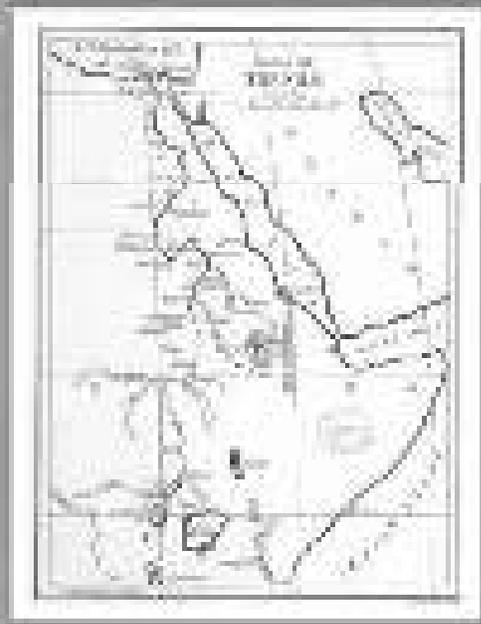
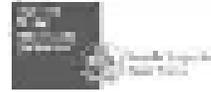
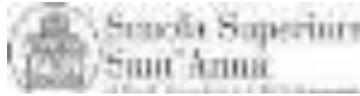


Mattia Grandi

Hydropolitics in Transboundary Water Management

Conflict, Cooperation and Governance along the Nile River





Hydropolitics
in Transboundary Water Management
Conflict, Cooperation and Governance along the Nile River

Mattia Grandi

*A dissertation submitted in partial fulfillment of the requirements for
the degree of Doctor of Philosophy*

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Abstract

The historical inter-state dispute over the allocation and utilisation of the Nile River waters has endured ever-evolving patterns of intra-basin relationships, multi-level dynamics of water policy making and fluctuating intensity in conflictive and cooperative interactions. The transboundary nature of the Nile waters reveals the interconnectedness of the Nile states, which rely upon the Nile ecosystem not only for the satisfaction of economic, social and cultural needs, but also for the maintenance of peace and security in the region.

The absence of an effective integrated mechanism for the management of the Nile flows has resulted in the persistence of asymmetries among the riparian countries over the control and use of an essential resource: thus, whether the conflict potential of the Nile waters could turn into a driver for potential cooperation represents the core issue of the present research. This study explores the processes that have led to the current status quo of the Nile hydropolitics, in the search for alternative interpretations to the mainstream perspectives emerging from the existing Literature.

The case-study methodological approach aims at unveiling new empirical insights over the dynamics of transboundary water management in the Nile Basin, through the application of an original theoretical framework, which is built upon a multi-disciplinary focus that combines theories of International Relations and Environmental Studies. In particular, the critical assessment over inter-state power asymmetries uncovers the relational process of compliance and contestation to the consolidated hydro-hegemonic regime in the Nile Basin, providing an original analysis over material and discursive structures that constitute both hegemonic and counter-hegemonic mechanisms of water control. In so doing, the investigative process formulates assumptions over the complex dynamics that shape the current Nile hydropolitics, while at the same time tracing historical processes of intra-basin negotiations over the management of transboundary water resources, as well as exploring possible future scenarios in terms of both geophysical projections and policy recommendations towards an effective integrated management of the Nile flows.

Finally, providing new elements for the analysis of conflict, cooperation and governance in international river basins, this study also contributes to the theoretical development of the emerging field of critical hydropolitics.

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List of Acronyms, Abbreviations and Terms

AAU	Addis Ababa University
Abbay	Ethiopian name for the Blue Nile River
AfDB	African Development Bank
bcm	billion cubic meters (of water)
bcm/y	billion cubic meters per year
CFA	Cooperative Framework Agreement
DAG	Development Assistance Group (Ethiopia)
Derg	The Ethiopian regime in power from 1974-1991
DFID	Department for International Development (United Kingdom)
DIU	Dams Implementation Unit (Sudan)
DSS	Decision and Support System
EIWR	Ethiopian Institute of Water Resources
ENRB	Eastern Nile River Basin
ENSAP	Eastern Nile Subsidiary Action Program
ENTRO	Eastern Nile Technical Regional Office
FAO	Food and Agriculture Organisation
Feddan	Unit of area, equivalent to 0.42 hectares or 1.038 acres (used in Sudan and Egypt)
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GERD	Grand Ethiopian Renaissance Dam
ha	Hectares
Hydromet	Hydro-meteorological Survey of the Equatorial Lakes
ICCON	International Consortium for Cooperation on the Nile
IDEN	Integrated Development of the Eastern Nile
ILRI	International Livestock Research Institute
IPE	International Political Economy
IPoE	International Panel of Experts
IR	International Relations
IWL	International Water Law
IWMI	International Water Management Institute
JMP	Joint Multipurpose Program
LWRG	London Water Research Group

MENA	Middle East and North Africa region
MIWR	Ministry of Water Resources and Irrigation (Sudan)
MoWR	Ministry of Water Resources (Ethiopia)
MW	Megawatts
MWRI	Ministry of Water resources and Irrigation (Egypt)
NBC	Nile Basin Commission
NBDF	Nile Basin Development Forum
NBI	Nile Basin Initiative
NBTF	Nile Basin Trust Fund
NELSAP	Nile Equatorial Subsidiary Action Program
NGO	Non-Governmental Organisation
Nile-COM	Nile Council of Ministers
Nile-SEC	Nile Secretariat
Nile-TAC	Nile Technical Advisory Committee
NRBAP	Nile River Basin Action Plan
NTEAP	Nile Transboundary Environmental Action Project
ODI	Overseas Development Institute
OPEC	Organization of the Petroleum Exporting Countries
PTJC	Permanent Technical Joint Committee
RBO	River Basin Organisation
RPT	Regional Power Trade
SAP	Subsidiary Actions Program
SPLA/M	Southern People's Liberation Army/Movement (Sudan)
SVP	Shared Vision Program
TeccoNile	Technical Cooperation Commission for the promotion of the development and environmental protection of the Nile
Tekezze	Ethiopian name for the Atbara River
TWM	Transboundary Water Management
UEA	University of East Anglia
UN	United Nations
UNDP	United Nations Development Program
UNWC	United Nations Watercourse Convention
USAID	United States Agency for International development
USBR	United States Bureau of Reclamation
WB	World Bank

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Chapter 1. Introduction

1.1 Studying transboundary water management in a changing world

In contemporary global studies, environmental challenges are increasingly assessed in terms of serious threats to the opportunity for sustainable development, enhanced governance and peaceful settlement of international disputes. The inclusion of environmental issues into the political agenda represents a systemic trend that has growingly characterised policy processes worldwide since the 1992 UN Conference on Environment and Development (Conca, 2005). Policymakers and practitioners have since then focused not only over the impact of hazardous events such as drought, famine and climatic cataclysms, but also on the urgency to improve the effective management of natural resources. Increasing population, desertification, pollution, global warming, floods, soil erosion, are among the factors that impinge over the sustainable exploitation of natural resource at global level. Both physical- and human-induced aspects of environmental degradation have been addressed in the last two decades from a heterogeneity of theoretical perspectives, inside as well as outside the academia. In particular, considerable attention has been paid to the management of freshwater resources, due to their inherent limited supply, the impossibility of stocking them for future consumption, and their centrality for both physical survival, social relations and economic development.

The perception of a future without water and of the risks associated with the possibility of running out of water has rapidly inspired governmental authorities, international organizations, think tanks, academic institutes and mass media, which more often than not have fuelled the analysis over the emerging topic of water challenges with catastrophic scenarios and apocalyptic imaginaries over the depreciation of a fundamental, yet limited, resource. The issue of water scarcity, both at global and local level, has attracted the analytical efforts of scholars and policymakers, which have resulted in the proliferation of research and policy recommendations on possible strategies to cope with the threat of decreasing water resources worldwide.

The International Water Management Institute (IWMI) is among the research institutions that address water analyses, both in terms of geophysical studies and socio-economic impact of water shortage, and has developed a methodology for measuring water scarcity worldwide: its projections show that water scarcity will be a major concern for many regions of the world by 2025, with increasing water stress not only in arid areas with very limited supply of water resources (physical scarcity), but also in

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geographic zones where effective exploitation is hindered by economic and socio-political factors (economic scarcity).¹

The impact of water scarcity over the perception of global audiences is in a same fashion registered by the Global Risks Index developed by the World Economic Forum (2015): according to data collected in 2014, the largest risk in terms of negative impact for the wellbeing of the global population is represented precisely by water crises, which in the ranking precede threats of historic international concerns such as diseases, weapons of mass destruction, conflicts and fiscal crises. Figure 1 and Figure 2 illustrate the IWMI's map of projected global water scarcity, and the top-10 risks assessment presented in WEF's Global Risk report, respectively.

If environmental challenges were addressed by some as the "ultimate security" (Myers, 1993), it is credible that securing water supplies plays a pivotal role in contemporary politics. The spreading of research and assessments over the potential of water crises for disputes and violent conflicts is a direct effect of the perception that water will soon become the main target of interstate confrontation (Westing, 1986; Elliott, 1991; Gleick, 1993; Homer-Dixon, 1994; Remans, 1995; Butts, 1997; Elhance, 1999; Marty, 2001; Chatterji et al., 2002; Wolf, 2002). If the last decades of

Figure 1: Projected global water scarcity, 2025



Source: International Water Management Institute, retrieved from <http://www.iwmi.cgiar.org/>

Figure 2: Top 10 global risks in terms of impact, 2014



Source: World Economic Forum (2015)

¹ For an analytical discussion over the conception of water scarcity in the literature, please see Chapter 2.1

Chapter 1. Introduction

the 20th century have seen wars fought over the control of oil supplies, water will be the "Blue oil" of the 21st century, some argue (Barlow, 2001). The controversies that may arise from disputes over the control and utilisation of scarce water resources are also exacerbated by the international nature of the largest global freshwater potential: it is estimated that 80% of freshwater flows in the world come from 263 transboundary rivers, whose catchment areas cover about 47% of the global land surface (Wolf et al., 1999). Figure 3 shows the incidence of international river basins in the world.

Given this scenario of increasing worldwide water scarcity and transboundary nature of the major river basins, the likelihood of incumbent international water wars has surged as one of the main focus of scholars and water experts, who have explored whether water could be a driver for future conflicts. While some propend for the thesis that water scarcity is likely to lead to interstate violent conflicts (Soffer 1992; Beschoner 1992; Bulloch and Darwish 1993; Biswas 1994; Kliot 1994; Hillel 1994; Gleick et al. 1994; Scheumann and Schiffler 1998; Elhance 1999; Ohlsson 1999), others argue that, on the contrary, the centrality of water resources will foster international cooperation and peaceful settlement of potential disputes, since the benefits that could accrue from the joint management of a shared resource greatly overcome the risks and costs of open wars (Salman and Chazournes 1998; Wolf 1998; Postel and Wolf 2001; Green Cross International 2000; UNESCO 2002; Sadoff and Grey 2002, 2005). This indeed results to be the main feature of the range of studies with a focus on water politics: the dichotomy between "water wars" and "water peace" paradigms, which endeavouring either a neo-Malthusian or a Cornucopian approach categorise water as either determinant of conflict or driver for peace and regional integration.²

Most of the literature published in the decade of the 1990s seems to focus on the conflictive potential that water resources hold (see for example: Gleick, 1993; and Homer-Dixon, 1994), providing evidences for the famous prediction made by former UN Secretary-General Boutros-Ghali that "[t]he next war [...] will be fought over water, not politics" (as cited in

Figure 3: International River Basins, 2010



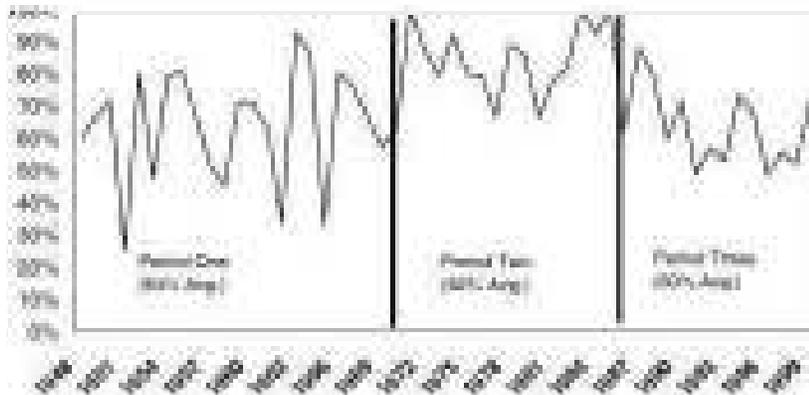
Source: *Transboundary Freshwater Dispute Database (2010)*

² For an in-depth theoretical analysis over the debate between "water wars" and "water peace" paradigms, please see Chapter 2.

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Bosire, 2011:194). However, despite the transboundary nature of major water sources, there is no evidence of international wars fought explicitly over the control or utilisation of water; on the contrary, the predominance of cooperative events over conflictive is a historic feature of water-related international disputes (Wolf, 1997). Yoffe and Larson (2001) contributed significantly to the creation of the Transboundary Freshwater Dispute Database (TFDD) for the Basins at Risk (BAR) project of the Oregon State University, where they identified and collected data over 1,800 inter-state water-related events for the period 1948-1999: the results of the elaboration of the data show that the large majority of the events registered have a cooperative nature (1,228 events, which correspond to the 67% of the entire dataset), and that two third of the conflictive events (which are 507 in total, the 28% of total events collected) were verbal interactions, not armed conflicts (see Figure 4 below).

Figure 4: Cooperative events as a percentage of total water-related events, 1948-1999



Source: Wolf et al. (2003)

These data seem to corroborate the thesis of the "water peace" perspective, for which water could be a driver for cooperation rather than a trigger of wars. However, "absence of war does not mean the absence of conflict or the presence of 'peace'" (Warner and Zeitoun, 2008: 807), and at the same time cooperative events are not necessarily a prerequisite of effective cooperation (Zeitoun and Mirumachi, 2008). The simplistic "either/or" analysis, which cornucopian and neo-Malthusian theories have contributed to generate, risks misrepresenting the complexity of international water disputes, where overt and covert mechanisms veil the multilevel interactions among the actors and the multiple faces of cooperation: rather than black and white, shared troubled waters are often grey, and the ultimate determinants of water disputes have to be searched in the dynamic processes that forge the broader political context. Rather than on a continuum, conflict and cooperation should be seen as areas that often

overlap, resulting in several different outcomes depending on the specific conformations that in a given period and in a given area of analysis this interaction assumes.

In order to explore the features of water politics it is indeed pivotal to broaden the analysis to the contextual factors that have contributed to forge well-defined patterns of hydropolitical³ relationships, since "it is usually factors outside the water domain that are decisive in exacerbating tensions" (UN Water, 2008). Thus, for analytical purposes water management cannot be disjointed from water governance, since both causes and solutions of water challenges emerge from the broader context in which they are embedded (Unesco, 2009). The recognition of the embeddedness of water governance in broader socio-political structures facilitates an analysis over processes, dynamics and relationships that overtly or covertly affect the hydropolitical configuration in a given space and time limit, and paths the way towards a more effective assessment of conflictive and cooperative features of water-related relations. Since conflict and cooperation result from the dynamic evolution of power relations, the inclusion of a theoretical approach over power analysis is deemed necessary in order to shed light on the subtle processes that forge water policies and influence water negotiations. Unveiling the features of power at stake in transboundary basins will thus represent the core objective of the research process, which is believed to contribute to the literature towards the definition of analytical framework for the advancement of critical hydropolitical studies.

1.2 Rationale of the study and problem statement: the Nile waters dispute

The Nile River represents the main source for hydroelectric production and irrigation of agricultural lands in most of the 11 countries it flows across. Although generally considered as a whole, the area it covers can be divided into two sub-basins, for purpose of both hydrological and socio-political analysis: the Eastern Nile Basin, which includes Egypt, Ethiopia, Eritrea, Sudan and South Sudan, and the Equatorial Nile Basin, which is shared by Uganda, Kenya, Tanzania, Burundi, Rwanda and the Democratic Republic of Congo. The two sub-basins are differentiated in terms of climate variability, precipitation, geographic conformation and, most importantly, with regard to the water contribution to the Nile river water system and dependency ratio over the Nile in respect to other water resources. While the White Nile, flowing from the Lake Victoria northwards, only contributes up to a 14% of the overall Nile waters due to high levels of evapotranspiration (in particular when it reaches the Sudanese swamps), the Blue Nile, which arises from the Lake Tana in Ethiopia and merges the

³ According to Elhance (1999: 3), hydropolitics is "the systematic study of conflict and cooperation between states over water resources that transcend international borders".

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White Nile in Khartoum, accounts for about 86% of the Nile volume (Swain, 2011).

The hydrology of the river partially explains the geopolitics of water within the basin, since the riparian state that contributes the most to the Nile (Ethiopia) barely utilises its waters, while Egypt (which hosts no tributaries of the Nile) is the country that has historically relied more on the flows of the river, developing hydraulic infrastructures and exerting a dominant role in the region in order to secure the maximum control over the Nile waters upstream. At the same time, the dependency on the Nile water resources is extremely different between the Equatorial and the Eastern sub-basins: for example, whereas in Egypt the dependency ratio on external water resources is about 97%, in Uganda is just around 40% (FAO, 2015). Ethiopia, with its 0% dependency ratio upon external water resources, not only can rely upon internal resources for its water requirements, but, even more importantly, does not host only the Blue Nile in its territories: the diversified hydrogeological conformation of the country, with its rain-fed highlands, huge groundwater potential and many major and minor watercourses, represents a geographic advantage in terms of water resources that other riparian states (i.e. Sudan and Egypt) do not have. On the contrary, Egypt not only lacks sufficient internal renewable resources, but 100% of the external resources it relies upon come from the Nile waters.

It thus follows that the Egyptians posit a significant value on the river, being a country prone to water scarcity due to the limited domestic water potential and in a disadvantaged position in geographical terms being the further downstream state along the flows of the Nile. Moreover, the economic wealth of the country relies greatly on its waters for both industrial and agricultural production, and major efforts by policy makers have historically been addressed towards the exploitation of its water potential (i.e. the High Aswan Dam or the Toshka/New Valley Project). Finally, the apprehension for potential threats that could negatively affect the amount of water downstream has resulted in several attempts to extend its control over the Nile upstream, both through military actions (i.e. the expeditions in northern Sudan in 1958) and diplomatic hostile initiatives (i.e. the 1959 Nile Agreement with Sudan or the boycott of the Nile Basin Initiative since 2010).

Despite the geographical advantage, the upstream states have historically exerted limited control over the Nile flows and exploited the water potential at a very low level: be it for the lack of hydraulic know-how and expertise, for economic constraints, for the absence of a long-term vision, for the low ability to attract foreign investments or for the fear of counter-movements by downstream states, the utilisation of the Nile waters by the upstream states have always been partial and ineffective. This status quo has been maintained for centuries, and downstream states have not had to

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face any challenge in terms of water availability coming from unilateral actions upstream that could negatively affect the flow of the river. Disputes over the implementation of potential hydraulic infrastructures upstream have arisen in recent times, in particular with regard to the announcement by the Ethiopian government of the beginning of the building of the Millennium Dam (lately called Great Ethiopian Renaissance Dam, GERD) over the Blue Nile in 2011. According to the Ethiopian government, when completed the GERD will provide 6,000 MW of hydropower, and with its 145m will be the highest in Africa. Moreover, the planned reservoir of the dam will reach more than 63 bcm, making it the largest artificial lake in the continent. The Ethiopian unilateral decision of implementing over the most important tributary of the Nile the biggest hydraulic project to date in Africa, without consulting at all the Egyptian authorities, made the tensions between the two countries sharply escalate. While the Egyptians fear that such a large project would dramatically decrease the flow downstream, thus threatening the water security of the country, the Ethiopians state that the dam would be beneficial for all the riparian countries and wouldn't represent a threat for downstream countries, since it won't affect the volume of the water flow.

Besides technical issues of water allocation and availability, evapotranspiration and volumes, the topic of the management of the Nile flows also denotes matters of purely hydropolitical nature, which involve processes of securitization of water issues, multilateral negotiations, competing water narratives, developmental needs and sovereignty-related questions, ultimately the competition for regional leadership. It is indicative that the main controversies among the parties during the long-lasting negotiation process over the drafting of the Cooperative Framework Agreement (CFA), the first basin-wide treaty for the overall management of the basin's resources, have never been about volumetric issues of water allocation; rather, upstream and downstream states were not able to find a compromise over the very meaning of the concept of "water security" to be applied in the agreement.

Additionally, in terms of international water law (IWL), there has never been a comprehensive agreement among the riparian states in order to manage the allocation and utilisation of the Nile waters. Authoritative instruments of law such as the 1992 UNECE Convention on Transboundary Watercourses and the 1997 UN Watercourses Convention informed the drafting of the CFA, but to date (2015) both Egypt and Sudan still refuse to sign it, thus postponing the eventual entry into force of the treaty. Moreover, upstream and downstream states have opposing views with regard to the only existing agreements over the Nile flows, the 1929 and the 1959 Nile water treaties signed between Egypt and Sudan: while for the signatory parties the treaties are valid and legitimately in force, the other riparian states not only contend that they are not bound by agreements they are

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not part of, but also question the legitimacy of allocating all the water resources of the river only to two out of eleven riparian states.⁴

It resulted that the hydropolitical history of the Nile basin is a history of asymmetric control over the Nile waters: in absence of an effective system of integrated management, Egypt has succeeded in extending its hegemony over the basin, in order not only to exploit the flows for hydroelectric production and extensive agricultural project, but also to prevent the upstream riparian states to take advantage of their geographic position. The geopolitics of the Nile basin has thus been shaped by the national interests of the geographically weakest state, which in turn has demonstrated to hold the necessary power to balance this disadvantage, both in economic and political dimensions. However, the intra-basin hydropolitical relationships have been always very dynamic, and emerging states upstream have started challenging the status quo established by the Egyptian predominance. In the last two decades, cooperative efforts aimed at the creation of a permanent joint commission, and a more explicit and aggressive tactic deployed by Ethiopia, have contributed to raise tensions among the riparian states: in particular, the Egyptians have increasingly felt the potential threat of a decrease in water availability due to both hydraulic developments upstream and new legal instruments that could hinder their quasi-hegemonic control over the Nile flows. Finally, growing trends in sharp population increase and the impact of adverse climatic events (i.e. droughts) across the basin will severely affect the availability of water for the riparian states' future needs.

Given the background on the hydropolitics of Nile Basin, the aim of the analysis advanced in the following sections is to shed light upon the determinants of current water-related disputes in the Nile Basin, and to assess whether the conflict potential could morph into potential for cooperation and integration among the riparian states. The political nature of the Basin and the multidimensional dynamics that involve the different actors represent the focus of the research, which in the search for explanatory factors and potential outcomes is aimed at providing new insights over how and why the hydropolitical configuration of the Nile Basin does follow, or not, patterns of state behaviour and international negotiations. The question on how water resource management and allocation is perceived among the different riparian countries will also shed light on broader political issues that concern the very survival of the peaceful regional status quo: in the end, whether states attempt to get more water in order to hold more power, or on the contrary if states try to gain more power in order to get more water, stands at the core of the hydropolitical analysis advanced in this work.

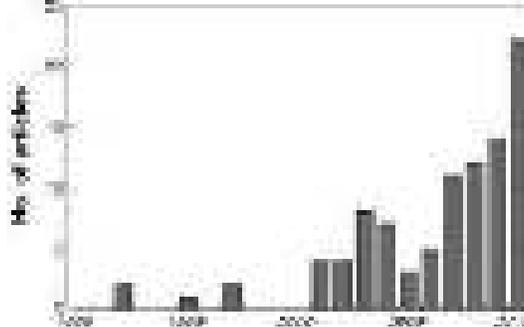
⁴ Being calculated in 84 bcm/year the average discharge of the Nile flow, the 1959 Treaty allocates 55,5 BCM to Egypt and 18,5 bcm to Sudan yearly, estimating a loss of 10 bcm/year, leaving no quotas for the other riparian states.

1.3 Scope and justification

Since the early '90s the research focus of Security Studies⁵ has broadened its thematic scopes and analytical goals in order to include multi-level analyses and cross-sectoral investigation in issues that were previously considered as low politics, such as environmental phenomena and societal assets. In particular, the shift in focus over natural resources has received increasing attention from academic groups and policy makers, as well as mass media and international organizations. This trend has also affected research on water-related issues, as demonstrated by the proliferation of multi-disciplinary studies over the politics of water, both at theoretical and empirical level. Figure 5 shows how the academic interest over water security has substantially increased, given the number of scientific articles published on this issue during the last two decades: in the period 2000-2010, the volume of publications related to water security has almost quintuplicated (Cook and Bakker 2012).

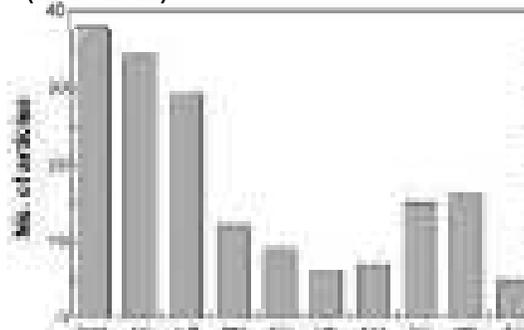
Nevertheless, this increase is mostly due to the multiplication of studies in specific disciplinary clusters, such as Environmental Studies, Hydrological Modelling, Water Resource Management, Civil Engineering and Biology. It thus follows that the incidence of Social Sciences in the research over water security is still limited, and that water-related top-

Figure 5: Academic articles containing the term "water security" (1990–2010)



Source: Cook and Bakker (2012)

Figure 6: Disciplinary grouping of articles containing the term "water security" (1990–2010)



WR=Water Resources; ES=Environmental Studies;
 EN=Engineering; MD=Geosciences;
 AG=Agronomy; GE=Geography; PH=Health;
 SS=Social Science; NS=Natural Science;
 AS=Atmospheric Sciences

Source: Cook and Bakker (2012)

⁵ For an overview over theories of Security Studies, please see Buzan et al. (1998), Neumann (1998), Warner (2000).

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ics are mainly approached by technical-managerial perspectives (Figure 6).

The outcome of this trend in academic studies is the predominance of engineering approaches, which treat water challenges as matter of solely managerial (supply-side) problems that need innovative technical solutions in order to be solved. While on the one hand this trend has reinvigorated the search for ad-hoc solutions to global and local water challenges (such as hydraulic innovations in engineering and studies for increasing water productivity) and has informed the public audience on the urgency of technological advancement in water management (such as wastewater management and prevention of water losses), on the other hand it has contributed to undermine several other factors, often subtle and covert, that intervene in water management and affect the effective allocation, distribution and utilization of water resources. For example, water crises are more often an effect of political and socio-economic interplays among a heterogeneous range of actor with different interests, perspectives and behaviours, and less of inefficient technical management or limited physical availability. Water scarcity can result from a multitude of causes and result in several different outcomes, and a broader research focus able to go beyond technical concerns may unveil explanatory factors that reside in the socio-political dimensions of water management.

The present study focuses on multi-level dynamics, processes and outcomes of water-related events in order to shed light upon the subtle operation of factors that for too long have been considered secondary: in this way, this research project will explain how a social science approach in general, and a critical perspective from the field of International Relations (IR) in particular, may help identifying and analysing the determinants of water disputes and show the path for potential solutions. In so doing, the contribution of the research to the current state of art in the discipline of water management will be two-fold: first, a theoretical contribution to the advancement of analytical perspectives over the management of potential water crises, and second, an innovative empirical insight over the specific context of the Nile Basin, currently considered one of the most dynamic transboundary context worldwide.

The Nile River Basin constitutes one of the major water regime in the world, flowing across 11 riparian countries and delineating a peculiar system both in terms of environmental and geopolitical settings: it's the longest river in Africa, it hosts a population of about 300 million people and its economical value in terms of agricultural and industrial inputs is non replaceable in most of the riparian states. Moreover, the intra-basin relationships among the interested countries have historically been dependent upon the utilisation of its waters, and the rich diversity of cultures and societies along its banks have resulted in non-linear patterns of coop-

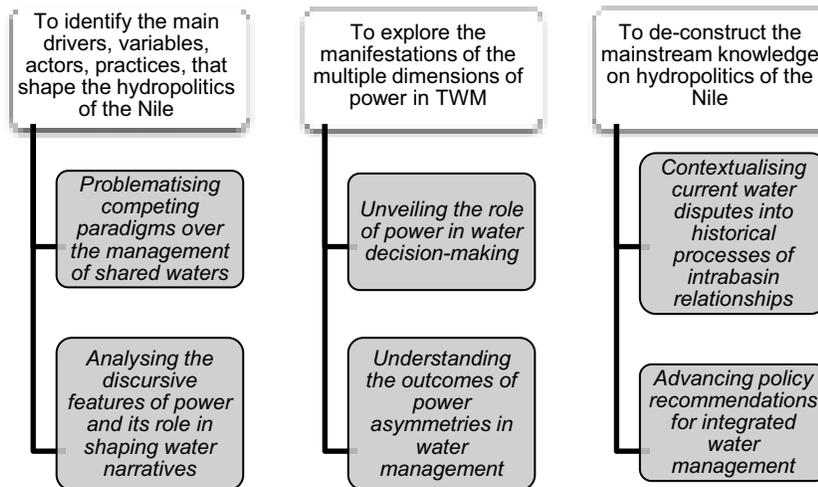
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erative and conflictive dynamics. Ever-evolving interstate relationships, new challenges from inside and outside the water sector, developments in diplomatic relations and in subjects of international water law, economic trends and political changes have affected, and in turn are affected by, the configuration of the hydropolitics of the region. Understanding the determinants of such changes and how each domain of analysis has contributed to shape the past and current water disputes between the riparian states will be the main scope of the present analysis, which will contribute to explain and interpret the causes behind asymmetric control of the Nile waters, as well as to advance recommendation for overcoming potential lock-ins. While the outputs of the research might be addressed to policy-makers, the arguments outlined in this dissertation will also be of concern to a wider audience, since it aims at problematizing the constructed knowledge on Transboundary Water Management (TWM) in general, and on the complex dynamics about the Nile in particular.

The focus over the management of transboundary water resources in the Eastern Nile River Basin (ENRB) opens for inter-disciplinary and multi-level analyses over units and outcomes of complex hydropolitical relationships in dynamic contexts. The academic literature over the TWM of the Nile River Basin embodies heterogeneity of perspectives, approaches and analytical focuses, which have informed the present research. However, in order to narrow the analysis according to the purposes of the project and to guarantee the overall coherence of the project, a careful selection of objectives to be fulfilled, questions to be addressed and hypotheses to be validated (with the consequent exclusion of others, either compatible or competing) has been deemed pivotal, despite the very limitations that this choice necessarily holds. Given the theoretical background of the research project, which is grounded in theories of IR, the main objectives identified are related to issues of geopolitics, power asymmetries, regional governance, state-building and national identity formation, conflict and peace potentials, international law, inter-governmental negotiations and intra-basin management of scarce resources. The inductive approach, informed by the theoretical considerations advanced, not only aims at shedding light over the specific case-study identified in order to inform policy-makers and water practitioners, but represents an attempt to uncover water-related paradigms and trends, which can be generalised from the context-specificity of the Nile Basin in order to better understand practices and theories of TWM for current and future analyses. Indeed, the research objectives reveal a two-fold nature: while on one hand they are properly designed to address the main features and controversies of water-related disputes over the allocation, uses and governance of the Nile flows in current times (the ontology of global TWM), on the other hand they have also been selected to broaden the results in order to account for the global trends emerging in the field of TWM.

In particular, three main objectives are identified for the current study, and illustrated in Figure 7.

Figure 7: Main objectives of the research project



Source: author's compilation

As emphasized in the discussion above and in Figure 7, the present study aims at contributing both to the theoretical development of framework of analysis of TWM, and to the empirical understanding of past and current tensions over the water management in the Nile basin. This thesis thus aims at developing new insights from the case study that I have selected, reframing the scholarly and policy debate by exploring new perspectives where power analysis is applied to the water sector.

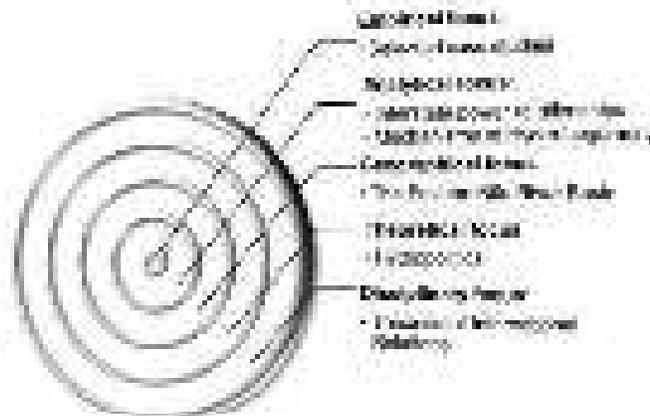
In terms of spatial focus and research design, I have opted for the in-depth analysis of one geographically defined case study, rather than – for example – comparing dynamics in different major river basins. While this decision might introduce some limitations, a single and narrow geographical focus allows the analysis to be actually question- and method-driven rather than theory-driven, hopefully facilitating a less biased understanding of the main issues at stake: accordingly, this study can be defined as a "disciplined interpretive case study" (Odell, 2001), which not necessarily tests a theory, but shows how theoretically driven expectations may be extended to account for a new phenomena. Secondly, such a choice is dictated by the research method that I have adopted and by the consideration of the resources available: intensive fieldwork research that provided – I believe – original analytical insights. Third, in terms of theory building, it is meant to expand and apply the Framework of Hydro-Hegemony (see chapter 3) to a specific case study. Fourth, it facilitated the discourse analysis of performative aspects of power through the direct collection and elaboration of speech acts. Fifth, by keeping the scholarly mind concen-

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trated, it enabled the identification and understanding of competing narratives and imaginaries.

The analysis advanced takes into consideration only the Eastern Nile sub-basin, leaving outside of the research focus the dynamics within the Equatorial sub-basin. There are many reasons for justifying this choice: among others, the hydrological conformation of the Nile (the Equatorial states have very low level of dependency ratio from the Nile waters with respect to Sudan and Egypt), the geopolitical significance of the two sub-basins (while there have never been substantial water-related disputes among the Equatorial states, the likelihood of an imminent water war between Ethiopia and Egypt has been the leitmotiv of analysts in the last two decades), recent relevant changes among the most downstream states (the independence of South Sudan, the riots in Egypt that dismissed Mubarak, the death of Ethiopian PM Meles Zenawi who ruled the country for more than 20 years, the development of hydraulic megaprojects by Ethiopia), the researcher's previous knowledge of the context (I have worked in the field of Water & Sanitation in Ethiopia for more than 24 months), and the feasibility of collecting affordable data and elaborating them properly (due to time and financial constraints it would have been impossible to conduct fieldwork in 11 countries).

Figure 8: Multi-level focus of the research project



Source: author's compilation

The temporal focus of the observation embraces a period that begins with the launch of the Nile Basin Initiative in 1999 and ends in 2015 at the time of this writing. However, for the purpose of contextualising the recent hydro-political evolutions in a longer history of intra-basin relationships, antecedents from mid-1950s will be considered because it was during that period that several riparian states achieved independence from former colonial regimes and, additionally, it was in that period that the only existing

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Nile Agreement (the 1959 treaty between Egypt and Sudan) was designed and signed. The study also advances potential projections over the future of the hydropolitics of the Nile, considering trends and scenarios that assess the 2025-2050 period.

As a way of summing up the scopes of the study, Figure 8 above illustrates the multi-level focus of the research project.

1.4 Research Questions

The present study is intended to shed light upon the role of power asymmetries over the configuration of the Hydropolitics of the Nile river basin. In order to explore the current status quo over the TWM in the basin and viable alternatives for its future water governance, the analysis will focus both over past patterns of hydropolitical relationships among the interested riparian states and on recent relevant developments, both within and outside the water sector, that have contributed to shape policies, practices and imperatives, as well as water imaginaries, of the intra-basin water management.

In the attempt to avoid a restricted consideration of the water sector, the present analysis looks for inter-linkages among different economic, social and ecological systems, in order to account for the range of inputs that inform the water sector, and vice versa to recognise the impact that water policies provokes over state-building processes and inter-state power relations. Thus, the formulation of research questions has been primarily driven by the urgency to locate the water sector into wider networks of political, social and economic factors that contribute to water policy-making in the Nile basin. At the same time, the issues identified are intended to overcome theoretical Manichaeism, in the attempt to avoid theory-driven lock-ins and account for the multidisciplinary features that water studies embody.⁶ The study mainly covers the past 15 years (2000-2015), but the historical period considered dates back to the first half of the 20th Century, since the identification of past patterns of intra-basin relationships is deemed necessary to inform the analysis over the present and future order in the Nile Basin.

The overall investigation process has been built upon a core research question (*How do power relations influence the hydropolitics of the Eastern Nile River Basin?*), from which three substantive sub-questions derive. Moreover, three specific additional questions lead the inquiry for each sub-question. The rationale is given in the Figure 9 below.

⁶ It is worth to recall here the suggestion advanced by Guzzini (2011: 228), when he argued that "[i]t would be excellent if we could overcome our tendency to flag our territory and concentrate on the best arguments available, wherever they may happen to come from".

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I. *Sub-question 1: What are the determinants of the Nile water dispute and the drivers of change for Transboundary Water Management in the Eastern Nile River Basin?*

The first question addresses the main determinants of the Nile controversy, and looks at the interlinkages between the domestic and the regional levels in order to define the specific relationships established by each riparian state with the river Nile. Furthermore, it aims at addressing the impact over the current regime of the tensions between the demand for regional stability and the urgency to increase the utilisation of the Nile waters. In order to pursue national interests the riparian states aim at increasing their share over the river's flows, but competing uses among the states risk increasing the potential for disputes and violent confrontations, which ultimately rest on domestic and regional factors.

The additional questions are the following:

- * What are the strategies of the riparian states to secure control over the Nile waters?
- * How does the domestic utilisation of water resources by each of the Nile countries have transboundary impacts?
- * Why and how do inter-state relationships in the Basin evolve?

II. *Sub-question 2: How has Egypt achieved the role of regional hydro-hegemon? How do the other riparian states contest the Egyptian hydro-hegemony?*

The second research question addresses the features of the regime emerged along the flow of the river Nile. In particular, it aims at unveiling whether or not the current system of TWM presents features of hegemonic nature, and if so, how the presumed hegemon has been able to expand its role over the other riparian states. The focus of the question is over mechanisms, strategies and tactics of coercive and/or consent-inducing nature, the evolving processes of inter-state hydropolitical relations, and the impact of power plays over water-related negotiations and/or disputes. Three additional questions will guide the analysis:

- * What discourses and practices seek to challenge/maintain the status quo?
- * How do domestic transformations in a riparian state, both within and outside the water sector, affect the Nile hydropolitical relationships?
- * Why is the current Nile regime contested by some of the riparian countries?

III. *Sub-question 3: Why is cooperation stalling in the Nile? How can water foster integration among the riparian countries?*

The third research question directly addresses issues of conflict/peace potential among the Nile riparian states, and focuses upon the institutionalisation of cooperative mechanisms for the integrated management of the transboundary water resources. In particular, this question

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involves issues of international water law, existing and proposed treaties/agreements on the allocation and utilisation of the water flows, shared governance over the transboundary resources and the progressive institutionalisation of River Basin Organisations (RBOs) and water regimes among the riparian states. The additional questions identified are as follows:

- * What are the drivers and constraints of cooperation among the Nile riparian states?
- * How is cooperation institutionalised in the Nile basin? How could the riparian countries equally share the potential benefits of cooperating?
- * Why the legal framework over the Nile waters is contentious? How can international water law contribute to overcome the current legal impasse?

Figure 9: Main research question, sub-questions and additional questions of the research project



Source: author's own compilation

The selection and definition of the above-presented research questions are the result of a process of problematization of water-related issues in transboundary contexts in general, and in the Nile in particular, that has been articulated throughout the entire research. To answer to the main research question, the project aims at addressing some underlying 'queries' that will guide the empirical analysis and provide elements to answer to the three sub-questions. The underlying questions belong to two differentiated categories: the substantive, which directly addresses problematic issues identified in the selected case-study, and the foundational, whose purpose

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is to advance argumentations over global trends in the evolving field of TWM.

a) *Substantive questions:*

- * How do political, economic, environmental and social factors exacerbate or mitigate water-related conflict within the Nile River Basin? To what extent is the presumed water scarcity generated in the socio-political domain, rather than in the environmental and hydrogeological spheres?

- * Could competing claims around the CFA lead to water wars or to a combination of conflict and cooperation? What factors prevented Egypt and the Sudan from signing the CFA when all the other riparian states signed in 2010?

- * What's the likelihood of the materialisation of a "plus-sum" game in the Nile Basin, and of the promotion of effective mechanisms for benefit sharing? What could be the drivers of this process? Is it by making treaty or by using scientific knowledge or a combination of both?

- * What are the keys to real, effective and equitable cooperation? What are the economic, social and environmental implications of cooperation, unilateralism or conflict over a transboundary resource in the context of the ENRB? What benefits and costs can be accrued from sustained cooperation?

b) *Foundational questions:*

- * What are the forms of power observable in hydropolitical relationships?

- Which capacities the riparian states have historically demonstrated to hold and use in order to get control over waters?

- Are power relations determining the outcome of current TWM practices, or viceversa it's the patterns of water control that are changing the established power (im)balances?

- * From what domain and scale do determinants of change originate?

- Are water scarcity and water stress merely originated by environmental/ecological/climatic changes? Or are they more politically than environmentally driven?

- Could cooperation on water-related issues foster integrative agreements despite the competing interests of riparian states?

- * How are the observable outcomes of hydropolitics created and reproduced?

- Are drivers of change attributable only to structural factors? Or are they completely dependent on agents' interests and preferences?

- Are there evidences of hegemonic apparatus manipulating the outcomes? In a post-modern world, is cooperation facilitated or challenged by national sovereignty?

1.5 Research design and methodology

One of the main limitations detected in water literature could be addressed through the critical examination of units and levels to be assessed when approaching topics related to water disputes in the international arena. According to Buzan et al. (1998), the focus of analysis should be regional, in order to identify “security complexes,” which are geographical areas whose boundaries are not solely defined by means of physical or administrative nature.

Transboundary rivers are by definition not confined in fixed administrative units, nor the river basin is the only arena where water acquires meanings and multiple dimensions. The basin area is de facto an appropriate level of analysis for exploring water-related dynamics in transboundary water contexts, but it needs not to ostracize the political aspects in favour of a nature-centric approach, nor prevaricate other levels of analysis such as the international as well as the domestic focuses: “The closure of river basins from a political perspective is an issue that warrants careful consideration”, state Wester and Warner (2002) in their critical approach to mainstream River Basin Management. Similarly, Jägerskog (2003) warns against the traditional tendency in IR schools to overlook the domestic dimensions of state entities in favour of a broader international level of analysis, “since the policies pursued internationally are likely to be a reflection of the domestic discourse”. In this regard, Julien (2012) argues that “if hydropolitical relations are first and foremost political relations, it is important to recognise that they do not form in a vacuum but rather correspond to the way water issues are integrated in pre-existing political dynamics”. Referring to the forms of Hydro-hegemonies observable in 21st century hydropolitics, Warner (2005) addresses them in terms of “multi-layered cake”, where different layers (levels, units, sectors) have to be first deconstructed in order to be critically addressed and recomposed afterward in a systemic manner.⁷

These aspects combined lead to the design of water analyses (and ultimately of water policies and reforms) that encompass the role of politics in shaping water policies and interactions, and at the same time account for the heterogeneity of both levels and units of analysis. Accordingly, the analysis portrayed is encompassing a multi-level analysis that accounts for the search of agents, structures and interactions in the Nile hydropolitics.

The main case study identified is the Nile River, with a specific focus on the Eastern Nile River Basin (the Blue Nile and the transboundary aquifers among Ethiopia, South Sudan, Sudan, Egypt), according to three crucial reasons: first, the Nile river “provides striking examples” of the challenges concerning international rivers (Waterbury 1998) in terms of both

⁷ See Guzzini (1994) for a post-structuralist analysis of methods and conceptual frameworks for political analyses.

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geophysical conditions and power relations; secondly, the crucial socio-political as well as economic changes recently occurred (both at regional and domestic level, such as the signature of the Cooperative Framework Agreement, CFA, by some of the riparian countries, the independence of South Sudan, the death of Ethiopian PM Zenawi, the uprisings in Egypt that dismissed Mubarak's regime, the unilateral construction of water infrastructures by the Ethiopian Government) are tangible signs that the Nile is currently one of the most dynamic context for TWM analysis; finally, the shifts in international alliances between the Nile riparian states and external actors, and the entry into force in august 2014 of the 1997 UN Convention on international watercourses represent major challenges for the evolving patterns of Hydropolitical relationships in the region.

My methodological approach, or methodology, is defined in order to fit the research questions. It is not premised upon a dichotomic understanding of qualitative against quantitative methods: the inquiry proposed on water politics foresees the employment of both quantitative data collection and testing, as well as of qualitative ones and operationalization of interconnected variables. From multi-linear regression analyses to time series, from discourse analyses to sample interviews, a broad range of research methods will be applied in order to enrich the study with empirical evidence for validating or invalidating the research hypotheses.⁸

The entire research process has covered a period of three years, from 2013 to 2015. During the first year particular attention has been paid to the intensive exercise of critical literature review, with a precise focus over theoretical frameworks for the application of power analysis in trans-boundary water regimes. From traditional theories of International Relations to security studies, from negotiation theories to environmental studies, a broad range of theoretical accounts has been considered with the objective of identifying the main issues, gaps and limitations in the existing literature on water politics. To this regard, the research fellowship held at the School of International Development of the University of East Anglia (Norwich, UK) from February to May 2013 was particularly fruitful due to the intense exchange with water experts, academics and PhD Students.

The second year had been dedicated to the outline of the structure of the thesis, the writing of theoretical chapters, the collection of data over the case study and the preparation for the fieldwork activities (identification of contact-persons, target groups and identification of methods of data collection and elaboration). The second fellowship held at the University of East Anglia (March-June 2014) has decisively contributed to the definition of the structure of the work, the critical analysis of the conceptual frameworks identified and the calendar for the fieldwork research.

⁸ For a detailed description of the methodology applied, see Chapter 4.

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The end of the second year and the first six months of the third year have been entirely dedicated to the fieldwork in Ethiopia. The research fellowship at the Ethiopian Institute of Water Resources (EIWR) of the Addis Abeba University (AAU) allowed me to participate in the activities of the Institute, collect relevant data, share ideas and experiences with academics, other students and water experts, and facilitated the expansion of the network of focal persons to contact in Ethiopia.

Finally, the last part of the third year has been dedicated to the final writing and revision of the present thesis, and to the drafting of papers for publication in scientific journals. In addition to the main research activities, I had the opportunity to experience teaching to undergraduate and post-graduate students (both in Sant'Anna School and AAU), to participate in international conferences and workshops, and to collaborate with international organisations/institutes of research, NGOs and CSOs.⁹

1.6 Structure of the study

Four sections compose the present thesis: background (Chapters 1, 2 and 5), frameworks (Chapters 3 and 4), analysis (Chapters 6 to 10), and conclusions (Chapter 11).

The background section includes the present introductory Chapter, the critical review of the literature (Ch. 2), and a background overview over the case study (Ch. 5). While Chapter 2 introduces the key concepts and theories in hydropolitical analyses, Chapter 5 presents an empirical introduction to the case of the Nile water dispute, with particular attention to historic patterns of intra-basin relationships and to the evolution of legal frameworks over the control and use of the Nile flows.

Chapters 3 and 4 present the theoretical and the methodological frameworks of the research, respectively. Preceded by the critical analysis of the theoretical background and followed by the background Chapter over the Nile hydropolitics, these two Chapters introduce the conceptual and theoretical frameworks that inform the analysis, and the related methods of data collection and of interpretation of results. Chapter 4 also includes a detailed description of the stages of the research process, with particularly attention to the fieldwork activities.

The analytical Chapters over the case study (Ch. 6 to 10) represent the core section of the research. Chapter 6 explores the evolving legal framework for the control and utilisation of the Nile waters, and introduces instruments of international water law that can contribute to the settlement of the current water dispute (i.e. the 1997 UN Watercourses Convention). Chapter 7 presents a discourse analysis over competing water narratives within the basin: particular attention is paid to the historic development of

⁹ For a detailed list of activities held during the research period, see Appendix n. 2.

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water imaginaries in Egypt and Ethiopia, and how they have been included into the governmental narratives over the Nile. The power analysis advanced in Chapters 8 and 9 investigates over the features of asymmetries in the basin and the processes that have favoured the interests of some riparian states over others. The three-level analysis explores the multifaceted dimensions of power in three domains: material, bargaining and ideational power relationships. Finally, Chapter 10 presents projections over the potential water regime of the Nile basin in the future, and assesses the different scenarios that could result from the current situation.

The concluding section elaborates upon the research outputs, and advances policy recommendation to foster cooperation among the riparian states of the Nile basin towards an effective integrated management of transboundary water resources (Ch. 11).

The following Figure 10 schematically presents the structure of the study.

Figure 10: Structure of the elaborate



Source: author's compilation

Chapter 2. Concepts and Theoretical Debates in the Literature

This Chapter is intended to explore the state of the art of the academic literature considered relevant for the delimitation of the research project. The objective of this literature review is not merely descriptive, but aims also at shedding light upon potential linkages among different bodies of literature, as well as on gaps and limitations that this work will attempt to address and overcome. The interdisciplinary approach looks at conceptual instruments for connecting Theories of International Relations with the emerging field of hydropolitics, an analysis that will inform both the theoretical framework developed in Chapter 3 and the epistemological perspective adopted for the whole study. After a critical review of the linkages between water scarcity and conflict (Ch. 2.1 and Ch. 2.2), the analysis addresses evidences of securitisation processes over water challenges and the emergence of water regimes in the international arena (Ch. 2.3 and 2.4). Then, the core debate of the chapter is presented in Ch. 2.5 and Ch. 2.6, where it is argued that the application of power analysis to the field of water management represents the most interesting feature of emerging studies in water politics.

