.e. the perennial rivers concentrated in the western central and coastal areas. Lake Victoria is situated on the eastern African plateau at an elevation of 900 meters, surrounded by relatively low-lying land 1,100 meters above sea-level (adjacent shores). The total area of the lake is approximately 68,800 km, of which the Kenyan shore is accounted ten percent. Lake Victoria's drainage basin in Kenya covers the whole area of west of the Rift Valley. The

[131] Country paper of the Republic of Kenya presented at the 5th Nile Conference in Addis Ababa, 1997; The Republic of Kenya: Development Plan. 1970 - 1974 pp. 228 - 229

basin receives a good amount of rainfall which is well distributed over the area. In this area the rainfall is consistent from the watershed of the catchment to the outflow of the river system. Lake Victoria is the second largest lake in the world with a surface area of 69,500 km. Only 6 % of the lake lies in Kenya. The lake is a sanctuary to hundreds of bird species, a source of water for human consumption and used for agriculture and industry.[132]

4.2.4 Tanzania

Tanzania is an east African country lying on the South Eastern great African plateau. It covers an area of 945,000 km and has a common border with six countries. It is bordered with the Indian Ocean in the east, Lake Victoria in the north, Lake Tanganyika in the west and Lake Nyasa in the south. Its altitude ranges between 1,000 meters and 2,000 meters. Although the country is close to the equator, it is not a very hot country.

About 50 % of the freshwater runoff in Tanzania is from the major river systems (the Rufisi, Pangani, Mami, Ruvu, Mburemkuru, Matandu and Ruvuma) and flow to the Indian Ocean. The Rufisi River contributes 50% of the total surface water. The remaining 50 % is divided into surface water draining northwards into Lake Victoria, westwards into Lake Tanganyika, southwards into Lake Myasa and then into the Zambezi River, and finally into a number of internal drainage basins which have no outlet to the sea. The main internal drainage basins are the Lake Rukuma and Bubu Complex, Lake Eyasi and Lake Manyara. The Lake Nyasa, Lake Victoria and the Lake Tanganyika basins drain into the international water bodies.

The Tanzanian portion of Lake Victoria and its associated basin has a significant importance to the social and economic life of the population living within and around the basin. It provides fresh water for domestic consumption, agricultural, industrial use. It also

[132] Country paper of the Republic of Kenya presented at the 5th Nile Conference in Addis Ababa, 1997

serves for transportation, recreation. The major socio-economic activities on the lake and its catchments area include: agriculture, fishing, marine transportation, recreation as well as supplying water supplies for domestic and industrial use in the urban areas situated on the shoreline. Agriculture and fishing remain the dominant socio-economic activities of most of the population. Mining is also an important economic activity in some pockets around the lake in Tanzania.

4.2.5 Uganda

Uganda lies in the heart of Africa along the equator and shares borders with Sudan in the north, Kenya in the east, Tanzania and Rwanda in the south and the Democratic Republic of Congo in the west. Uganda covers an area of 241,038 km_ and has an average altitude of 1,200 meters above sea level. The highest point on Mount Rwenzori peaks at 5,590 meters, while the lowest is 620 meters at the Albert Nile. Uganda is geographically better placed in the Nile Basin, because Uganda is known as a source of the White Nile and is the only country lying almost entirely within the Nile Basin. Uganda is in special situation because it controls the outlet of Lake Victoria at the Owen Falls hydro-power and therefore has a key position in the utilization and regulation of the Lakes water.[133]

The potential irrigation water demand of Uganda appears is limited. The lack of food security is caused by the absence of large scale irrigation in Uganda. Although there are many opportunities for irrigation, very few have been developed in the country. The farmers in Uganda need much less water than their counterparts in Egypt to produce food crops.

4.2.6 Democratic Republic of Congo

[133] Waako,T., Thuo, S. and Ndayizeye, A. (2009) *Impact of Climate Change on the Nile River Basin*, Nile Basin Initiative Secretariat, Entebbe, Uganda.

The Democratic Republic of Congo (DRC) is situated in west-central Africa, and bordered with nine countries, namely: the Congo Republic, the Central African Republic, the Sudan, Uganda, Rwanda, Burundi, Tanzania, Zambia, Angola and the Atlantic Ocean. The principal rivers are the Ubangi and Bomu in the north and the Congo in the west, which flows into the Atlantic. The entire length of Lake Tanganyika lies along the eastern border of Tanzania and Burundi. Most of the country lies within the vast hollow of the Congo River Basin. The basin has the shape of an amphitheatre, being open to the north and northwestern plateaus and mountains. The edges of the basin are breached in the west by the passage of the Congo River to the Atlantic Ocean; they are broken and raised in the east by an upheaval of the Great Rift Valley (where the Lakes Mweru, Tanganyika, Kiru, Edward, and Albert are found) and by overflow from volcanoes in the Viruga Mountains.[134]

The DRC is endowed with several rivers and lakes. Among them the River Congo is the largest, and most of the country lies within the vast hollow of this river basin. The largest rivers known as the Ituri, Great Congo, Pygmy and Stanley Forest, extend east from the confluence of the Arumumi and Congo Rivers close to Lake Albert, covering some 65,000 km2. In this area of the Ugandan border, is Ruwenzori Range, containing the Democratic Congo's highest point, Mougherita Peak (5109m/16,762 feet).[135] Most of the Congo is served by the Congo River system; It has facilitated both trade and outlet.