2.1 Water conflicts and the management of a finite resource: what scarcity for whom?

In the last two decades the conflictive potential of increasing competition over water resources has been widely stressed, and critical attention has been paid to the water sector in general (and to concepts like water *stress*, water *scarcity* and water *security* in particular) in order to address the presumed risk of “water wars”. Claiming that sharing a precious resource like water might induce states to recur to violence to secure present and future withdrawals, twenty years ago Young et al. (1994: 20) stated that “[w]ater [w]ars are, unfortunately, likely to be of more and more common occurrence in the future”, capturing a common wisdom over the threat of upcoming water wars. Considering that 263 international rivers flow across 145 countries (Wolf et al., 2003), the likelihood that disputes over a resource increasingly felt as scarce might exacerbate into international conflicts has turned water into what Barlow (2001) defined as the “Blue gold of the 21st Century”, thus synthesizing a common sense that was rapidly been formalized through media, academic circles and policy-making into a paradigmatic principle: that “the wars of the next century will be about water” (Ismail Serageldin, former Vice-President of the World Bank, as cited in Crossette, 1995).

The thesis that increasing water scarcity might lead to conflicts among different users (and competing uses) and provoke the spread of violence for access to and control over a unique resource gained increasing credibility, jointly with the assumptions of a (direct or indirect) causal link between water resources and wars (Soffer, 1992; Beschoner, 1992; Bulloch and Darwish, 1993; Biswas, 1994; Kliot, 1994; Hillel, 1994; Gleick et al., 1994; Scheumann and Schiffler, 1998; Elhance, 1999; Ohlsson, 1999). Due to these developments, water management was given rising priority in the political agenda and, in a rapid process defined by Trottier (2003) as the diffusion of one of the two main “hegemonic concepts” in water literature,¹⁰ the *water war* framework has gained formal consensus and has determined the crystallization of a theoretical narrative, at the same time promoting the creation of a whole body of literature that has dominated the debate over water and conflicts since the early ‘90s. Revisiting the Malthusian thesis of increasing pressure over scarce resources, and defending the linear rationality that competition will turn into war as the factors of water stress increase, the narrative around water wars interprets the logics of international relations through the Hobbesian lenses of perpetual warfare for survival: being water a unique resource unavoidable for the survival of all the species, the likelihood of conflicts resulting from the scramble of a vital resource felt as increasingly scarce might rationally verify the thesis of the “water conflict” mainstream and the sublimation of

¹⁰ The second being the “water peace” paradigm.

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Hobbes' intuition over the human kind applied to the IR field. The causality rationale of the water war paradigm and the deterministic link established between water scarcity and violent conflicts has on one hand contributed to drive the academic attention and the states' awareness over the problematic management of water resources; on the other hand, however, the tendency to reduce the complexities of war to a single deterministic cause, might it be growing population, depletion of the resource, or production increase among many others, has impoverished the debate too since it hides multi-dimensional variables, less simplistic inter-linkages and multi-layered interconnections in the analysis of presumed (water) wars (Singer and Small, 1994).

The assumption that in the international arena the ever-growing interests of national states would lead to the expansion of the struggle for resources outside the national boundaries, thus turning the pursue of domestic interests into a national security issue likely to induce interstate violent competition for the very survival in an Hobbesian world order of absolute gains, clearly owes to the anarchical nature of international society theorized by Realist thinkers and scholars in IR discipline.¹¹ This school of thought, applied to the study of water management and international conflicts, assume the Westphalian structure of states as the pivotal unit of analysis, and the capacities asymmetry in the international arena as motivating factors for resource capture: in a state of water scarcity international actors compete for securing the availability of freshwater, recurring to ways that may include violence and armed attacks. A different version that owes attributes to the same logic is exemplified by a sort of *cornucopian* view (Gleditsch, 1998), which identifies abundance of the resource, rather than its scarcity, as the driver for the spark of violence among states. Be it abundance or be it scarcity, both accounts share the same theoretical underpinnings establishing consequentiality between the competition for resources and the spread of violent conflicts. The principle sustaining this thesis so close to neo-Malthusian scholars (Ehrlich, 1972; Gleick, 1993; Homer-Dixon 1999) gained new credibility at the beginning of the '90s and led to what Ohlsson (1999) named as "the numbers game": avoiding the critical questioning of the causality between water scarcity and wars, the main issue at stake was found to be the quantitative assessment of available freshwaters. Therefore, the research over water conflicts was oriented toward the definition of the quantity of renewable water available for withdrawals and toward the conceptualisation of indexes capable of measuring objectively the threshold between water scarce and water abundant environments. The question of what water scarcity is and how could it be addressed started to become the relevant issues when dealing with water in Global Politics (Patterson, 2009).

¹¹ For a general overview on theories of International Relations, see for example Burchill et al. (2009), Jackson and Sørensen (2012).

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Water shortage, water stress, water scarcity are, among others, terms mainly used to define the grade of access to freshwater, but are often used in an interchangeable way to address conceptually different issues like imbalances between availability and demand, the degradation of surface and groundwater quality, intersectoral competition, and so forth (FAO, 2012). Despite its frequent use however, there is no consensus on what water scarcity exactly is and how to properly measure it.

Falkenmark and Widstrand (1992) developed the Water Stress Indicator, an index to measure the quantity of available water, thus relying only on the supply-side of water management: in volumetric terms, a state which supplies less than 1,700 m³ per capita/year is defined to be under “water stress”, while 1,000 m³ and 500 m³ per capita/year are taken as the threshold for “water scarcity” and “absolute water scarcity” respectively. While on one hand this has significantly contributed to the widening of water-related issues across disciplines, on the other hand this conceptualization of water scarcity that merely relies on quantitative assessments on the supply-side only has been proved to be inadequate and incomplete, and the theoretical considerations around water scarcity has also evolved to incorporate hidden (social, environmental, political) dimensions (Zeitoun and Mirumachi 2008).

Seckler et al. (1998) distinguished between *physical* and *economic* scarcity, in order to categorize the limited supply due to specific hydrologic and environmental features (e.g. arid areas)¹² and the poor management/lack of proper knowledge to increase water supply,¹³ respectively. The distinction between *absolute* and *relative* water scarcity (Daly, 1977) represented a step forward for the articulation of a more insightful understanding of the features of water scarcity, the first defining “a difficult hydrologic legacy” of poor availability of freshwaters on a given territory (Sadoff and Grey, 2007), and the latter identifying conditions of water deprivation despite the absence of physically constrained availability (Conley, 1996; Elhance 1999; Swatuk, 2002). Also, as per Haftendorn (2000: 51), absolute scarcity is observable “where there is not enough water available to meet all legitimate needs”, while “if water is plentiful but not distributed in an equitable manner” the scarcity turns into a relative one: in this manner, not only the supply of water is taken into consideration, but also the demand-side has become to be included into the analysis.

Building upon Ohlsson (1999), Turton (2002) prefers using the terms *first* and *second-order* scarcities to identify the challenges derived from *natural* and *social* resources respectively: while the physical/first-order scarcity “is the scarcity of water”, the economic/second-order scarcity “is that of the capacity to adjust” to that scarcity. Ohlsson (1998:8) named this capacity as “social adaptive capacity”, operationalizing a conceptual “shift

¹² Cfr. FAO (2012: 6): “Physical scarcity is said to occur when there is not enough water to meet all demands”

¹³ See Molden (2007: 11): “Economic scarcity is caused by a lack of investment in water or a lack of human capacity to satisfy the demand for water”

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in focus” (El Zain, 2007) from natural resource scarcity to what he elaborated as “social resource scarcity”. Defined as “scarcity of the social means required to overcome the original scarcity” (Ohlsson and Turton 1999), social resource scarcity identifies in other words the absence, the inhibition or the impossibility to activate social capital and adaptive capacity to face the challenges of a changing environment (not conceptually distant from the definitions of *resilience* in IR). In this analytical process, water scarcity is no more a mere matter of physical availability or technical knowledge/financial inputs, but is enriched of a covert but necessary dimension which includes social relations and institutional arrangements. According to El Zain (2007) this distinction, helping in “transcending the trap of absolute scarcity” (Turton and Ohlsson, 1999), provides a more complex framework than the traditional physical/economic juxtaposition for the construction of an analytical matrix able to identify the conditions under which water scarcity is manifested: moreover, Turton developed the concept of “water poverty” as a combination of different degrees of both first and second-order resource scarcity, thus posing a conceptual distinction between scarcity (here the independent variable) and poverty (the dependent variable). Building upon the conceptualisation of “environmental scarcity” framed by Homer-Dixon (1994), the research developed by Ohlsson and Turton (1999) identifies 3 different factors that affect water scarcity as a whole: supply-induced scarcity, demand-induced scarcity, and structural scarcity, the latter identifying unequal distribution of water resources, whose large majority is “concentrated in the hands of a few people while the remaining population suffers from resource shortage” (Hauge and Ellingsen, 1998: 301).

Therefore, the evolution of the concept of water scarcity has gradually taken into account the multi-dimensional features of the resource water, allowing for more complex analyses beyond the simple structures of physical, economic or managerial constraints: the idea that water-related problems are not an exclusive effect of water scarcity (as intended in its simplistic, quantitative notions), but that they can be likely to result from poor governance, unequal distribution and social marginalization has been paid growing attention in recent years (World Water Assessment Programme, 2006).

The United Nations have highly supported the development of the discipline of water management, and taking into account the range of different contributions coming from academics and researchers, developed a definition of water scarcity in the attempt to include qualitative assessments jointly with the traditional quantitative indicators: according to a report published by UN-WATER (2006:4), water scarcity is defined as “the point at which the aggregate impact of all users impinges on the supply or quality of water under prevailing institutional arrangements to the extent that the demand by all sectors, including the environment, cannot be satisfied fully”. While being certainly a vague and potentially contested definition, this conceptualization has at least the virtue of widening the

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frontier of water analysts beyond the merely quantitative assessment of physical availability, of including the demand-side along with the supply-side of water, and of appreciating the multi-dimensional (social and environmental) features of water resources for purpose of analysis: the report indeed states that “Water scarcity is a relative concept and can occur at any level of supply or demand” (ibid:4).

FAO (2012), building upon the qualitative differentiation of scarcity proposed by WB (2007) between *physical*, *organizational* and scarcity of *accountability*, acknowledges that scarcity is the result of multiple causes other than physical availability per se, and broadens the analysis to include not only the financial and technical constraints to water development, but also the *institutional* dimensions. By including into the definition of water scarcity the “aggregate impact of all users”, “any level” from supply to demand “by all sectors” and the “institutional arrangements”, provides the researchers with a framework that adds conceptual complexity with respect to the simplistic linear causality between physical availability and conditions of effective water deprivation, and supports the articulation of analytical assessments able to consider “the resource’s supply relative to, first, demand on the resource, and, second, the social distribution of the resource” (Schwartz et al., 2000). Therefore, both demand and distribution (alongside the supply-side) matter in identifying conditions of water scarcity, and further elements might be taken into consideration in order to assess the multiple dimensions of water scarcity. Molle and Mollinga (2003), for example, distinguish between 5 different kinds of water scarcity, adding the *political* category to the “traditional” *physical* and *economic* constraints and to the *managerial* and *institutional* features of scarcity.

Table 1: The features of water scarcity in the Literature

	<i>Daly (1977)</i>	<i>Seckler et al. (1998)</i>	<i>Ohlsson (1999)</i>	<i>FAO (2012)</i>	<i>Molle and Mollinga (2003)</i>
Water Scarcity	Absolute	Physical Scarcity	First-order	Physical	Physical
	Relative	Economic Scarcity	Second-order	Organizational	Economic
				Institutional	Institutional
				Political	Managerial

Source: author's compilation

This section has outlined how the concept of water scarcity and its related analytical underpinnings have evolved over time in the literature (see Table 1 below for a summary). The nature of scarcity and its determinants have been explored from different perspectives and heterogeneous approaches, which have contributed to add theoretical complexity to the ontology of water scarcity and, accordingly, to the nexuses that it creates

within multi-level societal dynamics. This analysis opens the field to further research questions, in particular with regard to the existence of evidences linking water scarcity to violent conflicts. Whether water could be a cause of war or not will represent the focus of the discussion that follows in the next sections.

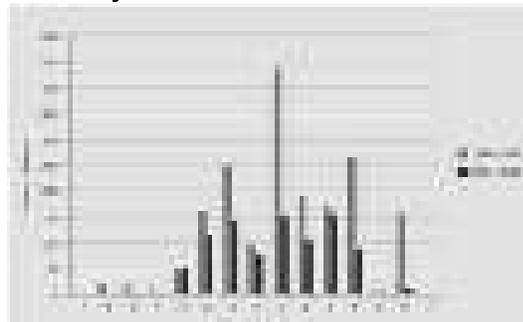
2.2 Causes of water conflicts: resource scarcity, environmental degradation, resource capture or ecological marginalisation?

Since in the previous chapter the conceptualisation of water scarcity has been addressed towards an analytical process of decomposition, and since its differentiation into a diverse range of features has defined a complex analytical categorization of what scarcity might be proven to be, it is now necessary for the purpose of this study to critically question the presumed causal linkage between scarcity and water war: is it true that water scarcity may lead to violent conflicts and even wars? Or, broadly speaking, what are the main causes of water conflicts?

As anticipated above, a huge body of literature emphasizes the role of water as cause or source of conflicts (Westing, 1986; Gleick, 1993; Remans, 1995; Samson and Charrier, 1997; Butts, 1997; Homer-Dixon, 1994, Toset and Gleditsch, 2000), and some scholars even asserted the “well-established and thoroughly documented positive link between resource scarcity and violent conflict” (Amery, 2002). However, the database developed by Wolf (1999) identifies only seven cases where water-related issues contributed to the dispute among 412 crises among riparian states occurred between 1918 and 1994, thus proving that empirical evidence does not support the claim that major wars have been fought over water.

In order to provide evidences for the correlation between water and wars, Yoffe et al. (2003) compiled a systematic database in which data on water-related international events are collected and categorised according

Figure 11: Total number of events for the periods 1948–1999 and 2000–2008 by Bar intensity scale



Source: De Stefano et al. (2009: 6), adapted from Yoffe et al. (2003)

to an "intensity scale" that shows the different degrees of conflictive/cooperative nature of each event: from formal declaration to war (-7), to neutral or non-significant acts for the international situation (0), to voluntary unification into one nation (+7). The theoretical underpinning of such compilation resides in the assumption of a progressive continuum from very conflictive to very cooperative relationships, and the results

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clearly show the preponderance of mild cooperative engagements among the actors involved (value of 1), thus invalidating the assumption of the propensity of water for being a cause of conflicts. Figure 11, which represents an expansion by De Stefano et al. (2009) of the original research presented by Yoffe et al. (2003), illustrates how very conflictive events have not been registered since year 2000, and that most of the water events have been ranked among -3 (diplomatic/economic hostile actions) and +3 (agreements to set up cooperative working groups) values. This thus demonstrates how the causality link between water scarcity and violent conflicts may be weak, and the urgency to expand the analysis to the search for other contextual elements that may play a relevant role in the configuration of water-related disputes.

In the early '90s two academic groups started developing competing theories about the causes and features of environmental conflicts, and contributed relevantly to the widening of the debate: the Environment and Conflict Project (ENCOP) directed by Baechler and Spillman, and the Toronto Group led by Homer-Dixon. While the first developed its research over the analysis of environmental *degradation* (the Baechler's Multiple Causal Role Model) and the latter focused on *scarcity*, both groups followed the purpose of classifying environmental conflicts in different categories in the attempt to analyse the linkages between resources and conflicts. Baechler (1998) stated that environmental conflicts "are traditional conflicts induced by an environmental degradation", and the similar logic might be derived from the claim that they "are violent conflicts that are caused by environmental scarcity" (Homer-Dixon, 1994). Despite the conceptual difference the two authors posit on the terms degradation/scarcity and the different categories and research methods implied, the deterministic link that proves that conflicts may be a likely outcome of disputes over resources (e.g. water) is a pivotal assumption in both schools of thought. According to Mason and Spillmann (2003) this assumption can be criticized on 3 different grounds: methodologically and theoretically; criticism on the role of the environment as a causal factor; criticism on the relevance of conflict rather than on different consequences as outcome of environmental degradation.

Other scholars have been critical of the deterministic perspective (e.g. Deudney, 1991; Dalby, 1992; Conca, 1994; Levy, 1995) and concluded that the statement by Homer Dixon et al. (1993) that "scarcities of renewable resources are already contributing to violent conflicts" resulted to be "speculative and anecdotal" (OECD, 2000). Gleditsch (1998) criticizes what he defined as "basic" causal chain¹⁴ stating that it neglects important variables, notably political and economic, and lacks clarity over what environmental conflicts really are. Building upon Libisweski (1992), Gleditsch

¹⁴ "The basic causal chain in this argument runs as follows: population growth/high resource consumption per capita = deteriorated environmental conditions = increasing resource scarcity = harsher resource competition = greater risk of violence" (Gleditsch 1998: 383).

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distinguishes conflicts arising from “simple resource scarcity” and those resulting from “environmental degradation”, assuming that the Homer-Dixon’s “environmental scarcity” terminology does not provide the necessary clarity to identify the different nature of the factors that may lead states to portray violence in securing natural resources. In their response to Gleditsch’s criticisms, Schwarz et al. (2000: 79) falsified the hypotheses that the two categories are causally separate, and defended their assumption that “if we degrade a resource, then there is less of it available”, thus assuming that the concept of environmental scarcity would be capable to include a wide range of factors that in sum negatively impacts on the supply of the resource: “any hypothesis linking environmental degradation to violence is linking, essentially, the reduction in the resource’s supply to violence” (*ibid*). To this assumption, which largely influenced the debate for over a decade, some contested the rationality that a reduction in resource supply could be a trigger of war, since in many cases the opposite has been proved to be true: due to what Sachs and Warner (1995) among others named as “resource curse”, resource abundance rather than scarcity might exacerbate the conflictive potential of competition. In this sense, resource acquisition and potential exploitation result to be more important than “simple” resource scarcity, leading to a critical questioning of the presumed causality between scarcity and wars.

As lately recognized also by Homer-Dixon and his group, who admitted to have somehow over-emphasized this causal linkage, “a resource’s absolute supply is not interesting” (Schwartz et al., 2000: 79): notifying the declining hegemony that the focus on the supply-side of resources had exerted over the academia for years, the authors acknowledged not only the role of demand of that resource, but also the pivotal role of its social distribution. As noted by Katz (2011: 3), this shift represented a way out from the pitfalls of theories based on water scarcity as single deterministic driver of conflicts, opening the field to the incorporation of other variables like “historical relationships between parties, riparian position, military balance (or asymmetry) of power, governance, and decision-making structures”. Yet, the chances for escalation in environmental conflicts are enriched by the analysis of a wider area of motivating/intervening factors that vary from socio-economic and political situation to the existence of cultural legacy and legal arrangements (Gleditsch, 2001), thus replacing the water scarcity thesis with multiple inter-linked sources of potential conflicts across a range of spatial and temporal scales (Brauch et al. 2003).

Referring to the water sector in particular, Aldaya et al. (2008: 7) summarize this shift recognizing that “today most water resources experts admit that water conflicts are not caused by the physical scarcity of water but they are mainly due to *poor water management or governance*” (emphasis added). While acknowledging for the role of motivating factors other than simply physical and technical, the assumption that water *management* is the core of the question facilitated the convergence of two initially very distant bodies of literature, the *water politics* and *water management*

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theories.¹⁵ While the *water conflict* literature began considering managerial approaches to address the issues deriving from the inclusion of the demand-side and the distributional aspects of water supply, in the same way the water management experts and practitioners opened their analysis to environmental, social and political assessment towards the definition of guidelines and methods for enhancing what would be named as *water governance*.¹⁶ This development of the academic research over water and conflicts represents an “implicit recognition of politics” which deserves the merit to have added the *institutional* dimension to the technical-managerial dominance over water-related issues (Molle and Mollinga 2008). While early studies assumed that technologic advancements, financial investments and efficiency measures would have decreased the risk of conflicts due to the increase in water supply, the evolving debate over water and conflicts has enriched the framework for analysis gradually abandoning the “single deterministic cause” paradigm and enabling the inclusion of other (structural or contingent) dimensions. According to Turton (2000), this development of the discipline can be summarized into five chronological stages (“discourses”) on a continuum of thought: i.e. “Malthusian”, “virtual water”, “structural inequality”, “environmental scarcity” and “social scarcity”:

- i) The Malthusian discourse, as described above, emphasizes the pressure over resource derived from population growth (“linear relationship between population growth and water scarcity”, Turton, 2000:114);
- ii) The “virtual water” discourse “breaks the geographic ‘confines’ inherent in a Malthusian perspective” (El Zain 2007: 53) assuming that states can avoid conflicts resulting from supply deficits through trade.

¹⁵ Actually, many authors identify the convergence of these two bodies of disciplinary thoughts at an earlier stage: since water politics was dominated in the early '90s by the resource scarcity-leading-to-war prevailing assumption, managerial and technological arguments were considered to be *the* main solution in order to avoid wars, due to technical knowledge of water experts in increasing the water supply available (at that time considered as the only factor impacting on scarcity: see among others, Conca, Gleditsch, Trottier). The present study, without denying this earlier convergence, assumes that an effective convergence has been only recently reached, with the reciprocal contamination between the two bodies of literature: today, water experts talk about politics, and water politics increasingly includes managerial aspects.

¹⁶ “While the precise definition of water governance is debated, it is clear that it is a broadreaching notion that revolves around how communities at different levels organize themselves to manage waters in formal and informal ways. This approach includes the “manner in which allocative and regulatory policies are exercised in the management of resources (natural, economic, and social) and broadly embraces the formal and informal institutions” (GWP). Water governance in a transboundary context includes actors across a range of scales, from global/international, to regional, national, sub-national and local user. How the inputs from these actors are facilitated and contribute to the integrated management of transboundary water resources are facilitated (or not) depends upon a variety of circumstances, often under the umbrella of political, legal, administrative and regulatory situations (...).” (INBO and GWP, 2012: 13).

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Importing food from grain-surplus regions, the water-stressed regions are thought to be able to skip the trap of territorial water and avoid conflictive disputes for access to freshwater: the “virtual water” included in agricultural products so becomes tradable and may substitute the “real” water over which states could have competed;¹⁷

- iii) The “structural inequality” discourse refers to Homer-Dixon’s “structural scarcity” mentioned above, and focuses on “unequal access to, and control over, water resources” (Turton 2000:114). It represents the conceptual development toward the inclusion of the demand-side and distributive concerns over water previously discussed;
- iv) The “environmental scarcity” discourse pays equal debt to Homer-Dixon (who coined the term), and gives clarity to the role of power in provoking and maintaining the above mentioned structural scarcity: the ecological marginalization that skewed distribution of resources may induce is reflected through dispossession and displacement that affect people whose resource base has been captured (Swartz et al., 2000);

The “social scarcity” discourse expands the theoretical innovations portrayed by Homer-Dixon to the recognition of the relevant role that *social* resources play in defining the outcome of the competition over *natural* resources: factors such as “socio-economic development, education, human rights (...), general institutional capacity, etc.” (Ohlsson 1998:14) impact more on the likelihood of conflicts than the physical supply of the resource does.

The debate over the determinants of water scarcity has provided fertile ground for the enrichment of the academic research over the differentiation of causes of water-related conflicts. Investigating upon the variety of factors that affect water scarcity, most scholars and research have progressively abandoned the deterministic foundation of neo-Malthusian paradigms and embraced the “social scarcity” discourse, in a heterogeneous range of theoretical approaches and empirical research. For example, Haftendorn (2000) assumed that water availability per se is not necessarily the primary cause of water conflicts, which rather are rooted in asymmetries in distribution and use, as well as in external threats to the quality of shared water resources. A similar assumption is also advanced by Mason (2003), who suggested that a focus on conflicts over resource use rather than its availability could provide more insightful acknowledgement on the nature of water disputes rather than analyses on the causal relationship between scarcity and violent conflicts. Table 2 shows the differentiation of causes of water conflicts according to the empirical evidences that Haftendorn collected in major transboundary basins.

The determinants of water-related conflicts are multiple and complex, and are not reducible to the mere availability of the resource in technical

¹⁷ See Allan (2011) for a comprehensive overview over the concept of virtual water

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terms: according to Baechler (1999), fundamental characteristics of water conflicts are "a high multiplicity of actors, a trans-sectoral character, a mismatch between ecological and politico-administrative boundaries, power asymmetries, high uncertainties, and long time spans". The introduction of the "political discourse" into the literature on TWM results to be one of the most relevant contribution of social science researchers to the analysis of water conflicts, and it arises around the same topics that made the concept of social scarcity emerge: asymmetries in power and unequal access and use of resources, institutional capacity and socio-economic dis/advantages, bargaining strategies and vulnerability to internal and external shocks. The focus on structural inequality, power asymmetries and ultimately on "politically-induced" scarcity (Warner, 1993) may thus represent a legitimate approach in order to shed light upon hidden or subtle factors that play a more consistent role in shaping hydropolitics than absolute current and future availability of the resource.

In this section the main question over the legitimacy of considering water scarcity as main factor for the occurrence of conflicts has been targeted from a variety of theoretical contributions within the main bodies of literature dealing with water politics. The urgency of broadening the research approach in order to shed light upon the complex relationship between water and conflict has opened up the field for the inclusion of political features of water-related dynamics. How water could reveal its essentially political nature will be the focus of the following section.

Table 2: Causes of water conflicts

	Cause of conflict			
Geography	Conflict through war	Conflict through pollution	Political administrative conflict	Administrative conflict
Conflict causes	Water use	Water quality	Water distribution	Water allocation and availability
Example	France, Israel, Golan	India	Polynesia, Nile, Europe	Colombia and Rio Orinoco, Jordan

Source: Haftendorn (2002: 53)

2.3 Security issues in the management of water: from watershed to problemshed?

The post-Cold War era has witnessed a conceptual shift in the traditional political terminology and opened up new paths that the previous two-blocks international contraposition would have never allowed to explore: with regard to natural resources and environmental concerns in particular, it is possible to detect at least three conceptual turns that brought new elements to the international arena (Conca, 2006; Turton, 2001). First, the expansion of the concept of *security* to domains other than strictly military

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and the inclusion of issues previously considered as *low* politics into the broader theorizations of Global Politics and IR fields (Warner, 2004; Turton, 2001; Buzan, 1991) represented a progressive turn from the break up of the dichotomy between unifying superpowers into a *globalized* and presumably more integrated world. Secondly, the rise of environmental movements (especially in Germany and the USA) contributed significantly to the emergence of environment-related issues in the political agenda previously denied by the status of predominance that other issues (military, economic) had gained among politicians and governmental officials (Libiswesky, 1992). Third, with the end of the Cold War a new system of alliances and diplomatic strands slowly began to shape the world of international relations, the conceptualization of new policies, and the configuration of the polity itself (Conca 2006). In particular, the early '90s has witnessed the widening of the UN mandates, responsibility and international accountability, the multiplication of international fora and global reports, and the signature/ratification of several conventions: regarding environmental issues, since the 1987 Brundtland Commission and the 1992 Earth Summit (United Nations Conference on Environment and Development, UNCED) held in Rio, concepts like sustainability, human security, human development, have become popular and widespread elements of a globalizing discourse which contributed to the increasing consideration of environmental issues into both the states' political agenda and the civil society's campaigns and initiatives.

These three elements identify, among others, the reasons why the neglect of the relevance of the environment in the political domain has slowly turned into a specific, autonomous but interrelated pivotal topic for policy makers as well as for the civil society in the last decades: from the negation of the specificity of natural issues in politics, the "environment has been brought into politics" (Carter, 2009). While for some scholars the environmental issue has continued to be regarded as one influencing factor among many that shape the domestic as well as the international politics (Bellamy Foster, 2008), for others the elements of novelty that the sustainable management of the environment had brought into the political agenda represented a fundamental shift in the policy design and in the structure of international relations. This shift from the exclusive focus on high politics in the political agenda to the appreciation of low politics expanded the concept of security to the inclusion of ecology and environmental issues (Warner, 2004): this represents for Rodal (1996) the "most salient features of the post-Cold War world", while for Myers (1996) the concept of environmental security urges to be considered as the "ultimate security" in a globalized world, in terms of threats and risks that a degradation of the environment and/or the race for securing natural resources may pose to peaceful diplomatic relations among and within states. In the dawn of the

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emergence of the concept of environmental security,¹⁸ the causality linkages between ecological degradation/scarcity and the occurrence of violent conflicts were depicted in deterministic ways, and the whole water conflict literature addressed above in chapter 2.1 follows from the same premises: a degradation of the availability of environmental goods poses a critical pressure on the environmental security of the actors involved, which is likely to provoke an escalation of intra and inter-state violence to secure these increasingly scarce goods (Homer-Dixon, 1994; Ullman, 1983; Myers, 1989 and 1994; Westing, 1989; Kaplan, 1994; Soroos, 1994; and Watson et al., 1997).

Undoubtedly this wave of theories has contributed to turn the marginalization of environmental issues from political agendas into their inclusion to policy analysis, however they have also fallen into theoretical shortcomings: according to Warner (2012), the hyphen on the likelihood of environmental conflicts calls for the logic of intervention to avoid a “coming anarchy” (Kaplan, 1994), thus linking “the Malthusian threat (...) with a Hobbesian narrative” to prevent environmental conflicts. Moreover, the stress on the decrease of security due to environmental changes (being they natural or man-made) calls for the adoption of the “politics of exceptionality” (Davidsen, 2006) which confines the decision-making processes to the high political spheres thus limiting the public debate over the existing alternatives to extraordinary measures taken by the competent authorities.

In the early '90s this analysis has been excellently portrayed by the Copenhagen School led by Buzan and Wæver, who took distance from the so-called “Classical” Security Complex Theory (CSCT) in order to both expand the concept of security beyond its traditional (realist) accounts, and also to prevent analysts to fall into the theoretical pitfalls that a too wide security agenda may misleadingly bring to the framework for analysis. According to Wæver (1995), while the CSCT represents the “narrow” view on security where the strictly realist, statist and positivist conceptualization of military and political security excludes sectors and actors from the analysis, the “wideners”¹⁹ are not exempted from criticism neither: broadening the concept of security risks to lead to the lost of intellectual coherence, to call for state mobilization into a too wide range of issues, and most importantly to elevate security into the desired, favourite condition to govern (Wæver 1995, Buzan et al. 1998). Consistent with this analysis is therefore the conclusion by the Copenhagen school that “the wider agenda is a narrow view”, since not all the perceived threats are security problems, secure relationships do not rationally exclude the continuation of serious conflicts, and too much security may be destructive (Buzan et al 1998: 4).

¹⁸ The term “environmental security” was officially introduced by the UN General Assembly in 1987

¹⁹ Buzan et al. (1998) identified the following works as example of the “wider agenda” advocates: Matthews (1989), Brown (1989), Nye (1989), Crawford (1991), Haftendorn (1991), Tickner (1992)

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From these analyses it follows that the (once) *new* framework for analysis by the Copenhagen School represents a wider conception of security with regard to the traditional CSCT, and at the same time a tentative systematization of the wideners' security waves into a coherent theorization capable of reducing complexity to facilitate the analysis. Concepts like referent objects, securitizing actors, securitization moves and de-securitization, constitute the analytical tools the analysts may use to reveal the real nature of the "panic politics", which limits the ordinary public sphere and justifies the use of urgent, extraordinary emergency measures to defend from threats presented as existential. To Buzan et al. (1998), a security issue is not an objectively measurable threat or problem, but is "staged" as existential threat: it is a product of the behaviour of the involved actors, and as such security is a "self-referential practice", which accordingly pushes politics beyond established rules ("above politics", *ibid*: 26) for purpose of (threatened) survival. In this way the concept of security looses its supposed objectivity and the presumed assumption of causality between threats and conflicts is enriched by more complex levels of analysis: linkages, interactions, overlaps and interplays are discovered in systems which may be called "layer-cake complexes", therefore evading from the risk of the non-questionability of the necessity of endorsing extraordinary (un-debatable) measures to face threats to national survival. The fundamental shift in this conceptualisation of security is from the positivist presumed objectivity of extreme threats to the focus on the construction of *perception* of the threat itself: discovering the causes that make an issue a threat, would thus mean revealing what are the processes that allow an issue being perceived as a potential threat, and what reasons make this threat perceived as if it was challengeable only by the endorsement of extraordinary measures.

Regarding environmental issues in general, and water-related issues in particular, the adoption of such framework for analysis is helpful in questioning the presumed logic of the water war literature, since the inclusion of perceptions (and their construction) and potential ability (power) of securitization into the analysis represents a more complex problematization of the causal link scarcity-conflicts that may be revealed to be not as direct as the prevailing literature would assume. The shift of analysis from physical availability of natural resources (which may be quantified and objectivized) to the constructed perception of threats (and consequent justification of extreme measures) bring in itself the consideration of intersectoral interdependence and multi-layered complexity of the issues at stake: the environmental issues are thus no more regarded as exclusive autonomous domain, but are in fact addressed in an integrated way to reveal all the existing interconnections among different sectors and a multitude of actors. Talking about water, this means that water problems are no more considered exclusively in terms of water availability or access or distribution, but are thus collocated into a broader understanding of the wider political, economic and social sphere in a given spatial dimension (Turton, 2005).

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What was previously understood in terms of watersheds only (the hydrological conditions, the river basins) may be widened to include issues from sectors outside the water sector itself, beyond the mere local water dimension: as per Allan (1999) and Earle (2003), shifting the analysts' attention from the watershed to the *problemshed* means widening the agenda and including (political, social and economic) variables and levels that enrich the presumed linkages between scarcity and conflicting outcomes. This is consistent with the social ingenuity thesis that has been developed by Homer-Dixon (1994), and the concept of second-order resource scarcity developed by Ohlsson (1999) and presented in the previous section. Problems arising (or simply appearing) at the level of the river basin are therefore investigated in the light of solutions that may be found at levels other than the basin (Earle, 2003), thus acknowledging for interconnections and multi-layered features that prove the interdependence among the water sector and other relevant ones.

2.4 Water conflicts and water negotiations: towards international regimes?

The concept of interdependence, exemplified above by the security complex theory developed by the Copenhagen School, has extensively been addressed in IR theory (Keohane and Nye, 1977) although it has been qualified in several different and evolving ways. For the purpose of studying hydropolitical relations in a globalized world, the focus on "hydrological interdependence" (Elhance, 1999) reveals the web of "security interdependence" (Williams, 2003), a concept that stresses the inconsistency of separating one state's security from that of another: water interdependence may therefore holds an integrative potential and be regarded as "a driving force for cooperation and regime formation, ecological modernisation, multi-stakeholder participation and adaptation" (Warner, 2012). Being security a relational phenomenon (Buzan, 1991), the national security of a given state can't reasonably be separated from the international patterns of security interdependence to which it belongs (Turton, 2001).

In the '80s the theoretical innovations developed within the field of International Political Economy (IPE)²⁰ helped overcoming the Hobbesian logic of isolation and independence prevalent in the Realist body of IR literature, embracing the Lockeian stress over *exchange*, rather than *force*, and highlighting the complex web of networks and paths of interdependence in the global arena. Among others, Nye and Keohane (1977) explored the multi-dimensional interconnections among the economic, social and ecological spheres in policy analysis, and their assumption that dynamics of interdependence make cooperation a more likely outcome of

²⁰ For a comprehensive overview over IPE scholars, see Cohen (2008).

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international relationships rather than conflict has been highly influential in the successive development of (Krasner's) Regime Theory. The focus of Nye and Keohane's works on international economic interdependence not only opened the field to a more accurate inclusion of distinctive sectors and levels of analysis in Global Politics, but also allowed for the appreciation of actors other than the traditional Westphalian state: their analysis on trade, monetary relations and communication webs assumed that the progressive intensification of interdependence was shaping a new era where the system governance would no more be held by the powerful state²¹ but rather by other emerging actors like International Organizations (IOs). Coining the concept of "world orders", Robert Cox (1981) pushed the analysis beyond the mere increase of economic interdependence, assuming the emergence of a new world order where a new "global class structure [was being] superimposed on national class structures": building upon the Gramscian thesis of historic blocs, Cox defined this new world order as an historical structure emerging from the changing patterns of three influencing categories, namely the material capabilities, the role of ideas and, as per Nye and Keohane, international institutions.

The role of IOs in managing the acclaimed interdependence among international actors has been emphasised by almost all the theorists of the emerging IPE accounts in the '80s (with the prominent exclusion of the critical works by Susan Strange, who not only challenged Krasner on the benignity of regimes, but also criticized the presumed decline of the hegemonic power of the US advocated by Keohane), fact that gave rise to a wave of optimism with regard to the future of international relationships in the upcoming post-Cold War era: far from the Hobbesian fear of state of nature, a Lockeian-based neoliberal institutionalism began to be assumed as the theoretical turn point toward a era of cooperation and progressive integration.

In analysing this systemic change at global level, Krasner (1983) addressed the formation of International Regimes, which he defined as sets of "implicit or explicit principles, norm, rules, decision-making procedures around which actors' expectations converge in a given area of international relations" where mutually beneficial patterns of cooperation are created. These principles and rules, shared by the members of a given regime, shape a new system of governance where negative externalities ("spillover effects") are minimized, uncertainty and transaction costs are sensitively reduced, economies of scale are potentially established, and "non-hegemonic cooperation is possible" (Keohane, 1984). Regimes are not only a direct function of distribution of state power and interest-based calculations, as per Realist thinkers, but they also emerge from diffuse principles and norms (patterns of behaviour), habit and custom, and ac-

²¹ Although -particularly in their earlier studies, i.e. before the release of "After Hegemony" in 1984- the strong assumption that in the end it is the prevalent power of the hegemonic state(s) in a regime that holds the prominent role to stabilize the system and set precise and well obeyed rules, had not been questioned.

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cumulated knowledge (Cohen, 2008). Accordingly, Keohane's "functional" thesis of regimes assumes states behaviour to be rational and therefore likely to be compliant with a system of governance whose expected effects are presumed to be more beneficial and stable than the previous (atomized) international order. In this perspective, cooperation is seen as the likely outcome of states' interplay since in a Regime more information are available and more flexibility allows commitments to be adjusted to changing circumstances (Keohane, 1989): the interaction among members of a regime facilitates the convergence of values and the multiplication of potential incentive for further institutionalization of cooperation (Mayer, Rittberger and Zurn, 1993), the strengthening of shared commitments to the norms of the regime, and positive-sum outcomes (Keohane, 1982 and 1984, on Prisoners' Dilemma game), factors that facilitate the creation and subscription of normative institutions of formal cooperation.

Wendt (1992) emphasizes this feature of regimes creation by stating that this reconstruction of members' interests "will tend to transform a positive interdependence of *outcomes* into a positive interdependence of *utilities* or collective interest" (emphasis added): this view is built upon the "community of interest" approach,²² which foresees the evolution of a initial convergence of expectations among members into a (formal or informal) shared arrangement, set of rules, behavioural norms. Therefore, due to its "strong behavioural component" (which influences identity as well as interests) and its feature of (also) "informal understanding", a regime can be defined as "a social institution in which the *behaviour* of its actors constitutes the regime" (Jägerskog, 2003: 49, emphasis added). This constructivism-based account over regime theory is on one hand more critical than the traditional realist regime theorisation in which the *interests* of hegemonic states are the main influencing factor in creating the conditions for a regime to be in place, while on the other hand it also challenges the straight optimism which permeates the liberal-Institutionalist view where the demand for regimes is mainly estimated in terms of costs and *benefits*, regardless of the nature and the process of behaviours convergence among the actors involved. Haas' formalization of "epistemic community" is in this regard an excellent tool for analytically digging beyond a sterile dichotomy between interest- and benefit-based regime analyses: Haas (1994) emphasizes the role that communities of experts holds in the formation of policy innovation, the convergence of policies among neighbouring states and the questioning of political confrontation where the demagogic components overcomes the scientific findings. The role that a transnational epistemic community may play in addressing the perceptions, the imaginaries, the public awareness in general holds the potential to create deeper interconnections among the states and turn biased interests into a progressive convergence not only of norms per se, but of

²² See the analysis of Eckestein (1998) upon Laswell and Kaplan (1980) and Morgenthau (1951).

principles, behaviours, perception and the like which would contribute to the enhancement of an enabling environment for regime creation.

A focus on water resources stresses the fact that while an existing regime may foster cooperation on water-related issues, making affordable information available and facilitating data-collection and sharing of practices and knowledge, water itself may become a driver for regime creation in a given setting (Haftendorn, 2000). The shared management of water resources among riparian states (being it through formal treaties/institutions or informal arrangements), or at least a sort of positive engagement toward the exchange of information and management practices, is believed by many experts and academia circles to hold the potential to trigger cooperation in other sectors too (the “spillover effect”, as in Jägerskog, 2003), facilitating the spread of innovation, the circulation of best practices, the harmonization of principles and the convergence of competing interests and values (Sadoff and Grey, 2005). Compromise solutions explored in the water sector (particularly in cases where the hydrological conditions naturally influences the interdependence among neighbours, i.e. transboundary rivers/aquifers) may turn into drivers for enhanced cooperation and formal commitment to a set of rules agreed upon and complied by riparian states, thus establishing linkages and modus operandi of a potential international water regime.

The “benefit-sharing” approach has been extensively explored in water literature (Sadoff and Grey, 2002; Phillips et al., 2006; Jägerskog, 2003; Turton, 2008; Daoudy, 2007), and has been frequently associated with the implications of regime analysis. According to Haftendorn (2000: 65), a water regime is in place when “the affected states [...] observe a set of rules designed to reduce conflict caused by [...] water resource”, but many scholars find this definition not sufficient to explore the multiple variables that influence the effective establishment of a regime: Hasenclever et al. (1997) state that the mere commitment to obey to a given set of rules is not a sufficient condition to assess the *quality* of a water regime, which has to be problematized through the analysis of pivotal features such as “effectiveness, robustness and resilience” in order to evaluate its peculiarities and the established interconnections among the members. According to Phillips et al. (2006), the concept of benefit-sharing still needs to be “significantly developed” in order to overcome the same pitfalls that regime theory may fall into: beyond the Sadoff and Grey’s (2002) simple and general framework of categorisation of benefits deriving from cooperation over water resources (“environmental, economic, political, catalytic”), Phillips et al. (2006) identify three broad questions that should guide any assessment over water regime and potential benefit-sharing spillover effect. First, from both an ontological and epistemological claim, analysts should question whether water resource management is simply an independent variable influencing the outcome of cooperation; second, the role that water management may play in regional integration in a given space and defined time needs to be problematized in the light of multi-causality and intersec-

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toral linkages; finally, to become an applicable concept, benefit-sharing needs to be measurable, that is analysts should seek for the categories in which this concept is most likely to be manifest (Phillips et al., 2006: 29-40 and 170-176). In answering to these questions, the authors developed a framework for analysis, the Inter-SEDE model, where three identified categories of drivers (security, economic development, environment) are assessed in an integrated way in order to qualify the effectiveness of a water regime and the values of the benefits the actors may enjoy.

Although advocating for the potential benefits a water regime may bring to all the member states, Jägerskog and Phillips (2006) escape from the trap of considering benefit-sharing as a “panacea”, as the all-solving paradigm that will foster cooperation and avoid tensions within a hydropolitical complex, since they recognize that benefit-sharing may be used as a controversial tool to hide individualist preferences behind a masked concern for equitable solutions for all. For example, in analysing the conceptual performance of benefit-sharing in the Nile Basin, Cascão (2009) criticizes the rational choice and “conceptual ambiguities” upon which this concept is based, which made some questioning whether its mechanisms are realistic, feasible and preferable (Klaphake and Schumann, 2006). She also challenged the assumptions of expected positive outcomes, since existing power asymmetries could easily favour the maximization of benefits just for the most powerful through co-option of the less powerful members.

In this thesis, the integrative potential of an international regime will be questioned in the light of the critical problematization of the dynamics and historic processes within a river basin, with the purpose to find out *a)* first, whether a water regime is in place in the Nile River Basin and, if so, how could it be qualified according to an integrated assessment of a multiplicity of variables, and *b)* secondly, what are the motivating factors influencing the outcomes of the interconnections among the riparian states. Whether the solution to a security dilemma could be found through regime creation will be critically addressed, and the analysis of the potential benefits that might be shared by the actors involved will shed light upon the evolving power relationships and diplomatic interplays at stake in the Nile River Basin.

2.5 Conceptual analysis of power in transboundary water management: beyond realpolitik

From the issues at hand explored in the analyses above, it results that a pivotal topic to be addressed when assessing hydropolitical configurations are certainly the power relationships established among states within a river basin and the practices implied by each actor to challenge/preserve the status quo of the existing conditions. It is not in the purposes of this thesis to advance a comprehensive review of the literature

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on power analysis, since the subject is controversial and has been extensively explored by many scholars throughout the last centuries: this section will present only a partial discussion over the aspects considered most meaningful for the analysis of hydro-political dynamics in river basins in contemporary terms.

According to Lukes (2005: 477), power is both a *primitive* and an *essentially contested* concept: the first connotation denotes the impossibility of deducing the meaning of power through other notions whose meaning is less controversial (i.e. “truth”, “interest”, “strength”), while the latter identifies the essential controversy of qualifying the concept itself, which can be addressed only when a judgment is made, through a process of “value assumption” that is controversial by its own. Moreover, the *performative* role that power holds in the political discourse (“what it does when it is used”, Guzzini, 2005) is pivotal in defining its meaning: implying a definition rather than another is a power exercise by its own. Holding polysemic meanings, power might define different referent objects without a single common essence, reminding us of Wittgenstein’s “language games” and “family resemblance” concept: being a so controversial concept, it can be questioned whether power could be defined as an explanatory concept or, as per Lukes himself, a “dispositional” concept which identifies a capacity, a potentiality, and not an actuality like in Realist tradition.²³ For the same reasons, Latour (1986) stated that power is an empty term where conceptual clarity is missing. But Lukes resists to this assumption: according to him, despite its controversial nature, power is not a useless concept, in fact it is real and effective (even more effective when less accessible to observation), and are these features that make the concept a sort of paradox for “empirically-minded social scientists” (Lukes, 2005).

Following Bourdieu’s (1990) intuition, which defines power as “a category of practice rather than a category of analysis”, the multi-dimensions of the concept can be explored according to the expressions and the ever varying forms that power can assume in different sectors and at different levels. The “second face” of power (the “two-dimensional view” as expressed by Lukes, the “bargaining power” as per Warner and Zeitoun) highlights the potential of power in influencing community values and procedures beyond the “first face” of concrete decisions and observable interventions: according to Bachrach and Baratz (1962) power may confine the scope of decision-making to “safe” issues blocking the public arising of policy conflicts, and thus securing consent and preventing conflicts. This view highlights the assumption that non-decisions are themselves “covert but observable” decisions, whose lack of concreteness does not impede the manifestation of the exercise of power in covert ways. The third dimension of power identified by Lukes (1974 and 2005) (“ideational power”

²³ See R. Dahl’s definition of power and the literature of realist nature derived in the following years within the IR field. For an overview, Guzzini’s PhD Thesis (1994) is highly recommended.

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according to Warner and Zeitoun) identifies the ability to shape the perceptions, cognitions and preferences to maintain the status quo or enhance the influence of the most powerful: due to the co-option of values, ideas and imaginaries, power can manifest itself through the securing of consent to domination of willing subjects. Building upon Lukes' (1974) *Power: a Radical View*, Gill and Law (1988) agreed on the three-dimensional feature of power, and identified the *overt*, *covert* and *structural* power categories as the main configurations through which power may be manifested.

While Bachrach and Baratz assume open conflict as necessary condition for the emergence of power ("if there is no conflict, there is consensus") and define interests as consciously articulated and observable, for Lukes latent conflicts, in which power is manifested but covert, are the main focus in order to assess the relevance of the concept of power. Lukes (1974) criticizes them stating that their view of power is too individualist (like Weber's famous definition of power as "the ability of an individual or group to achieve their own goals or aims when others are trying to prevent them from realising them") since they implicitly assume that without grievances no interest is harmed, falling thus into the "exercise fallacy" of identifying power only with binary relations between actors who are assumed to have unitary and rational interests. The mere focus on "power over" is for Lukes "entirely unsatisfactory" since it just highlights the "exercise" of power, the "asymmetric" power, denying the complementary face of "productive, transformative and authoritative" power of dependence-inducing strategies.

The distinction between "power to" (*puissance*) and "power over" (*pouvoir*) represents a fundamental step toward the categorisation of practices of power, overt and covert, that may be identified through power analysis: it reminds the intuition by Spinoza's complementarity between "potentia" and "potestas", and it follows the assumption of power as "a multiplicity of practices for the promotion and regulation of subjectivity" advanced by Foucault (the "micro-physics" of power), who argued about the capillary forms through which power is manifested, about its pervasive aspect into social life, in a word about the *productive* rather than repressive feature of power. Guzzini (2005) merges the ideas of Lukes with that of Foucault, and states that power is neither a property nor an instrument, but a *form* of domination and subordination, which is the more successful the more it hides its own mechanisms. According to these views, the "one-dimensional view", which Lukes associates with the famous conceptualisation of power by R. Dahl,²⁴ encompasses only a reduced range of manifestations of power. The "first dimension" of power therefore encompasses the manifestations of power as a capacity, a possession, an

²⁴ "A has power over B to the extent that he can get B to do something that B would not otherwise do", R. Dahl (1957: 202-203)

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actuality, in the end the *exercise* of power: in this dimension power is a “successful attempt”, a concrete, observable behaviour in defined issue-areas. The intuition by Lukes is that of considering power a capacity *per se*, and not only the *exercise* of that capacity: interests in this view are not unitary but multiple, conflicting and different, and the power of an actor over another is assumed to have the potential to satisfy the latter’s interests too. For Bachrach and Baratz too, power is not just the successful control by an actor over another, but also the capacity to secure compliance through influence and manipulation rather than strict coercion. In this sense the concept of power is enriched by a relational feature that encompasses more complex interconnections than considering power only as a capacity, a facility, and an ability.

In addition to the “exercise fallacy” (power is manifested only through a observable sequence of events), the concept of power is also affected by the “vehicle fallacy”, which identifies power with its means, resources, instruments (Lukes, 2005): the understanding of power as a relationship shifts this focus toward the analysis of the processes and complex dynamics that highlights the “passive” feature of power. Understanding power in terms of active and passive reveals the existence of power also in conditions where it is not directly observable: power is “possessed irrespective of own wills” (Lukes, 2005), and it is both agential (in all dimensions, but particularly in its first) and inter-subjective (Guzzini, 2005). Barnett and Duvall (2005) specify that it is “in and through” social relations that power produces effects that shape the capacities of the actors: rather than a structural determination, the exercise of power means that “it can be exercised differently” (Lukes, 2005), as per the centaur’s image coined by Cox (1983) where the mix of consent and coercion is believed to assume ever changing forms.