Most of Congo's lakes are also part of the Congo River Basin. In the west are Lac Mai-Naombe and Lac Tumba, both being remnants of a huge internal lake that once occupied the entire basin prior to the breach of the basin's edge by the Congo River, and the subsequent drainage of the interior. In the south-east, Lake Mweru straddles the border with Zambia on the eastern frontier. Lac Kiru, Central Africa's highest lake and key tourist attraction, and

[134] Daily News Egypt (2010) Congo and Burundi expected to sign new Nile water treaty, *Daily News Egypt*, 15 June..

[135] Ibid p29

Lake Tanganyika, just south of Lac Kiru, both feed into the Lualaba River. The latter name is often given to the upper extension of the Congo River.[136] The waters of the eastern frontiers' northern largest lakes, the Edward and Albert lakes, drain north into the Nile Basin. The Congo River provides the country with an extensive network of navigable waterways on the continent. Ten kilometers wide at mid-point of its length, its flow is usually regular, because it is fed by rivers and streams from both sides of the equator. The alternating rainy and dry seasons on each side of the equator guarantees a regular supply of water for the main channel. At the point where navigation is blocked by rapids and waterfalls, the sudden descent of the river creates a hydro-electric potential.

4.2.7 Rwanda

Rwanda is located in east-central Africa, bordered on the north by Uganda, on the east by Tanzania, on the south by Burundi, and on the west by the Democratic Republic of Congo. Rwanda's land is typically hilly, though there are also swamps and mountainous regions. The country can be divided into six topographical regions: from east to west there is the narrow Rift Valley, which slopes sharply to Lake Kiru; the Volcanic Viruga Mountains, whose highest peak, the snowcapped Mount Karusimoi (14,870 feet), the steep north-south rise of the Democratic Congo-Nile divide whose width averages 25 miles the ridge of the Democratic Congo-Nile divide, with an average elevation of 2,750 (9,000 feet) meters; the central plateaus, east of the mountains which are covered by rolling hills; and the savannas and swamps of the eastern and south-eastern border areas, which cover one-tenth of the nation's land area and include the vast Kagera National Park. Most of Rwanda is at least 900

[136] Ibid, p31.

meters (3,000 feet) above sea level, the central plains have an average elevation of 1,932 meters (4,400 feet).[137]

Water resources were further depleted as watersheds and wetland areas were lost. These problems were compounded, especially in the southern regions of the country by severe droughts in the 1980's and early 1990's. The impact of water scarcity on agriculture was harshest in all regions, in other areas too water shortages became critical for personal, domestic and industrial needs.

4.2.8 Burundi

Burundi is an east African country lying in the middle of the African continent and has a surface of 27,834 km2. It has a common border with Tanzania in the south and east; in the north with Rwanda; and on the west with the Democratic Republic of Congo. Burundi is exactly situated in the great African Plateau formed by the Nile and Congo River Basins. The western slopes descend abruptly into the Great East African Rift Valley toward the Ruzizi plain and Lake Tanganyika. The eastern slopes rise toward the central uplands. Three natural regions are thus formed: The Rift Valley called the Imbo, along the western border. The Rift Valley is a narrow plain that runs along the Rusizi River and the shores of Lake Tanganyika, ending in the foothills of the western Congo-Nile divide. The entire Rift Valley lies below 3,500 feet in elevation.[138]

The eastern zone is known as The Kamaso. The Kamaso is formed by the central and eastern plateaus, with an average elevation of 6,000 feet, and by savannas along the eastern border, where the average elevation is 3,400 feet. The central mountain region formed by a series of ridges running north to south that is generally less than 16 kilometers wide and

[137] Amare, G. (2000) Nile waters – hydrological cooperation vs. hydropolitics, in *Proceedings of the 8th Nile 2002 Conferences, Addis Ababa 26–29 June 2000*, pp573–580, Ethiopian Ministry of Water Resources, Addis Ababa, Ethiopia.

[138] Ibid, p33

8,000 feet high. The eastern slope of this range in south central Burundi gives rise to the headwater of the Rwanda River, one of the sources of the Nile.

Burundi's rivers flow into the basins of two major rivers, the Congo and the Nile. The most important river flowing into the Congo Basin is the Rusizi, which has its source in Lake Kiru and forms the border between the Democratic Congo and Burundi. Among its many tributaries are the Lua, which forms part of the border with Rwanda, the Nyamagana, the Kaburantwa, and the Mpanda. Other rivers flowing into Lake Tanganyika include the Ndahanwa, the Dima, the Mulembwe and the Neyngwe. The Ruvubu and Kagera Rivers are the south-eastern sources of the Nile. The Kagera forms the border between Burundi and Rwanda and is part of the Kanyaru. The Ruvubu separates Burundi from Tanzania.

4.2.9 Egypt

Egypt lies in the north-eastern corner of the African continent with a total area of about 1 million km^2. It is bordered in the north by the Mediterranean Sea, in the east by Israel and the Red Sea, on the south by Sudan and in the west by Libya. The Nile water is the main source of water for Egypt. Egypt alone has been using the Nile waters many times more than all the riparians in the basin combined. Geographically, the entire Egypt is arid and the country is totally dependent on the Nile waters.[139] The situation in Egypt is '*Aut Nilus aut Nihil* ' ('No Nile, no life in Egypt). This description was attributed to Heredotus (a Greek Philosopher) that 'Egypt is the Gift of the Nile'.[140] The country's geographical link with and dependence on the upstream riparian states from where the life-giving water descends is important as the Nile is the sole source of life in Egypt. The greatest source of the Nile is its upstream riparian countries, especially in Ethiopia where more than 86 % of the waters of the

[139] Abu-Zeid, M. and El-Shibini, F. (1997) Egypt's High Aswan Dam, *Water Resources Development*. 13, 2, 209–217.

[140] Biswas, K. (2002). Aswan Dam revisited: the benefits of a much-maligned dam. *D+C Development and Cooperation*, 6, November/December, pp25–27

Nile come from. The main annual rainfall, including the six inch winter rainfall along the Mediterranean strip, is less than an inch. Not only are the waters of Ethiopian origin most vital to the downstream countries, particularly Egypt, but also the fertile soil that is carried down with the annual floods from the Ethiopian highlands in the form of silt.

During the 19th and 20th century the Egyptian Government hoped to control the Nile waters in such a way that the floods would remain within the banks, thus securing the availability of water throughout the year for permanent irrigation and for expanding land under irrigation. Egypt's plan to construct the Great Century Dam in Upper Egypt was unacceptable to Sudan, because of the following reasons: Sudan wanted the assurance of a good portion of the water for storage and to obtain good compensation for the loss of land under the dam. To obtain compensation for the resettlement and rehabilitation of the people who would be forced to abandon the area as a result of inundation of the proposed dam.[141] After a lengthy dispute which lasted for years, finally they came to a compromising agreement. Inter alia, the Sudan's share of the water to rise to one-third. Hence, Sudan would get 18.5 billion cu.m. Egypt further agreed to pay $15,000,000 for the resettlement and rehabilitation of the evacuees from Wady Halfa, the area which would be inundated. [142]When the agreement of 1959 was signed, the work on the construction of the Great Aswan Dam went ahead in 1960.

4.2.10 Sudan

Sudan is situated in the eastern corner of Africa, and is the largest African country with a total area of about 2.5 million km. In the north-east it is bordered with the Red Sea and it shares common borders with nine countries: Eritrea and Ethiopia in the east; Kenya,

[141] Bulto,T. (2009) Between ambivalence and necessity – occlusions on the path toward a basin-wide treaty in the Nile Basin, *Colorado Journal of International Environmental Law and Policy*, 291, p201.

[142] Cascão, A. (2008) Changing power relations in the Nile River Basin: Unilateralism vs. cooperation? *Water Alternatives*, 2, 2, 245–265

Uganda and the Democratic Republic of Congo in the south; the Central African Republic, Chad and Libya in the west, and Egypt in the north. Sudan consists of a flat internal plain, lying at about 325 meters above sea level. It is intersected by the Nile River and its tributaries and by a number of mountains. In the south is the Sudd Region, the great wetland which is a maze of channels, lakes and swamps.[143] The most remarkable feature of the Sudd area is its flatness: for 400 km from south to north, the slope is a mere 0.01 % and much of it is still flatter.[144] The soil found in the area is generally clayish and poor in nutrients. The northern part of the country is covered by a sandy desert with mobile and fixed sand dunes in the north- western part (which is considered to be an extension of the eastern outskirts of the great desert).

Sudan is the second country to make big use of the Nile waters. The main part of the Nile is formed by the confluence of the Blue Nile and the White Nile in the capital Khartoum before flowing into Egypt. Agriculture is the main economic sector of the country and most of the agricultural development projects are located along the Nile and its branches. Modern agricultural schemes commenced in the Sudan as early as the 1920's. The Gezira Scheme, the first of its kind in the continent, started in the 1920's. The gigantic Sennar Dam on the Blue Nile was built in 1925. The Gezira Agricultural Scheme was supplied with water from this dam. Initially a quarter of a million acres was put under irrigation.[145]

In 1937 another dam was constructed at Jebel Aulia on the White Nile, some 40 kilometers south of Khartoum. As part of the 1959 Nile Waters agreement, Egypt accepted that Sudan could build a dam at Raseires on the Blue Nile. The central section of this structure rises 60m above the river bed. The storage capacity is 3 TMM and it could be raised

[143] Ahmad, A. (2008). Post-Jonglei planning in southern Sudan: combining environment with development, *Environment and Urbanization*, 20, 2, October, pp575–586.

[144] Lamberts, E. (2009) *The Effects of Jonglei Canal Operation Scenarios on the Sudd Swamps in Southern Sudan*, Ms thesis,Twente University,The Netherlands.

[145] Salama, R. (1997). *Rift Basins of Sudan: African Basins, Sedimentary Basins of the World, 3*, Selley, R.C. (ed), Elsevier, Amsterdam,The Netherlands.

by 12 m to increase its capacity to 7.6 TMM. The dam which was completed in 1967 was equipped with 250,000 W generators and another five could be installed if needed. Some of the water is used for the managil extension of the Gezira Project. The Kenana Scheme on the left bank of the Blue Nile was planned as a future development. Khasim El-Girba Dam Project on the Atbara River, with a capacity of irrigating 100,000 hectares, was completed in 1964.[146]