Another conceptualisation that enriches this sort of “taxonomy of power” (Barnett and Duvall, 2005) addressed in this chapter represents power as mainly manifested through two forms, *direct* and *structural* (Gill and Law, 1989): the stress on the latter highlights the bargaining feature of power and the role of ideas, which, jointly with its direct forms, characterizes power as being both material and normative, encompassing both the behavioural and the structural dimensions of social relations. Barnett and Duvall (2005) enriched this conceptual distinction through the consideration of two sub-categories for each form of Gill and Law’s taxonomy: in their view, the direct forms of power may be further distinguished into *compulsory* and *institutional*, while the structural ones include the *productive* feature beyond the *structural* itself. While the compulsory and institutional forms are more agentic (i.e. they look at the *who* questions), the hyphen on the structural dynamics stresses the search for the *how* questions: according to Barnett and Duvall, the range of combination of different connections and conceptualisation on the forms of power encompasses two analytical dimensions of social relations (*kinds*, made of interaction or

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constitution, and *specificity*, which may be specific and direct or diffuse and indirect) whose assessment may reveal “how social structures and processes generate differential social capacities for actors to define and pursue their interests and ideals”.

This analytical widening of the conceptualisation of power assumes that power differentials “no longer explain outcomes” like in the traditional realist (distributive) paradigm in IR, since “structural factors are increasingly shaping world events” (Guzzini, 2005). According to Guzzini (1993), the notion of structural power involves three different meanings, namely *indirect institutional* power, *non-intentional* (unintended/unconscious) power, and *impersonal* empowering. While the first form derives from a renovation of the neorealist accounts on *intentional* power (whose conceptualisation is mainly due to IPE theorists like Krasner, Keohane and Nye), the non-intentional power can be linked to a dispositional concept like Strange’s (1985) conceptualisation of structural power as indirectly diffused through international “sources and agents that contribute to the functioning of the global political economy” (Guzzini, 1993:457), a sort of “transnational empire” (Strange, 1989) whose effects are a combination of intended as well as unintended behaviour. The impersonal power Guzzini refers to encompasses the intersectoral connections and the complexity of power dynamics more useful to configure the hydropolitical analysis of this thesis: here the effects of power are not located at the level of actors, and the impersonality feature stresses the link between knowledge and power (the Foucauldian *microphysics* of power) arguing that “power requires prior intersubjective recognition” (Guzzini, 1993: 462).

As identified also by Gill and Law (1988 and 1989), structural power includes a normative aspect that creates a link with *hegemonic* features of power, where hegemony is intended not in IPE-derived Hegemonic Stability Theory (HST) mainstream, but in Gramscian ways as explored in particular by Cox’s works of internationalisation of Gramsci’s theorizations. Here the “hegemonic apparatus” entails the productive sphere of power, co-opting through hegemonic discourses and practices the dependent classes in order to invalidate their opposition to the ruling actors. In this view the core of the productive feature of power are represented by the social relations of production, and the mechanisms of power are entirely produced, used and reproduced by an hegemonic “historic bloc”, which is the representation of the social contract that the ruling class, which detains not only the dispositional and productive ability to renovate the forms of power, but also the capacity to forge the rule and norms of the game according to its sectarian interests, is able to impose to the subordinates (Cox, 1983). This representation of power had been further developed by the post-structuralism of Ashley (1987), who built upon the Foucauldian idea that consensual aspects in power plays are not only effects of agent’s recognition, but are also produced and reproduced outcomes of *discours-*

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es and rituals: the stress on discursive practices (and particularly their not intentionally effected outcomes) refers here not only to interactive influence attempts, but also to rites, routines and more in general to “communicative” practices that bind and administer the social relations, constrain and empower as well the social agents (Guzzini, 1993). This is what in Guzzini’s (1993: 465) words is named a “communicative approach to a Foucauldian genealogical power conceptualization”.

Table 3: Towards a taxonomy of power

Authors	Conceptions of power			
<i>Weber's and Dahl's Power as domination</i>	Power			
	Potestas, Pouvoir, Power over		Potentia, Puissance, Power to	
<i>Spinoza, Foucault, Pitkin</i>	Coercion		Consent	
	Direct (material, behavioural): both overt and covert		Structural (normative, bargaining)	
<i>Gramsci's "centaur" (also R. Cox)</i>	Preventing conflicts		Securing consent	
	Hard		Soft	
<i>Gill & Law</i>	Issue-method	Setting the Agenda	Manipulating others' views	
	Military, economic	Bargaining	Ideational	
<i>Bachrach and Baratz's "second-face" of Power</i>	Practical	Moral	Evaluative	
	Compulsory	Institutional	Structural	Productive
<i>Keohane & Nye</i>				
<i>Lukes' 3 faces of Power</i>				
<i>Zeitoun & Warner</i>				
<i>Morriss</i>				
<i>Barnett & Duvall's Taxonomy of Power</i>				

Source: author's compilation

In this section the aim of constructing a taxonomy of power resulted in the analysis and re-interpretation of several diverse theoretical accounts over the meaning and operationalization of Power. The following Table 3 is an attempt of schematizing the forms of power collected and assessed in the above analysis.

2.6 Perspectives on hydro-hegemony: compliance-producing mechanisms and counter-hegemonic strategies

The conceptualization of power depicted above helped in shedding light upon the interconnections between the hegemonic features of particular configurations of power relations and the inherent mechanisms of structural power (Gill and Law, 1989). Being it implied through realist or neoliberal lenses, constructivist or post-structuralist insights, the concept of hegemony results to be a pivotal topic in IR strictly interrelated with power analysis and theories of international order. As per the concept of power,

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also hegemony is an “essentially contested concept” (Gallie, 1956) whose very definition is controversial (Rapkin, 1990; Goldstein, 1988) and whose implications are value-laden, which in the end cannot be reduced to a homogeneous or holistic phenomenon (Cerny, 2006). It is not in the purposes of this study to portray a comprehensive analysis over the conceptualisation of hegemony in the literature, but it is believed to be relevant to sketch at least some personal interpretations over both the terminology and the applicability of the concept of hegemony in contexts of hydropolitical relations.

There’s an emerging body of literature that promotes the IR-derived term of hegemony applied to water politics for purpose of power analysis,²⁵ which represents an interesting and powerful step forward in the debates around hydropolitics. However, these recent attempts by scholars and practitioners to enrich the analysis over transboundary waters often suffer from the omission of the long-lasting debates around hegemonic power in IR, misunderstanding the competing interpretations or creating misleading definitions: the lack of a coherent systematic theorization of what kind of configurations “hydro-hegemony” may take could lead to a conceptual widening of the term that risks to lose its potential explanatory power. For these reasons, in this chapter different approaches to hegemony will be explored in order to better collocate the ontology of the hydro-hegemony literature within the tradition of power analysis, in the attempt to rigorously point out and reinvigorate the innovations that this strand of literature may bring to the study of water conflicts and hydropolitical relations in an era of globalism.²⁶

Although hegemony, it has been said, “lacks a settled definition” (Lentner, 2006: 107), the academic debates within IR literature have historically developed around two central meanings of its conceptualisation, namely *leadership* and *domination* (Clark, 2011). At the core of most of the theoretical accounts on hegemony is the principle that refers to it in terms of “the predominance of one state over its peers” (Stiles, 2009: 2), thus addressing the hegemon as the “first among equals”. Cox (1993: 264) explicitly defines it as the “*dominance* of one state over others” (emphasis added), while Ikenberry and Kupchan (1990: 49) consider the “*preponderance* of military and economic capabilities” (emphasis added) in the same way as Keohane (1984: 32) had previously addressed hegemony as the “preponderance of material resources”. Here the focus on domination is straightforward, and these accounts over hegemony apparently refer to a

²⁵ See in particular the works elaborated within the London Water Research Group, for instance Carles (2006), Cascão (2008), Mirumachi (2010), Turton (2005), Woodhouse and Zeitoun (2008), Zeitoun and Allan (2008), Zeitoun and Mirumachi (2008), Zeitoun and Warner (2006).

²⁶ Here the term “globalism” is used after Nye’s approach, according to which globalism refers to any description and explanation of a world which is characterized by global “networks of connections” (Nye, 2002).

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hierarchical order in international society, whose stability (real or apparent) can be secured by the dominant position itself of the most powerful.

This seems contrasting with the “widely held and deeply ingrained” (Clark 2011:15) vision in IR (realist) tradition that sees in the international balance of power, in the “relative dispersal of power” (*ibid.*) the desirable condition for international stability, thus focusing on the processes of reciprocal avowal of *legitimacy* (among the most powerful) in relative power plays, rather than on the mechanisms of (benign or not) *domination* in a strictly defined hierarchy among international actors. In this view, when a concentration of power emerges, the legitimacy previously attained from an international consensus decays: the concept of hegemony thus would result to be incompatible with legitimacy in an anarchical society, while consistent with a hierarchical order and processes of domination. From this statement it follows that the central question here is that of assessing whether legitimacy, when based upon consensus among (formal) equals, is attainable also in condition of preponderance/dominance, or if it would be conceptually inconsistent with theories of hegemony (Lee, 2010; Clark, 2011).

It is precisely around this dilemma that new approaches emerged in the '70s in a heterogeneous body of literature referred to as International Political Economy (IPE), aimed at reframing both the conceptual borders and the theoretical hypotheses of traditional IR fields: more precisely, it is essential here to refer to theories of Hegemonic Stability (HST), of which Kindleberger is considered to be among the founding theorists (Milner, 1998). In 1973 Kindleberger asserted that the chaotic international environment of the inter-wars period was mainly due to the absence of a strong leadership capable to ensure political stability and sustain economic growth at the global level: in this view, the ideological influence and the material capabilities a hegemonic state can deploy beyond its territories would be the most efficient recipe not only to provide stability to the international order (since the other states would consent to the hegemon's leadership due to national interests and preferences valuation), but also to legitimate the rules ordering the (current) international system and governing the relations among states. Addressing hegemony with this kind of features means therefore reconciling the previous theoretical dichotomy between leadership and domination into a conceptualization that recognizes in the hegemonic actor the necessary capabilities to lead the international system, while at the same time legitimizing its domination over the other states (*who consent* to it in order first to enjoy the conditions of stability of the system, and secondly to preserve their interests more than it would be otherwise in a different systemic setting –i.e. in case of conflicts with the most powerful- or, put more simply, for mere reasons of survival).

In mainstream HST, hegemony means both leadership and domination, which together will bring systemic stability and counteract the

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Hobbesian tendencies of perpetual conflict among the members of the international order (Eichengreen, 1989; Gowa 1989; Grunberg 1990; Lake 1993; Milner 1998; Snidal 1985; Webb and Krasner 1989). Strictly interconnected with Regime Theory, HST surmises that the global health is somehow dependent on the presence of a dominant power (a single state or a group of states) and the hegemonic structures of power it builds, whose possible decline might potentially bring to the decline of the corresponding international regimes (Cohen, 2008): as asserted by Keohane (1980), "hegemonic structures of power (dominated by a single country) are most conducive to the development of strong international regimes". In this variant, the presence of hegemonic structures facilitates the provision of "a sufficient flow of benefits to small [...] powers to persuade them to acquiesce" (Keohane, 1989: 78): the satisfaction of self-interest (by the subordinates), rather than legitimacy, constitutes the pivotal ground for (voluntary) compliance to a system, which is seen by its members as legitimate simply because they somehow benefit from it. This view on hegemony (with all its theoretical variations) therefore collocates the concept within the broader debate over power and qualifies it ultimately as ordering factor of systemic structures, but it does not explicitly question matters of legitimacy that may emerge beyond the mere interest-based (or even value-based) analysis. In HST an hegemonic power becomes legitimate *in the very moment it becomes hegemon*, since its power, its capabilities, its negotiating influence, its ability to provide goods or fulfil interests are necessary to produce compliance among the members of the system, which in turn consent to, and more or less explicitly legitimate, the leading role of the hegemon: apart from interests, there are no motivating factors intervening in the legitimation of hegemony.

A critical alternative of HST sees hegemony "not merely [as] an order among states" but as a "social...an economic...and a political structure" which transcends a state-centric reading of the world system and directly addresses the "universal norms, institutions and mechanisms which lay down general rules of behaviour" (Cox, 1993: 61-62). The focus of what is generally understood in IR and IPE as (neo) Gramscian school is shifted from the specific actors (agents) to the systemic structure that shapes, influences and guides the action of the members of the system (Antoniades, 2008): the reading of the system as a "totality" (Gill, 1993) rather than a state-centred analysis of world orders, "locates the subject of hegemony not in a powerful state but in transnational forces that dominate in the mode of production" (Antoniades, 2008: 4). For Cox (1983), hegemonic orders are not simply international orders, but transcend the interstate system of relations and shape "world orders" that have deeper global civil society dimensions (Worth, 2009).

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Gramsci's reading of hegemony, when applied to the international arena,²⁷ understands it not in terms of coercion (although always latent) but in terms of "consent, shared beliefs and common sense" (*ibid.*), which create universally accepted values that sustain the order created through the crystallization of the hegemonic structures favourable to the most powerful. Seen in this way, hegemony is a relation "not of domination by means of force, but of consent by means of political and ideological leadership" (Simon, 1982: 21), a relation of social forces (Gill and Law, 1989) where who holds the hegemonic position of leadership makes concessions to the subordinates in return for acquiescence (Cox, 1983).²⁸ Instead of merely relying on the manipulation of material incentives for purpose of compliance-production, the hegemon empowers its position of leadership through the alteration of the substantive beliefs, the norms, the value orientations and the normative claims over the systemic order (Ikenberry and Kupchan, 1990). This process is what Ikenberry and Kupchan refer to as "socialisation": while promoting the process of socialisation for the members of the international system, the consensual element of "hegemonic management" (Antoniades, 2008) makes the mechanisms of hegemony easier to deeply influence the actions and the ideas of its followers and reduces the transaction costs for the hegemon (in terms of material capabilities and economic resources). For neoliberal (Institutionalist) approaches to hegemony this feature of socialisation helps also explaining why the structure of the hegemonic order may outlive its hegemon and reproduce its very mechanisms even if the hegemon decays or its material capabilities significantly decrease, while for neo-Gramscian scholars the focus on ideological manipulation and on consent-inducing mechanisms for the ruled collocates the opportunity for (systemic) change in the role of *ideas* (norms, values, beliefs), rather than in the provision of material resources and economic preponderance over the subordinates.

Norms rather than material power (notwithstanding the role of the latter) are therefore the core of hegemonic processes in neo-Gramscian literature, and the consensual nature of the resulting order is based upon its conception as *universal*: an order which is "based ideologically on a broad measure of consent, functioning according to general principles" that the other states "find compatible with their interests" (Cox, 1983). According to Gill and Law (1989), the reproduction of the social structure of this order determines the capacity and the ideology of the subordinates, and it is hegemonic in the sense it directly serves the interests of the most powerful and fulfil its ideological dominance over the norms, preferences and beliefs of the other members of the system, rather than its substantial

²⁷ Gramsci's political thought was mainly referred to the understanding of domestic politics, rather than the internationalisation of it, but it has been applied in IR by several authors: see for example Cox (1983).

²⁸ In Gramsci's words (1966): "The "normal" exercise of hegemony in a particular regime is characterized by a combination of force and consensus variously equilibrated, without letting force subvert consensus too much, making it appear that the force is based on the consent of the majority"

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transformation: the ruled ultimately internalize the ideological construct which serves the interests of the hegemon, and are “somehow seduced into the belief that their interests are thereby served” (Antoniades, 2008; see also Ikenberry and Kupchan, 1990: 55). This ideological construct ideally harmonizes the interests of the hegemon (the leading class, as per Cox) with those of subordinates, and is expressed in “universal terms” (Cox, 1983) that “normalise” (in Foucauldian terms) the systemic order through forms of power which do not merely reside in material dominance: hegemony thus remains a form a dominance, but “it refers more to a consensual order [where] dominance may be necessary but not sufficient” (Bieler and Morton, 2004).

Building upon Spinoza, Lukes (2005) identify this form of power as the “ability to constrain the choices of others ... securing their compliance, by impeding them from living as their own nature dictates” not through direct forms of coercion but through the manipulation of their ideological nature. In this view, compliance, acquiescence and consent to the hegemon are therefore “a psychological (*cultural*) state” (emphasis added) besides a mere “coordination of material interests of dominant and subordinate groups” (Lukes, 2005 [1974]: 8). This cultural state is the direct manifestation of Lukes’ third dimension of power, and the subordinates are therefore affected by the ideational/structural/indirect²⁹ feature of “soft power”,³⁰ which shapes “their perceptions, cognitions and preferences in such a way that they accept their role in the existing order of things” (Lukes, 2005 [1974]: 28). Compliance to the leadership expressed by the hegemon becomes therefore “common sense” (Gramsci, 1971), while not conformity with the ideological apparatus rapidly gains an immoral shade as if it were a manifestation of a deviance from the shared values of “normality”:³¹ in such an hegemonic order, “not complying is insane or even criminal” (Zeitoun and Warner, 2006, after Lustick) not because of the hegemon itself, but due to the *cultural* system of norms and judgment-formation the members of a given society (consciously or not) consent and adhere to. In this view a systemic change is not induced by objective determinations (i.e. the resource capacity), but results from a continuous evolution of identity formation that emerges “within and through historical processes” (Bieler and Morton, 2004) of (hegemonic) relations among social forces.

According to Bieler and Morton (2004), this view over hegemony thus emphasizes the dialectical feature of history, focusing on interactions that are neither fixed nor taken for granted, but instead part of a continual processes of re-definition of identities, interpretations of reality and world

²⁹ See the taxonomy of power above presented in the previous chapter.

³⁰ Nye (1990:32): “intangible power resources such as culture, ideology and institutions [or] those aspects of a dominant power that are attractive to people beyond its borders”.

³¹ On the concept of normality and normalisation, see Foucault (1977) and Lustik (2002). See also Gill and Law (1989) on the “intellectual and moral” feature of soft power.

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views: power relations, institutions and social relations are the product of competing imaginaries and ideas where conflicting ideological constructs are embedded in order to prevail and gain predominance.

This conception over ideological constructs follows directly from Gramsci's intuition about the prominent role of "historic blocs"³² in leading and shaping particular sets of relations among social forces: in Gramsci's writings, state and civil society jointly constitute a solid structure (either dominant –hegemonic- or emergent), a coherent "ensemble" that represents an historical congruence between material forces, institutions and ideologies in a given time (Cox, 1983; Gill and Law, 1989; Bieler and Morton, 2004). The historic bloc is so conceived in terms of an "organic basis rooted in material and normative structures" (Gill and Law, 1989), which establishes its predominance over the subordinate social forces (classes) through (often covert) compliance-producing mechanisms that mainly operate at the ideological level.

Gramsci's historic bloc is a dialectical concept by nature, and when an "intensive dialogue" (Cox, 1983) with the hegemonic forces (conceived as a "conscious and planned struggle", in Gill and Law, 1989) allows a subordinate force to emerge, the resulting evolving dialectical relation opens the field to counter-hegemonic attempts and ultimately the possibility of taking over the historical bloc in hegemonic position (Cox, 1983). Challenging the status quo is therefore envisaged in (neo) Gramscian reading of hegemony, and ultimately rests in "the contradictions and conflicts that arise within any established structure [that] create the opportunity for its transformation into a new structure" (Cox, 1996: 146). According to Stoddart (2007), "hegemony is always contested ... we may only speak of the relative success of a particular hegemonic discourse" and consequently structural transformation transcends historically determined structures, since "hegemony always implies resistance (...) they are a dialectic pair" (Cox, 1981).

Rather than aiming directly at supplanting the actor in hegemonic position, Gramsci suggests that counter-hegemonic practices must "attempt to disarticulate" (Mouffe, 2005) the current order by challenging its established set of principles, norms and beliefs: counter-hegemony so conceived occurs not (only) through the manipulation of the resource balance (neither the material disempowerment of the hegemon nor the relative empowerment of subalterns), but through resistance to the *ideological* domination: creating a new society (a new cultural and social framework) within the current settled hegemonic order thus represents the main objective of (neo) Gramscian resistance to status quo in order to es-

³² Note that in Gramsci's writings, the focus of his analysis rests on the domestic level, while the international is not –apparently- taken into consideration: however, his political intuitions have been applied extensively in IR literature (see among others Adamson 1980, Agnew 1995, Ayers 2013, Bates 1975, Bieler 2001, Bieler and Morton 2004, Butler et al. 2000, Cox 1983, Femia 1981, Gale 2011, Gill 1993, Laclau and Mouffe 1985, Levy 1999, Murphy 1998, Rupert 2005).

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establish an alternative world order (a new political framework). Taking power per se doesn't necessarily produce social transformation, which in fact initiates dismantling the set of norms and cultural beliefs upon which the current order is based, and providing new values, new common-sense, ultimately a new hegemony (Adamson, 1980).

Building an alternative "historic bloc" responds, according to Gramsci, precisely to the necessity of creating a new actor able to dethrone the hegemon through the attractiveness of an alternative worldview: a transformative subject therefore may only emerge from the broad acceptance of a new ideological framework by the subordinates, a process named "war of position" after Gramsci. "Only a war of position brings structural change" (Cox, 1983) and permits the subalterns to corrode the consensual element of hegemony while at the same time creating the basis for a new ideological construct (through the emergence of a new historic bloc): once (most of) the actors of the system cease to believe in and defend the hegemonic values, "the hegemon has to revert to threats, promises or violence in order to enforce its will" (Antoniades, 2008), progressively losing its hegemonic predominance and opening the field for counter-hegemonic moves. In Gramsci's words (1966), "*The awareness of being part of a definite hegemonic force ... is the first step towards a progressively higher self-consciousness, in which theory and practice finally unite*".

The self-consciousness Gramsci refers to is part of the construction of self- (and group) identities, which are "always discursive constructions in Foucault's sense: social subjects and their practices are constructed through discourses, on ethnicity, gender and, indeed, politics" (Laclau, 2000: 191).³³ Here the focus is not therefore on the dis/empowerment of the hegemon as practice of resistance to hegemony per se, but on the very logic of the *institution* of hegemony, whose structural features transcend the specificities of the actors: "Order is conceived of not only as the result of individual forces of will, but also as the prior constitution of these forces. The structured international realm is also always a form of society/order/system in which agents are constituted - and not just the other way around" (Guzzini, 1994). Subjected to and constituted by the structures of international order, the agents come to a "critical understanding [of themselves] ... through the struggle of political "hegemonies," of opposing directions, first in the field of ethics, then of politics, culminating in a higher elaboration of one's own conception of reality" (Gramsci, 1966).

This brings into the analysis complex issues about "real interests" and "false consciousness" (Lukes, 2005: 108–9), since the understanding of

³³ Note that Foucault resists the conception of structural change as imposition of a new alternative hegemony, as in Gramscian thought. In Foucauldian perspective, change subverts the very structures ordering the world system of culture, while in Gramsci the hegemonic structure remains a foundational feature of modern politics. See on this argument: Day (2005), Ekers and Loftus (2008), Griffiths et al. (2009), Kreps (2013), Lash (2007), Radhakrishnan (1987), Stoddart (2005).

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hegemony as an institution of international society “is not merely a [matter of] material presence, but needs to be underpinned by social understandings” (Clark, 2009), by interpreting the discursive formations of a “chain of equivalence” (Laclau and Mouffe, 2001:93), which integrates a network of actors and demarcates this group from an antagonistic *outside* (Simmerl, 2011). In such conception, hegemony thus “is a structural condition reproduced through agency “, but “since it is only a fragile fixation that rests on the articulation of an inside/outside distinction, hegemony is never absolute and necessarily produces political conflict and counter-hegemonic discursive articulations” (*ibid*: 10-11). Finally, political action can gradually undermine and change the settled hegemonic order (*ibid.*), through reactive and active practices that, subverting the ideological construct of the dominant worldview, progressively build an alternative order to the status quo.

The focus on counter-hegemonic strategies, on the role of knowledge and on discursive practices will be among the core elements of the analyses portrayed in this thesis: see chapter 3 for specific insights over theoretical approaches to discourses and knowledge/power interconnections, and chapter 5, 7 and 8 for empirical evidences over the case-study.

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Chapter 3. A Theoretical Framework for Analysis

This section advances a conceptual analysis for the definition of the theoretical framework upon which the research is structured. It builds upon the critical insights provided through the literature review presented in Chapter 2, and informs the methodological approach drawn in Chapter 4. The framework aims at expanding the theoretical concepts outlined in the previous chapter through an analytical critique of the controversies emerged in the cross-sectoral analysis advanced. Furthermore, it aims at contributing to the literature in hydro-politics with an assessment over potential areas for further research. The first part of the chapter explores the opportunity of integrating theories of International Relations with Environmental Studies (Ch. 3.1), and how such an inter-disciplinary perspective may contribute to theoretical advancements in the field of Transboundary Water Management (Ch. 3.2). The second part of this section presents an analysis over how the interaction of processes of conflict/cooperation over water issues may be assessed in terms of complex multi-level power plays, which are assessed through the application of an expanded Framework of Hydro-Hegemony (Ch. 3.3). Inspired by the urgency of looking for complementarities in the existing literature, this chapter aims at filling the theoretical gaps that have emerged in the evolving subject of hydro-politics.

3.1 Between IR and Environmentalism: emerging water paradigms in global politics

A recent study by Cook and Bakker (2012) collects a comprehensive review of the constantly growing presence of water-related issues in the academic literature and policy networks in the last two decades. The diffusion of concepts like water scarcity, water security and water stress among scholars and intellectuals (particularly within the academia and IOs) widened the representation of water as a key-factor in the environmentalist debates and facilitated the emergence of theoretical paradigms to guide further analyses and promote different and competing policies and strategies towards a deeper understanding and a better management of water-related challenges that humanity is currently facing. Looking at the most recent literature, it is clear how a wide range of paradigms has recently risen, whose implications differ from theory to theory and that influence at different levels not only the political agenda of the institutions, but also the perceptions and representations people has been building over the concept and imaginary of water.

While some authors primarily drive their focus on the classical liberal/conservative dichotomy within environmental sciences, others make an attempt to go beyond this narrow perspective and try to find out a more complex and articulated typology of environmentalisms. As per the definitions given by Sunderlin (2003), paradigms are “analytical representations of ideology in the realm of the societal sciences” while ideologies represent “functional consequences” of the mutually challenging conflict of interests: according to this framework, we can easily understand why the water issue has been defined in several divergent ways and identify what is at the core of such conflicts of interest. It is in this view that we will be able to identify and even challenge the paradigms that have risen over water, looking not only at the outputs and expected outcomes of a given theory, but also at the salient features which made it develop.

The authors who dedicated their research to this topic have identified different existing paradigms, according to their own view of the centrality or marginality of consistent conflicts within the societal order. Due to these reason the range of paradigms related to water identified by experts and scholars differs both in quantity and in quality according to the scale of (real or supposed) interests, some would say conflicts, described as pivotal in a given society. Furthermore, the levels of analyses and their units greatly differ, from national or sub-national focuses to larger regional or global approaches.

3.1.1 Water optimists and water pessimists

The existing dichotomy between different approaches to water security issues can be simplified through Allan's categorisation in "water optimists" and "water pessimists" (Allan, 1997). Simplifying and generalizing, we can say that while the water optimists question the views associated with growing worldwide water scarcity and are cautious with respect to the likelihood of the emergence of violent conflicts over the access and control of water resources, the water pessimists' view entails a more catastrophic perception of water security basing their assumptions on scaring future scenarios of dramatic decrease of freshwater availability worldwide, arguing that competing interests over water sources provoke serious tensions which are likely to lead to open conflicts. The core of the debate resides not only in conflicting perceptions, but in different theoretical approaches to Global Politics, development and environmental concerns: the divergence in the analytical perspectives, in the variables considered and/or excluded, in the solutions proposed and in the interpretative categories used, testifies that each of these two approaches includes values, visions, paradigmatic ideologies and political views that vary significantly.

The two views of water optimists and pessimists call for diverging recommendations and policies, which can be resumed respectively as a "soft path" (Gleick, 2000) towards water security, and a radical change for the achievement of substantial improvements in the water management. According to Allan (1997), there are four main reasons, three on the supply side and one on the demand side, for the simultaneously emergence of such different approaches. The first supply side reason is the simple matter of the diverse assumptions on surface and groundwater availability adopted by the two groups. The second is that the variables used differ (for example the global soil water is ignored by pessimists), and the third is "the imprecision in the estimates of the other important components of the global hydrological system", and especially on climate change. Finally on the demand side there are so many factors affecting the demand of a community for water that it is possible to extrapolate values of demand for water that differ significantly (pessimists tend to rely on high estimates while optimists to the low end of the range).

Due to these reasons, the interpretation of water-related problems differs from optimists to pessimists, and the solutions adopted or recommended are often seen as contrasting each others: in dealing with feasible political receipts towards environmental sustainability in general and water security in particular, the optimists advocate for a neoliberal-oriented perspective which put the keys for development in the improvements of technological solutions, in capacity building processes, and in institutional governance, while the pessimists argue that only an integrated holistic approach, focused on water but at the same time oriented to a broader conceptualization of the interrelations between human and ecological systems, might represent the proper answer to the growing challenges

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related to sustainability, human development and preservation of the environment.

The optimists advocate for an increase in the financial investments in the water sector, to enhance the technological capacity and expand the infrastructural system of water supply, together with managerial approaches towards jointly public-private systems of delivery and provision of freshwaters regulated by the invisible hand of the markets. According to Allan (1997), "the rich — that's us — will probably not be as selfish with water as one might fear. We are likely to continue to adapt our usage of the water we are endowed with, and we are likely to be putting water back into the environment — by using less fresh water in farming, for example".

In contrast to this optimistic view, which put its confidence in the historical ability of mankind to cope with new challenges, the water pessimists recall somehow the neo-Malthusian predictions, the limits to growth of Meadowsian heritage and the vision associated with the de-growth discourse, arguing that environmental concerns and social inequality are strictly interrelated, and that only radical changes in the structure of powers will be able to cope with the growing threats to the environmental system. From this perspective, poverty and inequality, global climate change and pollution of natural resources, famine and marginalization, water shortage and overproduction, are deeply interconnected and have to be properly addressed at the same time to find out viable solutions for a sustainable development. Water pessimists oppose a issue-by-issue approach driven by experts and engineers, and advocate for an integrated view inclusive of social as well as cultural factors, beyond the mere technical emphasis on exploitation, allocation and management of freshwater resources.

According to Allan (1997), water pessimists "are wrong but useful" while water optimists are "right but dangerous": water pessimists are useful because "they raise the urgency of water issues". Water optimists on the other hand "encourage the natural human tendency to ignore a problem that has never been encountered in 5,000 years of managing water".

It's obvious that between these two extremes exists a wide range of different approaches, theories and paradigm, which have enriched the debate and expanded it beyond water technicians and engineers. The multidisciplinary feature of water, clearly explained by the investigation conducted by Cook and Bakker (2012), made several scholars from different disciplines and sectors of research converge over the inclusion of water-related issues in their analyses: water has been seen either as element of development or as finite resource, and the emphasis on the constraints over states varies from water availability to the political economic ability of managing it (Allouche, 2005). The political character of water has been widely stressed, and this has opened rooms for the inclusion of water-oriented perspectives in several disciplines, from sociology to economics, from anthropology to political science.

Particularly relevant for those interested in this topic is the contribution which can be offered by the perspective of the study of International Relations: being traditionally multidisciplinary, IR might provide useful frameworks of analysis for further research to go beyond the simplistic dichotomy “optimists/pessimists”, facilitate deeper linkages with environmentalism, and suggest broader and more integrated view of water-related challenges in the 21st century. The following section is therefore focused on the exploration of the mutual contributions that the two disciplines can share, to enrich the on-going debate over natural resources in general and water in particular, while the last section will be dedicated to the analysis of the emergence of different paradigms over water which can be seen through the lens of both Environmentalism and IR studies.

3.1.2 Theorizing environment within International Relations

As mentioned above, theorists have approached the political character of environmental sustainability in a variety of different ways. For the purposes of this study I will try to briefly analyse which contributions to the debate may represent a useful linkage with the subject of International Relations, to understand whether they have emerged as an original and holistic perspective within the theories of IR (rather than a subset of traditional approaches), and to which extent these conceptualizations have influenced and forged different paradigms directly related to the water issue.

Bowers (2003) calls upon the conservative tradition of Burke and the Brundtland Commission’s prescription of sustainable development, seeking for “an ecologically informed conservatism” against the neo-liberalism agenda in the US: according to his analysis the main debate on environmental challenges can be reduced to the conflict between neo-Liberals, who support conservation principles and some sort of environmental regulation, and Conservatives, whose main aim is to protect the free market against those who neglect progress in order to conserve ecosystem. Bowers (2003) tries to reconcile these two paradigms through the recovery of a “philosophical conservatism deeply consistent with environmental protection” in the attempt to discover “the order that inheres in things” rather than to “impose order on things”, accepting as main unit of analysis the one of a community described as global and comprehensive of both humankind and ecosystems.

This perspective, although of remarkable interest, is however weak in approaching its main objectives: first, the focus on a wide global community fails to address the core of the defensive Conservatives’ discourse, which is placed in the threats a community is facing by demands of competing communities; secondly, Bower’s preference for “the order that inheres in things” is indeed the main argument of modern Conservatives’ prescriptions in favour of market forces over institutional efforts to impose order for the achievement of substantial environmental goals (Davidsen,

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2006). The standardization of cultural diversities exactly destroys the specific needs of a given community, and is contrary to fundamental conservative principles: this dilemma is pivotal in the current debate on environmentalism, and it is shared among scholars who try to describe the modern reality of a globalized era and seek for the identification of new paradigms, which may be applied within the policy networks to develop new strategies to cope with current and future environmental challenges. In the end, Bower's research for a new paradigm is found to be both conservative and radical, recalling either Burke or Schumacher or the radical green circles depending on the wider or narrower interpretation given to his theoretical conceptualization (Lockett, 2004).

Different from Bowers' analysis, Sunderlin's (2003) work focuses on three main paradigms based upon the centrality of typology of conflicts identified within a community: the *class* paradigm sees the competition over resources as driven by the property owners, the *managerial* paradigm focuses on the state and large corporations, the *individualist* paradigm sees increasing differentiation inside a society as major cause of conflicts. It is clear in his work how Sunderlin tries to connect his categories to the traditions of social science and political economy, avoiding in this way the possibility to give to the environmental issues an independent status of scientific value, placing himself almost at the opposite side of Bowers.

The proponents of Critical System thinking (see Ulrich, 1993 and Midgley, 1994), on the other hand, tend to consider the conflictive debate between Humanism and the Ecological perspective, focusing on the juxtaposition or conciliation of human and nature in a long-standing philosophical traditional debate over individualism and holism (Lockett, 2004). For example, Eckersley (1992) inclusive perspective of humanity as part of the nature (or environment) is the foundation of her typology of environmental paradigms, identified in the main contraposition between Ecocentrism and Anthropocentrism: her integrated view of the environment as a set of "structures in dynamic equilibrium" with moral worth opened the field to what she defined as "Ethical Holism", recalling the interpretation of Land Ethic given by Leopold and the Lovelock's Gaia hypothesis (Lockett, 2004). A similar approach (Van De Veer and Pierce, 2003) has to be linked to Deep Ecology thinkers (most notably A. Naess), and its normative principles of self-realization and biocentric equality: its "ecocentric, deontological paradigm" (Lockett, 2004) places emphasis on the realization of the self "beyond one's egoistic sense of self to include all living things" (Eckersley, 1992), driven by a moral component that shares with the egalitarianism of Pettit and Rawls the normativity of an holistic principle ("critical holism" in Ulrich's words) rooted in the biocentric equality within the system.

Approaching this debate from a more IR oriented perspective basically means to seek for a sort of inclusive approach which promotes a

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rethinking of the classic questions of International Relations (like the search for peace, the question of global governance, the debate on global justice) in the light of the ecological challenge (Paterson, 2005). To this regard it's important to highlight the fact that the range of theoretical approaches to global ecological politics is getting wider and wider, and several authors propose very different categorization of conceptual thinking.

In order to give few examples, it's worth mentioning here the famous work by Dobson (2004), who collocates the main debate in the juxtaposition between Environmentalists and Ecologists, the work of Clapp and Dauvergne (2005) where four principal approaches are taken in exam (free-market environmentalism, institutionalism, bioenvironmentalism, social ecology), and the important attempt to reconcile those views made by Paterson (2005) in his analysis of what he defines as "Green Theory", where he only considers as key debate, for the purpose of linking environmental politics to IR in order to define a proper "Green approach to global politics", the diverging perspectives of Institutionalists³⁴ and Bioenvironmentalists (the latter also includes the Social Greens).³⁵ Although the Institutionalists' focus is mainly on the possibilities of collective action while the Bioenvironmental theorists adopt a perspective from the point of view of security studies (both securitization and de-securitization),³⁶ according to Paterson they both share the same founding metaphor: Hardin's "Tragedy of the Commons" (1968).

According to Hardin's conceptualization of this "tragedy", IR theorists focus on the suggestion that when competing for open access resources (the Hardin's commons) the states (the main unit of analyses for IR) both tend to over-exploit and abuse them, and at the same time act in a way which impedes collective efforts to stop or at least mitigate such abuse. Hardin's conclusion is that the main problem to be addressed is structural rather than physical, economic or technological, and it can't be solved unless an overarching change happens in the structure of authority: in this regard have to be interpreted his most famous slogan that "freedom in a commons bring ruin to all" and his strong call for "mutual coercion, mutually agreed upon" (which led him to be labelled as "eco-authoritarian").

The logic of Hardin's claim is shared by the liberal Institutional theory in IR (whose most known exponent is Keohane), which is a branch of the neo-liberalist approach to international politics whose emphasis is put on the role that social and political institutions play in shaping the behaviour of actors (the states) and in influencing the outcomes of their interactions within the system. In an Institutionalists' approach, collective

³⁴ Bernstein (2002) would refer to these theorists as "liberal environmentalists"

³⁵ According to the categories of interpretation developed by Paterson, bioenvironmentalism refers to the critical approach to the sustainable development paradigm (the so-called "post-environmentalism")

³⁶ See Turton (2003), in particular chapter 2 on "Securitisation" and chapter 3 on "De-Securitisation".

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actions recall the rational choice theory in the way they are considered necessary for reaching specific goals in situations where nevertheless specific circumstances make collaboration and concert difficult to be achieved. However, the conclusions Institutionalists drawn differ from the catastrophic outcomes foreseen by Hardin: in their perspective, as an historical analysis would clearly shows that the conditions under which the states interact are more relaxed and less extreme than outlined in Hardin's work (mainly due to the fact that communication and some knowledge of other's interests are achievable instead of being completely neglected, and due to the historical patterns of relations existing among communities of states which allow information flows between them), in the end cooperation rather than conflict might in general become more feasible in situations of competition over open access resources.

This approach challenges the Realist school of IR (and in particular the neo-realism thought) which deals with the problematic environmental challenges as sources either of interstate conflict or of social instability: in fact for Institutionalists the possibilities for collaboration in the real world are greater than in the anarchic system conceptualized by Realists, and international organizations and institutions may therefore play a significant role in fostering cooperation and in limiting the risks of potential conflicts (Haas, Keohane and Levy, 1993).

The growing emergence of inter-states Institutions, as well as the increasing worldwide attempts towards regional integration and institutionalization of supranational bodies (sometimes specifically addressed to environmental challenges), together with the limited number of conflicts associated with international disputes over natural resources,³⁷ opens rooms for the emergence of the Regime theory and the Global Environmental Governance theories.³⁸ Moreover, and most notably, it seems to give evidence to the Institutionalists' thesis of the likelihood to witness the affirmation of cooperative agreements and behaviours, rather than conflicts over natural resources, among states. In the end, the Institutionalist approach places the environmental problems within the traditional framework of neo-liberalist assumptions on the characteristics of interaction among states, and advocates a strategic "soft path" towards cooperation driven by institutional forces, rather than calling for radical changes in governmental attitudes and behavioural conducts: technology, institutional capacity building and liberal economic policies will enable the states to cope with environmental challenges, as if they were one of the many features that contributes to shape the relations among national states, and not a specific field of research to be addressed in a different way. This approach represented a major shift from the first concerned efforts in environmental politics towards a compromise of international environmen-

³⁷ See for example Allan (2002), and Turton and Henwood (2002)

³⁸ See for example Lockett (2004), Midgley (1994), Ulrich (1993). See also the studies on globalization by U.Beck and A. Giddens.

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tal protection and promotion of liberal economic order, which has emerged clearly in 1992 at the UNECE Conference in Rio, where a “new regime of sustainable development became institutionalized” (Bernstein, 2002).³⁹

For those who challenge this perspective, there are a number of limits to the institutional analyses of global environmental politics. First, the inter-state-oriented focus hides other important actors that are neglected in Institutionalists’ perspective; secondly, the lack of a sustained account of the causes of environmental degradation represents an important missing point in their analyses; thirdly, the effectiveness of regimes institutionalization in dealing with environmental challenges has not been addressed in a comprehensive way. To this regard, Princen (2005) states that despite the long-lasting process of institution building, technological advancements and cooperation strengthening over the last 30 years, the limited number of open inter-states conflicts over natural resources has not been accompanied neither by an improvement of environmental assets worldwide, nor even by a lower rate of degradation of natural resources: on the contrary, the pressure over the environment has increased significantly, the exploitation of natural resources has overcome their rates of renewal, pollution-related problems have risen, and the general environmental degradation has dramatically increased at global level. Due to these analyses, some stated the “Death of Environmentalism” (Shellenberger and Nordhaus 2004), and referring to post-colonial studies (see Alier 2002 for example), critical approaches to the Globalization mainstream (see for example Beck and Giddens) and post-modernist theorists (see Escobar 1999, and Paterson 2005), they developed new interpretative categories and new strategies to deal with environmental politics.

Proceeding from these arguments and adapting the Meadows’ theorization of “limits to growths” (1972) to a more IR-orientated approach, more radical approaches to environmental politics has risen upon the concepts of carrying, productive and absorptive capacities of the environment (Dobson, 2004). Paterson (2005) confirms the emergence of several different (sometimes conflicting) perspectives within this “radical” approach but, for the purpose of theorizing environmental issues within an IR perspective, he attempts to reconcile them under the label of Bioenvironmentalists.⁴⁰ According to their analyses, technological solutions won’t prevent environmental crises (even if they may postpone them), and threats which have been underestimated for long periods of time will soon or later mani-

³⁹ According to Bernstein (2002), the development of environmental paradigms has evolved from the focus on environmental protection (Stockholm 1972: conservation, economic development, sovereignty), to the sustainable development paradigm (Brundtland Commission 1987), to the liberal environmentalism school (Rio 1992), to the post-environmentalism critical approach.

⁴⁰ To be more precise Paterson identifies two broad types within his “radical” category: “bioenvironmentalists” and “social greens”. Despite clear differences between the two approaches, here I considered them jointly for the purpose of comparison within the main dichotomy in IR environmental studies between Institutional neo-liberalists and Greens.

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fest their catastrophic effect. Disputing the individualist perspective of Institutionalists and their issue-by-issue approach, Bioenvironmentalists advocate for a holistic perspective under the argumentation that problems associated with environment are all closely interrelated: it is not possible to solve a specific problem related to environmental degradation and future generations' wellbeing unless it is addressed in strong correlation with social, economic, cultural dimensions and other relevant environmental issues. Concepts like "ecological footprint" (Wackernagel and Rees, 1996), "ecological debt" (Simms, 2001), "green new deal" (GND Group, 2008), "ecologisation" (Latour, 1998), "antiessentialism" (Escobar, 1999), emerged as new frameworks of analyses towards a more comprehensive and inclusive understanding of environment-related problems. Politically speaking, the bioenvironmentalist approach tends towards three different directions (Paterson, 2005):

- Highly authoritarian solutions: the adoption of centralized global political structures to force changes in behaviour to reach environmental sustainability;
- Bioregionalism approach: the re-definition of political, social and economic spatial scale according to the spatial character of ecosystems (for example, the watersheds as key spatial category);
- Radical decentralization: the structural re-organization of powers in a global network of small-scale self-reliant (but internationalist in orientation) communities.⁴¹

From an IR perspective, the decentralization impulse is the most important outcome of a Green approach to Global Politics, as it affirms that while environmental problems operate on a global scale, they can be challenged only breaking down the power structures through local actions by self-reliant communities. Nevertheless, the advocacy of radical decentralization has been criticized within the environmentalists' debate, particularly by the followers of "eco-centrism" (Eckersley, 1992) who, far from adopting the eco-authoritarian view, still see the modern state as a necessary political institution in between the local and regional/global levels.

Many other approaches may be identified within the literature on environmental subjects, and this paper does not pretend to provide a comprehensive review of them, rather I tried to identify some of the paradigms that can be useful in the below narrower analysis focused on the emergence of different water paradigms, linked in turn with environmental paradigms, theories of IR and political economy.

3.1.3 A brief overview on the current debate on water paradigms

A growing body of literature has been referring explicitly to water-related issue for the last two decades at least, either as a conceptual sub-

⁴¹ Sometime called "anarchist solution", it recalls the Schumacher's slogan "small is beautiful" with its worldwide known "think globally, act locally".

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set of the broader environmentalist approach or as a salient feature within political economy, security studies, and Global Politics in turn. An increased attention has been driven towards the concept of water security, through different approaches varying from an initial focus on quantitative availability of water for human uses to include water quality, human health and ecological concerns. According to the study conducted by Cook and Bakker (2012) mentioned before, there has been a significant increase in the use of the term “water security” across disciplines, a multiplication of articles directly or indirectly linked to water issues, and the emergence of competing framing of water security.

Turton (2003) argues that the most important factor (in the emergence of what Gleick calls “water paradigms”) has been the convergence between the expansion of traditional security studies towards “new” security paradigms (mainly thanks to the works of Buzan and Wæver in the ‘90s) and the birth of a “globalizing discourse” whose one of its key ramifications has been the emphasis on environmental issues, which according to him are “the most salient features of the post-Cold War world”. One subset of these environmental issues is the emergence of a powerful global discourse for the management of water resources closely linked to concepts of national and environmental security (Allouche, 2005). In general, water security in the ‘90s was linked to war/peace and conflict/cooperation dynamics, where water was considered as a potential cause of conflicts. Then the concept gradually has evolved⁴² towards an inclusive definition of water security that encompasses “access and affordability of water as well as human needs and ecological health” (Cook and Bakker, 2012). This definition seeks for an integrated view, which, in Falkenmark’s (2001) words, should bring environmentalists out of the “tunnel-viewing Eldorado” in which they have fallen since the 1992 UNECE Conference in Rio. This development is, in part, the result of the new security paradigm that has “broadened and deepened the security agenda” (Turton, 2003) by including non-military (the so-called “low-politics”) threats, as well as non-state, security stakeholders at all levels of society. Since then, a diverse literature has rapidly grown giving to water security a variety of definitions, from discipline-based definitions to more integrated, inclusive and multidisciplinary approaches.

According to Cook and Bakker, four major interrelated themes dominate the current debate on water paradigms: water availability; human vulnerability to hazards; human needs; sustainability.

The first approach, the one that put quantity and availability of water (the supply-side) at the core of the theorization, is often linked to water security assessment tools and explicitly reminds to liberal environmentalism (the Institutionalists, as per Paterson). It focuses on water shortage, water

⁴² A great effort towards the development of the concept has been made by The Global Water Partnership (GWP) in the Second World Water Forum in 2000.

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stress and water scarcity,⁴³ and sufficiency of water supply for human beings results to be the primary challenge to be addressed (Rijsberman, 2006). From this perspective, improvements in technology, investments in water supply facilities and capacity building are the keys to cope with water-related problems.

A second theme of the academic literature on water security is related to vulnerability and potential hazards. This approach is strictly related to national security concerns, and on strategies of prevention and protection: to pursue water security this paradigm advocates for an “infrastructure and systems approach” (Cook and Bakker, 2012) based on “guns, gates and guards” (Dunlap, 2008) to ensure drinking water infrastructure security.

A third approach is represented by a focus on human development-related concerns and a broader meaning of human security, which considers water as pivotal to protect the health, the safety and the welfare of human beings. This perspective has been adopted and fostered by the UNDP, and largely incorporated in the FAO assessments on food security. From this view, the managerial side of water scarcity shall receive critical attention, but as it is explicitly anthropocentric, such paradigm risks neglecting the importance of ecosystem as integral component of human and water security, and has been challenged by several scholars (Cook and Bakker, 2012). The issue of water for people (social and economic) versus water for the environment has become a central debating point. At the hydro-political level, it embraces contentious issues such as the north/south divide, but is also manifest at the subnational level as the focal point of resource capture and ecological marginalisation of communities (Turton, 2003).

The last category defined by Cook and Bakker refers to sustainability, and has been mainly envisaged by the Global Water Partnership (2000): “Water security at any level from the household to the global means that every person has access to enough safe water at affordable cost to lead a clean, healthy and productive life, while ensuring that the natural environment is protected and enhanced”. This framing represents a broader theorization of water security and includes a multidimensional conceptualization of the close interrelations between human development and ecosystems.

It is now clearer that approaches to water security are diverse and continuously evolving. A growing literature over the past 15 years has investigated the conceptual (paradigmatic) and operational (programmatic) levels of an holistic approach to water management called Integrated Water Resources Management (IWRM), which has emerged as dominant paradigm since the 2006 World Water Forum, at least among water experts. This approach considers the claim that water security is deployed as

⁴³ The Falkenmark Index of water security has been developed within this framework of analysis.

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a discursive strategy, and focuses on questions of governance. Including several variables and adopting the definition of good governance given by UNESCAP,⁴⁴ this perspective advocates for a broader and integrated view of water security, whose conceptualization implies not only questions of strategic operationalization, but also paradigmatic challenges to which IR theorists can look at, beyond the traditional mainstream dichotomy between realists and liberalists (and to a lesser extent to constructivists). For example, recent reforms in water governance, notably decentralization, devolution and community participation in water management, recall many of the main questions at the core of the debate within Global Politics. The concept of “hydrosolidarity” (Falkenmark, 2007), the importance given to water demand management and unconventional supply approaches, the reallocation strategies to reduce projected gaps and meet future needs, the de-securitization critique and the emergence of new principles of sustainability and equity recall a broad interpretation of governance which includes many elements at the core of modern IR studies. However, governance alone could not be considered a panacea, at least not in a long-term perspective, and IR might provide useful perspectives to look at water issues in a more comprehensive and sophisticated way, seeking for interpretative linkages between different environmentalist approaches and Global politics.