According to the key informants, *"Every country seeks to maximize its gains, which makes consensus very difficult to achieve, more so in a multilateral setting. However, consensus, as a decision-making method appeals to everyone because it protects the minority and/or non-traditional interests and concerns."* On the flipside, Buchanan & Tullock[147] argue that the consensus method may impede collective action by presenting each individual with a veto, thus leading to a gridlock as the individuals exercise their veto power, or what the authors term as 'something-for-everyone' form of distributive policy so as to buy off each other's veto or interest. Consensus, Blomquist & Schagler assert, only works where the issues are relatively narrow and affect all the participants similarly. The KKIS added *"Majority rule on the other hand adopts the approach of numbers and capabilities, both military and economic, rather than issues, which does not augur well for a long-term problem-solver."*

4.3 Challenges Faced by the Riparian States

The Nile Basin countries face colossal challenges concerning their future water resource development. These challenges present themselves in terms of complex social, economic, political, nature-related problems, which call for holistic and integrated

[146] Shinn, D. (2006). *Nile Basin Relations: Egypt, Sudan and Ethiopia*, Elliot School of International Affairs, George Washington University,Washington,DC, http://elliott.gwu.edu/news/speeches/shinn0706_nilebasin.cfm

[147] Buchanan, J. & Tullock, G. (1962). *The Calculus of Consent*; Michigan, University of Michigan Press

approaches. These countries must tackle these challenges to contribute to the development of the basin for the benefit of all riparian states.

The key challenges in the Nile Basin are; *Population growth*: The population has doubled between 1960 and 1990 and will grow almost five-fold between 1990 and 2025. The population of the Nile Basin is estimated by the World Bank to exceed 600 million in 2025. Rapid urbanization places the environment under excessive pressure. On the other hand, the increasing number of people, the demand for more water is also inevitable. *Aridity:* It is a phenomenon of permanent shortage of water caused by dry climatic conditions. Much of Kenya, Sudan, 61 % of Ethiopia and all of Egypt are arid. The arid zones in each of the countries require water obtained through technological means from the Nile or otherwise. *Drought:* There are cyclical occurrences of dry seasons. Drought has been catastrophic in many parts of the countries. Experts believe that the major drought cycle in Ethiopia occurs every ten (sometimes less) years. To a certain degree, all Nile Basin countries have been affected by drought. The effects of drought can only be mitigated by utilizing available water in the river systems. *Desiccation:* This is the drying up of the landscape. In particular, soil desiccation can result from activities such as deforestation, overgrazing, over-cultivation, soil erosion etc. Presently much of the 39 % highlands of Ethiopia have been affected by desiccation. The inhabitants of the desiccated areas tend to migrate to the river valleys in the lowland areas where river water resources are available.

These factors have created scarcity of water in the Nile Basin countries which find themselves threatened by the ever -increasing water scarcity. The Nile Basin is one of the most problem-ridden regions of the world. To be more specific, half of the riparian countries are among the world's ten poorest countries. Yet the Nile holds great potentials to foster economic development. This could be attained through power generation, food production, industrial development, environmental conservation and other related development activities.

In order to realize this potential, the Nile Basin countries have come to recognize that they must take concrete steps to address these challenges and that cooperative development holds the greatest prospect of bringing prosperity to the whole region. An earnest effort at breaking the current impasse over the Nile should begin by removing the current psycho-political obstructions to dialogue and by taking considering the commonalities into consideration. There is widespread poverty and high dependence on agriculture.

The riparian states are unable to feed themselves from domestic produce or afford to import food. The majority of riparian states don't have financial capacity to start large-scale engineering works, including water projects. This has geared the Nile Basin states towards setting in motion various forms of cooperation. As shown in this study, poverty is the ultimate cause and the main source of mistrust and conflict in the region. Alleviating poverty is not only morally right; but also essential for meaningful and effective basin- wide cooperation. The common challenges, which all riparians face, are making their neighbours and co-basin partners to reach a satisfactory solution. Recent attempts to establish mechanisms for basin-wide or sub-basin cooperation may end this stalemate. A fresh start and bold measures should be taken to face the current and future challenges by correcting past mistakes. Charting new courses would enable all the riparians of the Nile Basin to be full participants in the use and development of their common water resources.

The key informants were of the opinion that *"the Nile riparian countries are in a dilemma regarding how to handle the third party actors since they have, for all intents and purposes, sustained the activities of the riparian states through the Nile Basin Trust Fund (NBTF)."*

Furthermore, there is the media, which Kingoina[148] asserts, is important to the enhancement of public diplomacy in the Nile basin. The KIIs noted that *"Within the Nile basin, the media has a structure, the Nile Media Network (NMN) based in Entebbe, Uganda through which they promote dialogue around the negotiations over the Nile basin. Besides the framework of NMN, there are other mainstream media outlets and blogs that fan discussion around the Nile basin."* The media, Gilboa[149] acknowledges, operate in three shades namely basic variant, non-state transnational variant and the domestic public relations variant. A basic variant is where the media is used to win critical battle for the minds of people in countries with hostile governments by creating a favourable image for a country's policies, actions, political and economic goals. Other KIIs observed that *"Non-state variant argues that within the international systems, non-state actors can utilize the power of the media to promote relations between or among states."*

4.3.1 Challenges of Negotiating Trans-Boundary Water Management agreements

The KIIs opined *"the colonial treaties and protocols signed between 1891 and 1959, either between Britain and Italy and Britain and Egypt as well as Egypt and Sudan left out the upstream States. In effect, they granted Egypt a monopoly over access to the Nile waters, a dangerous trend considering that water is a strategic natural resource that countries and governments have depended upon for their survival. As a diplomatic strategy, this was set to work very well for the colonial administration but was set to spark off conflicts once the concerned states became independent."*

[148] King'oina O.E. (2010). *Track Two Diplomacy in Environmental Security in the Nile Basin*; September 2010; Unpublished MA Thesis, University of Nairobi p83

[149] Gilboa, E. (2010). 'Diplomacy in the Media Age: Three Models of Uses and Effects' in Diplomacy and Statecraft, Vol 12, 2001 p221 cited in King'oina O. Enock; *Track Two Diplomacy in Environmental Security in the Nile Basin*; September 2010; Unpublished MA Thesis, University of Nairobi p84.

Bonaya[150], alluding to the unquestionable socio-economic significance of the great watercourses such as the Yangtze, the Hwan-Ho, the Indus, the Ganges, the Rhine, and the Nile recognizes that they also come with challenges, mainly arising from water rights, whereby states seek the regulation of water. This is not something new but existed even in ancient periods. Godana's contention that the interest of the State is not only limited to national waters but extends to international waters is a valid point which gave rise to the international water laws that began with Final Act of the 1815 Congress of Vienna that sought to settle the issues arising from the French Revolutionary Wars, the Napoleonic Wars, as well as the dissolution of the Roman Empire. From Godana's contention, the challenges have proved to be real in the case of the Nile basin countries.

4.3.1.1 Pre-Colonial Water Agreements in Africa

Agreements on Trans-Boundary water management predate history. Godana[151] asserts that rivers have played a significant role in the progress of humanity and that the origins of the organization of the State have been traced from water rights. Godana cites Du Bois who argues, "Civilization flowed to man along the valley of great rivers where the soil was fertile and where the waters carried him to other people who were thinking of the problems of human life and solving them in varied ways"[152]

They also added that "*The international river law emanated largely from the 1815 Congress of Vienna. Article 108 of the Final Act of the Congress stipulated that the powers whose territories were traversed by a navigable river undertook to regulate by common agreement all the issues relating to navigation on all such rivers."* Godana affirms that

[150] Godana, B.A. (1985). *Africa's Shared Water Resources: Legal and Institutional Aspects of the Nile, Niger, and Senegal River Systems*; London, Frances Pinter Publishers pp21-31

[151] Ibid, p70

[152] Du Bois, W.E.B. (1947); *The World and Africa*; New York International Publishers p98 cited in Godana, Bonaya A. (1985); *Africa's Shared Water Resources: Legal and Institutional Aspects of the Nile, Niger, and Senegal River Systems*; London, Frances Pinter Publishers p21

Articles 108 to 116 of the Act represented the first multilateral attempt to regulate international rivers in Europe.

At the Berlin Conference of 1885 when the colonial powers partitioned Africa, Chapters I and VI of the Treaty related to navigation on the Congo and Niger rivers. At the Berlin Conference, representatives from the United States and other western powers settled their differences over administration of Africa's Congo region and set up policies for the colonization of the rest of Africa such that by 1914 European nations controlled 90 percent of the African continent. The General Act, in part thus stated: The trade of all nations shall enjoy complete freedom in all the regions forming the basin of the Congo and its outlets. This basin is bounded by the watersheds (or mountain ridges) of the adjacent basins, namely, in particular, those of the Niari, the Ogowé, the Schari, and the Nile, on the north; by the eastern watershed line of the effluents of Lake Tanganyika on the east; and by the watersheds of the basins of the Zambesi and the Logé on the south. It therefore comprises all the regions watered by the Congo and its effluents, including Lake Tanganyika, with its eastern tributaries.[153]

In other words, the KII stated that *"the Western powers were negotiating the use and management of African Trans-Boundary water resources during the partition of Africa without the continent's involvement. The agreements were therefore between and/or among the colonial powers. And in so far as the Nile is concerned; Egypt has used and been dependent on the Nile since the dawn of civilization and claims historic rights to use the Nile waters. Egypt has also argued that the upstream states have no tradition for use and control of the resources of the Nile. Moreover, Egypt argues that the upstream states have alternative*

[153] The Berlin Conference (1885); *General Act of the Conference at Berlin of the Plenipotentiaries of Great Britain, Austria-Hungary, Belgium, Denmark, France, Germany, Italy, the Netherlands, Portugal, Russia, Spain, Sweden and Norway, Turkey [and the United States] dealing with Africa*; The McGraw-Hill Companies, Inc.

sources of water unlike it, which is nearly 98 per cent dependent on the river's waters. By claiming historic rights, they in a way owned and controlled the river's resources. As such, there was no agreement between Egypt and the upstream states in the pre-colonial period that has been documented. The treaties that have been documented are those Egypt signed with Britain which was the colonial power."

4.3.1.2 Colonial and Post-Colonial Nile Basin Treaties 1929-2002

The 1891 Protocol between Britain and Italy to demarcate their spheres of influence in Eastern Africa sought to protect Egypt's interest in the Nile waters in exchange of access to Suez Canal which was an important passage to India, Britain's Asian colony. This is considered the first colonial Treaty on the management of the River Nile. Later on in 1929, the Treaty between the upstream states and Egypt was signed. In the Treaty, Great Britain, on behalf of East African colonies, granted Egypt unhindered access to the resources of the River Nile.