The analysis here proposed represents an effort to suggest multidisciplinary linkages between Environmentalism and IR, focusing on the topic of water as key-feature for a step forward beyond academic lock-ins. The water issue has been widely addressed by theorists of different disciplines, and therefore it seems a viable instrument to facilitate dialogue and expand the debate, as well as a relevant object for further research (either at global or at local level). The emergence of environmental paradigms in general, and (most recently) of water paradigms in particular, draw our attention to consider the contributions that IR might bring to Environmentalism, focusing on the traditional questions about inter-states relations and Global Politics from different perspectives (see Figure 12). Issues of Environmentalism already entered into the main debates among IR scholars, and contributed to the renewal of the discipline, but they are still waiting for proper recognition: a water-oriented focus might in this regard represents a useful tool for making of environmental concerns a major category within IR.

Some of the main questions to be addressed in this research project deal both with traditional studies in IR and post-environmentalist approaches: a closer look to both disciplines and the attempt to go beyond

⁴⁴ According to UNESCAP good governance “has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimised, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society” (UNESCAP, 2011).

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traditional categories or paradigmatic clusters may thus represent a first step towards original and innovative perspectives for a more inclusive and integrated analysis of water-related issues and environmental, as well as political, challenges in a globalized era.

Figure 12: Emerging water paradigms



Source: author's compilation

3.2 Transboundary water management reconsidered

This section discusses the tension in the literature on TWM between the progressive de-politicisation of water governance in the political agenda, and the narrowing of solutions for water-related challenges to the watershed unit of analysis (Allan, 2003; Wester et al., 2003). These approaches are largely adopted in developing regions, and the following analysis aims at showing the limitations that these perspectives present, as well as suggesting a new way to overcome these pitfalls.

Water resource management (WRM) is inherently a complex political process, which reflects and in turn determines “the balance between environmental, economic and social values of water” (Butterworth et al., 2010: 74). This happens through the determination of water allocation, uses, related norms, and ultimately water rights. Thus, natural resource management and politics are strictly interconnected.

According to Heywood (2002), politics is to be understood as a process rather than an arena, and his conceptual definition of the term clearly states that “at its broadest, politics concerns the production, distribution and use of resources in the course of social existence” (p. 10). Yet, the mainstream literature on water policies tends to emphasize a de-politicised

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understanding of the challenges that water management is facing in the 21st Century (Castro, 2007). This happens despite the fact that in recent years the political nature of WRM is increasingly recognised not only by a heterogeneous body of academics⁴⁵ but also by International Organisations (IOs) such as the World Bank (WB).⁴⁶

In the last two decades, processes of securitisation of water issues have been, consciously or not, undertaken by most governments and IOs around the world, in arid or semi-arid regions as well as in more water secure environments, at domestic as well as international level (Conca, 2007). Reframing the insights offered by the conceptual turn developed by the Copenhagen School on Critical Security Studies (CSS), it is proven that since the early 1990s issues related to the management of natural resources have gained popularity in the political agenda (Buzan et al., 1998). Therefore, they overcame the traditional tendency in academia to consider them as “low politics” matters, as if they were not vital for ensuring the security of the polity (Jackson and Sorensen, 2007). Nevertheless, there is a tendency of the governments and international agencies towards the reconsideration of resources-related policies to the realm of technical “national security” themes, de facto implementing processes of depoliticisation of environmental issues.

This two-fold conceptual and technocratic turn resonates in what Castro (2007) defines as “an apparent paradox” when referring to the denial of political features in the analytical articulations of “governance” in the mainstream water policy literature.⁴⁷ Water uncertainty and conflict potential have been reduced to their “technical”, “objective and neutral” features, overlooking the specificity of political aspects, games, contexts and relationships, at domestic as well as at international level.⁴⁸

Thus, environmental issues became an integral part of the political agenda, but instead of being fully recognized in the “realm of the possible” (subjected to open and public debates toward the formulation of appropriate policies), they ultimately resulted deprived of their inherent political

⁴⁵ See for example Allan, 2003; Gyawali et al., 2006; Wester et al., 2003; Blomquist and Schlager, 2005; Mollinga, 2006; Buttworth et al., 2010.

⁴⁶ See World Bank (2003: 3): “The main management challenge is not a vision of integrated water resources management but a “pragmatic but principled” approach that respects principles of efficiency, equity and sustainability while recognizing that water resources management is intensely political and that reform requires the articulation of prioritized, sequenced, practical and patient interventions”.

⁴⁷ Castro (2007: 101): “the mainstream water policy literature ... which has tended to depoliticise water management processes by treating them as mainly (or even merely) “technical”, “objective and neutral ...tends to present a depoliticized understanding of governance, although it is essentially a political process”.

⁴⁸ The obsession for a sort of Habermasian goal of an “ideal-speech situation” (Saravanan et al., 2008), where power plays do not influence neither the outcome of water management strategies nor the negotiation processes among the stakeholders involved, could be “attractive as a normative prescription, [but] it reasons away power and knowledge differences” (Buttworth et al., 2010: 74).

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nature through processes of de-politicisation, silencing alternative voices and visions and prioritizing the “neutrality” of technical and managerial “objective” strategies. According to Swyngedouw (2009: 70), “the question is not any longer about bringing environmental issues into the domain of politics [...] but rather about how to bring the political into the environment.”

The acknowledgment of the political features inherent water-related issues could be addressed considering “the broader political context” (Zeitoun and Jägerskog, 2011: 6), where processes of norms diffusion take place and power plays influence the outcome of complex water interactions (Jacobs, 2007). Heywood (2002: 10) highlights in his analysis how politics has to be understood in terms of power and distribution of resources: “Politics is therefore a struggle over scarce resources, and power is the means through which this struggle is conducted”. The dimensions of power and the dynamics of political relationships beyond the mere water sector are thus to be explored in order to address the complexity of water-related issues. The urgency of broadening the focus of analysis beyond the managerial aspects of technical solutions for water policies leads to the identification of heterogeneous variables of social, economic, political, economic and environmental character, which account for the very nature of the specific topic to be addressed in the analysis. The dichotomy in the analytical approaches to water studies between “natural-scientific objectivism” and “cultural relativism” can be overcome by the analysis of the political context (Jägerskog, 2003), which for Turton (2005: 1) “brings together the physical attributes” with the challenges of (water) development. In a nutshell, we need to look at the broader context to understand and solve water challenges.

One indication on the feasibility to address the broader and complex interactions that forge water-related issues lies in the development of an approach encompassing such a variety of observables apparently external to the water sector. A shift in focus is what some analysts promote when they advocate for targeting “problemsheds” rather than “watersheds” (among others: Allan, 2001; Earle, 2003; Ojendal et al., 2013). As per Cohen and Davidson (2011: 4), watersheds “rarely encompass all of the physical, social, or economic factors impacting upon the area within its borders”, while a problemshed-focused approach could enable a more clarifying understanding of (often hidden) dynamics, which play a core role in shaping water policies and hydropolitical relationships among different actors. The role of the agent in water politics has thus to be contextualized within a relational web of multiple dimensions that ultimately lie outside the water sector: “we ought to contextualize social and political action within the structural context in which it takes place” (Jägerskog, 2003: 88, on

Hay's concept of contextualisation of agency).⁴⁹ Transboundary water challenges are an excellent case for accounting these topics, and provide a fertile ground for the development of multi-dimensional analyses of international water disputes.

In this section we have briefly sketched two critical tendencies underlying the development of the water politics literature in the last few decades: the progressive de-politicisation of the water governance conceptualisation in the political agenda, and the narrowing of solutions for water-related challenges to the watersheds unit of analysis. These factors combined could reasonably result in a partial and biased understanding of the complexity around water disputes and water policy measures. One possible way to solve this analytical limitation is therefore to expand the focus of research beyond the mere water sector toward a more comprehensive problemshed-approach encompassing the political dimensions and the complex interactions for a critical geopolitics of water that could overcome the pitfalls of mainstream water literature.

3.3 Multi-dimensional power and features of hydro-hegemony

3.3.1 The Framework of Hydro-Hegemony: origins

The origins of the Framework of Hydro-Hegemony (FHH) could arguably be detected in the rich debate developed within the London Water Research Group (LWRG) in the mid-2000s over critical hydropolitics, as well as in the IR literature on power analysis, hegemony theories and security studies and in the multidisciplinary approaches to natural resource management of the early 1990s. The focus on IR approaches enriched the theoretical debate over origins and manifestations of power, practices of de-politicisation and de-securitisation, and inspired the analysis over hegemonic settings and regime formation that inspired the original drafting of the FHH. More specifically, Warner and Zeitoun (2006) built their conception of power upon "critical and realist IR theories applied to hydropolitics" (Zeitoun and Warner, 2008: 809), and pay inspiration to Lukes' (2005) theorisation of the multi-dimensional three faces of power, and to IPE-rooted regime theories and hegemony Stability Theory (HST), while at the same time engaging with neo-Gramscian approaches to international hegemony (i.e. Cox, 1992).

Although probably representing the first theoretical attempt towards a comprehensive conceptualisation of the relevance of power plays for the management of TBW resources, the FHH is not the first theorisation over the impact of power asymmetries in water-related issues and regional or international disputes. Gleick identified "the relative power of the basin states" as one of the four factors creating rivalry over water (1993). Water-

⁴⁹ According to Jägerskog (2003), "As Hay (1995) points out, agents/actors are never to be analysed apart from their context. He calls this the contextualization of agency" (p. 88).

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buty (2002) and Lowi (1993) addressed issues of power as core features of the analysis of hydropolitical outcomes in shared river basins. Daoudy (2005) explicitly focused on power asymmetries between Syria and Turkey in relation to the management of the Tigris-Euphrates basin; Zeitoun and Allan credit her with the first analysis of TBW power asymmetries (2008). Phillips et al. (2006) also engaged with subtle and hidden manifestations of power in hydropolitical relationships, drafting a "hegemonic power index" meant to detect the presence of a hegemon in intra-basin relations, and considering the role of regional hegemons in shaping the outcomes of water-related negotiations tailored. Tactics of resistance to the hegemons were primarily explored by Shapland (1997) and Cascão (2005), whose works informed the argument over counter-hegemony advanced by Warner and Zeitoun (2006).

The FHH also owes its conception to the analysis of the intensity of conflicts, in particular to the water event intensity scale compiled by Yoffe et al. (2001) and to the conflict-development scale developed by NATO (1999), which not only account for the different degrees of conflict intensity, but also show how conflictive relations exists among states even in absence of violent confrontations or open declarations to war. Building upon these theorizations, Warner and Zeitoun stressed the urgency of focusing on the impact over international relations that water-related "silent conflicts" may have, and on the potential for change that evolving power asymmetries hold with regard to disputed water issues in TBW basins.

With regard to the methodological approach underpinning the FHH, the authors mainly build upon the works of the Copenhagen School on Security Studies (i.e. Buzan et al., 1998), expanding its original conception of processes of de-politicisation and securitisation of environmental issues, thus focusing on discursive strategies and mechanisms of knowledge construction.

3.3.2 The original Framework of Hydro-Hegemony and prominent case studies

Zeitoun and Warner (2006: 435) theorised the FHH in order to assess "who gets how much water, how and why" in water-related transboundary disputes. The authors assume that the nature of the processes of TWM is neither fully cooperative nor thoroughly conflictive, but they rather result from the varying configurations of the political interplays between the interested actors (cfr. Mirumachi, 2010). Thus, in the FHH the "prime determinant enabling the successful execution of the water resource control" is the dimension of power (Zeitoun and Warner, 2006: 451).

Aiming at properly representing the multi-dimensionality of the concept of power, the authors identified three spheres where power operates (the "pillars" of hydro-hegemony, namely the *material*, *bargaining* and *ideational* features of power), building upon Lukes' (1974) theorisation of

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the three "faces" of the actualisation of power. The focus over power dimensions enables the analysis on hidden and subtle forms of interstate interaction, water resource control strategies and ultimately power asymmetries, which affect the outcomes of water-related negotiations. Through the operationalization of the FHH in the MENA Region, the authors identified the tactics implied by the actors involved in water conflicts, the degrees of the intensity of such conflicts over time, finally the likelihood of processes of hydro-hegemony and its effects over the water basins selected. Warner and Zeitoun (2006: 455) explicitly stressed that their work only represents a "preliminary exploration of hydro-hegemony" that calls for further refinement both at theoretical and at empirical level, since, as they put it, "[t]he debate about who gets how much water, how and why is in need of these contributions" (ibid.: 456).

Figure 13: The pillars of hydro-hegemony



Source: Zeitoun and Warner (2006: 451)

Since the original theorisation of the FHH, many scholars have engaged themselves in applying it to specific case studies. In particular, major river basin such as the Jordan, the Nile, the Mekong and the Tigris-Euphrates have deserved most of the academic attention, but some scholars have also focused on sub-regional cases such as the Limpopo, the Orange-Senqu and the Okavango rivers in sub-Saharan Africa (most notably by Turton, 2005; Earle, 2003; Jacobs, 2007; and Sebastian, 2008), and the Amu Darya basin in Asia (i.e. Wegerich, 2008; Sojama 2007). While most of the works have applied the FHH to single specific case studies, there is also evidence of comparative analysis among different river basins across the world, most notably the analysis of Mirumachi (2010) who compared the inter-state relationships in three river basins, and Kehl (2011) who advanced a methodology for purpose of comparison among different river basins across the world.

The Jordan and the Nile currently represents the most explored basins among the studies that apply the FHH: it is not clear whether this is due to a more pronounced power asymmetry among the respective basin states, or if it is due to more explicit hegemonic mechanisms than in other river basins, but it is arguable that the FHH seems to properly apply to these two cases. This also inspired a criticism to the FHH, as it will be further explored in the following section: while the FHH works well when applied to areas in which there's a clear and visible asymmetry among the riparian states, it might not well apply to case studies where a hegemon is not easily detectable.

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With regard to the Jordan river basin, relevant works include, among others, the analysis of Jägerskog (2003), Abitbol (2012), Zeitoun and Jägerskog (2011), Zeitoun et al. (2012), Messerschmidt and Selby (2015). Over the Nile basin most of the literature draws upon the works of Cascão (notably Cascão 2008 and 2009), but it's worth mentioning also the analysis of Saleh (2008), Mekonnen (2010) and Abawari (2011).

Other major river basins such as the Tigris-Euphrates and the Mekong have been object of the study of Warner (2008) and Conker (2014), and Suhardiman et al. (2011), respectively, while it is remarkable the absence of FHH-related works over American rivers, such as the Colorado or the Rio, as well as over European rivers (i.e. the Rhine). We therefore suggest that further in-depth case studies are needed in order to expand the application of the FHH and unveil its potential for analysis as well as its potential weaknesses in different geographic areas.

3.3.3 Conceptualizing power

The inclusion of power analysis into the field of TWM probably represents the major contribution of the FHH to the study of water-related global issues. Although the relevance of power asymmetries for the outcome of water negotiations and water disputes had been previously addressed (i.e. in Waterbury, 2002; and in Lowi, 1993), the FHH resulted to be the first structured analytical tool that explicitly addressed power as the main factor in hydropolitical relationships. Moreover, Warner and Zeitoun deconstructed the concept of power itself and identified three different dimensions in which power is manifested, thus accounting for different forms, expressions, sectors, "layers" of the exercise of power. The authors explicitly admit that their conceptualisation owes to Lukes' (2005) "radical view of power", in which three "faces" of power were identified and analysed. They also were inspired by the analytical works of, among others, Frey, Bachrat and Baratz, Lustick and Nye, and the rich academic debate within IR theories over the distinction between hard and soft forms of power. Indeed, whether the first pillar of the FHH accounts for forms of traditional hard power, the remaining two pillars (bargaining and ideational power, in FHH wording) aim at capturing the forms in which soft power is manifested. This approach could reasonably be considered as a major shift in TWM studies, since it contributed to direct the academic focus to more subtle and hidden forms of power and to the search for "silent conflicts", rather than addressing only hard manifestations of power and violent open conflicts over water distribution and utilisation.

It is also worth mentioning that the FHH doesn't account merely for the exercise, the capacity or the potential of power, but rather conceives power as a relationship, thus paying debt to the conceptualisations of power of constructivist approaches in IR (see for example Wendt, 1999; and Guzzini, 2005). This perspective not only contributed to shift the analysis away from the solely *outcomes* of hydropolitical relationships to the

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very *processes* through which power is manifested, but also inspired researcher and practitioners to look for subtle and hidden forms of hegemonic power in transboundary river basins.

Proceeding from the power analysis performed through the FHH, the authors applied the concept of hegemony and hegemonic setting to contexts of transboundary water relationships: their main assumption is that whatever outcome is produced, being it either more cooperative or rather more conflictive, this is indeed the result of the hegemonic power portrayed by the stronger riparian. Therefore, the weaker riparian states, or the non-hegemonic actors, are constrained in their range of choices by the very interests of the hegemon, which implying mixed strategies of violent confrontation (rare) and of consensus building (more often) is able to succeed in fulfilling its interests. Compliance-producing mechanisms ("the carrot") and more authoritarian strategies ("the stick") are thus the manifestations of the hegemonic power in a transboundary river basin, whose management ultimately depends upon the will of the hegemonic riparian state.

However, the other basin states could hold the potential to resist to the hegemon's interests, according to the relative supremacy they can express in one or more dimensions of power: this is precisely the focus of Cascão (2008) who, building upon Scott's (1985) analysis on forms of resistance, coined the term of counter-hydro-hegemony, in order to facilitate the identification of the range of strategies implied by the non-hegemonic riparian states to resist the order created and advocated by the hegemon. Particular attention is paid to the potential for a bloc of non-hegemon states' collective bargaining power – see, for example, the recent victories of the upstream Nile states against Egypt's historical hegemonic position (Cascão and Zeitoun 2010).

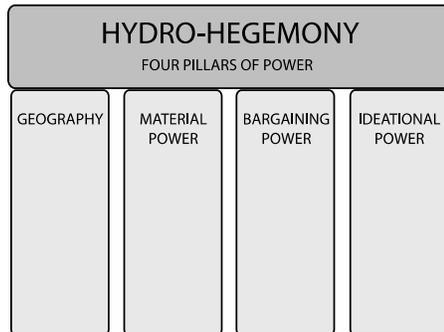
3.3.4 Conceptual and issue-based expansions to the Framework of Hydro-Hegemony

The initial conceptualisation of the FHH has progressively received substantive contributions from both LWRG's researchers and a heterogeneous range of scholars from different fields of research, who contributed to enrich the theoretical debate as well as to provide empirical evidences over the manifestations of hydro-hegemony in international river basins. Although the original theorisation of the framework has not been substantially modified by the successive literature, the academic debate that the publication of the FHH originated has indeed contributed to critically address theoretical as well as methodological limitations, and has thus enriched and refined the original framework.

In 2008, two years after the publication of the FHH in *Water Policy*, some relevant advancement of the theoretical underpinnings of the framework have been explored by the same authors and by other scholars linked to the LWRG. In particular, Warner (2008) and Zeitoun and Allan (2008) have contributed to enrich the analysis over the coexistence of con-

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Figure 14: Revised pillars of hydro-hegemony



Source: Cascão and Zeitoun, (2010: 32)

flictive and cooperative arrangements, the interconnections among the different dimensions of power and the relevance of the role of ideas with regard to the outcomes of water disputes, while others (Cascão, 2008; Saleh 2008) have attempted to apply the framework to empirical case-studies (i.e. over the Nile River Basin). At the same time the academic debate have focused on the opportunity to expand the FHH in order to fill some of the conceptual gaps of the original analysis. To this regard, Cascão (2008) and

later Cascão and Zeitoun (2010) proposed a revision of the pillars of the FHH in order to better capture the relevance of the power dimensions: these authors deconstructed the multidimensional pillar of power to provide each dimension of power with a specific pillar, and eliminate the pillar of the exploitation potential (see Figure 14).

The work of Cascão (2008) resulted of particular importance for the advancement of the theoretical debate over the dynamics of hydropolitics in conflicting environments: the author stated that while on one hand the FHH represents a promising tool to identify the mechanisms of hydro-hegemony with regard to the strategies implied by the hegemon, on the other hand it fails to assess the opportunities for resistance developed by the non-hegemons. It is precisely for the purpose of filling this conceptual gap that Cascão (2008) theorized a framework of counter-hydro-hegemony (see Figure 15), which aim at identifying the strategies implied by the non-hegemons in order to counterbalance the superiority of the hegemon in the different dimensions of power. Probably, the most insightful contribution of the author was not only to address the range of multiple counterstrategies a weaker riparian can adopt to resist to the hegemonic setting, but also to emphasize that a predominance in one specific power dimension does not necessarily

Figure 15: Model of hegemony and counter-hegemony



Source: Cascão(2008: 16)

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correspond to a superiority in the other dimensions too: it is precisely this assumption that, when proved, open the opportunity for counter-strategies that focus on the dimensions of power where the weaker states are relatively less weak.

Various streams of research have borrowed the basic Framework of Hydro-Hegemony to inform their own analytical frameworks. Phillips et al. (2008) used the FHH as a basis to inform their TWO analysis over the assessment of Positive-Sum Outcomes (PSOs) in a river basin. Kehl (2011) expanded the Framework to examine the impact of external sources of power over the outcome of basin hydropolitical relationships (the “foreign interference effect”). Farnum (2013) altered the Framework to make it relevant in virtual water trade contexts. Stetter et al. (2011) stressed the importance of expanding the analysis to consider conflict systems and world cultural frames in order to trace the processes of operationalization of the third dimension of power in TWM, while Magnin (2014) included into the framework the conceptual approach of Social Network Analysis (SNA).

According to some scholars (i.e. Kehl, 2011; and Farnum, 2013), one of the main limitations of the original FHH is the absence of proper indicators to measure variations in the pillars of power. In order to overcome this gap, Kehl (2011) proposed a list of indicators for each dimension of power, and Farnum (2013) advanced a methodological approach in order to account for weighted indicators in her Framework of Virtual Hydro-Hegemony, both aiming at expanding the original FHH to better capture the evolving dynamics of change in power asymmetries.

Finally, the interconnectedness of the three dimensions of power was addressed by Menga (2015), who stressed the connective feature of hegemonic processes and advanced a revised FHH (the "circle of HH", see Figure 16) in order to avoid the risk of interpreting the pillars as disjointed and independent from each other.

Figure 16: The circle of hydro-hegemony



Source: Menga (2015)

3.3.5 Critiques of the Framework of Hydro-Hegemony

Since its publication, the FHH has been the object of both attempts to expand it, and constructive criticisms that addressed some of the theoretical gaps as well as the methodological limitations detected by a heterogeneous group of researchers from different disciplinary fields.

With regard to the theoretical limitations of the framework, most of criticisms arouse over its conceptualisation of power and the theorisation of hegemony applied to hydropolitical contexts. For instance, Kehl (2011) and Tognetti (2012) emphasized the absence in the model of a power dimension able to capture the impact of foreign interference coming outside of the specific basin addressed, while Davidson et al. (2007) argued that the specific theorisation of the three power dimensions fails to account for the "broader concerns of how economic neoliberalism – reflected in trends toward the privatization and commodification of water – is increasingly acting as an outlet for conflict over water". The issue of hegemonic setting operating even in absence of explicit actions by the hegemon is also stressed by Furlong (2008), who assumes that "certain international discursive hegemon[ic]" settings may not require actions in order to operate.

However, it seems that it is the concept of hegemony that was mainly targeted as if it was improperly used according to the long-established IR tradition: some scholars (i.e. Furlong, 2006; Selby, 2006) stressed the absence of a specific definition of hegemony in the FHH and of an explicit reference to the IPE-derived HST, while others (i.e. Davidson et al., 2007; Tognetti, 2012) criticized the presumed utilisation of Gramsci's conceptualisation of Hegemony, advocating for a more rigorous application of his theories. The latter argument in particular seems to have gained more popularity in the academic debate spurred from the theorisation of the FHH. According to Davidson et al. (2007), the conception of hegemony implied by Warner and Zeitoun is "completely de-linked from Gramsci's Marxist use of the term" (a thesis advocated by Selby, 2006, too), while Tognetti's (2012) conceptual critique focuses on the irrelevance of applying the Gramscian concept of hegemony to interstate relations, particularly in cases where striking differences among the riparian countries make impossible to detect evidences of cultural hegemony as originally conceived by Gramsci.

Other analytical critiques touch mainly upon the neglect of the domestic sphere (Agnew's "territorial trap"), as well as on the pronounced state-centric approach, which risk excluding national and sub-national factors from the analysis, as well as the role of non-state actors (among others: Farnum, 2013; Furlong, 2008; Luzi, 2007; Selby, 2006; Suhardiman et al., 2012; Tognetti, 2012). For example, Suhardiman et al. (2012) state that a focus on national interests and state interactions does provide elements to understand regional and international relations, but "does not explain how states' decision making at transboundary levels stems from, or reflects, (bureaucratic) power interplay at the national level".

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All these streams of criticisms are interestingly advanced by Furlong (2006 and 2008), who engaged herself in a fruitful exchange with Warner and Zeitoun (2008), with the aim of addressing and overcoming some of the weaknesses of the original FHH. Besides her critique over the non-HST conception of hegemony and the denial of the dynamics internal to each riparian state, Furlong also addresses the adoption of "an unduly pessimistic stance vis-a-vis the propensity for multi-lateral cooperation", the de-politicisation of ecological conditions, and the assumption that "conflict and cooperation exist along a progressive continuum". With the regard to this last instance, however, it is arguable that the author misconceived the message of Warner and Zeitoun, since their overall theorization builds upon the assumption that conflict and cooperation coexist, thus implicitly denying the linearity of progressive phases from conflictive to cooperative arrangements.

Finally, the FHH does not properly address the epistemology of hydro-hegemony, or in other words it lacks a comprehensive assessment over methodological tools that could account for measuring intra-basin variations in the different pillars of power. The emphasis over interpretive analysis of discursive forms of power (i.e. Cascão 2008 and 2009) does provide an indication of an instrument of analysis, particularly with regard to bargaining and ideational manifestations of power, but it fails to measure variations in a more rigorous and structured methodological approach. It is arguable that in absence of a proper methodology, assumptions over changes in hegemonic settings become hard to verify (or falsify) and, lacking ground into empirical evidences, are easily contestable.

In order to overcome this pitfall, some scholars (most notably Farnum, 2013; and Kehl, 2011) identified and selected specific indicators for each pillar of power, but they failed in properly weighting them, either within each dimension or across the pillars: without a proper conception of a methodological instrument to select, measure and weight different indicators that could result in a sort of "power index", and in absence of a method to weight the relevance of each pillar of power in the overall framework, a measure of change (which is indeed among the goals of the hydro-hegemonic analysis) risks being impossible to be operationalized, and statements over manifestations of hydro-hegemonic power risks to result arbitrary when not supported by ever contestable but at least affordable indicators.

All the above criticisms have received substantial attention by the LWRG in the yearly Hydro-Hegemony workshops of the last decade, and the debate over the FHH has resulted enriched by contributions coming from different fields of research. Maybe one fundamental question still remains to be properly addressed, and should receive further investigation, particularly from in-depth case studies where the FHH could apply: whether, given the peculiarity of a specific transboundary river basin, effective counter-hegemonic strategies aim at supplanting the existing hydro-

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hegemon by one of the non-hegemonic riparian state, or if their ultimate goal is the establishment of a different, non-hegemonic 'new order'.

The LWRG has acknowledged an interest in many of these current gaps. Cascão and Zeitoun (2010) concisely summed up four lessons drawn from the application of the theoretical analysis advanced by the application of the FHH in the 4 years following its publication. First, not all transboundary waters are "shared", in terms of both water allocation and utilisation; second, not all power is equal, meaning that the relative weight of each pillar of power varies considerably from case to case; third, transboundary water cooperation is not always a good thing, as it could possibly hide asymmetric outcomes for the hegemonic and the non-hegemonic parties; and fourth, the critical hydropolitics approach needs further refinement, with particular relevance to *contextual* time and space-specific elements.

Chapter 4. Methodological Framework

The objective of this chapter is to present a detailed description of the research design and methodology used, which have been briefly outlined in the introductory chapter (Ch. 1.5). The first section is intended to explain how the theoretical framework inform the epistemological approach of the study, and how the variables are intended to be operationalised in the light of the theoretical perspective adopted (Ch. 4.1). The second part offers a description of the methods and the justification of the choice, both at theoretical and empirical level (Ch. 4.2), and the instruments adopted for elaborating the data collected (Ch. 4.3). Finally, the limitations of the methodological framework are critically addressed in order to advance a preliminary assessment over the gaps identified in the research (Ch. 4.4)

4.1 Theory and practice of research

4.1.1 The research vision

Water-related issues are by nature cross-sectoral and involve not only a wide range of actors at different levels, but also competing interests and diverging perceptions. Due to these reasons an inter-disciplinary perspective is deemed more effective than a traditional issue-by-issue approach, and the role of the researcher as a friendly outsider may represent an effective linkage between the actors involved, beyond traditional and institutional lock-ins as well as corporative interests.

The methodological approach adopted in this study refers to inter-disciplinary research, since it aims at combining theories, tools and ideas typically used by different and separate research traditions. The research vision is informed by a wide comparative international insight that aims at overcoming the gaps identified in the literature over TWM, while at the same time maximizing the vast experience acquired from the study of previous research on the same topic and/or the same area. In so doing, a new combination of quantitative analyses, qualitative case study, and creative analogy is proposed in order to advance an innovative outlook over the study of transboundary water relationships.

In particular, the construction of a continuum of combinations between a) quantitative methods developed within the field of water management, b) qualitative instruments of power analysis implied by scholars of International Relations (IR), and c) conceptual tools for the definition of a "theory of praxis",⁵⁰ aims at the integration of different (theoretical and) methodological approaches in order to achieve a significant transformation of knowledge, overcoming the gaps and pitfalls of narrow and hermetic theory-driven perspectives. Therefore, the research epistemological approach results to be *question-driven* rather than *theory-driven*, valorising rather than overlooking interlinkages across disciplines and trans-sectoral connections (i.e. inside as well as outside the water sector).

In order to reach the goal enshrined in this research vision, the methodological approach follows a two-fold process: the development of an original analytical framework (also through the expansion and combination of existing conceptual frameworks, which are carefully selected from the rich literature on hydropolitics), and an intensive activity of fieldwork research, where the detection of empirical evidences and the collection of data and information provide the necessary ground to assess the depend-

⁵⁰ See Chapter 2 and Chapter 3 for a detailed analysis over the Gramscian concept of "theory of praxis".

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ent variables, test the research hypotheses, and finally advance policy recommendations.

The research methodology results consistent with the ontological and epistemological considerations advanced in Chapter 2 and Chapter 3, and the inclusive but selective perspective adopted aims at accounting for the four-stage research logics of discovery, proof, accuracy and explication (Schmitter, 2008). In so doing, however, the methodological approach neither follows strict positivist prescriptions, nor the radicalization of post-positivist perspectives. Rather, it represents an attempt to substantiate Wendt's "via media", through a conceptual merge of idealism with positivist scientific approach, towards the construction of a question-driven research rather than *method*-driven. At the same time, the focus over both causal and constitutive effects of hydropolitics discloses the objective of advancing (also) ontological claims about both observable and unobservable events (Wendt, 1999), through the recognition of the combination of dialogue between universal values (i.e. water paradigms) and local definitions within historically specific circumstances (Bieler and Morton, 2004), such as the hydropolitics of the Nile Basin in the 2000-15 period. Such analysis will thus shed light over the *processes* of interaction rather than on its *outcomes*, which nevertheless will be assessed in interpretive terms (Odell, 2001). Finally, avoiding a limited sectoral/disciplinary approach, the research project will detect possible "elephants in the room" in the literature on TWM in general and in the analysis of the Nile hydropolitics in particular, and will provide elements for innovative frameworks for analysis.

The conceptualisation of the topic and the operationalisation of dependent variables (i.e. allocation of water resources, sharing of technical data and expertise, access to financing, water relations in general) establish criteria for interpreting the findings through a three-level conceptual analysis: the international, the trans-national and the sub-national levels. The focus over the patterns of international relationships among the Nile countries responds to the urgency of applying an IR approach to the study of water-related issues: changes in the intra-basin power balances and features of the negotiation processes among state actors provide the research with empirical evidences over the ways in which regional asymmetries affect the allocation and utilisation of transboundary waters. The second level of analysis aims at identifying and assessing the trans-national processes that influence both regional and domestic water policies at the basin level: overcoming the tendency in traditional IR theories of neglecting the role of non-state actors, this level of analysis touches upon the cross-sectoral interconnections that lobbies, business sectors, IOs, NGOs establish, and their impact over the water sector. The third level focuses on domestic dynamics that arise around the management of water resources, with particular attention over Ethiopia: the existence of diverging water narratives at national levels, and the ways in which they inform and shape national water policies is here critically assessed in order to analyse the main features of domestic hydropolitics formation.

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Figure 17 and Figures 18-20 illustrate, respectively, the three levels identified for purpose of analysis, and a schematic example of the multi-layered investigation to be conducted for each level, namely the International, the Trans-national and the Sub-national. With regard to the latter level, despite the domestic level of each riparian state is addressed throughout the study, considerable attention will be paid to Ethiopia, for several reasons: first, it is the country in which the Blue Nile, which account for 80-90% of the overall flow of the Nile, originates; second, it is the country that in the last decades has most intensely opposed the regional hegemony of Egypt over the Nile issue; third, it is the Nile country where the largest hydraulic mission has been developed in the last decade; fourth, it is the state where, like in Egypt, a precise narrative over the Nile has emerged.

Figure 17: Three levels of analysis of the research project



Figure 18: First level of analysis, the International level



Figure 19: Second level of analysis, the trans-national level



Figure 20: Third level of analysis, the sub-national level



Source: author's own compilation

4.1.2 Stages of the research process

The whole investigation has covered a period of four years (from 2012 to 2015), during which six specific stages of the research process have delineated the progresses of the project. The details of the activities held for each stage are as follows:

- I. *Stage 1 (Jan. - Oct., 2012)*: The first period of the research project was dedicated to the definition of the study area, as well as to a preliminary review of the existing literature on TWM. During this stage, I also attended both doctoral courses (at Sant'Anna School), and seminars and conferences on water-related topics (i.e. the 2012 World Water Week in Stockholm, the 7th EUREGEO Congress on Regional Geoscientific Cartography and Information System in Bologna, the 1st European Water Movements Assembly in Florence). I also had the opportunity to assist my supervisor, Prof. Strazzari, in the teaching activities to undergraduate students of the course in International Relations, and to co-supervise two students in the preparation of the final essay for the same course.
- II. *Stage 2 (Nov., 2012 - June, 2013)*: In the second stage I had focused intensively over the review of a vast literature, and in the identification of the main research questions and hypotheses. This is the stage in which the research *puzzle* began to concretize into conceptual ideas and research directions, through both the exploration of the existing literature and the valuable guide of my PhD supervisor. The literature review has somehow followed a centrifugal process: from a narrower focus on TWM, I had progressively broadened my investigation to theories of IR, theories of Environmentalism, Security Studies, Negotiation theories. At this stage I focused much more on theoretical perspectives, rather than on empirical studies, in order to collect ideas over the eventual conception of both the analytical and conceptual frameworks of my project. During this period, I had the opportunity to study at the University of East Anglia (UEA) in Norwich (UK) as Visiting Fellow, where the fruitful collaboration with both academics (Prof. Zeitoun in particular) and PhD and Master students had significantly contributed to the advancement of the research project. During my staying at UEA I also attended many seminars and workshops related to the topic of my research (i.e. the 6th International Workshop on Hydro-Hegemony at UEA in London, and the Workshop on Marxist Political Economy at SOAS in London).
- III. *Stage 3 (Jul. - Dec., 2013)*: During this period I drafted the Chapter 2 over the analytical review of the literature, and Chapter 3 over the conception of the theoretical framework. Also the structure of the dissertation was outlined, and the preliminary research ques-

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tions were re-assessed. Moreover, I focused deeply on the review of the specific literature on the Nile Basin, as well as in establishing contacts with academics and water practitioners familiar with the study area. At this stage, I also started the identification of the research methods, and the collection of secondary data on the case study.

- IV. *Stage 4 (Jan. - Aug., 2014)*: This phase of the research coincided with my second fellowships at the UEA in Norwich, during which I focused entirely over the case study, both for the identification of gaps and limitation in existing studies, the definition of the research methodological instruments and the collection and elaboration of secondary information and data. At the same time I drafted some papers, presented at international conferences (i.e. the 7th International Workshop on Hydro-Hegemony in London), established contacts with fellows for joint publications, and drafted some sections of Chapters 5, 6 and 8.
- V. *Stage 5 (Sep., 2014 - Apr., 2015)*: This stage represents the preparation to, and the actual fieldwork activities, conducted in Ethiopia. The finalisation of the questionnaires, the identification of target groups and geographical areas, and the establishment of contacts for conducting my fieldwork preceded the fellowship held at the Ethiopian Institute of Water Resources (EIWR) of the Addis Abeba University (AAU). At EIWR the support of academics (Professors Azage Gebremariam Gebreyohannes and Yilma Seleshi in particular) and the fruitful exchange with students and water experts provided me with unique insights over the topic of the research in particular, and over Ethiopian politics in general. Moreover, the web of contacts established for conducting interviews was further expanded by the networking activities facilitated by the Institute's staff. During this period, I conducted several interviews to academics, water practitioners and professionals, NGO's staff, embassies' and ministries' officials, journalists and researchers, officers of IOs and International Institutes, both of regional (Ethiopian, Sudanese and Egyptian) and international provenience. While the research activities had been mainly conducted in Addis Abeba, I also visited some hydraulic projects across the country, in particular the Gibe project in the south Omo Valley and the GERD project in the northwest. At the same time I experienced teaching activities at the Addis Abeba University and established contacts for future collaboration with Ethiopian academics (both in the capital and Bahir Dar). Finally, the access to local resources enriched my project with sources that I would not have accessed otherwise, which provided me with important elements to assess particularly the domestic water narratives existing in Ethiopia.

- VI. *Stage 6 (May - Dec., 2015)*: The final phase of the research process dealt with the elaboration of the primary data collected during the fieldwork, the re-assessment of the research questions, the revision of the draft chapters previously wrote and the final writing of the sections of the present study. In particular, in the last months of the research project I included the revisions of my supervisor, updated some data and submitted papers for publication.

4.2 Methods of data collection

The epistemological approach delineated in the previous section calls for an integration of different methods -both qualitative and quantitative- of data collection and elaboration, in order to facilitate the measurement of the multiple dimensions identified in the theoretical framework for analysis.

The analytical approach implied avoids a strict preference in favour of either qualitative or quantitative methods: rather, trying to overcome the often ideological dichotomy between the two (Britt, 1997), it aims at integrating a multitude of methods in order to balance the potential biases and limitations of restricting the analysis to one methodological category only. While quantitative methods are deemed essential for measuring certain pivotal variables that inform the study (i.e. water-related data, such as water availability and utilisation), qualitative data are unavoidable for understanding contextual factors and water-related narratives. In this study, quantitative methods address *who-* and *what-* questions (i.e. who uses the waters? What percentage of water come from transboundary sources?), while qualitative approaches help exploring *why-* and *how-* questions (i.e. Why are states disputing over water? How are power asymmetries changing within the Nile basin?), in the attempt of given proper recognition to the different dimensions of the problem stated. The qualitative methods implied were selected upon the urgency of identifying and elaborating in-depth aspects of the case studies, and why certain behaviours occur: as stated by Given (2008), these approaches "capture thoughts, feelings of interpretation of meaning and process".

The resources identified for collecting the data needed pertain to three different categories: documents, unstructured interviews, and other complementary sources.

i. Documents

An heterogeneity of documents has been collected and analysed throughout the entire research period. Policy papers, academic publications, reports from IOs and CSOs, institutional documents and personal communications provided the study with preliminary infor-

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mation and secondary data over the research focus. In addition, they were also analysed in order to collect primary data on discourses, ideas, narratives and arguments of the targeted actors. Another source of data, mass media documentations, revealed to be particularly useful for collecting and analysis speech acts and discourse formation on the core issues of the topic addressed.

Finally, law-related documents (treaties, declarations, agreements, judgements, conventions, observations) were carefully revised in order to both explore the state of the art in terms of practices of international water law and identify the main arguments advanced by contending parties.

These documents were partially collected through online academic databases and news archives, partially acquired from informants, collaborators, interviewees, and partially accessed in the libraries of research institutes and universities' faculties. In particular, most of the documents consulted were accessed in the libraries of the Sant'Anna School of Advanced Studies in Pisa and of the University of Bologna (Italy), in the libraries of the University of East Anglia in Norwich, of the University of Sussex in Brighton, of the King's College and Soas University in London (U.K.), and in some facilities in the capital of Ethiopia, Addis Abeba (the French Centre for Ethiopian Studies, the Department of Political Science at the Addis Abeba University, the Library of the Economic Commission for Africa, the Institute of Peace and Security Studies, the Ethiopian Institute of Water Resources).

ii. Interviews

Unstructured and semistructured interviews were conducted both during the fieldwork and the visiting fellowships at the University of East Anglia (Norwich, UK), and have targeted different groups of actors: academics and water practitioners, diplomats and officers of Ministries, CSOs and IOs professionals, journalists, conferences' attendees and legal experts. Some interviews were also conducted online through email exchanges. The method of semistructured interviews was chosen for both the rationale of the study, and its inherent feature of flexibility for addressing the nature and scope of questions to the different interviewees targeted.

The interview conducted facilitated both the collection of empirical data (i.e. over water policies both at domestic and regional level), and the assessment over perceptions and discourses on water-related issues. They also allow the analysis to consider broader issues initially not considered in the original research design. The questionnaires prepared for the interviews addressed a heterogeneous range of topics, not entirely related to water-issues, in order to explore the underpinning dynamics that affect water control, use and perception in the Nile basin. Most of the interviews were conducted in Ethiopia (from November 2014 to April 2015) to both nationals and foreigners, and

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helped the understanding of the conflictive/cooperative potential of specific events, processes, and strategies.⁵¹ Other interviews were conducted during the participation at international conferences, such as the 2012 World Water Week in Stockholm and the 2013 and 2014 Hydro-hegemony workshops in London.

Finally, the information gathered through the interviews was maintained anonymous due to the political sensitivity of the research area, and the risks of challenges associated with an eventual post-doc research on the same topic.

iii. Complementary sources

Other complementary methods used have been statistical information, participant observation, discourse analysis, comparative network analysis and cognitive-mapping. Although these methods were applied to a lesser extent, they provided complementary information that was combined with the main methods through triangulation techniques.

The quantitative and qualitative methods adopted are categorised under three main groups each. For the quantitative analysis the data collection has been conducted through water indicators and freshwaters databases (incl. water projections), measures and scales of water events disputes, and multi-dimensional indexes for governance assessments. The qualitative analysis was based on critical discourse analysis over conflicting narratives on water, interpretivist subjective analysis on performative aspects of power, and interviews and focus groups for exploring evolving water imaginaries among the parties. The following Table 4 resumes the methods used.

⁵¹ For a comprehensive list of people contacted see appendix n. 1. For the questionnaires used, see appendix n. 3.

Table 4: Methods and sources of data collection

	Methods	Sources
Quantitative Methods	Water indicators and freshwaters databases	Falkenmsrk's Water Stress Index, Ohlsson's Social Water Stress Index, UN critical ratio, current basin use factor, Water Poverty Index (WPI), Sustainable Water Use Index (SWUI), water security risk index (by maplecroft), Geopolitical Water Risk Index (GWRI).
		Index of local relative water use and reuse, watershed sustainability index, water supply stress index, physical and eco. Water scarcity
		LCA and water footprint (green and blue w.)
		Sonnemann's Resource Security Index
		FAO Aquastat database, Ethiopian Central Statistical Agency, Egyptian Central Agency for Public Mobilization and Statistics
	Measures and scales of water events disputes	International Crisis Behavior dataset (ICB), Conflict and Peace Data Bank (COPDAB) e Global Event Data System (GEDS), World Event Interaction Survey (WEIS), Violent Intranational Conflict Data Project (VICDP), Intranational Political Interactions (IPI), Behavioral Correlates of War Project (BCOW) and the International Conflict Behavior (ICB)
		ICOW River Claims dataset, US World Water Wars Database, International Rivers Cooperation and Conflict scale (IRCC scale), Water-Related Intrastate Conflict and Cooperation (WARICC), Gleick's Water Conflict Chronology
		Water Event Scale (WES), Yoffe / Wolf Bar scale: Oregon Freshwater Transboundary Dispute Database (TFDD):
		PRIO dataset
		Merrill's (2008) measurement of allocation, info&data, funding, trust, within the NBI negotiations

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	Methods	Sources
	Beyond the water-shed: multi-dimensional indexes for governance assessments	Corruption indexes (Transparency International)
		UNDP's Human Development Index
		World Banks' Worldwide governance indicators (political stability, governance effectiveness, voice and accountability, control of corruption); the Mo Ibrahim Foundation's index of governance in sub-Saharan countries; the Oxford's African Governance Index
		World Bank's Poverty assessments; Oxford's Global Multidimensional Poverty Index; Global Hunger Index
		AFDB Political Indicators on civil liberty, political rights, political stability
Qualitative Methods	Critical Discourse Analysis: conflicting narratives on water	Speech acts, policy reports, governmental declarations, agreements, interviews on mass media, newspaper articles, online blogs and forum
	Interpretivist subjective analysis: performative aspects of Power	Treaties, court decisions, multilateral declarations, reports of bilateral meetings, participant observation
	Interviews and focus groups: evolving water imaginaries	Semi-structured interviews, online interviews, focus groups

Source: author's compilation

4.3 Analysis and interpretation of data

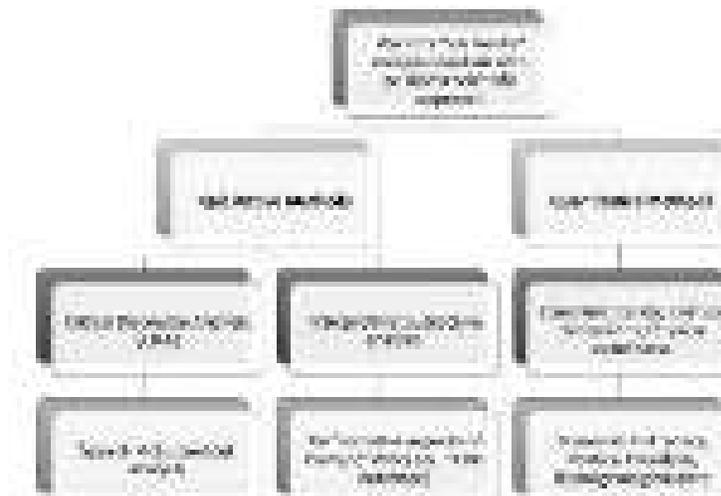
The identification of diversified methods of data collection from primary and secondary sources unveils the orientation and the intention of the methodology adopted: an explicit orientation towards the narrow focus of a case study approach, and the broader intention of combining quantitative with qualitative assessments. The central relevance of power analysis for the purpose of this study builds upon Lukes' (1974) three-fold suggestion of searching for observable mechanisms in the three power dimensions; finding ways of falsifying it; and identifying features of power not immediately observable. In order to operationalise the variables identified in the sources of data collection, the methodology will trace processes to interpret decisions, frame qualitative analyses within quantitative profiles and use triangulation techniques (the combination of multiple methods), which are particularly explanatory in the specific case study, since the degree of securitisation of water issues in the Nile Basin impede the collection of comprehensive quantitative data, as well as of reliable qualitative information (Tarrow, 2004). Following this methodological direction will help exploring the nature of political reality, identifying key components and relationships at different levels, and defining how and why these change over time (Cascão, 2009, after Gill, 1993). Such a conceptual analysis over water-related dynamics needs to be carefully contextualized in the broader system of historical relationships among the Nile riparian states, in order to examine linguistic pragmatics and context-specific cultural issues that influence the evolution of regional hydro-politics.

The interdisciplinary approach of this study is reflected not only by the heterogeneity of methods chosen, but also by the variety of elaboration and interpretation techniques adopted. The historiographical outlook that informs the project is intended to trace processes of intra-basin relationships, beside the identification of specific historic events or historical hydro-political phases: the search for ever-evolving contextual and systemic dynamics will follow Tilly's conception of a "long historical sociology", which by the identification of past trends is able to shed light upon current and potential processes of complex interrelationships at the Basin level. While the quantitative outlook will proceed from the statistical collection of data to its elaboration and analysis, the qualitative data will be interpreted through a combination of critical discourse analysis and interpretivist inferences. The focus over processes of discursive formation and construction of narratives will elaborate upon the characteristics of explicit and implicit messages conveyed through speech acts, in the search for the core features of constructed knowledge within the Nile hydro-politics. In this way the methodology substantiates Odell's (2001) suggestion of adding counterfactual elements to existing interpretations of events: the consequent explanation over the identified processes will thus aim at uncovering the relations between possible causes and observed outcomes in the Nile hy-

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The following Figure 21 shows the rationale for the methodological perspective adopted.

Figure 21: Methodology of inquiry



Source: author's compilation

4.4 Limitations: data validity, scope, political changes, language issues

The intention of employing to a large degree methods of qualitative nature could be arguably considered as a limitation of the study, since the absence of clear and widely agreed rules make qualitative analysis more subjected to the researcher's biases than quantitative analysis (Bryman, 2012). In power analysis, the main challenges for the researcher derive from the difficulties of justifying the relevant counterfactual, and of identifying mechanisms and processes of alleged exercises of power, particularly in the second and third power dimensions (Lukes, 19974). Beyond these potential conceptual limitations, the data collection encountered specific challenges in four domains: data reliability and validity, limitations in scope, sudden political changes in the area of the case study, and language and cultural issues.

The validity of the data collected and their reliability is sometimes questionable, since the sensitivity of the water-issue in the Nile Basin and the high degree of securitisation of the Nile waters constituted a serious challenge for an accurate data collection, particularly in Ethiopia. Both in terms of quantitative data (difficulties in accessing ministerial data and, when collected, doubts over their reliability) and qualitative information (highly politicised media, informants, collaborators and interviewees), the

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elaboration of the data collected urged for a careful selection of the information, in order to keep only the reliable ones and discard the others.

The scope of the study, restricted to the hydropolitics of the Eastern Nile River Basin and with a focus over Ethiopia, represents a limitation, since it didn't allow a more comprehensive data collection in each riparian state of the Nile Basin. Moreover, the long period of fieldwork activities in Ethiopia has subjected the author to a politicised pressure in order to internalize government-oriented messages and narratives: hopefully the informants I met did not influence my scientific critical attitude.