The 1929 Nile Water Agreement stated that: "no irrigation or power works or measures are to be constructed or taken on the River Nile and its branches, or on the lakes from which it flows…in such a manner as to entail any prejudice to the interests of Egypt, either reduce the quantity of water arriving in Egypt, or modify the date of its arrival, or lower its level."[154]

In exchange, Egypt was going to allow Britain the use of the Suez Canal, which Britain considered extremely important for its interests in Asia. The net product of this treaty, Apondi acknowledges, was the allocation of control of the river's resources to Egypt.[155] Wenjere affirms this position, saying the 1929 Treaty gave Egypt exclusive rights over the

[154] Ibid, p72

[155] Apondi, T.J.A. (2006). *The Conflict over the Management and Use of the Nile Waters and the Influence of the 1929 and 1959 Treaties on Riparian States*; 2006, Unpublished MA Thesis University of Nairobi, Nairobi p5

Nile and the East African states were required to obtain express acquiescence from Egypt for high powered projects such as the hydro-electric power projects or construction of dams along the rivers that drain into the Lake Victoria. He affirms that the reason the CFA has more or less stalled is because Egypt and its northern partner Sudan want a clause on water security and with it acknowledgement of the 1929 and 1959 treaties, while the upstream states insist on equitable utilization of the resources of the river without causing significant harm to the other riparian states.[156]

The KIIs arguably noted that, *"it is completely impossible to achieve this equitability without causing harm to Egypt which relies largely on the water for its survival. This is supported by Egypt's own frequent argument that there can be no Egypt without the Nile, and hence it's continued refusal to accept the CFA."*

They added that *"these early treaties were just between the British, which was the colonial power in most of the upstream states, and Egypt to the North of Africa. The purpose and outcome of these early Nile treaties, they author assert, was the allocation of control of the river's resources to Sudan (mainly the North) and Egypt. Since that time, there have been many transnational organizations established within the framework of the 1929 and 1959 Nile Treaties. In 1959, as earlier alluded to in this study, Egypt and Sudan signed the agreement for Full Utilization of the Nile Waters to replace the 1929 treaty."* The 1959 treaty, made before all the East African states became independent, provided that the two downstream states would share the Nile waters with Egypt getting the bulk of it (55.5 billion cubic meters) each year and Sudan remaining with 18.5 billion cubic meters with the rest disappearing through evaporation,[157] an agreement disputed by upstream states over its

[156] Wenje, Perez (communication expert and HEMNET Regional Technical Reviewer); Personal telephone interview on Sunday June 09, 2013 at 18.33EAT

[157] Oestigaard, T. (2010).*Nile Issues: Small Streams from the Nile Basin Research Programme*; 2010, Fountain Publishers, Kampala pp10-14

shortcoming in turning a blind eye to the role the upstream states play in sustaining the flow of the Nile. Therefore, it is the KIIs view that *"the 1959 treaty essentially denies the upstream states utilization of the resources of the river despite the same treaty requiring them to effectively manage its source for uninterrupted flow."*

Thus in 1999, the riparian states began negotiating the CFA that Oestigaard notes, lays down principles of cooperative water resources management among all the riparian states. The 1999 process established the Nile Basin Initiative (NBI), an exceptional collective basin wide initiative by the riparian states which envisages a new path for achieving poverty eradication within the basin through a Shared Vision Program (SVP) and two Subsidiary Action Programs (SAPs), according to Mohammed and Loulseged.[158] However, before the negotiations began within the framework of NBI, Waterbury[159]and Okidi[160]state that there were other bilateral and even multilateral initiatives and joint cooperation ventures which came after the independence of the East African states. These include the Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin (HYDROMMET) project from 1967 to 1992 in the Equatorial Lakes, later converted to TECCONILE in 1993 focusing on development agenda. There were also the 'Nile 2002 conferences' that started in 1993 up to 2002 for scientific debates and what Mohammed and Loulseged refer to as informal dialogues on Nile issues.

[158] Ibid, p68.

[159] Waterbury, J. (1979). "Hydropolitics of the Nile Valley", Syracuse, Syracuse University Press p301, cited in Mohammed, Yasir and Loulseged, Makonnen; *The Nile Basin Water Resources: Overview of Key Research Questions Pertinent to the Nile Basin Initiative*; 2008, Colombo; International Water Institute Working Paper 127 p3

[160] Okidi, C.O. (1990). "History of the Nile and Lake Victoria Basins through Treaties", cited in Mohammed, Yasir and Loulseged, Makonnen; *The Nile Basin Water Resources: Overview of Key Research Questions Pertinent to the Nile Basin Initiative*; 2008, Colombo; International Water Institute Working Paper 127 p3

Apondi[161] points out that some of these organizations created for the management of the Nile Basin resources have functioned well but others have "suffered from structural shortcomings from the treaties." She points out that the NBI, for instance has suffered from a narrow focus and exclusion of certain decision makers, though it should be noted that under the treaty establishing the NBI, there is rotational chairmanship among the NILECOM members as well as the head of the secretariat, which must be a member of the riparian state, and also holds the position on a rotational basis. It is however, factual instating that one of the key challenges to the realization of the NRBC has been the mood of mistrust. This has led to walk-outs from the negotiating tables by mainly the downstream members, who though outnumbered[162] feel that the upstream states have ulterior motives of taking away their historical rights to the river's resources.

There are also real issues - the ones Apondi refers to as "alleged bottlenecks to the 1929 and 1959 treaties." For instance, Egypt only saw the need to contribute to the maintenance and sustainability of the sources of Nile River to upstream countries after the CFA was opened for signing in 2010. A number of diplomatic efforts by Cairo to influence some upstream states with promises of financial support so as not to sign the treaty became very visible after the CFA had been opened for signature in 2011. Furthermore, the unilateral decisions the author refers to, attributing mainly to upstream states have also been committed by the upstream states through walkouts and conflicting media statements.

4.4 Benefits in Negotiating the New Nile Treaty

Through negotiations, states are able to address their diverse interests for purposes of peaceful co-existence. From the survey, it emerged a number of benefits that the riparian

[161] Apondi, T.J.A. (2006). *The Conflict over the Management and Use of the Nile Waters and the Influence of the 1929 and 1959 Treaties on Riparian States*; 2006, Unpublished MA Thesis University of Nairobi, Nairobi op cit

[162] The membership to NBI is such that there are only two downstream states – Egypt and Sudan- to eight upstream states – Burundi, DR Congo, Ethiopia, Kenya, Rwanda, Tanzania, South Sudan and Uganda. Eritrea participates in the forums as an observer.

States can harness. However, they have to start by seeing water, not as a static resource but as a flexible resource as advocated for by Susskind and Islam.110

Lawrence Susskind and Shafiqul Islam[163] recognize that the difficulties in the water negotiations are due to rigid assumptions of how water must be allocated. Susskind and Islam opine that with such rigid positions, there are only absolute winners and losers. On the other hand, the KII asserted *"the realization that water is a flexible resource coupled with building of trust, they assert, can lead to countries reaching agreements beneficial to all their citizens and national interests. Their argument is however that through proper negotiations, the international waters can be harnessed for the good of all. For instance, the Israeli-Jordan Treaty, which demonstrates the value of trust, and going forward, adopt innovative technologies and collaborative administration to facilitate problem solving and sustainability of the resource."*

They also stated *"when countries face contending water claims, the biggest obstacle is uncertainty - of information, of action and of perception which when combined, deprive the nations of the sense of security and lead to mistrust."* However, Susskind and Islam assert that the difficulties can be overcome by not viewing the water as a fixed resource – "one provided by nature in a given quantity that is either static or diminishing" but rather finding ways to improve overall efficiency of water use to "create more water" through a cooperative approach to negotiations.

Mohammed and Loulseged[164] support the above view, stating that by viewing water as a static resource, inhabitants of the Nile basin, despite being endowed with vast natural

[163] Susskind, L. and Islam, S. (2012). *Water Diplomacy: Creating Value and Building Trust in Trans-Boundary Water Negotiations,"* Science & Diplomacy, Vol.1, No. 3 http://www.sciencediplomacy.org/perspective/2012/water-diplomacy

[164] Mohammed, Y. and Loulseged, M. (2008). *The Nile Basin Water Resources: Overview of Key Research Questions Pertinent to the Nile Basin Initiative*; 2008, Colombo; International Water Institute Working Paper 127 pp1-26

resources, still face considerable challenges. However, the authors state that through cooperation, these benefits can be harnessed to yield major benefits in terms of food, energy production as well as improving the general welfare of the inhabitants of the basin. The authors state that the NBI has attempted to harness these benefits through the Strategic Action Program that promotes a Shared Vision and two investments Subsidiary Action Programs (SAP). The KII added that *"the Shared Vision Program (SVP) comprises of eight projects namely the Applied Training Project (ATP), the Nile Trans-Boundary Environmental Action Project (NTEAP), the Nile Basin Regional Power Trade Project (RPTP), the Efficient Water Use for Agriculture Project (EWUAP), the Water Resources Planning and Management Project (WRPMP), the Confidence-Building and Stakeholder Involvement Project (CBSIP), the Socio-economic Development and Benefit Sharing Project (SDBSP) and the Shared Vision Program - Execution and Coordination Project (SVP-ECP). All these, coupled with SAP, which has the Eastern Nile Subsidiary Action Program (ENSAP) and the Nile Equatorial Lakes Subsidiary Action Program (NELSAP)".* Yasir, and Makonnen assert that these are opportunities that have resulted from the negotiations of the CFA.

Grzybowski, et al., [165]in furthering the flexibility of water as a resource identifies that water can be used to support agriculture, and through that sustain livelihoods. The agricultural aspect, the authors declare, gave rise to water agreements negotiated some 5000 years ago. On the other side, the authors identify the use of water for energy, which in this case includes water for hydropower and bio fuels, both of which increase with the demand for energy generally. Grzybowski et al., supports a mutual gains approach to negotiation for better outcomes, often including equitable sharing of the benefits. For cross-border water resources, the authors offer that with the recognition of the mutual gains approach, focus on

[165] Grzybowski, *et al., (2009). Beyond International Water Law: Successfully Negotiating Mutual Gains Agreements for International Watercourses,* A paper at a conference on 'Critical Intersections for Energy and Water Law: Exploring New Challenges and Opportunities', Calgary, Alberta May 20-21, 2009, University of Calgary pp139-155

negotiations can shift away from limiting impacts on sovereignty to planning and devising ways and means to maximize benefits negotiations; a concept they christen as ‘open negotiations’ as opposed to ‘narrow negotiations’, the latter of which bogs down negotiators with simplistic and time wasting definitions of tributaries, for instance.