During the four-year research period, many changes at political, social and economic level have occurred in the region, which repeatedly called for a revision of the research questions and for a re-elaboration of the outcomes. In particular, after 5 years of conflictive negotiations between Egypt and Ethiopia over the GERD project, the two riparian countries signed a Declaration of Principle with Sudan in March 2015, which substantially marked the beginning of a new era of relationships in the Nile Basin. This historic event urged for a partial revision of the research project, the collection of new data and the re-elaboration of (already drafted at that time) policy implications.

Finally, conducting interviews in Ethiopia was challenging for both language and cultural issues: for example, focus groups were mainly conducted in Amharic, for which I always needed a translator. Another difficulty was represented by the level of confidence with many interviewees, who were afraid of disclosing relevant information on a sensitive topic to a foreign researcher: it took me time to establish genuine relationships before actually collecting data.

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Chapter 5. Hydropolitics of the Eastern Nile River Basin: Analytical Background

This chapter opens the section over the analytical discussion of the research topic. It presents an overview of the case study, the hydropolitics of the Eastern Nile River Basin, as well as a preliminary assessment of the core issues that will be analysed in depth in the following chapters. Despite this analysis does not pretend to be comprehensive, it however identifies some of the relevant features of the hydropolitical setting of the basin (in terms of both geophysical and political factors), and investigates over historic dynamics that contributed to shape the current hydropolitical relationships in the Basin. The first two sections describe the hydrological regime of the Nile Basin, with particular attention to the physical conformation of the river and patterns of utilisation of its waters (Ch. 5.1), and the main events that characterized the hydropolitical history of the region in the 20th Century (Ch. 5.2). In the latter part, considerable attention is paid to the evolution of the legal framework over the control and use of the Nile waters, which is believed to affect the current controversies among the riparian states. The final section explores the application of relevant theoretical accounts to the case of the Nile water dispute, in particular with reference to the Realist perspective over the likelihood of an incumbent water war for the control of the Nile flows (Ch. 5.3), and introduces some major changes observable in the power balance across the basin (Ch. 5.4). The analysis over water conflict is assessed in terms of power asymmetries, a topic that will be further addressed in a much more detailed perspective in Chapters 8 and 9.

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Figure 22: Map of the Nile River Basin



Source: NBI (2012: 39)

5.1 The hydrogeological system of the Nile River Basin

Flowing for about 6,700 km, the Nile River is the longest river in the world, and its drainage area extends its boundaries for over three million km² across eleven riparian states: Ethiopia, Sudan, South Sudan, Egypt, Rwanda, Tanzania, Uganda, Burundi, DRC, Eritrea, and Kenya. The Nile's hydrology is characterised by a high diversity in terms of climatic zones, distribution of water resources, volumes of runoff,⁵² and geological conformations: from the luxuriant forests in DRC to the Sudd swamps in Sudan, from the Ethiopian fertile highlands to the Egyptian Sahara desert, the river flows across a heterogeneity of landscapes, cultures and population.

The main tributaries of the river are the White Nile and the Blue Nile (Abay for the Ethiopians), which meet north of Khartoum and then flow towards the Mediterranean Sea. In terms of hydrologic regimes, the two tributaries show substantial differences. The White Nile, which begins its journey from the Lake Victoria, is characterised by a steady flow and low sediment loads, and contribute no more than 10-20% to the average annual flow of the Nile, depending on the annual levels of precipitation and climate variability. Flowing from the Lake Tana in western Ethiopia, the Blue Nile is rich in sediment content and is highly seasonal (the rainy season in Ethiopia comes from late-May to the end of September, approximately), and contributes about 80-90% to the annual Nile discharge. This makes Ethiopia the main contributor to the Nile water volume, despite the discontinuous (seasonal) pattern of flow, while the White Nile system, even if it is quite constant and stable throughout the year, contributes almost insignificantly to the overall discharge of the main river. In contrast, the hydrological system in Egypt is very limited, with the country receiving 95% of its renewable resources from outside its territories (NBI, 2012).

5.1.1 Physical attributes

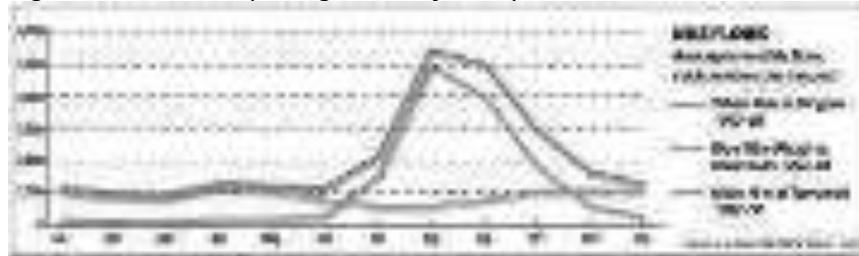
The basin is highly vulnerable to drought events, due to the rich diversity in terms of climatic variability, an uneven distribution of water resources, marked differences in evapotranspiration rates, and seasonal and spatial diversity in term of rainfall. While the equatorial states experience larger and more regular volumes of precipitation, the Eastern Nile riparian countries receive very low levels of annual highly seasonal rainfall, with the exception of Ethiopia, and present higher potential evapotranspiration rates. The climate variability deeply affects the annual levels of the Nile flows, and the limited resilient ability of most of the population to cope with its potential negative impacts make the basin highly prone to

⁵² The Nile has a very low runoff coefficient compared to the size of the basin, estimated at less than 5% (NBI, 2012)

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droughts, including famine, due to the impossibility for most of the basin communities to rely to other alternative sources for their livelihoods (Eckstein, 2009). The Figure 23 shows the average flow patterns of the Nile river main tributaries throughout the year.

Figure 23: Nile flows (average monthly, cm/s)



Source: NBI (2012: 37)

The groundwater potential across the basin is very high due to existing extensive aquifer systems, which provide the main source of domestic water supply for many communities across the basin, particularly in rural areas: about 70% of the rural population in the Ethiopian highlands and in the Equatorial plateau is dependent on groundwater resources, close to 100% in South Sudan. Only Egypt differs from the average trend, since its population relies on groundwater only for the 13% of its total annual requirement. Even if prevalently used for domestic consumption, this source of water is also exploited for irrigation, livestock watering, and increasingly for industrial uses.

The quality of the Nile waters presents acceptable chemical values, but its physical and bacteriological values are generally poor, also due to low levels of environmental sanitation. The water quality is affected by both natural and human factors, with the latter impacting substantially on the purity of the waters due to intensive human activities, particularly in the most urbanized areas of the basin: population growth, industrial pollution, and agricultural activities are among the main causes for the quality deterioration of the basin waters. In addition, soil erosion and high sediment loads, particularly in the Eastern sub-basin, contribute to the poor quality of the Nile waters, and also lead to losses in the water storage capacity of Sudan and Egypt, which are the countries that receive more sediment among the riparian states.

5.1.2 Population and water uses

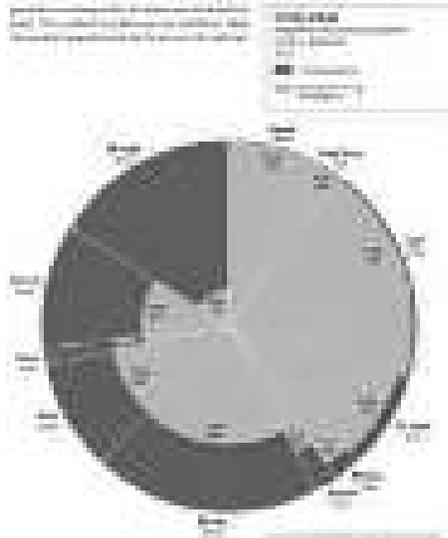
In terms of population, the Nile countries host about 440 million people, of which about 238 million (54%) live within the boundaries of the Nile basin. The high growth rates (UNDP, 2014, estimates a population increase of 52% by 2030) represent a core challenge for the limited resources of the hydrological system, and the fragile equilibrium of the

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ecosystem and its services is severely threatened by the rising population in both urban and rural areas. Currently the rural population is prevalent across the basin (72% of the entire population), and projections foresee a persistent trend until 2030 in the majority of the riparian states.

Figure 24 shows the percentage of population living in the basin for each Nile country, and Figure 25 illustrates the population data in the basin (both for the year 2012).

Figure 24: Proportion of country population living in the Nile Basin, 2012



Source: NBI (2012: 104)

Figure 25: Population data for the Nile Basin, 2012

Country	Population (Millions)	Population in Nile Basin (Millions)	% of Country Population Living in Nile Basin
Egypt	81.4	78.8	97%
Sudan	41.5	39.4	95%
Ethiopia	91.2	65.6	72%
South Sudan	10.5	6.8	65%
Kenya	35.5	19.6	55%
Uganda	33.0	16.5	50%
Rwanda	11.5	5.1	45%
DRC	75.0	26.3	35%
Tanzania	44.0	11.0	25%
Burundi	10.0	2.0	20%
Congo	4.5	0.7	15%
Other	10.0	1.0	10%
Total	442.8	342.1	77%

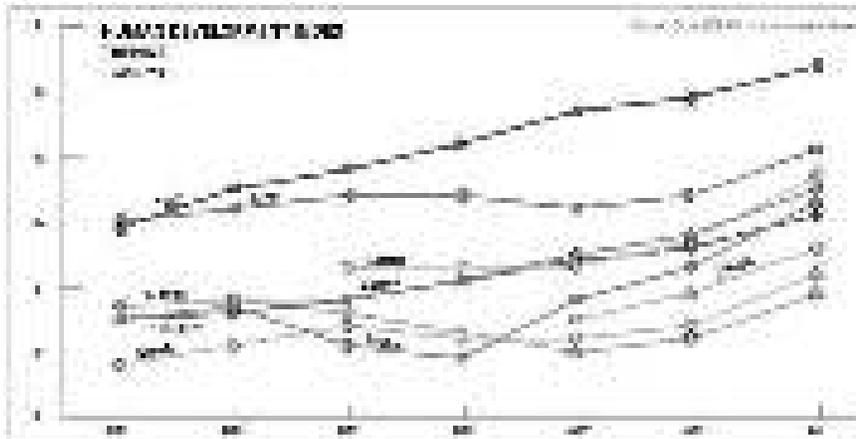
Source: NBI (2012: 240)

In addition to population growth and high rates of rural concentration, a further challenge to the Nile inhabitants is represented by the very high

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poverty rates across the basin: with the exception of Kenya and Egypt, all the riparian states belong to the category of low income countries, and present low levels of human development. Combined with the degradation of the basin natural resources, the limited capacity of the riparian states in terms of economic development and social coping strategies contribute to increase the vulnerability of their population, which are exposed to drought events and continuous erosion of their basic livelihoods. Figure 26 shows the trend of the Human Development Index in the Nile countries for the period 1980-2011.

Figure 26: Human Development Index trends, 1980-2011



Source: NBI (2012: 112)

While water demand is constantly rising due to population growth and increasing demand from both the agricultural and the industrial sectors, the finite river resources are currently in a status of full utilisation, which makes the Nile approaching the point of closure.⁵³ Egypt and Sudan utilise more than 87% of the total withdrawals within the Nile region (they are allocated 55.5 bcm/y and 14.6 bcm/y, respectively), with Ethiopia and Kenya combined exploiting less than 7%, and insignificant portions left out for the other riparian countries.

⁵³ The basin closure occurs when the threshold of utilizable flows has been reached (Seckler, 1996): all the available resources have been allocated and no water is left for further activity development (Svendsen et al, 2001)

Table 5: Water-related data in the Nile Basin

Country	Population		Water resources		Water use	
	Population (millions)	Population growth rate (%)	Renewable water resources (km ³ /year)	Per capita water availability (liters/day)	Agricultural withdrawal (km ³ /year)	Domestic withdrawal (km ³ /year)
Egypt	80.1	1.95	110.0	1373	110.0	110.0
Sudan	40.0	2.50	110.0	2750	110.0	110.0
Ethiopia	80.1	2.50	110.0	1373	110.0	110.0
Kenya	35.0	2.50	110.0	2750	110.0	110.0
Uganda	30.0	2.50	110.0	3675	110.0	110.0
Rwanda	10.0	2.50	110.0	3675	110.0	110.0
Tanzania	40.0	2.50	110.0	2750	110.0	110.0
DRC	70.0	2.50	110.0	1373	110.0	110.0
Source: NBI (2012: 240)						

Agricultural withdrawal represents the largest amount of water use, due to the high percentage of rural population, low rates of industrial development and high inefficiencies in the agricultural system of the Nile countries, which are responsible for low level of water productivity, ineffective water management and major losses in the poor existing hydraulic infrastructures. According to NBI (2012: 140-141), the low performance of the agricultural sector across the Nile is due to both physical and economic factors: high dependency on rainfed agriculture, watershed degradation, low soil fertility, pests and diseases, prevalence of small land holdings and irregular irrigation water supply on the one hand, and unpredictable prices, lack of agricultural credit facilities, poor physical infrastructures, high cost and poor quality of inputs, weak and limited agricultural extension services and insecure land tenure on the other hand. Table 5 above shows data on the water withdrawals of the riparian countries.

5.2 Historic outlook on the Nile hydropolitics and water development in the basin

Despite the focus of this work is primarily upon prominent changes in the regional status quo in the last 15 years (2000-2015), it is deemed necessary to recall the major Nile-related events that occurred in the 19th Century, in order to both trace patterns of interstate relationships, conflictive and cooperative events that characterised the hydropolitical past of the region, and also elaborate upon the effects that such events have had over the current disputes among the riparian countries.

Cascão (2009) set up three chronologies of events with reference to three different stages of hydropolitical patterns in the basin: the period antecedent the 1960s, "characterised by limited hydraulic infrastructure and unproblematic availability of water"; the three decades of 1960s, 1970s

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and 1980s, in which downstream states started to develop processes of national hydraulic mission, and competition over the Nile waters had progressively increased; and the 1990s-onwards period, which has seen a broader involvement of all the riparian states in cooperative initiatives over the management of the Nile flows, the consolidation of principles of international water law, and the development of hydraulic infrastructures in the upstream countries.

In the present section, considerable attention will be paid to treaties and agreements that have regulated the utilisation of the Nile waters, in order to capture how the legal framework has evolved over time, as well as to explore why the current claims of the contending actors are not to be searched in isolated recent events, but how they are rather rooted in a century-long history of hydropolitical mistrust and hostility. Several bilateral treaties signed during the colonial era are still politically relevant, and many core issues of contentious negotiations over the Nile emerge from opposing perspectives of the national government of the riparian states on the validity and legitimacy of such agreements. In particular, the role of the British Empire in securing the control of the flows in favour of downstream water development has downplayed for decades the interests of the other riparians, which were not able at that time to raise their voice in the intra-basin power plays (Swain, 1997).

5.2.1 Stage one: 1891-1950s

The first agreement that included provisions over the Nile waters was the 1891 Anglo-Italian Protocol, signed between Italy and Great Britain for the demarcation of the respective spheres of influence in the region, through which Italy, in possession of Eritrea, was committed not to undertake any works that might "sensibly modify its flow into the Nile" (Article 3).

In 1902, Great Britain succeeded in signing an agreement with Emperor Menelik II about the frontiers between Anglo-Egyptian Sudan and Ethiopia. The treaty included a clause that prevented Ethiopia "to construct or allow to be constructed, any works across the Blue Nile, Lake Tsana or the Sobat, which would arrest the flow of their waters into the Nile" (Article 3). However, the Treaty was strongly contested by Ethiopia in later times, since the Amharic and English versions of it differ substantially with regard to the provisions of that Article: while the interpretation of the Amharic translation concerns the duty not to conclude agreements on the use of the Nile tributaries with other colonial powers but with Britain, the English version binds Ethiopia to negotiate with Britain any potential hydraulic works over the river. Due to the disagreement over the interpretation, Ethiopia repudiated the Treaty in 1941 (Paisley and Henshaw, 2013). Moreover, Kendie (1999) argues that neither Britain nor Ethiopia ever ratified the agreement, for which it has to be considered void and not legally binding.

The following agreement that partially dealt with the Nile was the 1906 Tripartite Treaty between Britain, France and Italy, which provided

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that "the parties would safeguard the interests of the United Kingdom and Egypt in the Nile basin, especially as regards the regulation of the water of that river and its tributaries" (Article 14(a)). The Italian colonial powers made further concessions to Britain in 1925, when they recognised the British priority right to develop hydraulic infrastructures on the Nile tributaries and committed themselves not to modify the flows upstream. What is known as the Anglo-Italian Secret Agreement was denounced by Ethiopia before the League of Nations in defence of its sovereignty rights, claiming that it was void since Ethiopia was not party of it (Ferede and Abebe, 2014).

Okoth-Owiro (2004) argues that all the above agreements were conceived by Britain in order to secure control over the Nile flows, with due regard to the preservation of the interests of Egypt and with the objective of impeding the potential development of hydraulic infrastructures upstream that could impact over the natural flow of the river Nile. As it will be further elaborated in the following chapters, the Britain's vision of a unified, or at least secured, control over the Nile waters is a core feature of contemporary hydropolitical relationships in the basin, since Egypt has constantly built its hydraulic ideology upon this in order to preserve privileges that it had acquired during colonial times thanks to Britain's initiative in the region.

The 1929 Nile Waters Agreement between Egypt and Britain (on the behalf of the colony of Sudan), represented a pivotal stage for its impact on future political relationships and legal frameworks within the basin: it is probably the most controversial in terms of legal interpretations (Okoth-Owiro, 2004), it explicitly recognised Egypt's "natural and historic rights in the waters of the Nile", it allocated water quota entitlements to the signatories, and it has become "the basis of all subsequent water allocations" (Godana, 1985). In addition of granting 48 km³/year to Egypt (equivalent to 44.4 bcm/y) and 4 km³/year to Sudan (4.5 bcm/y), the 1929 Agreement reiterated the prohibition of upstream works that might "entail prejudice to the interests of Egypt, either reduc[ing] the quantities of water arriving in Egypt or modify[ing] the date of its arrival, or lower[ing] its level".

Ensuring Egypt with a veto power over future hydraulic projects along the Nile, this agreement had been contested and rejected by the other riparian states once they gained independence from the colonial powers (Link et al., 2014). However, Egypt invokes the principle of state succession in international law to justify the validity of the provisions of the agreement. Opposing perspectives interpret this treaty in different ways, but arguably the majority of experts argue that the 1929 Agreement is void and does not constitute a legitimate legal precedent, since it was "a political matter" rather than a consolidation of rules of international law (Berber, 1959: 96)".

5.2.2 Stage two: 1960s-1980s

In 1959 Egypt and newly independent Sudan replaced the 1929 Agreement with a new Agreement for the Full Utilization of the Nile Waters, which opened a new era of hydropolitical and legal relationships among the Nile countries. Such Agreement, which is still the only existing agreement on the allocation of the Nile waters, entitled Egypt to utilise 55.5 km³ per year and 18.5 km³ to Sudan: estimating in 10 km³ the yearly evaporation value at Lake Nasser, the allocation quotas foreseen in the agreement cover the whole Nile River flows of 84 km³ per year. The provisions of the 1959 Agreement thus resulted in the allocation of 66% of the entire flows of the river to Egypt and 22% to Sudan, with no quotas left for the other riparian countries (see Figure 27). Moreover, the agreement institutionalised the development of several unilateral hydraulic projects on the river, most notably the Aswan High Dam (AHD) in Egypt and the Roseires Dam in Sudan.

Figure 27: Allocation of the Nile waters (1959 Agreement, in bcm/y)



Source: author's compilation

The other riparian states strongly contested the 1959 Agreement, on the basis of both general principles of international water law, and legal principles of customary International Law on the application of treaties to third parties.⁵⁴ The signature of this agreement contributed to raise tensions among the Nile riparian states, whose relationships during the decades of 1960s to 1980s were further complicated by the escalation of regional socio-political pressures of both sub-national and international nature. Internal conflicts and political instabilities, as well as international interferences within the framework of the global Cold War, led to the progressive worsening of intra-basin relations, in particular between the downstream states (Egypt and Sudan) and the upstream block.⁵⁵

During this period, the role of Egypt as regional superpower was further strengthened by the political visions of Nasser (until 1970), Sadat (from 1970 to 1981) and Mubarak (from 1981 onwards), who were particularly able to attract foreign assistance in terms of economic relief, political support and military protection, to sustain the domestic growth in terms of industrialisation opportunities, and to progressively develop a national hydraulic mission in order to secure water resources for the expansion of the agricultural production. On the contrary, during the same historical period

⁵⁴ See Chapter 6 for a legal assessment over principles of International Law applied to the Nile Basin case study.

⁵⁵ See Chapter 8 for an historical analysis over the the political economy of Egypt, Ethiopia and Sudan.

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the Ethiopians suffered from political instabilities (the overthrow of Emperor Haile Selassie in 1973, and the come to power of Menghistu's Derg Regime), civil wars (the 1977 Ogaden war, and the 1977-87 civil wars between the dictatorship and the domestic military opposition), droughts and severe famines (particularly in 1984-85), factors that hindered the opportunities for national development, the ability to play a consistent role at regional level, and the possibility to promote hydraulic projects over the Nile tributaries.

Despite the regional context suffered from a general atmosphere of inter-state mistrust, border disputes, reciprocal allegations of interventions in neighbours' internal affairs, sudden changes of government, civil wars and institutional ineffectiveness, the decade of the 1980s marks the beginning of multilateral initiatives (largely of technical nature) over the utilisation of the Nile waters. After the limited success of the Hydromet initiative in the past decade,⁵⁶ in 1983 the establishment of the UNDUGU, which involved all the riparian states with the exclusion of Ethiopia and Kenya, marks the beginning of the exploration era of basin-wide initiatives with the aim of fostering integration through shared projects in economic, technical and social areas. This initiative further evolved into the creation of the TeccoNile in 1992 and the Nile Basin Initiative (NBI) in 1999, the latter being the first intra-basin institution including all of the Nile riparian countries. While some argue that the first Nile initiatives were somehow monopolized by the Egyptian expertise and political leadership over the whole region (Mekonnen, 2014), UNDUGU and later TeccoNile at least provided the riparian states with an institutional forum for sharing information, data and ideas, although their explicit technical nature overlooked the core problem of the Nile dispute, namely the allocation of water quotas and the legal rights of utilisation of the Nile waters for the Basin states not included into the 1959 Agreement.

5.2.3 Stage three: 1990s onward

The decade of the 1990s marks a pivotal turning point with respect to the hydropolitical relationships in the Nile Basin, for remarkable changes both at international level (the end of the Cold War, the increasing role of the UN system over environmental issues, the institutionalisation of new legal instruments of international water law), and in the domestic dynamics of most of the Nile riparian countries.

With regard to international factors, the end of the Cold War era, which had a battleground in the region where Egypt received support from the US and Ethiopia from the URSS, opened up new possibilities for less tense relationships among the Nile riparian countries, as well as opportunities for integrated project promoted by multilateral agencies (such as the World Bank and UN organizations like UNDP and FAO). On the domestic side, the end of the civil wars in Ethiopia and Sudan and consequent regime changes, the increasing economic stability observed in most Nile

⁵⁶ Hydro-meteorological Survey of the Equatorial Lakes, established in 1967

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states, the increasing attention towards the exploitation of the domestic natural resources potential and the emergence of loud demands for peace and stability, are among the factors that had encouraged intra-basin cooperation in the 1990s.⁵⁷

In December 1992, the water ministries of the Nile states approved in Kampala the establishment of the "Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin" (TeccoNile), whose main aim was to involve all of the riparian countries in the preparation of a comprehensive Nile Basin Action Plan for the development of joint initiatives, the sharing of information and data, and the capacity building of national ministerial staff. As explained above, Ethiopia and Kenya refused to participate as full members, since they perceived the initiative as fundamentally led by the Egyptian strategy of inducing consent through the provision of minor benefits in order to avoid a full debate over the core issues of equitable water apportionment and revision of the 1959 Nile Waters Agreement. The TeccoNile was not the only cooperative initiative in that period: the "Nile Conferences", held on yearly basis from 1993 to 2002, provided the riparian states with a less formal platform for discussion, where water experts and practitioners had the opportunities to exchange information and ideas through years. Despite the technical nature of these initiatives and the deliberate renounce to address political, legal and normative issues, these fora represented an interesting step forward for the intensification of relationships and negotiations over water issues, and prepared the ground to the institutionalisation of more comprehensive initiatives of cooperation among the Nile riparian states.

The evolution of the TeccoNile meetings and of the Nile Conferences attained its peak in 1999, when the establishment of the Nile Basin Initiative (NBI) represented for the first time the institutionalisation of a cooperative framework involving all the Nile states. The main objectives set up by the NBI at the time of its establishment include the development of the Nile Basin water resources "in a sustainable and equitable way", the promotion of "prosperity, security and peace for all its people", the call for "cooperation and joint action between the riparian countries", advancements in "efficient water management and the optimal use of the resources", the promotion of economic integration and the institutionalisation of proper joint mechanisms to "ensure that the program results in a move from planning to action" (NBI, 2012). With regard to the latter point, the NBI envisaged in its statute its transitional nature and the evolution of the initiative into a Nile Basin Commission (NBC, not established yet), fol-

⁵⁷ See chapter 8 for an historical analysis over international, regional and domestic factors that had an impact over the progressive changes observable in intra-basin relationships among the Nile countries since the early 1990s.

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lowing the art. 64(1) of the ILA Berlin rules on the promotion of integrated water management of international basins.⁵⁸

In the last 15 years the NBI has promoted several activities for fostering cooperation among the riparian states, through an increasing capacity of attracting international funds and the strengthening of its structure. In particular, the NBI presents a three-fold structure: the Nile Secretariat (NILE-SEC) in Entebbe, the Eastern Nile Technical Regional Office (ENTRO) in Addis Abeba, and the Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU) in Kigali. The two pillars of the Strategic Action Program (SAP) agreed upon by all the NBI member countries are the Shared Vision Program (SVP), whose main areas of interventions are capacity building and sharing of data at regional level, and the Subsidiary Action programs (SAPS), whose focus is on sub-regional activities and investment projects. Notwithstanding the technical nature and purposes of the NBI,⁵⁹ this institution has since its founding substantially contributed to the construction of an enabling environment for cooperation, fostering ties among member states and providing funds for joint initiatives.

In addition to the technical activities and projects promoted within the SAP, the NBI has provided the member states with a parallel track for political debates towards the advancement of legal and normative arrangements. Thus, the transitional NBI was supposed to lead to a permanent framework for institutional management, the Cooperative Framework Agreement (CFA). After more than 10 years of negotiations, and despite the opposition of Sudan and Egypt (which did not agree on the final version of the CFA draft), the CFA was signed in May 2010 by five riparian countries (Ethiopia, Uganda, Tanzania, Rwanda, and Kenya). While Egypt since then decided to withdraw from the NBI (Egypt participated again in a NBI meeting only in 2015, after 5 years of boycott), with the signature of Burundi (which joined the CFA in 2011) the Agreement became opened to the ratification process and likely to enter into force in the next future. Up to date only three ratifications have been deposited (Ethiopia, Rwanda and Tanzania), but the commitment recently expressed by Sudan and South Sudan to join the CFA is an evidence of the dynamic evolution of the legal framework of the management of the Nile waters towards the establishment of a new Nile Basin regime, which could overcome the existing regime based upon the 1959 Nile Waters Agreement.

⁵⁸ The Berlin rules state in the Art. 64(1): "When necessary to ensure the equitable and sustainable use of waters and the prevention of harm, basin States shall establish a basin wide or joint agency or commission with authority to undertake the integrated management of waters of an international drainage basin".

⁵⁹ In the section over the advancements towards the signature of the Cooperative Framework Agreement (CFA), the 2011 NBI Corporate Report states: "As originally conceived, the NBI is a transitional institution designed to function in place of a river basin organization while the member states negotiate a more formal arrangement. As a technical organization the NBI itself is not directly involved in these political processes" (NBI, 2011: 9).

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Table 6: Position of the Nile riparian states in the CFA negotiations

Downstream states (Egypt, Sudan)	Upstream states (Burundi, DRC, Ethiopia, Kenya, Rwanda, Tanzania, Uganda)
Principle of no-harm	Principle of equitable utilisation
Acquired historical rights and prior use	New allocation quotas and new rights of utilisation
Retain existing agreements and al- locations	New comprehensive agreement for the whole basin
Prior notification of projects over the Nile upstream	No downstream veto on hydraulic projects
Keep the status quo	Change the status quo

Source: author's compilation (adapted from Link et al., 2014)

Finally, Ethiopia has since the late 1990s launched a large hydraulic mission, consistent with its objectives of exploitation of the national potential in terms of national resources. In particular, the construction of the Great Ethiopian Renaissance Dam on the Blue Nile (started in 2011) represents the most iconic project of the new directions of the Ethiopian hydropolitics, and as the same time a new challenge to the Egyptian regional hydro-hegemonic regime.

Table 7: Evolution of the Cooperative Framework Agreement (1997-2015)

Dates	Stage	Brief Description
Jan 1997 – Mar 2000	Panel of Experts	Text, or working document of principles, rights and obligations, and institutions, prepared.
Aug 2000- Aug 2001	Transitional Committee	Text converted into draft Agreement.
Dec 2003 – Dec 2005	Negotiations Committee	Draft Agreement negotiated with full mandate. Numerous reservations ('brackets' – alternative texts representing different positions) remain.
Mar 2006 – Jun 2007	Ministerial Negotiations	Draft Agreement advanced, with all but one reservation removed (Article 14, Water Security). Final reservation referred to Heads of State.
August 2008	Nile-COM	Reengagement, re-opening of the file at the Ministerial level.
Kinshasa Meeting May 22, 2009	Nile-COM	7 member countries agree to annex Article 14b for later resolution by NRBC; reservation by Egypt; Sudan not present at time of decision, but subsequently expressed its reservation.
Nairobi July 3, 2009	Meeting of country negotiators	7 countries agree on a cleaned text; strong reservations by Egypt and Sudan
Alexandria Meeting July 27/28, 2009	Nile-COM	Joint decision to allow for more time to seek joint agreement
Entebbe, Sept 2009 Dar es Salaam, Dec 2009 Sharm el Sheikh, Apr 2010	Joint Nile-TAC and Negotiators Committee	Deliberations on options to move forward together
Sharm el Sheikh Meeting April 13, 2010	Nile-COM	7 countries agree to open CFA (cleaned text) for signature; position rejected by Egypt and Sudan
May 14, 2010	CFA opened for signature	4 countries (Ethiopia, Rwanda, Tanzania, and Uganda) sign the opened CFA in Entebbe, Uganda
May 19, 2010		Kenya signs the CFA in Nairobi, Kenya
June 13, 2013	Ratification	Ethiopia ratifies the CFA
August 28, 2013	Ratification	Rwanda ratifies the CFA
March 26, 2015	Ratification	Tanzania ratifies the CFA

Source: NBI web-page, section on the CFA (retrieved from <http://www.nilebasin.org/index.php/spotlight/99-cfa-overview>)

5.3 Asymmetric power balance and the threat of water wars over the Nile

The likelihood of an imminent army conflict for the control of the Nile waters has gradually turned into a pivotal topic of the international debate over water-related issues in transboundary contexts. Actually, a growing number of media's sensationalist headings over the Nile waters' disputes has proliferated in recent years, such as "Egypt and Ethiopia spar over the Nile" (H. Hussein, 2014), "Egypt rules out war with Ethiopia" (Ojambo, 2013), "Egypt and thirsty neighbours are at odds over Nile" (Cambanis, 2010). The following analysis is intended to shade some light upon the complex interactions that arise from the broader political dynamics in what narrowly is believed to be the incumbent "Egypt's water war" (Bassin, 2013).

Considered the longest river of the world, the Nile flows across 11 countries and is the major water source for irrigation or hydropower production in most of its riparian states (Erich, 2002). In particular, due to its hydrologic and climatic features, Egyptians' dependency upon the discharge of the Nile waters is crucial for the very survival of its economy:⁶⁰ since Egypt is the far downstream country of the basin, its reliance on the Nile flows has historically characterized the fragile balance of the hydrologic equilibrium in the whole region. In addition, the physical attributes of the river draw a particular conformation of the water flows, due to the fact that two main tributaries account for the overall discharge of the Nile waters: the Blue Nile, which arises in Ethiopia and constitutes the 86% of the overall Nile volume (Swain, 2011), and the White Nile, which proceeds from the Lake Victoria and merges with the Blue Nile at Karthoum. Nowadays, population growth and cyclic droughts, poverty and food insecurity, pollution and environmental degradation, migration and water scarcity, overgrazing and desertification, climate change and hydraulic exploitation represent serious challenges to the effective management of Nile waters, and are likely to increase the potential for water-related disputes among states and final users in the Basin (Ibrahim, 2011).

The hydrologic conformation denotes a peculiar geopolitics of water in the basin, given the fact that historical confrontations on the allocation and use of the Nile waters have historically seen Egypt and Ethiopia as main contenders (Tvedt, 2010): the former exerting a (quasi) hegemonic influence over the riparian states of the whole basin and strenuously defending its acquired rights over the Nile waters,⁶¹ while the latter fighting for the

⁶⁰ According to Hassan et al. (2007), the Nile waters account for the 94% of Egyptian total water resources, and 97% of Egyptians are dependent on its water.

⁶¹ In particular, Egypt relies upon the water agreements of 1929 between Britain and Egypt, and the 1959 treaty between Egypt and Sudan: both deny allocation of Nile waters' quotas for the upstream countries.

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recognition to an increased share of the flows supplied by a river that has never been exploited at its full potential. Despite there haven't been military confrontations between the two countries since the Egyptian invasion of present Eritrea in 1876 (Yohannes, 1991), the disputes between Ethiopia and Egypt over the allocation and use of the Nile waters have not only historically affected their relationships in creating an environment of reciprocal mistrust throughout the 20th century, but they are also likely to induce a state of uncertainty for most of the 21st.

5.3.1 The Nile River: source of conflict or driver for peace?

Due to historical grievances, complex political processes, hydrologic and geographic uniqueness, and diverging patterns of economic development, the Nile has always been depicted either as a potential source of conflict or otherwise as a promising trigger for cooperative arrangements between the riparian states (Hultin, 1995). According to the first perspective, the nature of the river itself and the historical patterns of hegemonic control exerted by downstream states are evidences of a subtler power play in a broader political game where national states compete to achieve an hegemonic control in the region (Waterbury, 1979). In this view, the historical lack of a shared and comprehensive arrangement of mutual rights, duties and responsibilities among the riparian states over the management of the Nile flows is an indication of the impracticability of establishing a cooperative framework in the region: either a leading state or an hegemon, there will always be one state that exerting its control over the other countries in coercive or consent-inducing ways, succeeds in benefiting more from the Nile than the other riparians. Whether this power dispute will lead to the maintenance of the consolidated status quo of the hydropolitical context in the region (Egypt' hegemonic power over the Nile), or to the progressive erosion of the current Hydro-hegemon in favour of the counter-hegemon (Ethiopia), or barely to the procrastination of an unavoidable direct military confrontation is still unforeseeable: the matter here is that in this Realism-inspired interpretation of Nile hydropolitics, no agreement will be reached among the riparian states (unless an arrangement whose major benefits are directed in favour of the powerful) because the dispute for power will always result in the emergence of a regional hegemon, whose ability to constrain the other states' interests and/or to produce consent around its strategies will guarantee the perpetuation of a favourable power (im)balance.

Opposite to this view, a second theoretical perspective sees the historical absence of open water conflicts in the Nile basin as evidence of a progressive convergence toward cooperative agreements in the region, or at least as proof of the attempt by the riparian states to solve potential water disputes through diplomatic efforts rather than recurring to military interventions. In this regard, the historical processes that have lead from

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controversial bilateral treaties⁶² over the allocation of Nile waters to the signature of multi-lateral agreements (although partial, not fully comprehensive, not entirely shared, not inclusive and maybe not really effective) among some of the Nile basin riparian states, is thus interpreted as a virtuous advancement of the complex geopolitical setting in the region toward a forthcoming future of common management and shared vision over the Nile waters (NBI, 2012). According to this theoretical understanding, increased water governance and the development of integrated strategies for water management will improve the process of confidence-building among the main state actors and provide a fertile ground for effective benefit-sharing arrangements and transparent policies of water management of mutual interest. Therefore, the interdependency to which the Nile states are exposed has constantly eroded the potential gain of military victories in favour of the potential benefits deriving from win-win basin-wide solutions, which in the next future will constitute the political strategy toward more desirable hydropolitical outcomes of mutual understanding.

The reasons of current tensions on the Nile are not to be searched in elusive changes suddenly occurred in recent years,⁶³ but rather they have to be considered as outcomes of historical processes that have shaped the broader political context in the Nile in the past centuries. According to Lautze and Giordano (2005), the very cause of present stiff confrontation between upstream and downstream states lies in the agreements signed in colonial era, which since then have contributed to influence the successive negotiations over the control of the Nile flows. The authors suggest that the most important colonial Nile agreements were bilateral and not basin-wide, bounded to Britain's interests, and concluded largely on power inequalities which have favoured the flourishing of Egyptian economy at the cost of Ethiopia's and other downstream states' interests (Lautze and Giordano 2005; Tvedt, 2010; Waterbury, 1979).

According to this interpretation, the exclusion of Ethiopia from the pivotal water agreement of 1929 between Britain and Egypt, and from the 1959 treaty between Egypt and newly independent Sudan (in addition to the failed 1902 Anglo-Ethiopia agreement), has provoked the emergence of the Ethiopian resentment toward the Egyptians, and decisively contributed to the creation of an hostile environment for successive negotiations between the two countries (Rahman, 2011). Moreover, Rahman (2011) states that the Ethiopian development in terms of economic growth, political stability and military power after the fall of Menghistu's regime in 1991 and the 1998-2000 conflict with Eritrea, has turned Ethiopia into a powerful and influential nation capable to oppose the Egyptian hegemony in the region.

⁶² Such as the 1929 Agreement between Egypt and Anglo-Egyptian Sudan, and the 1959 Nile Waters Agreement between Sudan and Egypt.

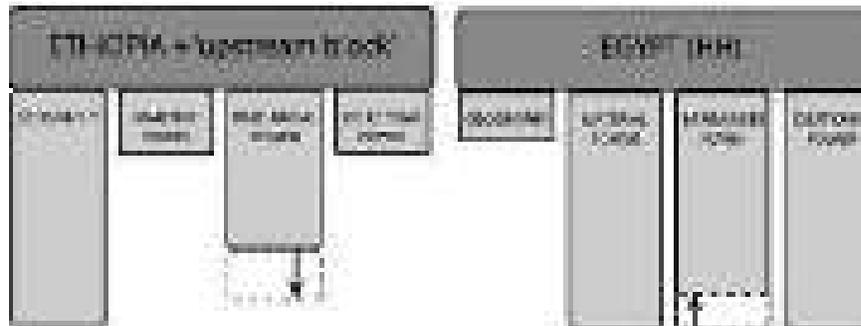
⁶³ Such as the building of the Great Ethiopian Renaissance Dam (GERD), for instance.

5.3.2 Asymmetries in four power dimensions among the Nile states

Zeitoun and Warner's FHH⁶⁴ constitutes a useful tool for the analysis of current hydropolitics in the Eastern Nile River Basin. The assumption that in contemporary TWM power presents different faces beyond the mere military and economic features contributes to reveal the complexity of water-related issues in intricate political contexts, and provide the theoretical tool for the identification of the “pillars” of hydro-hegemony. A revised version of the pillars appears in Cascão and Zeitoun (2010),⁶⁵ where the authors analytically emphasize the role of Lukes’ second and third faces of power in shaping the hydropolitical patterns among trans-boundary rivers riparian states: beside geographic features, the pillars thus include material, bargaining and ideational power, as illustrated in the previous section.

The main assumption of these prominent authors is that Ethiopia has leaded the “upstream block” in a diplomatic challenge against downstream hydro-hegemony, succeeding in eroding Egypt’s bargaining power through an increasing ability of voicing the interests of upstream countries: their determination to be fully recognized as legitimate actors for fair agreements over the allocation, use and management of the overall Nile waters has been made explicit during the long-lasting negotiation process that set up institutions such as Hydromet, Undungu, the TeccoNile, the Nile Basin Initiative (NBI), the Cooperative Framework Agreement (CFA) and the (shortly upcoming?) Nile Basin Commission (NBC).⁶⁶

Figure 28: Relative power asymmetries according to the FHH in the Nile Basin



Source: Cascão and Zeitoun (2010)

As shown in the Figure 28 above, Cascão and Zeitoun (2010) assume that a consistent increase in the bargaining strength of Ethiopian-led upstream block corresponds to a relative erosion of Egyptian bargaining

⁶⁴ See Chapter 3.

⁶⁵ Cascão (2008) already conceived this configuration of hydro-hegemony, adapted from Zeitoun and Warner (2006).

⁶⁶ For a history of cooperative engagements over the Nile shares, see Bekele et al. (2012), UNEP (2005), and Allan (1999)

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power, which counterbalances the non-hegemon's weaknesses in other power dimensions.

The negotiation process aimed at the creation of the NBI at the beginning of the 90s has seen progressive Ethiopian attempts to influence the rules of the game (Arsano, 2004) and to set control over its agenda. As a result, all the riparian states were included into the negotiations,⁶⁷ and, even more importantly, the legal determinants for a new inclusive agreement that could supplant the previous 1929 and 1959 treaties on the allocation of the Nile waters have been raised at the core of the NBI agenda. However, the resistance by downstream hydro-hegemon Egypt and his political ally Sudan to upstream riparian states' challenge to reiterated status quo has been explicit throughout all the decade-long negotiation process within NBI framework: the participation of these two countries to the negotiating table is likely to have occurred with the final goal of keeping Egyptian traditional influence and compliance-producing mechanisms⁶⁸ over the other states involved, in order to procrastinate the success of a comprehensive agreement where the reallocation of Nile quotas could have eroded the "acquired rights" of the downstream countries.⁶⁹

Not surprisingly, one of the main grounds of confrontation within the NBI negotiations has been the definition of "water security" in article 14b of the CFA,⁷⁰ which prevented the reach of a consensus over the drafted agreement: according to Daoudy (2005), Egypt's resistance within the multilateral negotiation table demonstrates its deliberate strategy of "active stalling" (term accredited to Earle, as cited in Cascão and Zeitoun, 2010), in order to gain precious time for procrastinating a sharp move toward the re-examination of water allocative formulae and for delaying the likely erosion of the established status quo.

5.3.3 Relative changes in the dimension of bargaining power

The relative erosion of Egypt's bargaining power vis a vis Ethiopia's relative gains in the same power dimension, could also be explained by the analysis of the modifications in the structure of incentives exploited by the hydro-hegemon in order to deploy consent-producing strategies.

⁶⁷ This outcome is not only due to Ethiopia's commitment to the negotiation process, but also to the international efforts that have supported the establishment of the NBI, most notably the World Bank.

⁶⁸ The concept is mutated from Lustick (2002) in Zeitoun and Warner (2006).

⁶⁹ See Daoudy's (2005) analysis on Egypt's strategy of "active stalling".

⁷⁰ From the annexes of the text adopted: "At the end of the negotiations, no consensus was reached on Article 14(b) which reads as follows: *not to significantly affect the water security of any other Nile Basin State*, all countries agreed to this proposal except Egypt and Sudan. Egypt proposed that Article 14(b) should be replaced by the following wording: *(b) not to adversely affect the water security and current uses and rights of any other Nile Basin State*. The Extraordinary Meeting of the Nile Council of Ministers held in Kinshasa, the Democratic Republic of Congo, on 22 May 2009 resolved that the issue on the Article 14(b) be annexed and resolved by the Nile River Basin Commission within six months of its establishment."

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Egypt has traditionally represented the biggest economy in the region, which has maintained a formidable military sector strictly interconnected with the political games in the governmental chambers. Moreover, its strategic alliances with global powers such as both the US and the URSS, and more recently the European Union, have not only contributed to increase its economic performances, but especially have coroneted Egypt as the legitimate hegemon in a regional framework of political instability, economic insecurity and low development (Cascão, 2008). Indeed, Egypt has been able to influence its neighbours according to its national interests, up to the point that it has succeeded, if not in gaining effective widespread consensus among the downstream countries, at least in creating a sort of reverential attitude by the Nile riparian states: the trade-off between the potential benefits of bandwagoning (i.e. Sudan) or leastwise not competing with their healthier neighbour, and the risks associated with open challenges to the Egyptian power, has notably contributed to the preservation of Egypt's hegemony.

Current tensions over the Nile also arose from this changing pattern in the ability to provide benefits to neighbouring countries: while Egypt's influence in the region has sharply decreased due to NBI negotiation processes with downstream Nile riparian states,⁷¹ political turmoil and economic crises, shifting international alliances and gradual access to international markets for downstream countries, Ethiopia is recently replacing its historical enemy as "benefit-provider" in the region. If Egypt had traditionally held commercial businesses with the Nile states (both in terms of goods and services), political leadership (through bilateral as well as multilateral arrangements) and economic relevance (in term of investments, financing of developmental projects and aid channelling), Ethiopia is playing the trump card of energy deals in order to expand its influence over the region at the expenses of Egypt.

In this perspective, the recent development of hydroelectric power infrastructures over the Nile tributaries in Ethiopian territory could be interpreted not only as a measure to exploit the hydrogeological potential of the Nile waters for economic revenues (or a threat to Egypt's share of the Nile flows, as per the Egyptian perspective), but also, and maybe more substantially, as a deliberate strategy to raise consensus among the riparian states by providing cheap energy in exchange of political alignment:⁷² the rationale for this assumption is indeed that Ethiopia is not only using water for energy development, nor exclusively trading electricity for gaining economic surpluses, but rather it is deploying a compliance-producing strategy in order to achieve predominance in the dimension of bargaining power.

Recent statements by Sudanese President al-Bashir reasonably represent the main evidence of the changing pattern of alliances in the region,

⁷¹ An alternative view sees the NBI as a strategic tool controlled by Egypt in order to expand its ideational power over the downstream countries.

⁷² Between 2006 and 2013 Ethiopia had signed energy deals (or MoU) with Kenya, Sudan, Djibouti and Rwanda.

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with Sudan likely to shift its political support from its traditional ally, Egypt, to the rising hegemony of Ethiopia.⁷³ This move could represent a relevant change in the political context of the Nile basin, and contributes to erode the acquired status of regional hegemon for Egypt, while at the same time it favours relative gains in bargaining power for Ethiopia (and the upstream block that supports it), which is now more comfortable in setting not only the NBI agenda,⁷⁴ but also bi-lateral negotiations with each of the Nile riparian states.

5.3.4 Relative changes in the dimension of material power

Although Cascão and Zeitoun (2010) only addressed changes in the dimension of bargaining power (the 3rd pillar of the revised FHH),⁷⁵ it is worth proceeding with the analysis of evolving patterns in the region in terms of both material and ideational power (2nd and 4th pillars).

A quick comparative look into economic trends in recent years displays an interesting figure in terms of relative gains by Ethiopia's economic growth compared to Egypt's financial situation. Despite the huge historical gap in term of total economic activity between the two countries,⁷⁶ an indicator that could provide some evidences of the diverging paths of the two economies in the last decade is the annual per cent change in GDP: while Egypt's average growth rate for the period 2006-13 was only around 4.6%, Ethiopia's figures for the same period see an average GDP annual change of nearly 10.6% (IMF, 2014). Moreover, this trend is expected to continue, since IMF's projections for the years 2014-15 foresee a growth rate of 3.2% in Egypt, whereas Ethiopian economy is supposed to grow at a higher annual rate of 7.5% (*ibid.*).

Not only the national GDP rates differentiate the two countries' economic trends, but a closer look into per capita data is even more explanatory of the relative erosion of Egypt's economic wellness in relation to the exceptional growth of its basin counterpart. In comparative terms, in 2003 Egypt experienced a GDP per capita growth of 3.2%, clearly much higher of Ethiopia's negative -2.2% rate: after nearly a decade the figure

⁷³ See newspapers' reporting from Sudan Tribune (<http://www.sudantribune.com/spip.php?article50831>), Ahram online (<http://english.ahram.org.eg/NewsContent/1/64/88412/Egypt/Politics-/Sudans-Bashir-ignored-impact-of-Ethiopias-dam-on-E.aspx>) and Le Monde Diplomatique (<http://mondediplo.com/blogs/egypt-s-diplomatic-card-game-on-the-blue-nile>).

⁷⁴ See Cascão and Zeitoun (2010) for an insightful analysis over the shifting bargaining power asymmetries.

⁷⁵ To be honest, in their conclusions Cascão and Zeitoun (2010) suggest that the NBI negotiation process has not only brought economic benefits to the Nile upstream countries ("The process may in turn contribute to increase substantially their material power"), but also contributed to the ability of the upstream riparians to share perception about the Nile water resources (ideational power). Nevertheless, they doubt "whether such increases in material and ideational power driven by the shift in bargaining power will be able to overcome the asymmetries in wealth and political allies".

⁷⁶ See Chapter 8 for an historical outlook over economic asymmetries between Egypt and Ethiopia.

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resulted reversed, since in 2011 the data for Ethiopia showed a decisive improvement (11.2% of GDP per capita annual growth), while in Egypt the value decreased to 1.8%.⁷⁷ Similar trends are experienced also for other major economic indicators when comparing the two countries,⁷⁸ a proof of the relative gain in Ethiopia's material power (both in terms of economic power and international financial support and investments) in relation to an Egyptian economy whose performances have constantly decreased throughout the last decade.

Another dimension of material power (apart from military might and army-related expenses) is represented by the development of infrastructures.⁷⁹ The hydraulic sector clearly represents an explanatory portrait of technological development relevant for the analysis of TWM dynamics in the region, and at the same time shows how the traditional gap in terms of development of the national hydraulic mission (Swynegedouw, 1999) between downstream Egypt and upstream countries has been drastically reduced in very recent eras.

According to Allan (1999), the Egyptian hydraulic mission had been developed since the last two decades of 19th Century, and has dominated the physical exploitation of Nile waters throughout all the 20th Century: compared to the simple dam of Tis-Abay on the Tana Lake (the only infrastructure built by Ethiopian governments on the Nile tributaries in the 20th Century), the 5 dams constructed by Egypt since 1902 (including the High Aswan Dam) represent a huge historical differentiation in the ability to exploit the potential of the Nile flows for either irrigation or energy production (Bekele et al., 2012).

However, since the construction of Chara Chara dam on the Blue Nile in 2000, Ethiopia has rapidly expanded its hydraulic development programme on the Eastern Nile River Basin:⁸⁰ to date, Ethiopia has finalized the setting up of 3 dams on the Blue Nile (in years 2008-13), 5 more dams are currently under construction (including the controversial Grand Ethiopian Renaissance Dam, GERD)⁸¹ and additionally 9 are planned to be built in the next future (to be completed between 2015 and 2026) (Bekele et al., 2012). In contrast, Egypt has not undergone any major hydraulic works on the Nile after the completion of the High Aswan Dam in 1970: the ambitious project of developing extensive irrigation structures in the "New Lands" through 3 mega-projects (the North Sinai Development Project, the

⁷⁷ World Banks' World Development Indicator, <http://databank.worldbank.org/data/views/reports/tableview.aspx>, last accessed on September 10, 2014.

⁷⁸ See Chapter 8 for a detailed analysis over economic trends in Egypt and Ethiopia.

⁷⁹ "Technological prowess" in Cascão and Zeitoun's wording (2010: 31). See also the analysis of GAP dam in Turkey in Warner (2004).

⁸⁰ This section addresses the Ethiopian hydraulic development on the Nile tributaries. Nevertheless, it is also relevant to recall that the Ethiopian governments have also heavily invested in dam development across the whole country, in particular on the Omo river: for more details see Chapter 8.2.3.

⁸¹ Formerly the Millennium Dam

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New Valley –or Toshka- Project and the West Delta Region Project) has indeed encountered many practical challenges, in particular financial constraints, which have delayed its effective realization. To date, the “New Lands” vision has not concretize in any substantial advancement, and the future of the projects is still uncertain.

5.3.5 Relative changes in the dimension of ideational power

Considering the last pillar of Hydro-hegemony (the third dimension of power by Lukes, [1974] 2005) means analysing the features of “power over ideas” (Lukes, 2004), a broad conceptualisation that embeds not simply tactics to “lead B to alter its actions” (Barnett and Duval, 2005), but also the ability to shape other’s “perceptions, cognitions and preferences” (Lukes, [1974] 2005) in order to make them consistent with the hegemon’s views and interests. The powerless are thus influenced to “accept their role in existing order of things” (*ibid.*) by the hegemon’s ability in producing and disseminating knowledge, sanctioning defined discourses (Cascão, 2008), institutionalizing norms (Meissner, 2005), re-defining customs and social identities (Hayward, 2000), securitizing core issues (Zeitoun et al., 2009) and framing systems of meanings (de Goede, 2006).

This third dimension (face) of power (ideational, productive or structural, as it is referred to in the literature)⁸² in short identifies the strategic techniques of knowledge construction and authoritative dissemination of visions and perspectives that emerge over alternative views and finally result in framing the conceptual borders within which the debate is directed by the hegemon. Since in this dimension the role of ideas is crucial in persuading the others that compliance to the hegemon is of mutual benefit, and since persuasion is rooted in expertise and authority (Scott, 2001), the target of analyses over ideational power shouldn’t be merely materialistic *interests*, but rather the *values* that the hegemon supports and diffuses with the intention of turning them as legitimate and inclusive (Chandler, 2007).

According to Zeitoun et al. (2009), the role of ideas over politics and policies is the decisive feature of the exercise of power in TWM, and ultimately the main dimension where relevant changes could be observable, although in covert ways: referring to the Nile hydropolitics they claim that, through the projection of its relative ideational power over the downstream riparians, Egypt “can maintain there is no significant conflict on the Nile and see this image accepted [...] despite contestations”. The analysis conducted by Cascão (2009) draws the same conceptual trajectory in claiming that the participation of Egypt in the NBI negotiation process was mainly aimed at setting the “redlines” for future cooperation under the auspices that not just its interests would be served, but primarily its values

⁸² For a conceptual analysis over structural power, see among others Guzzini (1994), Strange (1987), Wendt (1999).

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would be recognized as legitimate and inclusive by other riparians' perspectives.

In particular, the ideational power of Egypt can be analysed through its main two-fold manifestation: on the domestic and on the regional side. At domestic level, Egypt has succeeded in sanctioning the discourses advanced by the downstream countries presenting any Nile-related issues as matter of potential threat for its national security and labelling any competing demand by the Nile riparians as biased and unfair: this has ultimately resulted in a hyper-nationalistic emphasis on the illegitimacy of downstreamers' requests of renegotiating the 1959 Nile allocation quotas (Cascão, 2009). At regional level too, the outcome of the strategic exercise of ideational power by Egyptian authorities is observable in the practice of active stalling advanced with regard to article 14b of the CFA: in a deliberate move "to divert attention from the controversial 'water-sharing' paradigm towards a more consensual 'benefit-sharing' paradigm" (Cascão and Zeitoun, 2010), the Egyptian diplomats have been able to substantially delay the draft of the CFA agreement and, more importantly, have prevented the adoption of the definition of "water security" advanced by the upstream block, thus maintaining the idea that its very own vision over what shall be included in the concept is to be considered more legitimate than the one advocated by most of the other riparian states.

However, also in this power dimension there are signs of a changing trend: whereas the ideational power of Egypt is still solid in absolute terms, arguably it has been eroded in relative terms in favour of once powerless upstream countries. This claim is based upon a three-fold analysis of recent events occurred in the Nile hydropolitical dynamics:

i) The strong opposition to the CFA by Egypt (and Sudan), which has contributed to the delay of its drafting, has not resulted neither in the definitive stalling of the negotiation process, nor in the adoption of a different agreement: on the contrary, with the signature of Burundi, Uganda, Rwanda, Tanzania, Kenya and Ethiopia, the CFA is currently open for ratification, despite the Egyptian and Sudanese refusal to sign it. Moreover, there are reasons to believe that also Sudan could enter the agreement in the next future. The signature of the text clearly represents the defeat of Egyptian efforts to prevent its adoption, and its decreased legitimacy in setting the norms of the political game on the Nile. Moreover, the exclusion of downstream veto power from the dispositions, and the institutionalization of a process toward the creation of a permanent Nile basin Commission (NBC) are signals of a progressive shift of basin perceptions from Egyptian leadership to upstream countries' interests and values.

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ii) The release in 2013 of an authoritative report by an international panel of experts (IPoE)⁸³ on the expected impacts of the GERD on downstream countries represented a further blow to Egypt's claims against Ethiopian government's hydraulic programme, and possibly a crucial moment in the historical confrontation between the two countries. In addition, it has significantly contributed to shift the balance of ideational power toward Ethiopian visions and perspectives. Indeed, the results presented by the panel after almost one year of investigative assessments over the controversial mega-dam seem to be consistent with Ethiopia's previous statements over the topic, rather than supporting Egypt's worries about the project. Despite the fact that the experts clearly state the urgency for further investigations, declare the poor quality of most of the national studies used for the planning, highlight the nature of most of the assessments as only "preliminary" and the lack of important documents, and provide the parties (especially Ethiopia) with many recommendations to be respected ("GERD Panel of Experts Report: Big Questions Remain", 2014), the report's findings did not urge for the halting of the project, as the government of Egypt was hoping for, nor declare that the current design is likely to significantly harm the downstream countries.⁸⁴ Although the official statements made by the respective governments after the report's release diverge substantially on the interpretation of the findings, as the construction works proceed Egypt will be constantly losing leverage both at regional and international level, while Ethiopia will have less incentive to negotiate since the GERD is rapidly becoming a "fact on the ground", a *fait accompli* that substantially modifies the regional context.

iii) Finally, the entry into force of the 1997 UN Convention on the Law of the Non- Navigational Uses of International Watercourses (hereinafter UNWC) in 2014 is likely to trigger a legal process of progressive subordination of the no-harm rule (the legal principle sponsored by most downstream riparian countries, and especially Egypt) to the principle of equitable utilization, strongly advocated by the Nile upstream block in the NBI and CFA negotiations (Salman, 2014). The relationship between the two principles (now codified in art. 5 and art. 7 of the Convention) has been a central issue in the legal debate, and a matter of confrontation between upstream and downstream riparian in most international river basins. The Convention's approach to the potential conflict of the two norms seems "giving prevalence to the principle of Reasonable and Equi-

⁸³ The establishment of the IPoE was agreed in successive tripartite meetings among Sudan, Egypt and Ethiopia. It was finally set up in 2012 by 2 experts from each country and 4 international experts. The final report was submitted on the 31st of May 2013, and it's available online at http://www.internationalrivers.org/files/attached-files/international_panel_of_experts_for_ethiopian_renaissance_dam-final_report_1.pdf&sa=U&ei=xLkRVLSVN8SuO_GiqJAF&ved=0CBQQFjAA&usq=AFQjCNEprqrJuA4dx0Tom1m779w0PVDApw.

⁸⁴ It is remarkable however how the report highlights the absence of a complete and in-depth ESAIA on socio-environmental impacts of the project.

table Use over the No-Harm Rule”,⁸⁵ an interpretation consistent with state practice and with the decision of the International Court of Justice in the *Gabcikovo-Nagymaros Project case (Hungary/Slovakia)* (Salman, 2014). In the case of the Nile river, the effects of the interpretation of the Convention toward the subordination of the No-harm rule to the Reasonable and Equitable Use, and of the potential widespread acceptance of the Convention as codifying already existing customary international water law,⁸⁶ may contribute to change the existing balance in terms of ideational power in favour of the Nile upstream countries’ interests.⁸⁷

5.4 Evolving patterns of hydropolitics in the Nile Basin

In the attempt of expanding the insightful study of Cascão and Zeitoun (2010) over the balance of power in the Nile river basin, we may argue that, for the analysis advanced above, not only the balance of the bargaining feature of power is shifting at the expenses of Egypt, but also the first and third dimensions of power are witnessing progressive relative gains for Ethiopia in particular, and for the upstream block in general.

Whether these changes in terms of material and ideational power are effects of the increased bargaining ability of Ethiopia⁸⁸ or rather subtle causes of it is questionable: the relation of causality among the three dimensions of power is still to be proved in the case of the Eastern Nile River Basin, and urges for further in-depth investigations on empirical basis. The below Figure 29 illustrates a revised version of the FHH’s diagram above, based on the assumptions portrayed in this section: the assumed

⁸⁵ The UNWC Online User’s Guide, available at <http://www.unwatercoursesconvention.org/faqs/> clearly states that this interpretation is based on two main considerations: a) “The Convention lists factors that may be relevant for determining whether a given water use is reasonable and equitable. Such factors include any transboundary effects resulting from that given use, as well as other existing and potential water uses. These two factors receive no priority in relation to others. This means that, although transboundary harm deserves special consideration, it remains merely one factor to be taken into account among many others for the application of the principle of Equitable and Reasonable Use.” And b) “It may be that significant transboundary harm occurs even when a state has taken all appropriate measures to prevent such harm from materializing. In such cases, the Convention requires the harming state to take all appropriate measures to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation, having due regard for the principle of equitable and reasonable use, and in consultation with the affected state.”

⁸⁶ The UNWC online User’s Guide states that “To a large extent, the Convention codifies the already existing customary international water law, particularly the principle of Equitable and Reasonable Use, the No Significant Harm rule, and the procedural duty of notification with regard to major planned measures, as well as collateral obligations that derive from those three basic principles, such as pollution prevention and information exchange” (<http://www.unwatercoursesconvention.org/faqs/>)

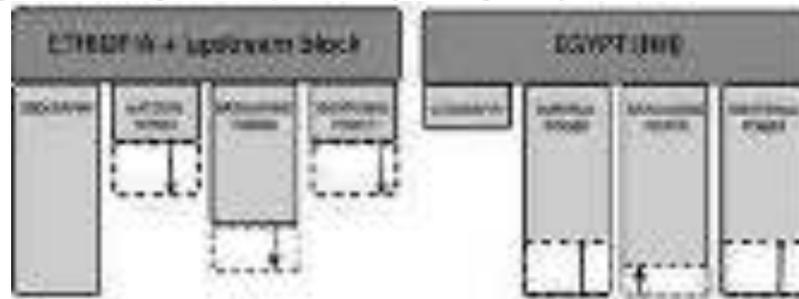
⁸⁷ However, neither Egypt nor Ethiopia have until now signed the Convention: Egypt for the above-mentioned reasons, while Ethiopia’s resistance is probably due to the obligation of prior notification for “planned measures which may have a significant adverse effect upon other watercourse states” (Art. 12 of the UNWC).

⁸⁸ The assumption of causality between changes in bargaining and material power is sketched in Cascão and Zeitoun (2010): see note 75 above.

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gains of Ethiopia in the first and third dimensions of power are exemplified by the downward arrows, while the relative erosion of Egyptian hydro-hegemony in the same dimensions is illustrated by the upward arrows.⁸⁹

Figure 29: Changes in the pillars of hydro-hegemony in the Nile Basin



Source: author's compilation (adapted from Cascão and Zeitoun, 2010)

Whether these recent changes will drive the negotiation process towards either more cooperative and inclusive arrangements among the basin states or to a situation of co-existence of multilateral shared agreements with unilateral conflicting developments, or finally to the rise of Ethiopia as new hydro-hegemon in the region, is still uncertain. We claim that the dispute between the confronting states over the Nile waters is unlikely to escalate into an army conflict, since the recent development in the basin's dynamics "demands regional integration" (Verhoeven, 2013); at the same time, we also agree with Waterbury's (2010: 288) position when he claims that comprehensive and shared agreements over the optimal use of Nile waters are "utopian" since they "cannot address the unresolved issue of rival demands for the water itself": thus, intermediate political steps toward less ambitious goals could "avoid destructive unilateralism and shift our gaze from the utopian to the manageable". Nevertheless, the hydropolitical dynamics in the region are rapidly evolving, and "cooperation and unilateralism cannot co-exist in the long term" (Cascão 2009: 265): many alternative scenarios for the future of water management in the Nile River Basin are open,⁹⁰ and the changing power asymmetries in the pillars of the FHH could help explain how a broader analysis beyond the water-sector *per se* provides insightful perspectives on the complex interactions of water-related disputes over the control of the Nile.

⁸⁹ This assessment is exclusively advanced in qualitative terms: the magnitude of the pillars does not pretend to represent quantitative changes, and it is based on the personal perception of the authors. We shall here align with Cascão and Zeitoun's (2010) intellectual honesty when they state that "the suggested plots [...] are based on the authors' experience, perspective certainly enters any evaluation. As such, the evaluation by different authors [...] would certainly be different"

⁹⁰ See for example the three future scenarios foreseen by Cascão (2009).

Chapter 6. Legal Assessment of the Riparian States' Claims over the Utilisation of the Nile Waters

This chapter advances an assessment over the legal frameworks of control, distribution and utilisation of the Nile flows, which will help explaining both the historic processes that have conducted to the signing (or not signing) of treaties and agreements between the riparian states, and the determinants of competing claims among the main actors involved. Despite the clear objective of the chapter is to analyse past and current negotiations in the light of international water law, the discussion is at the same time of political nature, in the attempt of creating analytical connections between the interpretation of instruments of international law and the political economy of water resources in the Nile basin. The first part explores the main controversies in the Nile dispute according to international water law (Ch. 6.1, 6.2 and 6.3). The last section investigates over the innovations brought by the entry into force of the UN Watercourses Convention in 2014, and its potential implication for the resolution of water-related disputes in the Nile basin (Ch. 6.4).

6.1 The no-harm rule and the principle of equitable and reasonable use

The regional dispute over the share of the Nile River flows results in a controversy about legal principles of international water law (IWL), which also affects in similar ways the negotiations in other river basins at global scale. The dichotomy between upstream and downstream riparian states is reflected by the priority given to the equitable and reasonable use and to the no-harm rule respectively, although recent codifications of international water law have highlighted their features of compatibility, rather than exclusivity.⁹¹

The no-harm rule is generally used as a strategic tool by downstream states in order to prevent upstream water developments, which could affect the quantity and quality of the waters they are currently enjoying: this is the case for Egypt, which has intensely endorsed this principle in order to keep its water share, agreed with Sudan by a 1959 agreement. On the contrary, upstream countries mostly advocate the principle of equitable and reasonable use in order to gain recognition to their right of water development: this is the case for Ethiopia, which has only recently initiated its hydraulic mission on the main tributary of the Nile river.

6.1.1 Instruments of international water law

The controversy over the harmonization of these two legal principles has engaged scholars and International Law experts for decades, and disputes over the eventual hierarchy between the two has enriched the academic debate: among others, this is one of the main factors that have protracted the drafting of the UN Watercourses Convention (UNWC) for more than 20 years,⁹² since the potential incompatibility of these two norms has requested for continuous amendments to the first draft articles of the Convention. In 1997, the UNWC draft including both principles in Art. 5 and Art. 7 was adopted and opened for ratification. The thesis of the controversial compatibility of the two articles is reflected by the reception of the Convention by the main contenders of the Nile basin, Egypt and Ethiopia: both indeed abstained from the vote and up to date they haven't signed it yet.

Another instrument of codified IWL, the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International

⁹¹ See for example the recent entry into force of the 1997 UN Convention on watercourses, which account for both principles: Art. 5 disciplines the equitable and reasonable use, while article 7 the no-harm rule.

⁹² ILC was requested in 1970 to draft the articles of the Convention by the United Nations, but terminated the project only in 1994. The Convention was adopted in 1997, but entered into force only in 2014.

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Lakes includes both principles in its provisions, encouraging riparian states to “prevent, control and reduce transboundary impact” (Art. 3(1)), “ensure that transboundary waters are used in a reasonable and equitable way” (Art. 2(2)), besides the general recommendation to “cooperate on the basis of equality and reciprocity” (Art. 2(6)).

The Berlin Rules, adopted by the International Law Association (ILA) in 2004 in order to supersede the 1966 Helsinki Rules, enshrined as well the compatibility of the no-harm rule and equitable and reasonable use, by highlighting the essentiality of integrated management for sustainable development:⁹³ moreover, the commentary to Art. 11 provides the duty to cooperate with a special emphasis, describing it as “the most basic principle underlying international water law”. According to the members of the 2004 Conference, “The rule of equitable utilization, the heart of the original *Helsinki Rules*, still expresses the primary rule of international law (whether customary or conventional) regarding the allocation of waters among basin States” (ILA, 2004, Commentary to Art. 7). In Art.12 the ILA members made an attempt to overcome the controversy arising from the co-existence of the two main legal principles, stating that each riparian state shall manage its own territory not only “in an equitable and reasonable manner” but also “having due regard for the obligation not to cause significant harm to other basin States”⁹⁴ in order to “tak[e] into account the interests of other basin States”. Particularly relevant is the commentary made to the same Article, where it is stated that “Today the principle of equitable utilization is universally accepted as basic to the management of the waters of an international drainage basin”, leaving therefore little room for any controversial interpretation about the acquired legal status of the principle of equitable and reasonable use (ILA, 2004).⁹⁵

Notwithstanding the efforts of international lawyers towards the harmonization of the two principles, controversies still arises from their interpretation and presumed hierarchy between them. To this regard, the

⁹³ See Commentary to Art. 6 (ILA, 2004): “[No one] can one determine whether a particular use is equitable and reasonable without examining a use in an integrated context”. See also Art. 10(1): “Basin States have the right to participate in the management of waters of an international drainage basin in an equitable, reasonable, and sustainable manner”. See also art. 11: “Basin States shall cooperate in good faith in the management of waters of an international drainage basin for the mutual benefit of the participating States”.

⁹⁴ The “significant harm” rule is further codified in Art. 16(1) of the Berlin Rules “Basin States, in managing the waters of an international drainage basin, shall refrain from and prevent acts or omissions within their territory that cause significant harm to another basin State having due regard for the right of each basin State to make equitable and reasonable use of the waters”. The phrasing of this article refers explicitly to the compatibility of the two principles: “having due regard” is accordingly used both in Art. 12 and in Art. 16 in order to address “the obligation not to cause significant harm” and “the right [...] to [...] equitable and reasonable use” respectively.

⁹⁵ “The phrasing adopted here emphasizes that the right to an equitable and reasonable share of the waters of an international drainage basin carries with it certain duties in the use of those waters”. (from the Commentary to Art. 12, ILA, 2004)

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Online User's Guide to the UN Watercourses Convention⁹⁶ recognises that "most scholars interpret the Convention as giving prevalence to the principle of Reasonable and Equitable Use over the No-Harm Rule".⁹⁷ The same concept is also stressed by Dellapenna (2001), who clearly affirms that "the UN convention makes the obligation to prevent harm subordinate to the rule of equitable utilisation".⁹⁸

6.1.2 Egypt and the no-harm rule

Egypt's perspective on the Nile River management endorses the principle of the no-harm rule: as per the disposition of the legal instruments analysed above, the Egyptian claim is legitimate and consistent with (conventional or customary) rules of IWL. Nevertheless, it is relevant to highlight the fact that these norms do not provide the riparian states with the right to halt *any* water infrastructures developed by other basin members, but they all entails a general obligation *only* to "prevent the causing of significant harm" (Article 7(1) of 1997 UNWC), or, as per the 2004 Berlin Rules, "prevent acts or omissions within their territory that cause significant harm" (Art. 16(1)). Moreover, according to the Online User's Guide to the UNWC, "This is a due diligence duty of prevention, rather than an absolute prohibition on transboundary harm".⁹⁹

It is remarkable therefore that the core problematic interpretation of this norm directly derives from the definition of "harm" and its qualification as "significant": the term *significant* "excludes mere inconveniences or minor disturbances states are expected to tolerate from one another, in conformity with the rule of good neighbourliness",¹⁰⁰ and therefore "some harm may be tolerated if it is deemed equitable and reasonable".¹⁰¹ It is

⁹⁶ Available at <http://www.unwatercoursesconvention.org>

⁹⁷ "This interpretation is based on two considerations: 1. The Convention lists factors that may be relevant for determining whether a given water use is reasonable and equitable. Such factors include any transboundary effects resulting from that given use, as well as other existing and potential water uses. These two factors receive no priority in relation to others. This means that, although transboundary harm deserves special consideration, it remains merely one factor to be taken into account among many others for the application of the principle of Equitable and Reasonable Use. 2. It may be that significant transboundary harm occurs even when a state has taken all appropriate measures to prevent such harm from materializing. In such cases, the Convention requires the harming state to take all appropriate measures to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation, having due regard for the principle of equitable and reasonable use, and in consultation with the affected state." (Online user's guide to the UN Watercourses Convention, question 22, available at <http://www.unwatercoursesconvention.org/faqs/>)

⁹⁸ The same author emphasizes that "this relationship is made explicit in paragraph 2 of the article where the obligation to take 'appropriate measures', as well as the obligation to 'discuss compensation', are to be made with 'due regard to the provisions of article 5 and 6' – the principle, in other words, of equitable utilisation" (Dellapenna 2001).

⁹⁹ Online User's Guide to the UN Watercourses Convention, Question 21, available at <http://www.unwatercoursesconvention.org/faqs/>

¹⁰⁰ *ibid.*

¹⁰¹ Online User's Guide to the UN Watercourses Convention, Question 20. See also Rieu-Clarke et al. (2012: 100): "however, some significant harm may be tolerated – in very limited circumstances – where it can be established to be equitable and reasonable".

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also relevant to observe that “significant” is not used in the UNWC in the sense of “substantial”, although it codifies an adverse effect upon a third state.¹⁰² According to this interpretation therefore, an adverse *insignificant* harm (tolerable thereof) is defined as “merely perceptible or trivial”, whereas an impact could be addressed as *significant* even if not “severe or substantial” (Rieu-Clarke et al., 2012: 120): in order to assess whether an adverse impact over another riparian state’s territory is significant or not, the evaluation should be driven “by objective evidence and determined on a case by case basis” (*ibid.*).

Over the case of upstream water developments on the Nile River, the position of the Egyptian government has repeatedly stated that any activity likely to modify the current Egyptian share of the Nile flows would *significantly* threaten the delicate water security balances for its population, therefore constituting a breach of the no-harm rule. According to what has been stated above, in order to be legitimate this claim cannot be based on an absolute and a-priori justification, but rather it need to be determined relatively to specific cases and substantiated in objective evidence.

Thus, concerning the on-going dispute over upstream developments on the Nile in general, and on the building of the GERD by the Ethiopian government in particular, in order to assess whether the planned infrastructures could impact in an adverse and significant way Egypt’s water security, a comprehensive assessment based on affordable data should be openly and transparently conducted in order to inform policies and assess future scenarios. Moreover, the eventual decrease in water availability would not represent *per se* an indicator of significant harm: in case it is proven that the decrease of water flows downstream could be “deemed equitable and reasonable” until a certain specific threshold, this water reduction might be considered tolerable with respect to the analytical perspective of basin integration and equitable use of the resource. This approach could therefore helps in shifting the analysis beyond the mantra of water quotas towards a broader perspective concerning the overall management of the basin’s resources, widening the framework both within and outside the water sector in the search for improved water governance, demand and supply management, knowledge transfers and capacity building, intra-basin trade policies, integrated water management and so forth.

6.1.3 Ethiopia and the principle of equitable and reasonable use

Ethiopia and upstream riparian states have contested the past agreements that determine water quotas for Sudan and Egypt, excluding

¹⁰² “The term “significant” is not used in this article or elsewhere in the present Convention in the sense of “substantial”. What is to be avoided are localized agreements, or agreements concerning a particular project, programme or use, which have a significant adverse effect upon third watercourse States. While such an effect must be capable of being established by objective evidence and not be trivial in nature, it need not rise to the level of being substantial” (Statement of Understanding b) with regards to Art. 2(c), UNWC)

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the other basin's states, and they have repeatedly advocated for the priority to be given to the principle of equitable and reasonable use of the Nile waters with respect to downstream claims of "prior use", historical rights" and risks of "significant harm". Moreover, they believe that past agreements over the Nile have to be considered invalid, since none of them includes all the basin members: in particular, the 1929 and 1959 agreements allocated all the available Nile waters to two countries only, constituting therefore a breach of upstream countries' rights, according to the other basin states.

Most of the upstream countries share the idea that an agreement over the allocation of the Nile water that does not include all the riparian members represents a substantial breach of international law, since it affects third parties' right to the utilisation of their own resources: according to *the abuse of right* doctrine, "a State may not "exercis[e] a right [...] in a way which impedes the enjoyment by other States of their own rights" (Kiss, 1992). The same approach is also recalled in the Art. 10(2) of the 2004 Berlin Rules, where it is stated that "an international agreement may apply to all or part of the waters of an international drainage basin or to a particular project or use, *except that a use by one or more basin States shall not cause a significant adverse effect on the rights of or uses in another basin State without the latter State's express consent*" (ILA, 2004, emphasis added). Therefore there is no obligation against a partial agreement, but in case this is deemed to affect the other riparians' rights without their consent, it has to be considered not binding.

The issue of member states' right to participate in the use of an international river is also outlined in the Art. 5(2) of the 1997 UNWC, which disposes that "Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate." According to upstream Nile countries, not only they never consented to the 1929 and 1959 Nile agreements, but also they claim that such agreements significantly limit their sovereignty in general, and their right to an equitable and reasonable share of the river flows in particular:¹⁰³ if all of the Nile waters have to be allocated to two countries only, the other riparian countries consequently lose their *right to utilize* them. Moreover, it collides with the principle of customary international law that a treaty does not create obligations over third parties.¹⁰⁴

For these reasons therefore, the claim to manage the river in an equitable and reasonable manner in order to include all of the basin's members seems consistent with international water law: the opinion that the principle

¹⁰³ In particular, the 1959 agreement between Sudan and Egypt allocates all the Nile waters to these two countries only, leaving no quotas for the remaining upstream countries.

¹⁰⁴ Article 34 of the 1969 *VCLT* states that: 'a treaty does not create either obligations or rights for a third State without its consent'

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of equitable utilisation is “the pre-eminent rule,” (McIntyre, 2006), “the cornerstone,” (Rieu-Clarke et al., 2012) or even “the overarching rule of treaty and customary law” (GWP, 2013) in transboundary water management is currently a diffuse and accepted rule of IWL.

The Egyptian claim of significant harm to its water security to be provoked by water developments in upstream countries has been strongly challenged by the Ethiopian government in particular with relation to the GERD project. To the allegations of appreciable harm deriving from the construction of a massive dam on the Blue Nile (Abbay) river, Ethiopia has not only reiterated its interest in not adversely affecting the Egyptians' right to utilise the Nile waters, but has also stressed the potential benefits for its downstream neighbours deriving from the operationalization of the dam. Whether this behaviour is only an indication of political strategies in order to safeguard Ethiopia's national interests, or whether it is an indicator of *good faith* and *good neighbourliness* based on solid data and objective scientific information, still is neither clear nor verifiable.¹⁰⁵

Notwithstanding that, many official statements made by the Ethiopian authorities converge in the denial of appreciable harm to Egypt to be caused by the actual planning and implementation of the GERD, in an insisted exchange with their Egyptian counterparts. For example, during the speech given for the launch of the GERD project in 2011, the Ethiopian PM Meles Zenawi affirmed that “Equally, the benefits that will accrue from the Dam will by no means be restricted to Ethiopia. They will clearly extend to all neighbouring states, and particularly to the downstream Nile basin countries, to Sudan and Egypt” (Zenawi, 2011). Similarly, after the release in June 2013 of a very critical report against the GERD made by the Group of Nile Basin (GNB) at Cairo University to Support Egypt, the Ethiopian Ministry of Foreign Affairs stated that “Hydropower, of course, does not consume water and in no way causes significant harm for the downstream countries” (GoE, 2013) and that “Ethiopia is a responsible nation, the design of the GERD is adequate and the planned robust filling strategy will not lead to any appreciable harm during the filling period” (*ibid.*). Commenting over the first findings of the IPoE, also Ambassador Dina Mufti stressed the potential benefits of the GERD for downstream countries: “The final findings indicate that Egypt and Sudan will be benefited from clean energy generated by the plant and will also reduce the accumulation of sedimentation on lower riparian countries,” (Mufti, in Tekle, 2013) while the Ethiopia's Minister of Water, Energy and Irrigation, Alemayehu Tegenu clearly stated in Aug. 2014 that “Ethiopia has no intention to harm any country” (GoE, 2014).

¹⁰⁵ The Report released by the International Panel of Expert (IPoE) for the study of the GERD does not provide final evaluations and recommends further assessments on downstream impacts of the project.

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On the contrary, Egyptian official statements have insisted on the potential adverse impact of the GERD over the water security of its population, claiming for the halt of the project: in March 2013, the Egyptian Minister Abdi Mutalib was reported suggesting the halting of the GERD construction until further studies were conducted (Ventures Africa, 2014), and the same was stressed by Cairo's GNB (2013) in a report where they "Request stopping the construction at once until completing the negotiation and assess the effects." Moreover, the Egyptian diplomatic activity against the GERD has also addressed foreign countries, IOs and international enterprises: "The government of Egypt calls upon the EU Commission, and the esteemed European governments, to give due consideration to the accountability of business enterprise of European nationality for their conduct in supporting Ethiopia's projects affecting the Nile river downstream states" (MacDiarmid, 2014).

Obviously, these statements do not account for a proper assessment over the likelihood of a significant adverse effect of the GERD project over Egypt, neither they are substantiated in *objective evidence*: nevertheless, they make explicit what the terms of the contentious are, and to what degree not only the interpretation of IWL rules vary, but rather how much perspectives, consent-inducing mechanisms and values matter in the very application of these rules.

Finally, upstream countries in the Nile Basin are also concerned with an alternative conception of the no-harm rule: whereas it is generally conceived that this principle mostly accommodates the interests of downstream countries, some scholars state that harm can also travel upstream (Salman, 2013). Thus in some cases, water developments in downstream territories could be deemed to significantly affect upstream users, for example "by foreclosing the upstream state's future water uses through the prior utilisation of such water" (Rieu-Clarke et al., 2012: 117).¹⁰⁶ This is one of the theses that Ethiopia has used against the Egyptian claim of "historical rights" and "prior use" over the waters of the Nile, stating that the enjoyment of these supposed rights has impinged over the water security of upstream current and future generations. Although repeatedly advocated by Egyptian authorities, "prior use is not specifically cited by any of the key international legal instruments" (Cascão, 2009).¹⁰⁷ Another critique to the "prior use" doctrine is colour expressed by P. Gleick (2009): "Just because you are first on a river, [...] does not mean that you have no responsibilities to other users [...] sharing the same watershed. Your use affects others."

¹⁰⁶ See also Salman (2010).

¹⁰⁷ See also Phillips (2006), Carroll (1999), Knobelsdorf (2006).

6.2 The duty to cooperate

In 1929 the PCIJ declared the concept of “community of interest” as a “common legal right” for the management of the uses over a transboundary river basin, an assumption reiterated by the ICJ in its 1997 judgement over the *Gabcikovo-Nagymaros Project*, where it is recalled that “Modern development of international law has strengthened this principle” (ICJ, 1997: 7).

Since the declaration of the PCIJ, the evolution of IWL has increasingly incorporated this principle under the basic principle of the “duty to cooperate”, which, according to the general widespread acceptance within the international community, has gained the status of customary IL.¹⁰⁸ For example, this principle is considered to be included into the Art. 10 of 1966 Helsinki rules, whose comment stresses the fact that “any use of water [...] that denies an equitable sharing of uses by co-basin States conflicts with the community of interests of all basin States in obtaining maximum benefit from the common resource” (ILA, 1967), as well as in the Art. 2(6) of the UNECE Convention on the Protection and Use of Transboundary Watercourses (which states as follow: “The Riparian Parties shall cooperate on the basis of equality and reciprocity [...] in order to develop harmonized policies”). In its provisions also the Berlin Rules encourage basin states to cooperate “in good faith [...] for the mutual benefit” (Art. 11), and the UNWC links the duty to cooperate under Art. 5(2) with a specific emphasis in Art. 8(1) upon “sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization.” Moreover, the Art. 58(2) of the Berlin Rules invites basin states to consult “on actual or potential issues relating to their shared waters” in order to reach “a solution consistent with their rights and duties under international law.”

It has to be noted that the legislators not only codified a general obligation to cooperate, but also made an attempt in order to qualify the cooperation envisaged: referring to terms such as equality, reciprocity, good faith, mutual or maximum benefit, optimal utilisation, harmonized policies, they prioritized the general principle of good neighbourliness as it was firstly codified in the UN Charter.¹⁰⁹ Thus, the explicit reference to the *quality* of cooperation highlights the facts that cooperation per se is not a sufficient condition for effective reciprocity and mutuality. The ICJ in its judgement over the *Gabcikovo-Nagymaros* case (and recently in the *Pulp Mills* case too) stated that the duty to cooperate foresees that “the negotiations are meaningful, which will not be the case when either of them insists upon its own position without contemplating modification of it” (ICJ, 1997).

¹⁰⁸ See for example: Cosgrove (2003), Sanchez (2013), Wouters (2013), Wouters et al. (2005)

¹⁰⁹ See art. 74 on the “general principle of good-neighbourliness, due account being taken of the interests and well-being of the rest of the world.” As Wouters (2013) pointed out, the duty to cooperate is “at the heart of the UN charter”.

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Processes of cooperation and negotiations could indeed be manipulated in order to accommodate partial or exclusive interests under the façade of multilateral cooperation: engaging in negotiations with the main aim of co-opting the others' demands or of stalling the process with inappropriate claims are, among others, popular and diffuse strategic tools that hinder the achievement of mutual benefits and optimal outcomes. In order to overcome these pitfalls in the negotiations, the International Community has adopted the duty for states to cooperate in good faith (as stated also in the *Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations*) which therefore has become a general principle also in TWM. For example, both the 1995 Protocol on Shared Watercourses adopted by the Southern African Development Community (SADC) and the 2010 Cooperative Framework Agreement (CFA) on the Nile include in their obligations the principle of cooperation in accordance to the UN Charter,¹¹⁰ and to the Art. 8 of the UNWC, which "presents cooperation as a legal obligation" (Rieu-Clarke et al., 2012).

6.3 Duties of prior information and prior notification

The commentary to UNWC Art. 8.1.5 explicates how the normative content of the duty to cooperate are the "procedural duties of prior information and prior consultation" (Rieu-Clarke et al., 2012): in this way the legislators have attempted to overcome the uncertainty and confusions arising from the blurred concept of general cooperation, binding the states to the duty of prior information.

According to Sadoff et al. (2008), even if the duty to cooperation "does not prescribe specific obligations [...], in practice [it] comprises some specific duties"; for the same author these duties include "prior notification of planned measures, development of environmental impact assessments, consultation and negotiation in good faith, and collection and exchange of data". The same opinion is expressed by Cosgrove (2003) when he states that the duty to cooperate is "the bridge between the substantive and procedural rules under customary international water law": in this regard, the duty of notification would represent a pivotal element of such cooperation.

In fact anyhow, the UNCW states in its Art. 8.1 that the duty of prior notification is not a general obligation for *any* measure, but it's mandatory only for "the implementation of planned measures which may have a significant adverse effect" on the interests of other basin's states. Therefore, given the general obligation for states to cooperate, the specific duty of

¹¹⁰ The Art. 3(1) of the CFA states the "principle of cooperation between States of the Nile River Basin" recalling explicitly the Art. 8(1) of the UNWC ("on the basis of sovereign equality, territorial integrity, mutual benefit and good faith"), whereas the Art. 2 of the SADC Protocol states the obligation to abide to the "principles of community of interest in the equitable utilization".

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prior information and notification only applies on those cases likely to significantly and adversely impact on the other riparian states' rights. Notwithstanding the importance of this disposition in the regulation of inter-states relationships, it might be said that the wording of Art. 8.1 does not mitigate the uncertainty and non-specificity of the duty to notify: whether an activity "may have" or not, and how a "significant adverse effect" can be measured still remain unclear and debatable. Perspectives and norms-formation play a pivotal role in defining what may or may not provoke not only and adverse impact, but a *significant* one, and states' diplomacy and rhetoric could engage in endless debates in order to safeguard their own exclusive interests denying "meaningful" negotiations.

Despite these constraints, the duty to provide prior notification in cases where a significant harm could be assessed "has reached the status of a customary international legal obligation" (Rieu-Clarke et al., 2012) and it includes prior information, exchange of technical data and environmental assessments (Sanchez, 2013; Yihdego, 2013). The UNCW also specifies that such notification should be provided "timely" and "before" the implementation of the planned measure (Art. 12).

This obligation is also strengthened by the 2010 judgement of ICJ in the Pulp Mill case, where the Court rejected Uruguay's claims that affordable information could not be available before the implementation, and found Uruguay guilty for having not provided Argentina with a notification "at a very early stage prior to the authorisation of the project" (McIntyre, 2011). The ICJ reiterated the obligation to notify also in its 2012 judgement over the Abellí-Redox case, where the Court stated that "[a]s the Respondent did not notify at any time, it clearly violated its duty to cooperate by notifying" (ICJ, 2012).

It has to be noted here that the duty of prior notification does not provide the contending states with a veto power over the allegedly harmful planned measure: as McCaffrey (2001) pointed out with regard to Turkey's opposition to the final draft of the UNCW, "no veto is provided for in Part III" of the Convention, and the duty to notify "does not imply that [riparian states] must obtain prior consent to plan the works" (Cosgrove, 2003).¹¹¹

This interpretation substantially differs from the dispositions of the World Bank in term of support to projects on international watercourses: indeed, the WB's Operational Directive 7.50 "requires that the beneficiary state formally notify the other riparians of the proposed project and its project details" (World Bank, 2012). Salman (2001) commented that not only this disposition differs from the UNWC and the related recommendations of the Commission, but it also overcomes the potential disputes over the alleged harmful impact of planned measures: it requires a formal approval by all riparians "regardless of whether the project would cause significant harm or not" (Salman, 2001: note 81). In pragmatic terms, this disposition

¹¹¹ Cfr. also Rieu-Clarke et al. (2012): "states do not necessarily have a veto right over the development of an international watercourse".

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provides the riparian countries with a veto power (Mason, 2003) and has thus hindered the capacity of the Bank to support projects in transboundary rivers: since a basin state might use its right to veto a project planned in another riparian state even in absence of the likelihood of transboundary harmful impact, this veto could possibly be used not only to safeguard its national interests, but also in order to downplay the opportunities for development in a concurring state. The logic behind the WB OP 7.50 is that of strengthening the “community of interests” principle, but in fact it provides the basin states with more leverage to protect national interests vis-à-vis the sovereign rights of the other riparian countries: i.e. if state A believes that an hydropower unit in state B could affect its share in the energy trade market, it could veto such project in state B even if appreciable harm is not proven.

To this regard, the UNWC is more explicit in binding basin states to the duty of prior notification only in cases where an effective or potential significant adverse impact is assessed: Salman (2001: 32) concludes that the UNWC “reflecting customary law, neither limits notification to downstream riparians, nor grant any state veto power over the projects of other riparian states”.

Having thus asserted the binding feature of the principle of prior notification in cases likely to significantly affect other riparians’ interests, now it would be relevant to assess the normativity of the dispositions in terms of exchange of technical information and environmental impact assessments (EIA).

The Commentary 9.1 to the UNWC highlights that “sharing of fundamental data is a precondition” of intra-basin cooperation, while Commentary 18.2 states that, despite in the UNWC no article specifically requires an EIA, “such an assessment is now an obligation under customary international law whenever a project may have adverse transboundary effects” (Rieu-Clarke et al., 2012). Therefore, in case a) the UNWC is considered as an instrument codifying international customary law; and b) a riparian state willing to develop activities that may negatively and substantially affect the interests of another basin state fails to notify *timely* and denies to provide fundamental data and to conduct and share an affordable EIA, this state could be reasonably accused of not compliance with the norms of IWL. In absence of notification however, the potentially affected state has to meet two conditions in order to advance legal claims under the UNWC Art. 12:¹¹² in the commentary 18.1, these conditions are disclosed in terms of “reasonable grounds to believe” that the planned measures could have a significant adverse impact, and of the obligation to prepare a “documented explanation setting forth its grounds” (*ibid.*). If a) the requesting state complies with these dispositions, and b) the contending states

¹¹² That is, provide the requesting state with “available technical data and information, including the results of any environmental impact assessment”.

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enter into consultations and negotiations because the planning state believes that it is not under an obligation to provide a notification under Article 12; so the State planning the measures shall “if so requested by the other State at the time it requests the initiation of consultations and negotiations, *refrain* from implementing or permitting the implementation of those measures for a period of six months unless otherwise agreed (*ibid.*, emphasis added).”

6.4 The impact of the Watercourse Convention over the Nile water dispute

6.4.1 Norms in terms of dispute settlement

An insight over the current dispute upon the utilisation of the Nile flows in general, and upon Egyptian concerns over the development of water infrastructure on the Blue Nile by Ethiopia in particular, would provide an empirical ground in order to assess the hypotheses derived from the theoretical framework of the legal norms codifying the obligation of prior notification.

Concerning the development of the GERD project, Ethiopia has failed to notify, not only to Egypt but also to Sudan and other upstream countries, the existence of planned water measures and failed to provide affordable information on the technical features of the project. Notwithstanding *i)* the absence of an obligation for prior consent under customary law; *ii)* the absence of an obligation for concluding agreements; and *iii)* the absence of the right to veto power with regard to activities conducted by other basin countries; Ethiopia has however failed in its duty to cooperate by keeping secret a project which would certainly impact over the interests of the Nile downstream states: whether this impact would be adverse or positive, significant or moderate, has still to be asserted.

Therefore, among other reasons Egypt claims that the implementation of the GERD project is unlawful since its planning was not notified to the other riparian countries until its official public launch in April 2011. On the other hand, Ethiopia believes the project won't have any significant adverse impact downstream: in this case, even if the parties were members of the UNWC (and they are not), Ethiopia could claim that it wouldn't be under the duty to notify envisaged in UNWC Art. 12, since the planned measure is unlikely to adversely impact the other riparian states.

Since no water agreements are in force between Egypt and Ethiopia and neither of them is party to the UNWC, the two contenders have no legal options than to agree upon the terms of consultation and negotiation, or to resort to a third party or to an independent external tribunal (like the ICJ) in order to solve their dispute. Otherwise, the procedure for dispute settlement under the UNWC would foresee the following *a-f* steps (see

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Figure 30 below for a schematic presentation of the procedures regarding planned measures under the UNWC):

- a. In absence of a timely notification by Ethiopia before the implementation of the project, under UNWC Art. 18 Egypt may request Ethiopia to apply the provisions of UNWC Art. 12 (that is to provide “available technical data and information, including the results of any environmental impact assessment”). This request shall however be based on “reasonable grounds” and supported by a “documented explanation”.
- b. If Egypt complies with the above dispositions, Ethiopia could either *i*) agree with Egypt’s claims and “take all appropriate measures, [...] to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation” (UNWC Art. 7.2) in order to settle the dispute; or *ii*) reject the Egyptian request on the ground that it is not “under an obligation to provide a notification under article 12”, supporting its findings with a “documented explanation” (UNWC Art.18). The emphasis on “appropriate measures” is also reminded in UNWC Art. 27, whereby riparian states are obliged “individually and, where appropriate, jointly”, to act in order to “prevent or mitigate conditions related to an international watercourse that may be harmful to other watercourse States”.
- c. In case Egypt finds unsatisfactory the reply of the Ethiopians, it could request Ethiopia to “promptly enter into consultations and negotiations” (UNWC Art. 18). The process of consultation and negotiations should be conducted “with a view to arriving at an equitable resolution of the situation” (UNWC Art. 17.1) and in “good faith pay[ing] reasonable regard to the rights and legitimate interests of the other State” (UNWC Art. 17.2). During the course of consultation and negotiation, Ethiopia should “refrain from implementing” the construction of the GERD for a period “up to six months” (UNWC Art. 17.3 and Art. 18).¹¹³
- d. Under the principle of the duty to cooperate and the obligation to seek for an “equitable solution” of the dispute (UNWC Art. 33) in the “spirit of cooperation” (UNWC Art. 6.2), Egypt and Ethiopia might be able to reach an agreement and settle their dispute. In this case, the two parties would likely discuss measures to accommodate their competing interests, and it’s not excluded that Ethiopia would negotiate measures aimed at eliminating or mitigating the downstream impact of the GERD or at compensating (UNWC Art. 7.2) Egypt for the presumed harm caused.

¹¹³ As per the Commentary to UNWC art. 17.1, the suspension of the planned measure would seem “reasonable” in ottemperance to the “concept of good faith” (Rieu-Clarke et al., 2012)

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- e. In case however the process of negotiation resulted unsuccessful, Ethiopia and Egypt could resort to “the good offices of, or request mediation or conciliation by, a third party” or the NBI, or finally “submit the dispute to arbitration or to the International Court of Justice” (UNWC Art. 33.2).
- f. If “after six months from the time of the request for negotiations” Egypt and Ethiopia “have not been able to settle their dispute” as per e), they shall establish an “impartial fact-finding” (UNWC Art. 33.3) Commission, composed by a member for each party concerned and in addition an external one (UNWC Art. 33.4), which “shall determine its own procedures” for the dispute settlement.

6.4.2 Application of the Watercourse Convention to the Nile dispute

The application of the UNWC obligations to the dispute concerning the GERD project implementation would foresee the above *a-f* procedural steps; if Ethiopia and Egypt, despite their abstention to the UNWC, would anyhow consider the Convention as a legal instrument codifying customary IL and therefore decide to comply with its provisions in absence of an otherwise treaty on the Nile, the theoretical application of the UNWC obligations in terms of dispute settlement should be assessed on the ground of the following empirical factors related to the *a-f* procedure illustrated above:

- a. Concerning the duty of timely notification, Egypt claims that Ethiopia failed to disclose prior information and provide available technical data and information, including the results of any environmental impact assessment, at an early stage before the implementation of the GERD. Besides this, Ethiopia could reasonably be accused of not having complied with the general duty to cooperate, since it has not shared any relevant data or information concerning the development of water infrastructures on the Blue Nile with Egypt. Indeed, during the public disclosure of the project on the 2nd of April 2011, Ethiopian PM Zenawi notified “the official commencement of the construction of the Millennium Hydro-electric Nile Dam” (Zenawi, 2011), and no information was disclosed to Egypt previously.¹¹⁴ It could be therefore deducted that this would be the case for applying the dispositions of UNWC Art. 18 (Procedures in the absence of notification), if Egypt believes that the GERD may have a significant adverse impact on its

¹¹⁴ According to Malone (2011): “Ethiopia did not inform Egypt it planned to build a huge dam on the Nile [...]. That is what the Ethiopian Minister of Water said when they asked if Ethiopia officially informed Egypt prior to the project’s commencement, he answered ‘No’. They found out from the media”.

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water security. On the other hand, Ethiopia would contest that the GERD won't adversely affect Egypt; rather, according to Ethiopian official statements, both Sudan and Egypt would benefit from its implementation. Indeed, in its "Dam-Speech" the Ethiopian PM Meles Zenawi declared:

"the benefits that will accrue from the Dam will by no means be restricted to Ethiopia. They will clearly extend to all neighbouring states, and particularly to the downstream Nile basin countries, to Sudan and Egypt. The Dam will greatly reduce the problems of silt and sediment that consistently affect dams in Egypt and Sudan. [...] The Millennium Dam will increase the amount of water resources available, reducing the wastage from evaporation. [...] This, in turn, should have the potential to amicably resolve the differences which currently exist among riparian states over the issue of equitable utilization of the resource of the Nile water. [...] In other words, the Millennium Dam will not only provide benefits to Ethiopia. It will also offer mutually beneficial opportunities to Sudan and to Egypt." (Zenawi, 2011)

Regardless of Ethiopian official statements, *i)* given the absence of a notification by the Ethiopian side; and *ii)* if Egypt believes the GERD could adversely affect its legitimate interest; therefore Egypt should provide a documented explanation in order to request Ethiopia to comply with UNWC Art. 12.

- b. Up to date, there is no proof of such an explanation being provided by Egypt. As a result, Ethiopia would be bound neither by the duty of notification nor by the obligation to reply to Egypt's request. Nevertheless, Ethiopia could be found guilty of having breached UNWC Art. 11 by failing to "exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures". Otherwise, if the case was that Egypt had complied with UNWC Art. 18, Ethiopia would be bound by the duty to reply to the request, either by *i)* coming to an agreement with Egypt on the measures to eliminate, mitigate or compensate the presumed harm caused; or *ii)* invalidating the Egyptian findings by providing a detailed explanation. As per the commentary to UNWC Art. 18, "it could well be the case [...] that the planning state concluded in 'good faith' that no such impacts would result" (Rieu-Clarke et al., 2012). Under scenario *i)*, given for granted that the unlikely case of Ethiopia giving up its national interest of completing the GERD project will not occur, the potential measures for mitigating the impact on Egypt would include also "modification to the initial plan [...], adjustment of other uses be-

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ing made by either of the states, or the provision by the notifying state of compensation (monetary or other) acceptable to the notified state” (Rieu-Clarke et al., 2012: Commentary to Art 17.1). Up to date, eventual proposals of mitigation have not been disclosed to the public, and maybe they have not been discussed even. Finally, if Egypt and Ethiopia failed to come to an agreed solution, they would enter into consultation, and if necessary negotiation.