4.5 Summary

The chapter has made a comparative analysis of each individual state with regard to its geographical advantage, climatic conditions and available water potential for developmental needs. The literature review indicates that in the 21st century the Nile Basin will encounter complex problems. As the population growth increases in the Nile Basin, the need for water will increase. The danger of drought, (to which the upper riparian countries and the Horn of Africa are prone) is a virtual threat. Deforestation, environmental degradation, desertification, and pollution in the basin all have serious consequences for the future as this chapter clearly demonstrates.

Among the lower riparian countries, Egypt, without making any contribution, still has the lion's share of the Nile water. This type of uneven distribution can no longer continue. The Egyptian Hegemony, through its foreign policy aims to have full control of the Nile instead of negotiating a rational and equitable share of the Nile water. The reason is simple; the other riparian countries of the Nile all have a rapidly growing population and also have plans for the development of their water resources. The challenge facing the riparian countries of the Nile Basin requires the development of mechanisms for a joint solution comprising of legal, economic and ecological issues with the objective to forge cooperation amongst themselves, most of whom have done very little in the past to benefit from the blessings of this immense natural resource.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter concludes the study and makes recommendations on its findings.

5.1 Conclusion

The current level of cooperation and positive developments in the Nile Basin are remarkable. The Nile riparian countries are seen to be moving in the right direction by setting aside their differences and working towards sharing their common water resources with a view to making social and economic progress a reality. For centuries, the lower riparian

countries have exploited the Nile River to the detriment of others. If this continues unabated, the hand-to-mouth existence of millions of citizens of the upper riparian countries would further deteriorate and heightens the tension between their factions. Unfortunately Egypt, the leading member of the basin, in terms of economic, military and diplomatic prowess, has been slow in embracing this change which would otherwise be its best interest.

Otherwise this research underscores the Malthusian theory by confirming that uncontrolled population growth coupled with scarcity of key resources such as water and land is bound to lead to perennial conflicts in society. The Sudanese civil war, for example, is seen to be assuming a new dimension due to the discovery of oil and gas. Apart from the religious element, its abundant and untapped oil resources has become one of the main reasons for the longest conflict in Africa. One of the major challenges facing the Nile Countries is the fact that there is more demand than supply of water. In this regard, all Nile Basin Countries would benefit from working together to reduce evaporative losses on a basin wide scale. In this respect, The NBI is a landmark as it initiated constructive dialogue among historical adversaries.

As far as Egypt is concerned, however, the current state of affairs could only dampen its hope and ambition of maintaining its supremacy in the region. It would be better if the country champion rather than be seen to oppose efforts at creating a workable and agreeable water sharing strategy that would help it retain its advantageous position. The first step towards this would be accepting that the pre-colonial treaties were unfair to some of the members of the basin rather than try to uphold them. Such a strategy would be sure to endear Egypt to its counterparts and create a situation of common benefits and more efficient resource usage.

One other premise for possible future cooperation is the necessity to develop major sub-basin projects such as building power stations on the Nile tributaries and dam at Lake Tana in Ethiopia as sharing water in a high and cool area is much more efficient and reasonable than sharing water in such a hot and dry area like Lake Nasser which was created by the Aswan High Dam. According to some estimation, however, the water available at Lake Nasser could increase to 15 billion cubic meters per year by preventing evaporation and seepage.

5.2 Recommendations

This study has attempted to review the enormous potential of the Nile Basin by referring to and analyzing technical data and doing an in-depth study of the hydro-political situation as well as the historical and legal backgrounds of the current problem. Therefore, for a lasting solution to the Nile problem, the study recommends the following for consideration:

Priority should be given to eliminating the existing suspicion and anxiety with a view to building confidence among riparian states.

The current process of building an all-inclusive cooperation in the Nile Basin should be encouraged. It should further be supported by not only foreign donors but all stakeholders.

A legal regime stipulating the need and determine the rights of each individual riparian country (based on equitable allocation of Nile water resources) should be agreed upon and strengthened.

A sub-basin approach should be adopted to help materialize a firm foundation for future basin wide cooperation with institutional framework.

Sustainable peace and prosperity in all countries of the Nile Basin is only achievable through honest and transparent multilateral engagement and constructive diplomacy.

The international community has to play an important role in all aspects of the Nile Basins development process.

It is essential for all the Nile basin countries to realize that an agreeable strategy for equitable distribution of water is an essential step towards realizing sustainable peace and security as well as promoting economic interests of the whole population. This seems to have sunk in very well but should be grounded in actualized cooperation rather than engaging in threats and confrontation.

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APPENDICES

APPENDIX I: Interview Schedule

1. How do multi-lateral negotiation forums arrive at the collective decisions? Please explain.
2. Are other parties like the local community involved in the water sharing diplomacy of the Nile basin? Please explain.
3. Was the British colonial government justified in undertaking an agreement over the use of the basins resources with Egypt on behalf of East African countries?
4. Do you think Egypt has taken full and unfair advantage of the pre-independence treaties to exploit the Niles resources in complete disregard to the state of underdevelopment of its upper riparian counterparts?
5. Do the upper riparian countries have a genuine need to compete with Egypt over the Nile water?
6. What benefits can be harnessed from water sharing diplomacy among the states?
7. In your opinion what is the origin and challenges of the trans-boundary water management agreements?