- c. The failure to come to a shared agreement would therefore bind Egypt and Ethiopia to enter into consultation, if requested by one of them (Egypt more likely). The duty to cooperate would bind both countries to pay in good faith “reasonable regard to the rights and legitimate interests” of each other: what such rights and legitimate interests could be are disciplined by the principle of equitable and reasonable utilisation in a transboundary river and should be assessed by “balancing the needs and proposed uses of each riparian state” (Rieu-Clarke et al., 2012: Commentary to Art 5.1). Here, the qualifying term *legitimate* “is used in order to limit the scope of ‘interests’” (Rieu-Clarke et al., 2012: Commentary to Art 17.1), which could otherwise be conceived in such broader terms as to provoke a permanent stalling of the consultation process. The legitimate interests of the contending states have to be assessed in a holistic way¹¹⁵ “taking into account all relevant factors and circumstances” (UNWC Art. 6.1). UNWC Art. 6.1 illustrates some of the most relevant factors to be included in the analysis: among others, natural (geographic, climatic, hydrological) factors, social and economic needs, population growth, the likely impact of a specific use over the other riparian states, existing and potential uses, protection and conservation, the availability of potential alternatives to a specific planned or existing use.

Despite their relevance, the main points of controversy between Ethiopia and Egypt are not related to natural, social or economic factors: rather, it is the significance of the dichotomy between potential and existing uses (and the search for alternatives) that seems to play a greater role in relative terms. According to the Egyptian position, the threshold of current uses in the country cannot be negatively affected, since it is a water scarce territory whose economy mainly depends on such existing uses of the Nile waters.¹¹⁶ Moreover, the emphasis over the historically acquired rights of water utilisation indicates that for Egypt the principle of prior use needs to be safeguarded in order to protect a social and economic system, which have been substantially shaped and regulated by the course of the Nile River. Egypt is insisting on existing rather than potential uses, even if the outcomes of analyses on future climatic scenarios could support its requests for

¹¹⁵ UNWC Art. 6.3: “In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole”.

¹¹⁶ See Chapter 5 and Chapter 7.

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increasing the water availability for its population; nevertheless, by basing its justifications on the ground of future potential needs, Egypt would indirectly recognize the legitimacy of the requests of the other riparian states, which, Ethiopia in primis, support their demands on the basis of increasing future water needs. Thus, even if in the long-term this strategy could result counterproductive for the very needs of the country in the likelihood of future scenarios, Egypt has strongly advocated for the inviolability of existing quotas and uses: probably, a shift towards the recognition of the legitimacy of the claims over potential uses could in last instance provides Egypt with more leverage in the negotiations concerning allocation and uses, since the Egyptians' future needs would be impartially assessed together with the other basin states' needs. Egypt fears that, given the trends of population growth in upstream countries, the assessment of the future water needs would privilege those countries rather than Egypt; however, since an equitable and reasonable solution should consider other factors than population growth, it might likely be the case that the absence of relevant alternatives (in respect to upstream countries too) and analyses of economic performances could support the legitimacy of the Egyptian claims at the expenses of its upstream neighbours. Ethiopia, on the other hand, stresses the urgency to amend the existing uses, and challenges the legitimacy of presumed historical rights on the ground that potential future uses are the main factor to be considered: whether this conduct is to be referred to a genuine attempt towards the achievement of an equitable and reasonable utilisation of the Nile River waters (thus taking into account the future water needs of the Egyptians too), or if Ethiopia's position is only aimed at increasing its water share for opportunistic reasons is not clear: the shift in focus from "water sharing" to "sharing water benefits" seems to still have a long way to go.

The availability of potential alternatives to a specific planned or existing use is another issue to be taken into proper account when assessing the legitimate interests and rights of the riparian states. For both Egypt and Ethiopia this factor could substantially affect the process of negotiations by encouraging the former to improve its management policies (i.e. by improving performances from the demand side, applying more productive technologies, developing desalinization infrastructures or minimizing water losses), and the latter to find more sustainable alternatives to the GERD Project (i.e. by developing a system of micro-dams) and to rely more on other domestic basin rather than on the Nile sub-basins. Despite in the long-term it could facilitate a benefit-sharing solution, the search for alternatives impinges at present on both the national interests and expectations of both countries, and wouldn't accommodate the current requests of the competing parties.

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Finally, the UNWC Art. 17.3 and Art. 18 would allow Egypt to request Ethiopia to stop the implementation of the GERD project for a period up to 6 months while the negotiations are in progress. In the light of the principle of “good faith” the “negotiations should not suspend the implementation of the planned measures for longer than is deemed reasonable”, and the legislators found the period of six months as a reasonable term in order to finalize the negotiations and equally safeguard the interests of both the planning and the (allegedly) affected states (Rieu-Clarke et al., 2012: Commentary to UNWC Art. 17). Egypt has since the very beginning urged Ethiopia to halt the project, whereas Ethiopia has never considered this request and has followed with its implementation plan. In June 2013, Ethiopian Ambassador Dina Mufti asserted that “There is no internal or external force that could stop the dam project” (Mufti, in Tekle, 2013), and the Ethiopian officials have continuously labelled the growing requests from Egypt as illegitimate and arbitrary: in its 2013 response to a Report published by the GNB in Cairo, the Ethiopian GERD National Panel of Experts (NPoE) even stated that “advocating for any sort of intervention which in any form and manner strives to stop Ethiopia from tapping its hydropower potential is the highest form of ill-will toward our long suffering people and can rightfully be considered as a desire to keep Ethiopians in abject poverty” (NPoE, 2013).

- d. The GERD implementation has reached about 40% of its completion (in early 2015), and it seems very unlikely that the Ethiopian government would seriously consider the options of halting its construction (even temporarily), or substantially downsizing the project. However, in order to avoid resorting to an external tribunal for impartial judgement, Egypt and Ethiopia could concretize their willingness to come into an agreement in order to settle the dispute on their own. In this case the two contenders would be expected to discuss over the appropriate measures to eliminate/mitigate/compensate the presumed harm downstream (see point *b* above). To this regard it has to be stressed that despite the fact that Egypt’s privileged solution would be halting the GERD project, this represents in no case the only option available for settling the dispute. Ethiopia could concede measures of mitigation, i.e. by formally inviting Egypt in the management committee of the project or by guaranteeing the release of reasonable quantity of water during periods of increasing seasonal variability, and/or providing measures of compensation (in- or out-of kind, in- or out-of the basin, monetary or other) such as the signing of agreements for cheap crops and/or cheap energy trade, and so forth.

However, Ethiopia could also claim that the existing water uses represent an illegitimate privilege of Egypt and that the “refusal or unwillingness either to amend (i.e. reduce) the existing use or to enter into negotiations with a genuine view to achieve an equitable result

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may be interpreted as a breach of its international legal obligations” (Rieu-Clarke et al., 2012: Commentary to UNWC Art. 6). According to the 1929 PCIJ judgement on the River Oder case, an essential feature of the common legal right to a community of interest is the “exclusion of any preferential privilege of any one riparian state in relation to the others”: if Ethiopia proved that the Egyptians’ existing water uses represent a “preferential privilege” and that their focal claim is about an eventual reduction of the flows of the Nile downstream, then the negotiations over potential measures to be undertaken would be affected by the Ethiopians’ claim that not only such a reduction would not significantly impact on Egypt, but also that such outcome would balance an illegitimate privilege towards an equitable and reasonable use of the Nile River grounded on the re-allocation of its water share. Moreover, some Ethiopian sources even advocate that in case of amendment to the GERD project, Ethiopia and not Egypt would be in the right to request for compensation because of the economic losses (mainly in terms of hydroelectric power production) provoked by the downsizing of the project.

Finally, with respect to the issue of compensation, it is worth noting that despite the provisions of UNWC Art. 7(2), the UNWC encourages the parties “to enter into an agreement regarding sharing of information and technological know-how” as a “more promising way forward” in order to achieve “a coherent management of the river in the best possible way for both states” (Rieu-Clarke et al., 2012: Commentary to UNWC Art.7) rather than mere allocation or compensation mechanisms.

- e. The recourse to a third party (i.e. another State, or the NBI), to an external independent tribunal or to the ICJ as a last resort in order to settle the dispute over the GERD would likely encounter the opposition of both parties for opposing reasons: despite the fact that both Egypt and Ethiopia should agree on filing the case to an external arbitration tribunal (by a mutual consent that is not a likely outcome of the actual negotiations), and although they could respectively believe to hold sufficient grounded explanations for winning the court’s judgement, the fear of facing the “humiliation of defeat” (Girma, 2014) and being exposed to international frustration could constrain both Egypt and Ethiopia to file such a case to an external arbitration instrument. As the party that actually believes to be negatively impacted by the implementation of the GERD, Egypt could file a report to a third party, but it still believes to hold more leverage within its bilateral relations with Ethiopia rather than recurring to an external party: if the judgement was negative indeed, Egypt would lose the opportunity to negotiate advantageous mitigation/compensation measures with Ethiopia, besides the symbolic meaning of a defeat under the eyes of the international community in general, and of the other Nile states in

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particular. With regard to Ethiopia, its interest to recur to an external tribunal is obviously minimal, since in absence of a judgement Ethiopia could continue with the implementation of the GERD; moreover, a negative judgement would represent an enormous loss in economic terms (both actual –the costs incurred for the GERD project- and potential –the loss of revenues from the production of hydroelectric power), and also in symbolic terms (the ruin of international public image).

According to Kelly (1987), there are two main reasons that constrain the willingness of States to limit their sovereignty under an international adjudication: first, “significant international disputes have political as well as legal aspects”, as witnessed by the symbolic meaning of an eventual legal defeat, and as outlined throughout all this dissertation; secondly, principles and application of IL are disputed and States “are reluctant to risk committing themselves to judgments based upon principles they regard as incorrect”, as testified by the uncertainty on the evolving principles of IWL, by the exceptional delays in the ratification of the UNWC, and by the competing legal interpretations between Egypt and Ethiopia.¹¹⁷ Up to date indeed, no practical steps have been made either by Egypt or Ethiopia to recur to external arbitration. Nevertheless, the general perception in Egypt is that they would have “a strong case if [they] were to go to the ICJ” (Sharaf, 2013), whereas the Ethiopians believe that recurring to the ICJ “should never be allowed to happen in the Nile case” (Girma, 2014). In June 2013 Major General Ahmad Abdul Halim stated that “as a last resort, Egypt could present its case to the International Court of Justice, the Security Council, and the International Criminal Court” (Sharaf, 2013), and in 2014 the Specialized National Councils in Egypt submitted to the presidency a report about referring the GERD issue to the ICJ (Hussein, 2014b). On the other hand, some Ethiopian sources recommend Ethiopia to “decline any request to submit disputes to a compulsory dispute settlement forum especially to the International Court of Justice” on the ground that “the substantive law in the area [...] is inadequate and Ethiopia must not commit itself to adjudication” (Girma, 2014). Nevertheless, ICJ’s capacity to enforce provisional measures is still weak, so the likelihood of a definitive settlement of the Nile dispute under its jurisdiction would not be certain. Nevertheless, an ICJ’s judgement would represent a comprehensive fact-based assessment able to substantially influence the legal interpretation of the current dispute.

¹¹⁷ An Ethiopian source reinforced this concept stating that “This uncertainty of legal principles will create an element of unpredictability and discretion in interpretation of key principles”, and that Ethiopia should find other means “rather than facing the Humiliation of defeat participating in adjudication in an area of law where the legal principles are inadequate, lack settled jurisprudence and certainty” (Girma, 2014).

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- f. The last UNWC provisions in term of dispute settlement would foresee the establishment of a fact-finding Commission with its own procedures: despite Egypt and Ethiopia have not followed the dispositions of the UNWC in order to settle their dispute, the invitation made to Sudan and Egypt by the Ethiopian Government in 2011¹¹⁸ to establish an International Panel of Experts (IPoE) in order to study the effects of the GERD, could resemble the constitution of a fact-finding Commission. The mandate of the IPoE was to “review the design documents of the GERD, provide transparent information sharing” in order to “solicit understanding of the benefits and costs accrued to the three countries and impacts if any of the GERD on the two downstream countries” (IPoE, 2013). Although the mandate of the IPoE only foresaw an assessment study based exclusively on Ethiopian national documents, and despite it moreover didn't include any provision on the matter of dispute-settlement, it could be considered as a first concrete attempt towards, if not the solving of the dispute, at least a more transparent data sharing process and fact-based assessment over the potential impact of the GERD over downstream Nile riparian states. Since the release of the IPoE Final Report, despite the opposed interpretations of its findings by Egypt and Ethiopia,¹¹⁹ the three riparian states regularly run tripartite meetings in order to achieve a shared agreement.

In June 2014 during the 23rd AU Summit in Malabo (Equatorial Guinea), Ethiopian PM Desalegn and Egyptian President al-Sisi released a joint statement where they affirmed their commitment to settle the Nile dispute according to the principles of cooperation, mutual respect and good neighbourhood. In particular, they agreed “to implement the recommendations of the international panel of experts (IPOE), and to respect the outcomes of the joint technical studies recommended in the (IPOE) final report throughout the implementation phases of the project” (Point n.4). To this regard, the three governments agreed to outsource the implementation of IPoE Final Report's recommendations to an external company selected through

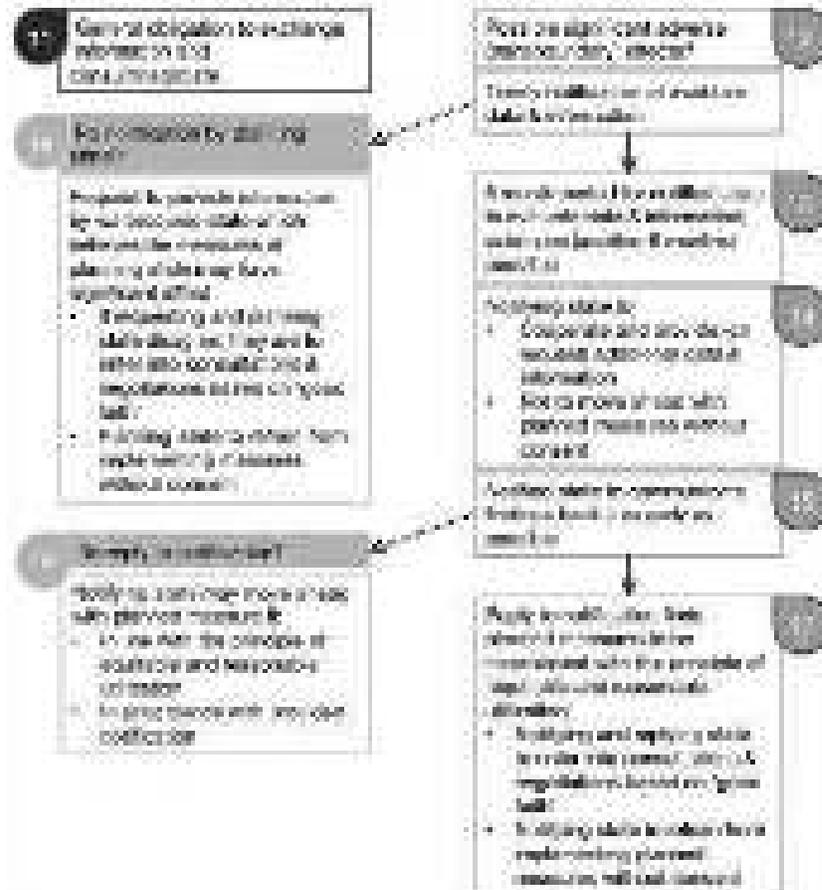
¹¹⁸ The three governments nominated two national experts in Dec. 2011, while the four international experts were appointed in March 2012. The IPoE started its investigations in May 2012 and their Final Report was submitted on the 31st of May 2013. It was disclosed to the public in March 2014 by International River Network (IRN), which globally shared a leaked copy of the report.

¹¹⁹ According to the Ethiopian Ministry of Water and Energy, “The IPoE Final Report has reconfirmed Ethiopian assertion that the design and construction of the Grand Ethiopian Renaissance Dam is based on international design criteria and standards, codes, guidelines and engineering practices. The IPOE has also shown that the GERDP does not have significant impact on the downstream countries and in fact will provide huge benefits to all the three riparian countries, namely Egypt, Ethiopia and Sudan” (GoE, 2014). On the contrary, the Egyptian government replied that “the environmental and socioeconomic report fails to address the impacts on the downstream countries”, and that national assessments “provide strong grounds to believe that the GERDP would cause appreciable harm, including material environmental and socioeconomic harm to Egypt” (GoARE, 2014).

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an international tender announcement: nevertheless, the selection process was slowed down by disagreements among the parties, and only in March 2015 the hiring of the international consultant was finalised.

Figure 30: UNWC Planned Measures



Source: Rieu-Clarke et al. (2012)

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Chapter 7. Imagining the Nile: Competing Narratives and Water Discourses

This section addresses the main issues of the Nile water dispute from the analysis of discourse formation and construction of water narratives. It is argued that the dimension of ideational power is crucial for the definition of the hydropolitical relationships in the Nile Basin. In particular, the deliberate construction of certain narratives that promote one riparian's national interests at the expense of others' is a strategic resource that has been included in both hydro-hegemonic tactics and counter-hegemonic moves. The competing water imaginaries that will emerge from the analysis are critically assessed in order to unveil the processes that have forged them, while silencing alternative views at the same time. The dynamics that drive such processes in the intra-basin relationships are assessed in terms of securitisation of water issues, in order to provide empirical evidence of the theoretical theses advanced in Chapter 3. After an introduction of the theoretical underpinnings of the analysis (Ch. 7.1 and Ch. 7.2), the core discussion evolves around the water narratives developed by the main contenders over paradigms of utilisation of the Nile waters, Egypt and Ethiopia: section 7.3 explores the historic evolution of the regional hegemonic discourse over the control of the Nile, and section 7.4 describes the emergence of counter-narratives over the utilisation of the river flows. Finally, the concluding remarks investigate over the impact of securitisation processes on the outcomes of the Nile waters dispute, and on the opportunities for de-securitising moves that could foster intra-basin integration.

7.1 Regional and domestic dimensions of water disputes in the Nile River Basin

The current dispute over the management of the Nile River flows is rooted in the evolving historical patterns of relationships among the basin countries. Regional and international power plays, competing economic paradigms, cultural and social dynamics, narratives and imaginaries, diverging perceptions on developmental recipes are, among others, pivotal factors that have contributed in shaping the current hydropolitical environment in the Nile basin. Since most of the Literature on the Nile water-related conflicts focuses on inter-state conflictive relations, the intra-state domestic dimensions of the actors involved have not been paid considerable attention. Rather, the mainstream literature has consistently dealt with static national interests and issues of *high* politics (often given for granted), while at the same time denying the relevance of the sub-basin dynamics and the centrality of the so-called *low* politics in forging foreign policies with regard to the Nile waters management. The convergence of water management and water conflict perspectives provides evidence of the diffusion of such approach in the hydropolitical literature.

Engaging with post-structuralist approaches as theoretical instruments in order to address the processes that forge the current Nile hydropolitics on an empirical ground, this section holds a two-fold analytical purpose: first, it aims at identifying and de-constructing the main competing narratives around the Nile dispute, in particular with regard to the on-going confrontation between Egypt and Ethiopia; secondly, the analysis will investigate how the domestic social dynamics have not only been shaped by the regional politics, but have had in turn a prominent role in influencing the national narratives that the States project outwards.

Diffuse processes of securitization of the water issues in the Nile basin have contributed to the de-politicisation of hydro-diplomacy: either by an emphasis over security concerns or by the closure of political spaces under the undisputed paradigm of national interests, the threat of water scarcity has been manipulated by the authorities in order to serve certain purposes and disregard other actors' interests. The pragmatic move towards the construction and diffusion of apocalyptic narratives over the Nile waters (securitisation) has hidden and delegitimised potential alternatives to the mainstream governmental discourses (de-politicisation): the artificially-constructed and pretentiously unifying narratives that both Egypt and Ethiopia have implied to ideationally challenge each others will provide the empirical ground for such assessment.

The emerging of some narratives at the expenses of other alternative views influence policy outcomes, political relationships and social imagi-

naries, as well as the ways in which potential or current disputes are interpreted and settled: after some theoretical remarks over the construction of discursive practices and the significance of prioritization of risk in water-related issues (ch. 7.2), the following chapters will attempt to shade some light upon the regional dimensions of water security discursive formation in the Nile Basin (ch. 7.3), and the national dynamics of competition among water narratives in Ethiopia (ch. 7.4), in order to identify the processes of securitization of water-issues, and ultimately explore how the narration of water-related conflicts may affect both their interpretation and their outcomes.

7.2 Discursive constructions and security perceptions

The complexity of water policy making is exemplified by the dynamic evolution of the narratives that forge and support specific water paradigms and socio-cultural imaginaries, while at the same time excluding or marginalising alternative views. This is particularly relevant with regard to the hydro-politics of the Nile basin, both in terms of scales and outcomes, since the water-related disputes in this region do not solely rely on technical issues, but generate from the dichotomy of competing imaginaries, perspectives and perceptions of (in)security.

Allan (2004) highlights how the very process of policy making is "subject to the perceptions of, and the prioritization of risk", which qualifies the definition of spatial-specific water security as well as the identification of water-related threats and opportunities. Perceptions, however, are not given for granted nor have a static nature, and arise from the interpretation of practices, political imperatives and social values: thus, narratives provide "the vital hermeneutic which links definitions and practices, meaning and action" (Coskun, 2009) and are fundamentally context-specific.

In order to detect and analyse the content of narratives, it is pivotal to study the nexus between their constructed definition and *securitizing* moves, either explicit or subtler. According to Buzan et al. (1998), securitization implies the deliberate construction and delivery of a speech act by a specific actor (securitizing actor) over a perceived threat in relation to a certain issue (referent object): the core of securitization processes/securitizing moves is thus a discursive process through which an issue (i.e. water security) is defined as "existentially threatened" (i.e. by domestic or exogenous factors) whereby "extraordinary measures" are deemed necessary in order to deal with that threat. This process relies on semiotic and rhetorical structures that make the referent object dramatized and prioritized in the political agenda, while at the same time it induces compliance from the general audience (i.e. the national population) through the labelling of it as a "urgent" matter of "national security". When accomplished, this process of securitisation succeeds in *a)* setting the political agenda; *b)* marginalising other issues from the public debate; *c)*

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spreading one-dimensional views among the audience; d) excluding alternative perspectives; e) secreting relevant data and info; f) legitimising the adoption of non-conventional, non-debatable and sometimes rule-breaking extraordinary countermeasures.

The analysis of discursive practices and securitizing moves enables the understanding of how and why some narratives are selected and institutionalized among the many that circulate, as well as the identification of the relevant actors who succeed in managing the process to the stage where imaginaries and discourses are "embodied in a structurally coherent set of social relations [that give them] their performative, constitutive force in the material world" (Jessop and Sum, 2006). The framing of such narratives responds to given sets of interests and claims, which reflect the nature and objectives supported by actors who are relatively more powerful within the web of political relationships, economic linkages and sociocultural values that identify a specific community or a social constituency, in the end a nation. At the same time, the relational feature of security does not allow the analysts to separate the national security of a given state "from the international patterns of security interdependence to which it belongs" (Turton, 2001): thus, in order to account for in-depth understandings of discursive practices, narrative constructions and securitizing moves, it is necessary to conduct a comprehensive multi-level assessment over the sub-national, the domestic, the regional and the international levels. Such an assessment will provide the researchers with inter-related features of rhetorical and semiotic structures through which the process of discourse formation occurs, and will ultimately allow them to identify the "discourse coalitions" (Hajer, 2009) that support given narratives in the political arena.¹²⁰

7.3 Regional dimensions of the Nile dispute: Egyptian and Ethiopian water narratives

The narratives around the historical, poetic, religious (and ultimately symbolic) meanings of the river Nile are rich and explanatory in both Ethiopia and Egypt, and the current confrontation among the two states does not solely represent an inter-governmental dispute, but rather a contention of ideational nature that involves popular imaginaries as well as issues of national identity formation.

According to Shitie (2012), the historical Nile-related narratives in the two countries could be epitomized by the representation of sentiments of Egyptian "Glorification" vis-à-vis Ethiopian "Resentment" towards the river: whereas the Egyptians have always celebrated the Nile as physical and

¹²⁰ According to Hajer (2009), a "storyline" is a condensed sort of narrative that links an event to one or more discourses and thus provides the basis of "discourse coalitions", which are ensembles of particular storylines and the actors that employ them.

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spiritual founder of their ancient and modern civilizations, the Ethiopians have mostly addressed it with mixed emotions of "lamentation, anger and sorrow" (Shitie, 2012). For the Ethiopians, the Abay river¹²¹ has been regarded for centuries "as a traitor that steals over a half-million tons of fertile soil, cuts deep into the earth and obstructs communications, and then dumps water uselessly in a distant land (...) leaving Ethiopians to die of thirst" (Bairu Tafla, in Arsano, 2007). To this regard, the recent hydraulic mission developed by the Ethiopian government can be assessed not (or not only) in terms of a sort of revenge over the Egyptian historical quasi-monopoly over the Nile waters, but rather as revenge over the river itself: following centuries where the river's fate has been that of "killing and healing at the same time" (Shitie, 2012), the Ethiopians are now riding the wave of national water development as a pragmatic opportunity to reconcile themselves with the often cursed river.

7.3.1 The glorification of the Nile

The belief of Egypt being a "gift of the Nile" is not only due to Herodotus' famous enunciation of "a land won by the Egyptians and given them by the Nile", but according to some sources it also derives from the very name of the river itself: Woldeghiorgis (2001 E.C., in Shitie, 2012) states that the word Nile descends from the Arabic "nel", literally "gift to others" and therefore transliterated into "Nile is a gift from God". The historical meanings associated with the Nile River have been incorporated throughout the centuries into the cultural imaginaries of the Egyptians, and renovated within the national narratives in modern times.

According to Cascão (2009), the traditional values attached to the Nile have inspired policy-making and discursive formation in modern Egypt in three key-domains, namely sanctioned knowledge, sanctioned discourse on *prior use* and securitisation process.¹²² First, the priority given in the national political agenda to water management (World Bank, 2007) has progressively given Egypt the regional supremacy in terms of expertise, water institutions and multilateral funding, which have allowed the downstream state to take advantage of the capacity gap with its upstream neighbours in order to "sanction existing knowledge, numbers, data and information concerning the Nile waters, and [to oppose] any alternative numbers, information and models" (Cascão 2009: 145). Second, the historical grievance over its "acquired rights" of prior use of the Nile waters has become a non-debatable issue for the Egyptians in order to counter any modification of the *status quo* concerning the utilisation of the Nile flows: indeed, despite growing claims by upstream states with regard to the amendment of water allocations,¹²³ the Egyptians claim that they "will not let go one drop of water" (Abdel-Moteleb, Egyptian Irrigation Minister, in Davison and Feteha, 2014).

¹²¹ The name of the Blue Nile in Ethiopia

¹²² On the conception of "sanctioned discourses" see Allan (2001), Tripp (1996), Zeitoun and Warner (2006)

¹²³ In particular, the 1929 and 1959 Nile agreements.

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Finally, by succeeding in addressing the Nile issue as a top national security priority, Egypt has defined any potential challenge to its "acquired rights" as an existential threat to its water security, thus marginalising any possible alternative to the mainstream governmental discourse from the political agenda.

Evidences of such political commitment to the preservation of the *status quo* and of the emphasis in dictating its "self-reproducing discourse" (Cascão, 2009) are explicitly disclosed in a multitude of official statements, speeches and reports from successive Egyptian governments: from Nasser¹²⁴ to Sadat,¹²⁵ from Mubarak¹²⁶ to Morsi,¹²⁷ the reiterated narrative over the management of the Nile waters has stressed the Egyptian dependency on the Nile waters (i.e. the Nile as lifeblood of Egypt), the alleged right of quasi-monopoly over their utilisation, together with a patriotic sentiment of defensive nationalism against any potential challenge to the highly water insecure country.

One symbolic project of such governmental narrative is certainly the High Aswan Dam, which rapidly became the token image of the Egyptian hydraulic imperative, as well as of its growing role as international power, thus transcending the water-sphere *per se*. The project of the mega-dam over the Nile attains a symbolic feature far beyond mere technical benefits: first, it had been used by the Egyptian government in order to raise domestic consensus and unify the country around the image of the "hydraulic imperative" as trigger for development; secondly it represented a powerful tool to increase the role of Egypt as regional superpower, through a deliberate move to claim once more their ownership over the Nile waters and to show that Egypt was the only country with the capacity to develop such huge infrastructures; and third, it represented the willingness of Egypt to show the world its rapid evolution through the building of a modern and highly developed state (Waterbury, 1979). All these reasons made the Aswan High Dam a top project in the governmental agenda, and most importantly allowed it to be presented as a "national security" priority: the

¹²⁴ Nasser deliberately excluded Ethiopia from both the 1959 Nile agreement with Sudan and from the planning of the High Aswan Dam

¹²⁵ In 1978, Egyptian President Anwar Sadat said: "We depend upon the Nile 100 per cent in our life, so if anyone at any moment thinks to deprive us of our life we shall never hesitate (to go to war) because it is a matter of life or death." One year later he reiterated, "The only matter that could take Egypt to war again is water."

¹²⁶ In 2010, while inaugurating the new Saft el-Laban corridor in Giza, President Mubarak assured that Nile water "will not extend beyond Egyptian borders" (Cable 1454644, 2010). Moreover, a leaked communication from Stratfor security agency revealed that the same year Mubarak held talks with his counterpart al-Bashir for constructing a military basis in Sudan, from which attacks to Ethiopia would have been possible in case of escalating disputes over the Nile waters issue (Laforet, 2012).

¹²⁷ "Egypt's water security cannot be violated at all," President Morsi said in 2013, and continued: "As president of the state, I confirm to you that all options are open" (Egyptian warning over Ethiopia Nile dam, 2013)

rhetoric around the dam¹²⁸ strengthened the process of de-politicisation of the water issue in general, and of the use of the Nile river in particular, sequestering data and info over the specifics of the project and silencing critical concerns and alternative voices (Caine, 2010).

7.3.2 The resentment towards the Nile

There is a direct linkage in Ethiopia between the governmental rhetoric and the popular narratives built over the imaginaries associated with the Nile river: the development of hydraulic infrastructures for exploiting the water potential of the river is currently deemed necessary not only for the associated benefits with increased water supply and poverty reduction, but most importantly for the symbolic meanings attached to a general sentiment of nationalistic pride, expectations of a brighter future and widespread patriotism.

Undeniably, the massive Grand Ethiopian Renaissance Dam (GERD) project on the Blue Nile is not accidentally named after the word *Renaissance*: it is the most allegorical project to show not only the *grandeur* of the Ethiopian government, but it also represents the expectation for the very beginning of a new Ethiopian Renaissance that will push the country to the goal of reaching the middle-income status by the next decade. Indeed, the GERD has rapidly attained the status of a "flagship project of the government and people of Ethiopia" (GoE, 2014a), which "like the Adwa victory (...) will be venerated for generations" (S. Bekele, GERD Project Manager, in "Like the Adwa victory, the Great Ethiopian Renaissance Dam (GERD) will be venerated for generations", 2013). Some scholars point out how this narrative works as a rhetorical manipulation of popular beliefs by the ruling government in order to gain broader domestic consensus and divert the public attention from other controversial political issues; others instead believe that the government has been successful in channelling the aspirations of the Ethiopians and able in transforming them into political guidelines and actual policies, developing a long-term vision on the strategic development of water resources.

Some elements that arise from the analysis of the Ethiopian literature indicate how the relationship between the Ethiopians and their most important river has been controversial (Shitie, 2012), and accordingly it may suggest that the long-lasting sentiment of revenge against the river (and Egypt) has been ultimately incarnated by the current government and by his ability of conveying it towards an effective and comprehensive national water policy; at the same time however, the reiterated rhetorical political arguments spurred by the government, and in particular by former PM

¹²⁸ Caine (2010) reported that in 1967 the UAR stated that "The High Dam's major value lies in that it represents the determination and free will of a nation, looking forward in pride and dignity and insisting on translating into practical action the aspiration of the people for a better standard of living" (UAR 1967: 3). And Waterbury (1979: 108) described the dam as a "symbol of Egypt's will to resist imperialist endeavours to destroy the revolution".

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Meles Zenawi, could have played a consistent role in shaping popular beliefs and water imaginaries, to the extent that has succeeded in making the Ethiopians compliant with the governmental narratives over the Nile. It is not straightforward to assess what specific images have shaped others, but a deeper insights over the narratives emerged in current Ethiopia may help shading some light upon the main discourses that are used both at domestic and regional level in order to serve main national interests.

The GERD is presented by the Ethiopian government as the symbol of its commitment to the set up of a new regime in the Nile Basin, which will replace the historical mistrust and politics of unilateralism among the riparian states with a politics of cooperation, recognition of supra-national interests and mutual understanding. Indeed, the narrative related to the Nile hydropower development advanced by the Ethiopian government is completely the reverse of the Egyptian perspective: whereas for the latter the GERD represents a serious threat not only to the water security of downstream countries but also to the improvement of cooperative efforts within the basin, for the Ethiopians the GERD is the first infrastructure on the river that will allow to spread benefits outside the territoriality of a single country: in other words, it's "a dam of mega benefits" (Zenawi, 2011b). This discourse has been specifically addressed since the very launch of the project by the former Ethiopian PM Meles Zenawi, who clearly argued that "the benefits that will accrue from the Dam will by no means be restricted to Ethiopia. They will clearly extend to all neighbouring states, and particularly to the downstream Nile basin countries, to Sudan and Egypt." (*ibid.*).

According to official documents and speeches, the main discourse advanced by the Ethiopians is aimed at supplanting the hydro-hegemonic regime built by Egypt (where any challenge to the status quo has been prevented by the position gained by the downstream country both at regional and international level) with a new hydropolitics of shared governance, win-win solutions and enjoyment of benefits for all the basin states. The zero-sum game that has been played for decades is challenged by Ethiopia with the paradigmatic principle of "equitable and reasonable utilisation" of transboundary water resources such as the Nile River.

The Ethiopians not only contend the quotas granted to the downstream countries by previous agreements, but state that the revision of such agreement in favour of the upstream countries will be beneficial for the overall management of the Nile waters: a new hydro-mentality is thus believed to benefit not only Ethiopia, but all the riparian states as a de-facto regime (Seide, 2015). Alemayehu Tegen, former Ethiopian Minister of Water, Energy and Irrigation, stressed the fact that the hydropower project on the Blue Nile "does not impact on Egypt in a negative way", and

stated that "[i]f Egypt continues with the old mentality, they may not support this dam. If they change their mind and follow a win-win approach, I think they will" (Tegenu, in Malone, 2011), thus challenging Egypt on the ground of shared interests and cooperative engagement.

Illustrating the benefits that will accrue from the dam to the neighbour states ("Egypt and Sudan will be benefited from clean energy generated by the plant and will also reduce the accumulation of sedimentation on lower riparian countries", said the Ethiopia's foreign ministry spokesperson, Ambassador Dina Mufti, in Tekle 2013), the Ethiopian government is willing to show how the GERD is a "win-win undertaking" (NPoE, 2013) rather than a deliberate unilateral self-interested move, as per the Egyptian counter-discourse. The Ethiopians keep saying that the GERD is not intended to harm the water security downstream ("We have no reason to make the Egyptians feel insecure", said current Ethiopian PM Desalegn Hailemariam, in "Relations have improved since El-Sisi came to power: Ethiopian PM", 2015), and that all the assessments confirm that the water flows will not diminish: according to the Ethiopian interpretation of the data and information available, there is no intention to threaten Egypt since "the facts speak for themselves!" (NPoE, 2013).

7.4 Domestic dimensions of water conflict: the Ethiopian narrative of the hydraulic imperative

The hydraulic mission undertaken by the Ethiopian government in the last decades has raised concerns not only at regional level among the Nile basin states, but also at domestic level, in particular between the supporters of the national developmental agenda and civil society groups. The development of large-scale hydraulic infrastructures such as huge dams and hydropower stations has substantially affected the existing social and natural ecosystems of the country, and has spurred intense debates over the trade-off between expected benefits and likely negative externalities.

In particular, there are two main programmes that have received increasing consideration by experts and the academic community: the multi-stage Gibe projects in the Lower Omo Valley (in the south-west of Southern Nations, Nationalities and People's Region), and the GERD project in the Benishangul-Gumuz Region. Both projects foresee the construction of big dams on two of the major rivers of the country, the Omo river and the Abbay (Blue Nile) river respectively, in order to exploit the hydropower potential of the water flows: however, whereas the GERD is aimed at the generation of hydroelectric power only, the Gibe programme is also intended to expand the irrigation potential of the valley, beyond hydropower production. Once completed, the GERD is expected to provide the country with about 6,000 MW of energy production, while the Gibe an overall of about 4,600 MW (184 from Gibe I; 420 MW from Gibe II; 1,870 MW from

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Gibe III; 1,470 MW from Gibe IV; 660 MW from Gibe V)¹²⁹ combined with a potential expansion of irrigated land of more than 200,000 ha (Avery, 2013).

7.4.1 Development first, democracy last?

The implementation of these hydraulic projects has on the one hand contributed in attracting capitals, injecting enthusiasm for benefits expectations, and in consolidating the federal government; however, on the other side it has also carried allegations of denied consultations with affected populations, forced displacement and violations of indigenous' rights. In particular, the Gibe projects in the Omo Valley have drawn the widespread attention of international organizations and civil society networks, who have repeatedly accused the Ethiopian government of downplaying the interests and needs of local populations to the advantage of big corporations involved in the agricultural development of large-scale farms for export-production: international campaigns and critical reports have contributed in the last years to raise concerns over the hydraulic imperative advanced by the federal government, which has strongly defended its political vision and rejected any accusation. In a similar way, but in a somehow less intense confrontation, civil society groups have also criticized the water policy programme for the advancement of the GERD project, and concerns over both the environmental and social impacts of the project have been turned down through official responses by the governmental apparatus.

Figures 31-32: Location and rendering of the Gibe III project



Source: Vidal (2014)



Source: EEPKO website¹³⁰

Concerning the Gibe programme, in particular with regard to development of the Gibe III, major concerns have been raised in relation to environmental impacts (the modification of the Ethiopian ecosystems and the transboundary impact over the Lake Turkana in northern Kenya), economic impacts over local livelihoods (the modification of the subsistence system of pastoralist clusters in the region), social impacts over the indigenous lifestyle (in particular with reference to forced displacements and

¹²⁹ Data collected from the Ethiopian Ministry of Water Resources (www.mowr.gov.et)

¹³⁰ Retrieved from <http://www.eepko.gov.et/abouttheproject.php?pid=2&pcatid=2>

Chapter 7. Imagining the Nile: Competing Narratives and Water Discourses

resettlements) and impacts over the right of self-determination and preservation of local cultures (with reference to the top-down approach implied by the Federal government and the absence of fair and consistent consultations with the local authorities). Survival International in 2015 reported that the local tribes in the Lower Omo Valley were not involved in participatory consultations, neither by the Federal government nor by the regional authorities. Moreover, according to the organization, which claims to represent "the global movement for tribal peoples' rights",¹³¹ the implementation of the hydraulic projects substantially impacts over the river-based livelihoods of pastoralist populations, and provokes the forced resettlement of the Omo tribes in order to expand the sugar plantations planned by state-owned companies and international agribusiness corporations. These allegations were firmly rejected by the Ethiopian government, which stated that the Gibe project "will not displace even a single person" (Mebratu Teshome, Gibe III Project Coordinator in "Gilgel Gibe III to Start Power Generation in Ethiopian Rainy Season", 2015), and that the national Villagization programme¹³² was never implemented without the consent of the targeted people (Ethiopian PM Hailemariam Dessalegn, in "Villagization cannot be carried out without voluntarism: Premier", 2015).

However, these accusations against the Ethiopian government were brought to the African Commission on Human and Peoples' Rights (ACHPR) addressing the potential human rights violations of the indigenous peoples of the Lower Omo (Communication 419/12): in 2013 the Commission issued an Order against Ethiopia, requesting it "to adopt Provisional Measures to prevent irreparable harm" to the local populations, but "the State has not respected that Order" yet (ACHPR, 2013: 8). Human Rights Watch, Survival International, the International Rivers Network and the Oakland Institute have repeatedly reported violations by the government in the Omo valley, including cases of arbitrary arrests, intimidation, forcible evictions and repression by military forces,¹³³ which the government has always denied.

Unlike the Gibe programme, the GERD has not attracted such strong allegations of violations, except for the potential downstream environmental impacts and for the likely modification of the ecosystem of the area of the works. The International Rivers Network (2012) estimated that about 20,000 people will be displaced, and stated that major affected sectors will be traditional fishing and farming, due to the inundation of fertile lands currently exploited by local populations. With regard to displacement and resettlement programmes, the same organization reported that, while ef-

¹³¹ See the online page <http://www.survivalinternational.org/info>

¹³² National programme of resettlement of rural populations as part of the broader Provision of Basic Services (PBS) programme (see section 7.4.2 below for further details).

¹³³ See for example Survival International (2015), "Reports surface of 'massacre' of Hamar tribes people in Ethiopia", HRW (2012: 45-55), Hathaway (2008), The Oakland Institute (2013: 3-6).

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ffective consultations were not carried out, the affected villagers did not explicitly oppose the governmental plans. However, in 2012 opposition parties and local journalists reported over thousands of forced displacements in the region, and the Committee to Protect Journalists (CPJ) accused the government for the arbitrary detention of a local journalist who had reported about the victims of forced relocation ("Ethiopia holds reporter covering evictions in dam region", 2012).

Despite the former director-general of the Ethiopian Environmental Protection Authority (EPA) argued that the resettlement in this area is carried out with the consent of the locals and that compensation measures (i.e. monetary or in kind) have been planned in the interests of the displaced (E. Worldegebriel, ex-head of Ethiopian Environmental Protection Authority, in Huiyi Chen and A. Swain, 2014), it is worth considering that the majority of the people living on the banks of the Abbay river belong to the Gumuz and Berta communities. Indeed, these populations are poorly educated and greatly dependent on fisheries and forest resources, and it is unlikely that involuntary resettlements will be beneficial for their livelihoods: the modification of their subsistence system and the greater competition for jobs in more densely populated (and urbanized) areas are among the future challenges that Gumuz and Berta will face when the villagization plans will be accomplished (Chen and Swain, 2014).

Figure 33-34: Location and rendering of GERD project



Source: Veilleux (2014)

Source: IRN (2014)

7.4.2 Competing narratives over water utilisation in Ethiopia

The hydraulic mission promoted by the Ethiopian government entails the advancement of peculiar narratives that transcend the specificity of water management and engineering: rather, the discourses proudly advocated by members of the ruling party, local authorities and regional officers reveal a wider strategy of construction of national imaginaries, which ultimately serves the political and economic interests of the rulers. There are at least three typologies of narratives that can be detected within the water sector, emerging however from the broader political climate of

the evolving Ethiopian polity: the control over the peripheries, the civilisation of savages and the rhetoric of the developmental state.

a. *The control over the peripheries by a centralised state*

Ethiopia has a long tradition of statist interventionism, accentuated rather than constrained by the institutionalisation of the "ethnic federalism" in 1995 following the fall of the Derg totalitarian regime (Cohen, 1995). In this regard Turton (2006) argued that despite proclamations of delegation from the central authority, the devolution process to local-level governments lacks effectiveness and power asymmetries exist both among and within the regional states. According to some scholars (i.e. Fantini, 2014 and Verhoeven, 2013), the centralised state machinery operates in order to maintain control over the peripheries rather than to expand their administrative functions, thus pursuing the goal to "control the development process, select key beneficiaries and boost national prestige simultaneously" (Verhoeven, 2013). In this perspective, the national hydraulic imperative does not exclusively respond to the urgency for development of the overall management of water resources in the country, but represents a strategic tool for the expansion of the governmental apparatus towards peripheral territories that have historically been delinked from the centre (such as the Benishangul-Gumuz Region and the Omo Valley, where the GERD and the GIBE projects are respectively located). Indeed, the implementation of such huge infrastructural projects in marginal areas is part of a broader state-building strategy and responds to two main political objectives: the legitimisation of the developmental state's *modus operandi* through the control of the national means of production, and the concurrent prevention of the eventual "emergence of rival centres of power that are outside the regime's orbit" (Verhoeven, 2013).

b. *The civilisation of savages*

The history of Ethiopia's nation-building is rich in painful episodes of resettlement of populations living in marginal areas executed by the central authority (Pankhurst, 1997), and this tradition has been vigorously renovated since the early 2000s with the justification of promoting development and providing basic services that would have not been effective otherwise. In this context, the official goal of the massive Promoting Basic Services project (PBS) implemented by the Federal government since 2006 is to improve the overall wealth of the Ethiopian population in order to meet the United Nations' Millennium Development Goals (MDGs), in particular with regard to education, health and water indicators. The so-called Villagization programme, whose aim is to voluntarily relocate scattered rural populations to new-established urban areas where basic services are supposed to be more easily delivered, is an integral part of this political strategy, and it presumably involved up to 4 million people across 5 regions in the period 2010-13 (IDI, 2015). The government's reaction to the

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allegations of human rights violations raised over the PBS project¹³⁴ has been two-fold: on one hand, it has legitimated its behaviour with the justification of operating in the local populations' interests for development and poverty reduction, and on the other hand it has upheld its duty to civilize presumed backward realities. These narratives are clearly exemplified in a speech delivered in 2011 in South Omo during the celebrations for the annual Pastoralists' Day by former PM Meles Zenawi, who, in addressing the international concerns raised over the Gibe project, argued that " [t]hey just want to keep the pastoralists as a tourist attraction and make sure no development happens in pastoral areas", and clearly stated that "even though this area is known as backward in terms of civilization, it will become an example of rapid development ... [since] [w]e want our people to have a modern life and we won't allow our people to be a case study of ancient living for scientists and researchers" (Zenawi, 2011a).

c. The rhetoric of the developmental state

The vision of the Ethiopian government, brilliantly promoted by former PM Meles Zenawi, aims at securing a prosperous future for the country by fulfilling the ambitious plan of reaching the middle-income status by 2025. According to the World Bank (2013: xi), "[t]he current "big push" of public investment-led development has delivered very positive results", and has contributed to sustain a formidable economic growth, to adopt poverty-reduction strategies and to attract foreign investments. At the same time, these outcomes of the state interventionism have legitimated the political leadership of the ruling party to a level that it now "overlaps with state administration at all layers" (Fantini, 2014), tightening the linkages between the market and the state and gradually excluding competing alternative actors from the state-building process. Opposition voices and perspectives from the civil society have been silenced and ostracized, where not deliberately co-opted or repressed (Westermann, 2004). Indeed, Meles Zenawi's mission of achieving political stability and enhancing the capacity of the state in managing the process of development has purposely strengthen the role of the ruling party, probably at the expense of advancements in the rule of law and in participatory mechanisms, for which he once stated that "[i]n the end development is a political process first, and a socio-economic process second" (Zenawi, 2012, quoted in Fantini, 2014). The hydraulic imperative is an integral part of the developmental strategy of the government, which not only serves the national interests of boosting electricity production, reducing the country's vulnera-

¹³⁴ Accusations to the Ethiopian government were brought by human rights organisations and advocacy networks (see for example Human Rights Watch, 2012 and Oakland Institute, 2013). In 2013 they were also object of an internal Inspection Panel (IP) by the World Bank (main donor of the PBS programme), which investigated over the allegations of violations upon a claim submitted by the Ngo Inclusive Development International (IDI). The findings can be read in the Report No. 75199-ET, available online at [http://ewebapps.worldbank.org/apps/ip/PanelCases/82-Eligibility%20Report%20\(English\).pdf](http://ewebapps.worldbank.org/apps/ip/PanelCases/82-Eligibility%20Report%20(English).pdf)

bility to climate variability and attaining the role of future regional energy hub. Indeed, it also legitimates the authority of the ruling party, provides the central government with more grips into the local affairs of regional states, and fosters nationalism through the promotion of the idea of a "New Ethiopia through hydropower" (Verhoeven, 2013).

7.5 Conclusions: sanctioned discourses and securitization of water issues in the Nile basin

Perceptions and prioritization of risks are central features of water-related disputes, and are closely related to the imaginaries associated with water resources at different levels. These imaginaries are generated and reproduced through the creation of peculiar narratives that serve specific interests, which ultimately reside outside the mere water sector.

The increasing process of securitisation of water resources is evident across the Nile River at different scales: at regional level, where the Egyptian justificative narrative of historical rights (associated with apocalyptic imaginaries of eventual changes to the hegemonic status quo in the basin) and the Ethiopian unilateral development of its hydraulic mission had precluded negotiations towards more cooperative engagements and integrated management of the Nile flows, as well as at domestic level, as seen with regard to the Ethiopian sanctioned discourses on the prioritization of national interests over the imaginaries of local populations now detached from their historical ways of utilisation of water resources. According to Abitbol (2012), the "production, reproduction and legitimation of hegemonic power is reliant upon the discursive perpetuation of asymmetric relations", which are exploited by the powerful in order to pursue specific interests (i.e. the allocation of water flows or the decisions upon utilisation of scarce water resources), marginalising alternative views and sanctioning competing narratives.

This resonates for example in the dichotomy glorification/resentment with regard to the Nile River at regional level, and in the development/democracy trade off in the national dimension of the Ethiopian water management strategies. Policies for reconciling these dichotomies are not easily detectable nor are they detachable from the specificity of the contexts in which water disputes are embedded, but they ultimately result from the multi-faceted political dimension where power plays concur to the state-building process.

The relationships between society and water are thus context dependent, and their ever evolving features open up for the opportunity of change, since perceptions and security concerns are not given for granted and conflicts of values emerge from identity dilemmas, which are not, by their very nature, static nor monolithic. Narratives over waters provide the linkage between definitions and practices, meaning and action, and emerge from configurations of social relations that reflect, and in turn influ-

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ence, interests and objectives of competing actors at different levels. At the same time, national dimensions are not separable from the international patterns of security interdependence, and the case of the Nile Basin is explicative of this mutual relationship: indeed the same actor, the Ethiopian government, while playing a counter-hegemonic role at regional level in order to pursue its water-related interests, operates as an hegemonic power in its internal affairs, in which the management of water resources plays a crucial but not exclusive role. Archer et al. (2007) argue that breaking "the now essentialized link between 'nationality' and 'culture'" is a necessary move in order to counter the negative externalities of securitisation moves, since the prevention of "vertical identity conflicts between central States and peripheral communities" (Buzan *et al.*, 1998 : 132) requires the appreciation of alternative narratives and the inclusion of legitimate competing interests.

In the Nile Basin, the emphasis over existential threats that impinge over the current and future enjoyment of water resources (i.e. the Egyptian concerns over upstream hydraulic development by the other riparian states) rhetorically justifies the adoption of extraordinary measures (i.e. the Ethiopian Villagization plans) deemed necessary for the very survival of the nation, which are supported by space- and time-specific narratives (i.e. the glorification of the Nile in Egypt, or the developmental rhetoric in Ethiopia). The exclusion of alternative narratives from the public debate and the political arena (securitisation of water issues) contributes to the reproduction of sanctioned discourses, which risk overlooking existing alternative imaginaries associated with the significance, the social practices, the historic uses and the symbolic meanings that water resources embody.

Nevertheless, "every hegemonic order is always susceptible to being challenged by counter-hegemonic practices" (Mouffe, 2007), and emerging forms of resistance in the water sector (i.e. the transnational linkages between local populations in Ethiopia and international human rights networks, or the Ethiopian challenges to the regional hegemonic status quo) could favour the inclusion of alternative narratives into mainstream water resources management across the Nile Basin, by de-securitising water-related issues and de-sanctioning institutionalised discursive practices.

Chapter 8. Critical Hydropolitics of the Eastern Nile River Basin: Hydro-Hegemonic Mechanisms

The objective of this section is to identify the determinants of the current hydropolitical regime in the Eastern Nile River Basin. Exploring the historic and current processes that have characterized the evolution of the hydropolitics in the region, the analysis will shed light upon the drivers of the Nile water disputes through an assessment of the conflictive/cooperative nature of specific dynamics, both inside and outside the water sector. The analytical perspective entails the application of power analysis to the hydropolitical relationships in the basin (Ch. 8.1), which, I believe, facilitates the exploration of interconnections between the specificity of water-related issues and the broader political context of the region. The core of the power analysis is presented in Chapter 8.2, where the mechanisms employed by the hydro-hegemon to secure water control in the Basin are critically assessed within the Framework of Hydro-Hegemony.

8.1 A framework for power analysis in the Eastern Nile River Basin

8.1.1 Stages of hydropolitical analysis

In Transboundary Water Politics, the management of an increasingly scarce resource reveals the dialectical dynamics of power relations. Beyond its strictly technical features, Transboundary Water Management (TWM) is intrinsically political, as it results from the outcomes of domestic and international power plays, which in turn contributes to forge. The analysis of the relational features of power, which are disclosed in the *how*-question about the ways in which power manifests itself, targets its focus over the *processes* that have produced a certain outcome: dynamic *processes*, rather than static *outcomes*, are thus the core of the power analysis presented in this chapter. Any observable outcome is the product of historical processes that have facilitated the consolidation of patterns of relations: the hypothesis hereby proposed is that these relations are fundamentally political. Making power dynamics visible (and therefore researchable) is therefore the main objective: once this is done, it will be possible to proceed with an analysis over the ontology of politics in this context.

The chapter will proceed from the de-composition of the concept of power (so as to allow the detection of its multiple spheres/faces/features) to the identification of a taxonomy of power that will facilitate the analysis of the specific power asymmetries and power games in the case-study.

In particular, the analysis of power in the Nile Hydropolitics is expected to provide useful insights over those central issues that are usually overcome in most of the strictly managerial-driven water literature, since the case of TWM could provide striking examples over the complex inter-connections among politics and water policies. The specific focus over the Eastern Nile River Basin (ENRB) is therefore aimed not only at identifying the actors of power plays and the levels and units of analysis, but also and foremost at shading light upon the features of Power and the relational processes that have shaped the current regional hydropolitics. It is important to bear in mind that Power manifests itself not only in open conflict and in the direct spread of violence: less visible and latent conflicts are thus pivotal in the analysis of power asymmetries.

The historical approach of the analysis will unveil that the very nature of current outcomes and future scenarios is not to be searched in an elusive and sudden change of the status-quo; rather it has to be analytically deduced from the long-historical sociology of dynamic patterns of political relations in the ENRB. A closer look to the feature of Power in the ENRB

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under an historical approach will therefore identify the nature of the political relations that have contributed to create the current status-quo in the regional dimension of TWM.

8.1.2 Dimensions of power

Power entails many semantic and conceptual dimensions, often divergent: in essence, one of the salient features of Power – as discussed in political science and in social sciences more broadly - is its inherent nature of “essentially contested” concept (Gallie, 1956). Power may reflect a capacity, an ability, an entitlement, a disposition, a relationships, a process. It could be conceived either as direct or indirect, active and passive, overt and covert, structural and agential. It may manifest itself in different forms, both observable and hidden. Finally, it can be addressed either in terms of “power to” do (and do not) or as “power over” someone/something. Therefore, the concept of Power involves multiple dimensions that have to be identified and defined before proceeding with the analysis of the interconnections among its different spheres.¹³⁵

In this regard, the conceptualisation of Power advanced by Lukes (1974) reveals a useful framework in order to attempt at de-composing its salient features and searching for evidences in each of its dimensions. Lukes identified three *faces* of Power that highlight the different spheres in which it is manifested: in Warner and Zeitoun’s (2006) adaptation of Lukes’ framework to the specific issue of water-related disputes, the three dimensions of Power are defined as *material*, *bargaining* and *ideational*. In a nutshell, material power entails what in Global Politics is meant to be “High Politics”, such as military potential, technologic expertise and economic assets. The second dimension of Power, the bargaining sphere, is related to the ability of pursuing own interests through negotiations, the capacity of setting control over the political agenda at the expenses of the other parties, and the power to influence relevant actors towards defined goals. Finally, the ideational feature of power uncovers the ability to shape others’ perceptions in order to secure their consent and make them compliant with the interests and visions of the powerful. This dimension analytically complements the first dimensional feature of material power: whereas in the latter the forms of power are mostly observable, direct and overt, in the ideational sphere the power plays are less visible and more subtle, indirect and covert. The manifestations of power in this dimension attain at the discursive sphere of ideas and value formation as well as norms consolidation: habits, cultural value, imaginaries and narratives are the battleground where the third dimension of power is manifested through the ability of the powerful to secure the powerless’ compliance through con-

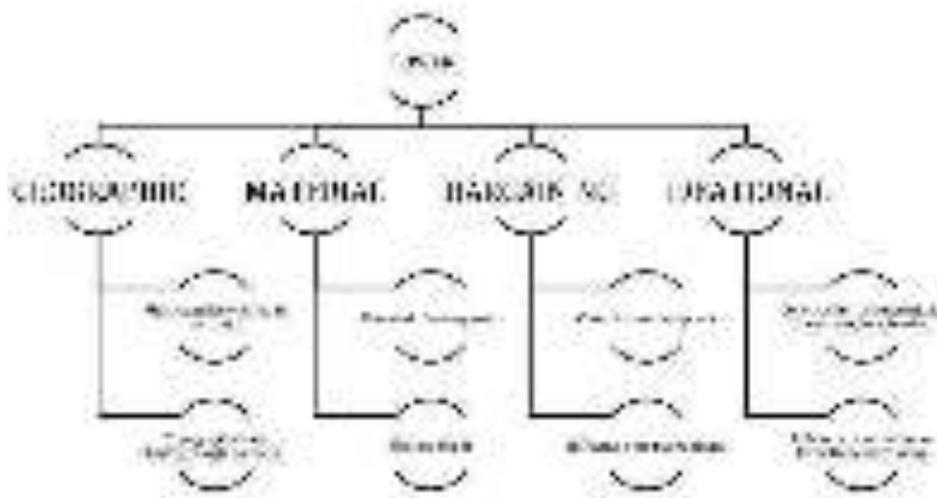
¹³⁵ See Chapters 2.5 and 2.6, and Chapters 3.2 and 3.3 for analytical details over the conceptions of Power considered in this study.

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sent-inducing mechanisms that facilitate co-optation and the acceptance of the world of values of the most powerful.

For a comprehensive analysis of TWM, a 4th pillar should be included in the framework, which indicates the geographic features of the riparian states. Not only the downstream/upstream position is relevant in identifying water-related relationships, but also the specific topography and hydrogeological conditions of each of the riparian reveals the asymmetric potentials for water development within a river basin. Figure 35 graphically illustrates this tentative framework for a power analysis in TWM, adapted from the Framework of Hydro-Hegemony (FHH) conceived by Warner and Zeitoun (2006).¹³⁶

Figure 35: Framework for power analysis in transboundary water management



Source: author's compilation, after Warner and Zeitoun (2006), Cascão (2008, 2009), Cascão and Zeitoun (2010)

8.1.3 The features of hydro-hegemony

The analysis over the multiple faces of Power facilitates the identification of the processes through which power manifests itself: the power plays at stake in TWM reveal the mechanisms that each actor deploys in order to pursue specific interests and gain increasing benefits. Whereas the first dimension of power explains the “hard” features of *force*, either

¹³⁶ See chapter 3.3 for an in-depth original re-interpretation of the FHH, as applied to this study.

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economic or military, the other two dimensions, bargaining and ideational, highlight the “soft” features of power, where *consent*-inducing mechanisms and compliance-producing strategies are aimed at allying the others’ preferences with the ones of the powerful, rather than the direct and explicit use of force.

The framework for power analysis is thus instrumental in identifying *how* processes of domination, hegemonic control or leadership project the desires of the powerful over the powerless. In the case of TWM, when direct violent confrontations are excluded, the insights offered within the field of international Relations (IR) by Theories of Hegemony¹³⁷ help identifying less visible and direct manifestation of power relations. The management of shared resources that elude political boundaries and the territorial sovereignty of nation-states (i.e. water flows) is intrinsically a dynamic process of hegemonic projection and counter-hegemonic resistance. According to A. Wolf and other scholars,¹³⁸ international disputes over water allocation and utilisation have rarely resulted into open wars in the last century, since the armed option has been proved to be unfeasible, costly and unfruitful: thus the operation of power in influencing the outcome of TWM negotiations is arguably more visible in its “soft” sphere, where the struggle over perceptions, ideas, values and imaginaries shapes the outcomes of water disputes.

The Framework of Hydro-Hegemony (FHH) conceived by Warner and Zeitoun (2006) results to be a useful methodological tool in order to find out the drivers of change in hydropolitical settings. Through its facets, power operates in creating context of hydro-hegemony where the powerful attempt to project its influence over the other actors, making them compliant with the *order*, the status-quo, it relies upon. According to these scholars, the powerful operates through a variety of mechanisms and tactics in order to expand its hegemony over shared water resources to either to get more favourable allocation quotas or to expand its rights of utilisation. It also operates in order to prevent the development of water infrastructure elsewhere that could bring a change in the favourable environment it have created, as well as it creates and consolidates its own world of ideas and values in order to influence others’ perceptions towards the maintenance of the status quo.

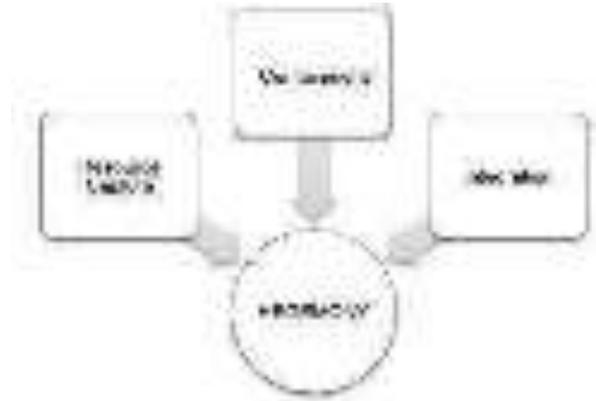
¹³⁷ See chapter 2.6 and 3.3 for a conceptual analysis over theories of Hegemony. For an analytical introduction over Hegemonic Stability Theories see also: Eichengreen (1989), Gowa (1989), Grunberg (1990), Lake (1993), Milner (1998), Snidal (1985), Webb and Krasner (1989).

¹³⁸ See among others Frey and Naff (1985), Postel and Wolf (2001), Wolf et al. (1993).

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The strategies implied by the hydro-hegemon can be identified along three lines of conduct: resource capture, containment and integration (Warner and Zeitoun, 2006). While the first category refers to the use of force, the deployment of hard power, in order to expand the sovereignty of the Hegemon over water resources outside its territorial entitlements, the two latter categories concern mostly the projection of soft power over the other riparian states. Strategies of containment mainly address the ability to prevent others' actions, to delay decisions and avoid circumstances that could bring to a change in the status quo. The Integration mechanisms refer to the capacity to ideally co-opt the others' desires and objectives, in order to make them compliant with the world of values of the Hegemon. Figure 36 graphically illustrates these features of (Hydro) Hegemony.

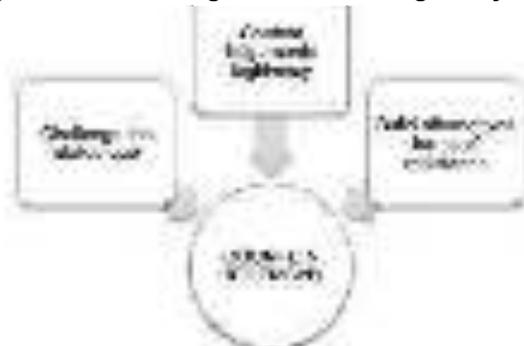
Figure 36: The Strategies of Hydro-Hegemony



Source: author's compilation, after Warner and Zeitoun (2006)

The resistance to the projection of hydro-hegemony by the other riparian states could take many different forms. Cascão (2009) identified three main strategies that the weaker parties can dispose of in order to counter the hegemonic project of the powerful: challenging the status-quo, contesting the legitimacy of the hegemon, and building creative alternatives to resist the co-option by the powerful (see Figure 37). Figure 38 shows the mechanisms employed by the hydro-hegemon and the non-hegemons in order to operationalize their strategies.

Figure 37: The Strategies of counter-hegemony



Source: author's compilation, after Cascão (2009)

Figure 38: Mechanisms of hydro-hegemony and counter-hegemony



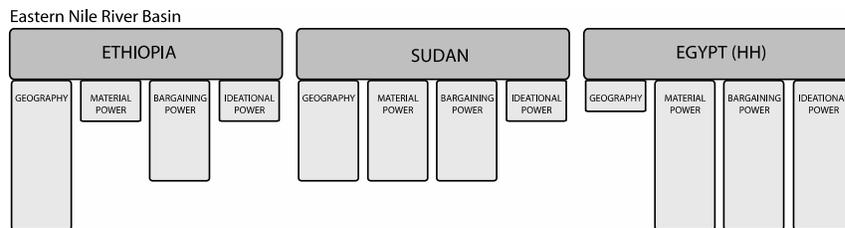
Source: author's compilation, after Warner and Zeitoun (2006), Cascão (2009, Cascão and Zeitoun (2010)

8.2 Egyptian strategies of hydro-hegemony in the Nile basin

As a way of operationalizing the theoretical findings above described, this chapter will attempt to apply the features of power and hydro-hegemony to the case-study of TWM in the ENRB. In particular, the focus of this exercise is upon Egypt and Ethiopia, as core representatives of down- and upstream interests and values in the water disputes over the Nile water flows.¹³⁹

As already shown in chapter 3 and chapter 5, Cascão and Zeitoun (2010) advance an analysis of the contemporary features of hydro-hegemony in the Eastern Nile Basin, whose outcomes were plotted according to the pillars of the FHH, as shown in Figure 39.

Figure 39: The pillars of hydro-hegemony for Ethiopia, Sudan and Egypt



Source: Cascão and Zeitoun (2010)

¹³⁹ See Chapter 1 for the scope of the study and the justification of the case study selected.

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The following analysis represents an attempt to assess the assumptions of Cascão and Zeitoun, while at the same time advancing an expansion of the FHH for the specific case study, with particular attention to the evolution of power asymmetries and hegemonic strategies that have been shaping the current configuration of Hydropolitics in the case study. First, features and evidences for each of the 4 pillars of the framework for power analysis are identified (ch. 8.2.1); secondly, mechanisms of hydro-hegemony (ch. 8.2.2) and respective strategies of resistance/counter-hegemony (ch. 9) are explored in order to identify the processes that have led to the current status-quo and to the possible alternatives to it.

8.2.1 Consolidated power asymmetries along the Nile

This section investigates the inter-basin dynamics in the first dimension of power, namely the material, with the aim of shading light upon the current established order (the present section), the mechanisms deployed to consolidate the hegemonic setting in the basin (ch. 8.2.2), and finally the counter-hegemonic tactics advanced by the non-hegemons (ch. 8.2.3). The power relationships among riparian states in the dimension of material power are grouped into two sectoral categories. The first feature addresses the economic development, which accounts for the macroeconomic performance of the countries, the national fiscal and monetary policies, and the implementation of plans and reforms in pivotal economic productive sectors. The second category focuses on the military might, with explicit reference to the size and performance of the military sector, and to the use (or thread of) of force in the regional political affairs.

a) *Asymmetries in economic development*

In economic terms, Egypt has assumed a role of regional superpower in the 20th century, due both to domestic economic performances and the increasing flows of foreign investments in the national production. The economic interventions that have spurred Egypt's growth in the second half of 20th century have made the country the most powerful economic actor in the Nile Basin, in comparison with the poor performances of its

Table 8: Socio-Economic Indicators, Nile Basin Countries

	Ranking National Income (GDP)	Employment (%)	Human Development Index
	Percentage (2011)	Percentage (2011)	Index (2011)
Egypt	1st	54.3%	0.744
Sudan	2nd	49.7%	0.546
Ethiopia	3rd	43.0%	0.544
Kenya	4th	42.0%	0.541
Uganda	5th	38.0%	0.534
Rwanda	6th	37.0%	0.530
South Sudan	7th	32.0%	0.525
Tanzania	8th	31.0%	0.520
DRC	9th	28.0%	0.515

Source: NBI (2012: 241)

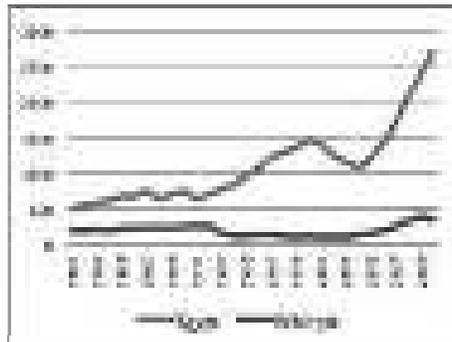
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neighbours. A quick look at some relevant economic indicators will show the remarkable asymmetries in the basin, in particular between Egypt and the other riparian states.

In terms of Gross National Income (GNI), Egypt's performance is five times higher than Ethiopia's (more than 5,000 per capita US\$, and less than 1,000 US\$, respectively), and among the other riparian countries only Sudan presents values close to 2,000 per capita US\$. Disparities are also visible in poverty indicators, since in Ethiopia almost 40% of the population live under the poverty threshold, while in Egypt less than 2%. Accordingly, also the HDI shows substantial asymmetries between Egypt, the only Nile state in the group of medium human development (Egypt is ranked 113 out of 187 countries), and the other riparian states, which all fall in the group of low human development: in this specific ranking, Ethiopia is in the 174th position, followed only by Eritrea, Burundi and Congo among the Nile riparian states (UNDP, 2011). Table 8 summarizes these data.

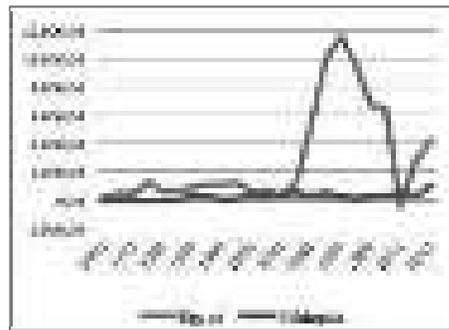
Figure 40 shows the economic trends of the two target-countries between 1981 and 2009 in term of GDP per capita: the data comparison results in an explicit asymmetry between the domestic production of Egypt and Ethiopia, where the former's 1981 performance is even higher than 2009 Ethiopian production. Moreover, while Egypt was able to more than quintuplicate (from US\$ 500 to nearly 2.700) its production in the timeline

Figure 40: GDP per capita (current US\$), 1981-2009



Source: author's compilation (data from WB World Development Indicators, <http://data.worldbank.org>)

Figure 41: Foreign direct investment, net (BoP, current US\$, in million), 1991-2013



Source: author's compilation (data from WB World Development Indicators, <http://data.worldbank.org>)

considered (27 years), in the same period Ethiopia only duplicate it (from US\$ 170 to nearly 500).

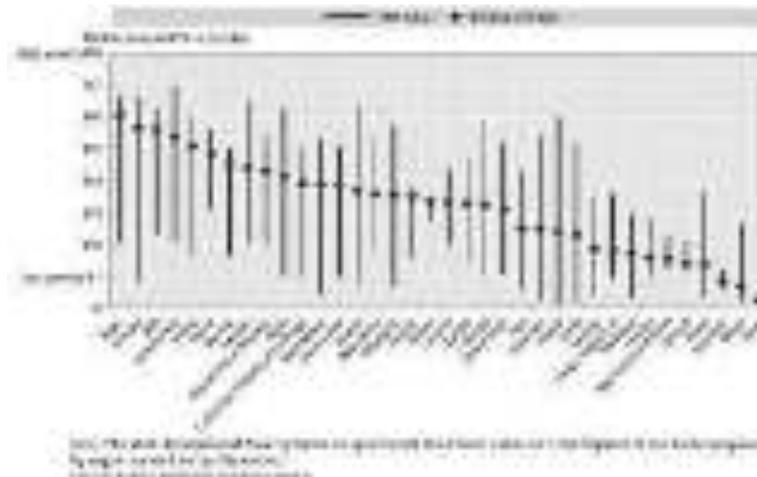
Figure 41 shows the comparison between the two countries in terms of another economic indicator, the inflow of Foreign Direct Investments

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(FDI) in the last two decades. FDI are a crucial factor for the development of the domestic economic sector, as they constitute inputs and drivers for the economic expansion of productive activities. In this category too, Egypt shows figures much higher than in Ethiopia, in particular for the period 2005-2010 where the asymmetry gap in terms of overall value of FDI reached the remarkable amount of nearly US\$ 11 billion.

Finally, in terms of poverty assessment, Ethiopia and Egypt stand at the opposite end in the ranking of African countries: excluding Niger, Ethiopia is the country that presents the worst average value in the Multidimensional Poverty Index (MPI), while Egypt holds the best value within the continent (Figure 42).

Figure 42: Multidimensional Poverty Index, Africa 2014



Source: Alkire, Conconi and Seth (2014)

In conclusion, according to these figures we can assume that the hypothesis of considering an economic asymmetry in favour of Egypt is validated: the poor economic performance of Ethiopia over the last 20 years, although in face of improving trends, shows a considerable gap with respect to the Egyptian financial resources. The disparities in terms of economic development (GDP and FDI) and poverty reduction (GNI, HDI, MPI) are considerably in favour of the downstream state, which has been able to translate such advantage not only into regional economic predominance, but also into political and technical supremacy.

b) Asymmetries in military might

The second feature of material power is related to the size of the military sector and the portion of national expenditures dedicated to the military forces. In this dimension too, the asymmetries between Egypt and

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the other Nile countries become evident, since Egypt holds the largest military in Africa (GFP, 2015).

A study published in 2006 illustrates well the gap in terms of military expenditures between Egypt and Ethiopia: whereas in Egypt the military expenditure per capita registers more than 31 US\$/year, in Ethiopia the figure is extremely lower, with the Ethiopian Government spending less than 5 US\$/year (Phillips et al., 2006). Thus, Egypt is providing the military sector with funds 6 times larger than the respective Ethiopian counterpart. Furthermore, Adar (2011: 183) stated that Egypt's military expenditure in 2005 was more than twice the equivalent expenditure of all the nine other riparian states together.

Moreover, political instability, domestic and regional conflicts, droughts and underdevelopment have characterized the economy of most of the downstream riparian countries, thus hindering their capacity to sustain stable processes of state-building, while Egypt has benefited from long-lasting processes of political continuity and social stability: in terms of material power this has facilitated the creation of a strong economy and the consolidation of a military sector that have no comparison with those of upstream Nile states.

Therefore, given these data and the analysis enunciated, it can be argued that in terms of material power (the second pillar of the framework of power), Egypt benefits from a considerable advantage, which has been historically consolidated both at economic as well as military level. Figure 43 graphically illustrates the qualitative assessment over this dimension of power.

Figure 43: Relative Material Power for Ethiopia, Sudan and Egypt



Source: author's compilation, adapted from Cascão and Zeitoun (2010)

8.2.2 Hydro-hegemonic mechanisms

The consolidation of Egypt's material power has been developed through the deployment of strategies of (Hydro) Hegemony. In particular, tactics of *resource capture*, *containment* and *integration* (1st, 2nd and 3rd features of the FHH) provides empirical evidences of the Egyptian project of political expansion along the course of the Nile River, through the com-

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bination of the four mechanisms of hydro-hegemony, namely coercive, utilitarian, normative and hegemonic.

a) *Economic mechanisms*

In terms of economic resources, Egypt has manifested its material power by developing its national hydraulic mission far before all the other riparian states, through the planning and building of water infrastructures in order to expand its domestic water availability. The construction of the Aswan Dam and the development of innovative irrigation projects could reasonably be considered the most significant symbol of Egypt's access to economic resources as well as to technical knowledge and expertise. The emphasis over other impressive water infrastructures, such as the Jonglei Canal, the Toshka and the Sinai projects,¹⁴⁰ represents the public manifestation of the economic power of Egypt; it also testifies not only its conservative approach in order to preserve its "acquired" allocation quota of the Nile flows, but also its willingness and interest to expand both its share of the basin waters and its rights of utilisation. These strategies therefore are evidences of *resource capture* mechanisms, and reveal the Egyptian intentional tactic of consolidating a Hegemonic setting over the Nile.

Furthermore, the privileged access to international markets and capitals has historically represented a crucial factor for Egypt's development as regional power: strategic alliances both with the West (i.e. the US and the EU) and the East (i.e. Saudi Arabia) have provided the country with a constantly growing flow of investments and funds, which have sustained and consolidated the Egyptian economic growth. Access to international funding has therefore allowed Egypt to develop water infrastructures and water-related economic activities (extensive irrigation projects for crop production), whose proportions have no comparable features in the other basin states.

Moreover, its political and economic capacities have also contributed to the delay/blockage of major economic developments in the rest of the Nile basin: as a tactic of *containment*, Egypt has at the same time expanded its national hydraulic mission and prevented the other riparian countries from developing major water infrastructures. The attempt to halt upstream water development has assumed both covert coercive forms, as it will be further explained below, and economic strategies, mainly in terms of benefits and incentives to the riparian states. In 2012, for example, Stratfor Intelligence Agency revealed the Egyptian strategy of offering loan assistance at very low interest rates to Uganda, Sudan and South Sudan in order to gain diplomatic support for the on-going Nile dispute over the CFA

¹⁴⁰ "The Southern Valley Agricultural Development Project (the Toshka Project) in the Western Desert is undertaken in order to resettle millions of people and provide irrigation to more than 200,000 ha of desert by transporting 5.5 km³ of water from Lake Nasser through a 310-km- long pipeline" (Gardner-Outlaw and Engelman, 1997)

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("Ethiopia's Contested Dam Project on the Nile River", 2012). The Egyptian newspaper Al-Monitor quoted an anonymous "diplomatic source" stating that the government had launched a diplomatic strategy "to convince donor countries [read China] to stop the financial aids serving the construction of the [GERD] dam" (Aman, 2014a), allegations that were denied by the Egyptian government later in 2012 (GoARE, 2012). In terms of economic benefits, Egypt included substantial incentives to Sudan into the 1959 Nile waters agreement (Cascão, 2009): the approval to the construction of the Roseries Dam (art. 2, No. 1), which had been previously opposed by Egypt; the payment of 15 million Egyptian pounds as compensation costs for the damages related to the construction of the Lake Nasser (Art. 2, No. 6 and 7); a net gain of 14.4 bcm in water allocations with respect to the 1929 agreement (from 4 bcm to 18.5); and the sharing of costs of eventual water conservation projects (i.e. the Jonglei canal) (Art. 2, No. 1).

In 2014 Egypt mobilised economic incentives aimed at attaining diplomatic support also with the newly independent South Sudan, which in 2013 had rejected the 1959 Nile waters agreement and announced the willingness to join the CFA (Berhane, 2013). The terms of the bilateral agreement included the establishment of a joint commission for the development of water projects and the grant of USD 12 million for the implementation of the Bahr al-Ghazal basin and Wau dam projects ("Egypt, South Sudan sign water cooperation agreement", 2014).

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a) *Military mechanisms*

In terms of military power, Egypt has historically deployed a strategic mix of *resource capture* and *containment* measures in order to gain growing control of the Nile waters. Bulloch and Darwish (1993: 26) state in their study that one of the core interest of Egypt has since long time been the realization of the unity of the Nile Valley from the Great Lakes to the delta of the river. In the 19th Century, Muhammed Ali realized several campaigns of irrigation expansion, endorsing the ambitious plan of "dominat[ing] the entire area between the Red Sea and the Nile" (Abir, 1968: 96). The Sudanese Taka region was annexed to Egypt in 1840 and the ascension to power of Ali's nephew, Khedive Ismael, contributed to the beginning of considerable military achievements in the Egyptian power expansion: the Equatorial region of southern Sudan was annexed in 1870, and subsequently the Ethiopian port of Massawa was transferred to Egypt by the Ottoman Empire (Arsano, 2007: 200). In order to consolidate control southwards, Ismael also engaged several army disputes with the Ethiopian forces, i.e. in Gundet in 1875 and at Gura in 1876 (Alula, 2001: 1).

The British occupation of Egypt in 1882 did not harness the expansion project of the Egyptians; on the contrary it fuelled their historic aspirations over the Nile. The multiplication of efforts aimed at securing the headwaters of the Nile resulted in the colonization of Kenya, Sudan, Tanzania and Uganda during the late 19th and early 20th centuries: as Merrill stated (2008: 18-19), "Eventually, the British African colonial possessions included the entirety of the Nile basin, excluding Ethiopia and small areas around the Equatorial Lakes." Moreover, the objectives that Great Britain could not achieve militarily (i.e. the conquer of Ethiopia) were strategically approached through diplomatic efforts and patronizing mechanisms (Arsano, 2007).

The establishment of the Republic of Egypt in 1952, under the government of Colonel Nasser, opened a new era in the history of the Nile river water management. The nationalisation of the Suez Canal in 1956, the signature of the 1959 agreement with Sudan over the Nile waters allocation and the beginning of Aswan Dam construction in 1959-60 are tangible signs of the Egyptian renaissance, spurred by the values and ideas of Nasser's Arab Nationalism. During Nasser's (and afterwards Sadat's) rule, there were not direct violent army conflicts between Egypt and Ethiopia; nevertheless, the Nile basin constituted one strategic field of the Cold War confrontation among global superpowers. First allied with URSS under Nasser's government (1952-70), Egypt switched to the Western Bloc under Sadat (1970-82), while in Ethiopia the overthrown of the Emperor Haile Selassie in 1974 and the consolidation of the Derg regime under Menghistu pushed the country towards the Eastern Bloc. The URSS considered Ethiopia as a crucial ally in order to contain the Western Bloc's expansionist project in East Africa, and provided Menghistu's regime with

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weapons, tanks and military trainings. Thus, the Nile became the symbol of Ethiopian resistance against colonial imperialism and an example of African resistance against the influence of Arabs and Muslims (Deconink, 2009). Moreover, it is worth recalling that despite the absence of open conflicts between the two countries, Egypt supported Eritrean Muslims in their secession project from Ethiopia, as well as Muslim Somalis in their fight for the liberation of Ethiopia's Ogaden (Ehrlich, 2002; Hultin, 2005; Woodward, 1997).

In terms of active involvement in military operations related to the Nile issue, WikiLeaks published in 2012 some documents acquired from Strategic Foresight Inc. (Stratfor), which apparently show evidence of an Egyptian strategy for sabotaging the independence of South Sudan and blocking the on-going construction of the GERD in Ethiopia. In a 2010 email attributed to the Egyptian Ambassador to Lebanon, it is declared that the referendum for the South Sudan independence represented a threat for the Egyptian control over the Nile waters. Therefore, "Egypt will do its utmost to prevent the southern Sudan from declaring its independence" (Cable 211372, 2010), due to the vital nature of the Nile water issue for the Egyptian government, which would encounter difficulties in obtaining from the newly established state the same confidence Egypt had long established with Sudan. Furthermore, the source added that " Egypt played a decisive role [...] to engage Arab states in the affairs of Sudan and create incentives for southerners to vote against separation" (*ibid.*), since with an united Sudan there would be "virtually unlimited" investment opportunities for business, while "[t]he south is not ready to create its own state" (*ibid.*). However, after the 2011 referendum in South Sudan that proclaimed its independence from Khartoum, the Egyptian government intensified its diplomatic efforts towards a rapprochement with Juba: in March 2014 the two Nile states signed an agreement for military cooperation, which many analysts read as driven by the Egyptian interests in the Nile waters and in the urgency to tackle the emerging political axis between Sudan and Ethiopia.¹⁴¹ According to a statement made in the same period by the Egyptian Minister of Water, the priority for Cairo was to guarantee compliance from Juba in order to secure an indirect control over the portion of the White Nile in South Sudanese territories (Hussein, 2014a). Furthermore, the Egyptian strategy could be read as a countermove to the Peace and Security agreement signed by Ethiopia and South Sudan in 2013, which followed the MoU for a Joint Strategic Partnership signed the previous year.

With regard to the alleged plan of bombing the Ethiopian water infrastructures on the Blue Nile, another cable leaked from Stratfor quotes an "Egyptian diplomatic source" stating in 2010 that "Sudanese president

¹⁴¹ Helmi Shaarawy, founder of the Arab and African Research Center argued that "Supporting South Sudan is no longer an option for Cairo. Rather, it is a necessity in light of the impasse and challenges facing Egypt in maintaining its water interests in the Nile, and given Ethiopia's audacity to build the Renaissance Dam" (quoted in Aman, 2014b)

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Umar al-Bashir has agreed to allow the Egyptians to build an a small air-base in Kusti to accommodate Egyptian commandoes who might be sent to Ethiopia to destroy water facilities on the Blue Nile" (Cable 211372, 2010). The same source confirmed that at the same time the Egyptian National Security Authority took over from the Irrigation and Foreign ministries the responsibility for the Nile waters issues, thus confirming the concern of the Egyptians over this specific issue. Indeed, a declaration attributed to a "high-level Egyptian security/intel source" reveals Egypt's diplomatic efforts to pledge cooperation with the other basin countries in order not to divert the Nile waters. According to the source, since "[t]he only country that is not cooperating is Ethiopia " (*ibid.*), Egypt has prepared a contingency plan in accordance with Sudan for sabotaging the dam: "[i]f it comes to a crisis, we will send a jet to bomb the dam and come back in one day, simple as that. Or we can send our special forces in to block/sabotage the dam" (*ibid.*). Interestingly, the source also added that this was not the first time Egypt had envisaged the military option against the Ethiopian development of water infrastructure on the Nile. Indeed he's reported to say: "Look back to an operation Egypt did in the mid-late 1970s, I think 1976, when Ethiopia was trying to build a large dam. We blew up the equipment while it was traveling by sea to Ethiopia" (*ibid.*).

Di Nunzio (2013) provides more examples on the alleged Egyptian strategy of threatening military interventions in order to secure control over the Nile waters: the analyst stated that Egypt threatened war over the construction of the 1973 Fincha dam in Ethiopia, and again over the planned Lake Victoria pipeline in Tanzania in 2004. Whether these threats were real or not, arguably the treat of the use of force against upstream water developments was a recurrent strategic tool deployed by Egyptian officials, in particular during Sadat's government: the former Egyptian President was reported to say in 1980 that "[i]f Ethiopia takes any action to block our right to the Nile waters, there will be no alternative for us but to use force" (in Anderson, 1991). Thirty years later, the same was reiterated by President Morsi, who talking about the construction of the GERD in 2013 confirmed that "all options are open", since if the Nile "diminishes by one drop then our blood is the alternative" ("Egyptian warning over Ethiopia Nile dam", 2013).

In terms of military interference, Egypt is also accused of supporting internal opposition in Ethiopia, through both intelligence assistance and military training to militant groups hostile to the federal government. David H. Shinn, former US Ambassador to Ethiopia, argues that Egypt, besides supporting the Muslim Eritrean Liberation Front (ELF, founded in Cairo in 1961) since the late 1950s in order to undermine the government of Haile Selassie, and the Eritrean People's Liberation Front and Tigrinya People's Liberation Front in the 1980s, also substantially backed Eritrea's secession from Ethiopia in 1994 (Shinn, 2006). In June 2013, a meeting between President Morsi and other Egyptian political leaders over the GERD issue was mistakenly broadcasted by the state television, showing the perspec-

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tives of the highest Egyptian political authorities to the public audience. Among the strategies advanced for inducing Ethiopia to halt the project, some were openly hostile and of clandestine nature: some suggested to arm internal rebel groups to destabilise the Ethiopian government, some advocated intelligence measures to bomb the dam, and others proposed a fake flow of information about an existing plan to invade Ethiopia (Stack, 2013).

Sudan and Egypt have historically established intense relationships that have experienced different patterns of socio-economic and political closeness throughout the entire 20th Century. The Egyptian interests for safeguarding its southern borders, the social and religious linkages between two Arab Muslim countries, the economic opportunities for Egypt to have preferential access to the African market in terms of trade in goods and services, and the pivotal importance of an indirect control over the flow of the Nile river upstream, are among the factors that have consolidated the relations between Sudan and Egypt (source).

The Nile valley's "imagined community" is the pivotal narrative that has emerged in the relations between the two countries since the colonial occupation of the Sudan by the Ottoman Empire in 1821 (El Zain, 2007). The construction of the imaginary of a united Nile valley has continued shaping the relations with Egypt, both during the Anglo-Egyptian Condominium (1898-1955) and in the second half of the 20th Century (De Waal, 2007), and testifies the pivotal role that the control over the Nile has exerted in forging the complex relationship between Sudan and Egypt.¹⁴² Among the core reasons that made Egypt the hydro-hegemon in the Nile basin there is certainly the imperialistic behaviour inherited by the Ottoman and the British Empires, which, far before the Egyptian independence, had attempted to conquer the territories through which the Nile river flows. However, the Egyptian priority of a southward expansion in order to directly control the flow of the Nile had to be reconsidered in the light of the events that brought to the independence of Sudan in 1956, when the first Sudanese Prime Minister Azhari decided for a sovereign independence and the withdraw of the British rather than for the unification with Egypt (El Zain, 2007). The long-lasting plan for the unity of the Nile Valley, which the Egyptians had dreamed for more than a Century, seemed at that time to have reached a turning point: the formal independence of Sudan represented a vigorous halt to the expansionist strategy of the downstream Nile riparian.

The strategies that Egypt deployed in order to maintain both its historical influence over its southern neighbour and its established hegemony

¹⁴² The history of the Egyptian-Sudanese relationship is rich and complex, and it is not in the purposes of this study to analyse in details the main factors that have contributed in shaping its varying nature. For a comprehensive insight over the historical relationship between the two countries, see among others Collins (1983 and 2008), El Zain (2007), Holt (1961) and Arkell and MacMichael (1961).

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over the Nile waters, followed the two-fold mechanism of military interventions and covert operations in Sudan's internal affairs. Indeed, the second half of the 20th century had been characterised by alternate patterns of reciprocal positive relations and periods of conflictive tensions and instability. One year after the Sudanese independence, Egyptian troops invaded northern Sudan, following the failed negotiations over a possible agreement over the use and control of the Nile waters, but then withdrew avoiding the possibility of an eventual open conflict (Postel, 1999; Hultin, 1995). Tensions decreased in the following two years, when a pro-Egyptian government was elected in Khartoum and the 1959 Agreement for the full utilization of the Nile waters was signed between the two riparian states (Wolf, 1998).

Despite the absence of further military intervention against its southern neighbour, Egypt continued to exert a strong influence over Khartoum in the years following the Sudanese independence: according to Troutt-Powell (2003), the Egyptians felt betrayed by the decision of the Azhari government to renounce to the unification with its northern historical ally, and continued to look at Sudan as the "lost province" or the "younger sister". Accordingly, since the early '60s Egypt overtly meddled in Sudan's internal affairs, thus contributing to the sharpen polarization between the northern Arab Muslim and the southern African non-Muslim communities during the First Sudanese Civil War (1955-1972), as well as indirectly reinforcing the hegemony of riverain Sudanese (El Zain, 2007). The alienation of the Arab Muslim Sudanese elites from its diverse domestic environment brought to an Egyptian-supported military coup in 1969, when Nimeiri assumed control over the country.

The establishment of Nimeiri's dictatorship represented a crucial turning point in the relationships between the two countries, since it produced the beginning of a structural dependence on Egypt, whose direct intervention in Sudan became increasingly substantial in the 1970s (De Waal, 2007). In particular, the Egyptian support to Nimeiri became evident in 1970, when they provided assistance to defeat the Mahdist revolt in Jazeera Aba, and in 1977, when Egypt backed Nimeiri's return to power after the 1976 coup attempt by Ansari National Front (El Zain, 2007). In both cases the direct military intervention of the Egyptian army had a pivotal role in shaping the destiny of Sudanese politics, and was partially driven by Egypt's water-related interests over the Nile river: according to Swain (2002), Nimeiri allowed Egypt to negotiate the construction of the Jonglei canal over the White Nile in return for the military support received. In 1978 indeed, following a 1974 agreement that also stated the sharing of its costs, the construction of the Jonglei scheme, whose realisation Egypt had dreamt since its first project study in 1946, was finally started (Collins, 2008). In the same year, Nimeiri confirmed its closeness to Egypt when he backed Sadat in the aftermath of the Camp David Accord with Israel, re-

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sulting the only Arab leader with Oman's Qaboos to support the Egyptian initiative.

Egypt's assistance to Nimeiri continued even after Sadat's assassination in 1981, and brought to the 1982 Integration Charter where the two countries reaffirmed their "unbreakable unity by the everlasting Nile" (Warburg, 2000: 79). Despite Nimeiri's shift towards a radicalization of the Islamist nature of its political government,¹⁴³ the introduction of Sharia in 1983 and the rise of violence that brought to the Second Sudanese Civil War (1983-2005), Egypt continued supporting his government until the 1985 military coup that overthrew him, after which Nimeiri received asylum and protection from Mubarak. At the beginning of the southern insurgence against Khartoum, the SPLA targeted and destroyed the on-going construction of the Jonglei Canal in 1983, a project conceived by the Egyptians with the northern elites and that had never encountered the favour of southern Sudanese (Wolf, 1998). In the four years following the coup against Nimeiri Egypt continued following the domestic situation in Sudan, but with a less direct involvement in its internal affairs: in 1986 the new Sudanese Prime Minister al-Mahdy unilaterally abrogated the Integration Charter, and the Egyptian influence over the Sudanese ruling coalition (led by al-Mahdi's Umma Party, al-Turabi's National Islamic Front -NIF- and al-Mirghani's Democratic Unionist Party -DUP-) resulted substantially decreased with respect to Nimeiri's era (Fabos, 2008).

A new era of relationships between Egypt and Sudan began with NIF-led al-Bashir's military coup in 1989, which the Egyptians welcomed since it provoked the exile of al-Mahdi and the ban of its Egypto-phobic Umma Party (El Zain, 2007). However, Mubarak's early support to al-Bashir's Revolutionary Command Council for National Salvation (RCC) rapidly turned out to be a counterproductive strategy for the Egyptian interests in the region. The radicalisation of the Islamic state in Sudan rapidly became a priority for the new government, which not only targeted opposition leaders and non-Muslim population, but also its downstream neighbour, accused of advancing a misleading interpretation of Islam: in 1989, al-Turabi, the ideological leader of the fundamentalist NIF, argued that "Allah wants Islam to be revived from Sudan and flow along with the waters of the Nile to purge Egypt from obscenity" (as cited in Warburg, 2000: 74). According to El Zain (2007), the Sudanese government embraced an indiscriminate fight against every emanation of Egypt in the country, which brought in few years to the closing of the Egyptian consulate, the sudanisation of the Khartoum branch of Cairo University, the deportation of Egyptian personnel from al-Shajara and the confiscation of Egyptian residences in the capital (see also Lesch, 1998). At the same time, perhaps from the very first time since the 1959 Agreement with Egypt, the Nile waters-issue re-entered the Sudanese political agenda: within the broader

¹⁴³ In 1977 Nimeiri facilitated a national reconciliation with the Umma Party of his main opponent al-Mahdi, and in 1979 al-Turabi was appointed General Attorney, a process that led Sudan towards the establishment of a formal Islamic state (Shinn, 2004).

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framework of re-configuration of its relationships with the Egyptians, the NIF advanced the Nile as a foreign policy priority (Ahmed, 2001). In particular, the Sudanese government focused on the realization of the heightening of the Roseires dam, a project conceived in 1978 and reconfirmed in the decade of the 1980s that Egypt had always opposed (Waterbury, 2002).

The tensions between the two governments increased during the year 1990, when Mubarak invited a SPLM delegation to Cairo. In the same year, al-Bashir refused to join the Arab coalition in the Gulf War and decided instead to support Saddam Hussein, while Mubarak accused Sudan to host Iraqi missiles with the purpose to target the HAD (Metz, 1992). The following year, the fall of the Derg regime in Ethiopia downplayed the capacity of the SPLA in opposing the central government, and accordingly al-Bashir's power over Sudanese affairs rapidly increased. In 1992 Egypt's occupation of the disputed Halayib Triangle in northeast Sudan sharply escalated the tensions between the two riparian states, with Sudan calling for war against the Egyptian invasion (Collins, 2008). According to El Zain (2007), one of the main factors that brought Egypt to this military intervention has to be attributed to the shift in Sudanese foreign policy, which had prioritised relations with Ethiopia after the overthrow of Mengistu. In particular, in 1991 Sudan and Ethiopia signed an agreement for the equitable utilisation of the Nile waters, excluding Egypt from the negotiations (Haftendorn, 2000). The unfriendly nature of the relationships between Egypt and Sudan was confirmed in 1993, when al-Bashir sequestered the Khartoum Branch of Cairo University and expelled the Egyptian staff from the country. In 1995 Mubarak suffered an assassination attempt while he was about to attend an OAU meeting in Addis Abeba, and lately accused Sudan of complicity in the operation. As a result of increasing tensions between the two countries, Sudan threatened to cut off the flow of the Nile to Egypt (Hultin, 1995), while Egypt strengthened its military control in the Halayib triangle, expelling Sudanese officials from the disputed area (Dzurek and Schofield, 2001). After years of negotiations, in 2000 Sudan withdrew from the Halyib triangle, which since then has been de facto administered by Egypt.¹⁴⁴

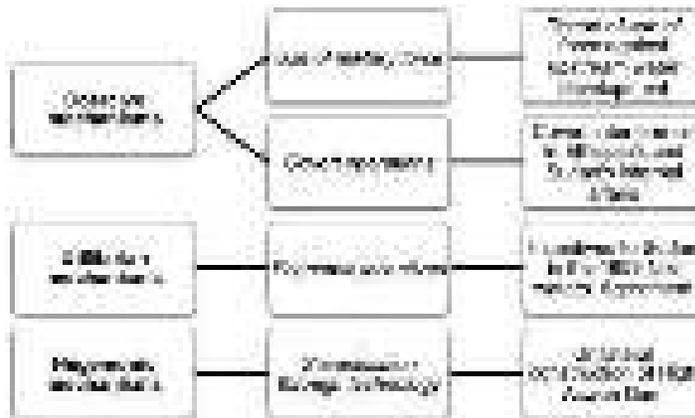
In conclusion, the Egyptian strategy for the consolidation of the hydro-hegemonic regime established within the Nile basin has recurred to a diversified set of mechanisms in the sphere of material power. In particular, Egypt has developed military and economic operations to implement its three-fold strategy of resource capture, containment and integration. The use of coercive mechanisms in the military sector (i.e. the recurrent threat of use of force against eventual water developments by upstream riparian states, and covert operations in Ethiopia and Sudan to influence their re-

¹⁴⁴ In 2010, al-Bashir claimed Sudanese sovereignty over the Halyib triangle, but since the Egyptian still consider the area as part of their territories, the dispute has not yet come to an agreed resolution ("Egypt converts contested Halayeb area with Sudan into city", 2014).

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spective domestic agendas) is a strategy that Egypt has utilised alongside the provision of economic incentives to the Nile riparian states (utilitarian mechanisms), and the unilateral implementation of water infrastructure over the Nile river (hegemonic mechanisms). Figure 45 graphically illustrates these hydro-hegemonic tactics deployed by Egypt in terms of consolidating its historically acquired control over the Nile water flows.

Figure 45: Egyptian hydro-hegemonic mechanism in the dimension of material power



Source: author's compilation

Chapter 9. Critical Hydropolitics of the Eastern Nile River Basin: Strategies of Counter-Hegemony

This section represents the logical complement to the previous Chapter 8 on hydro-hegemonic strategies. The power analysis advanced here looks at the mechanisms employed by the non-hegemons, and in particular by Ethiopia, in order to overcome the established hegemonic regime in the Nile Basin. Searching for both observable and unobservable manifestations of power, this Chapter explores counter-hegemonic mechanisms in terms of economic (ch. 9.1.1) and military (ch. 9.1.2) strategies. The last section investigates over intra-basin power shifts in terms of bargaining and ideational power, respectively the second and third dimension of power in the Framework of Hydro-Hegemony (ch. 9.2).

9.1 Contesting the hydro-hegemon

Ethiopia has historically attempted to resist to the Hegemonic project of its downstream neighbour, by the use of a heterogeneous range of tactics of reactive as well as proactive resistance. Counter-hegemonic mechanisms imply the deploy of strategies aimed at challenging the status-quo, contesting the legitimacy of the hegemon, and building creative alternatives to resist the co-option by the powerful. Moreover, these strategies can be classified in 3 sub-categories: coercive/violent, leverage, and liberating (Casção, 2009). The following analysis will shed some light upon the strategies implied by Ethiopia to counter the Egyptian historical regional predominance in the dimension of material power.

9.1.1 Economic strategies of proactive resistance

In economic terms, *leverage* strategies of resistance/counter-hegemony involve, among others, the securing of alternative funding, the broadening of the network of international allies, the development of infrastructures and the expansion of the national production system. Due to domestic constraints (the Derg Regime and the civil war in the '80s, periods of droughts and famine, regional conflicts with Eritrea and Somalia) Ethiopia could not develop an effective and continuous policy of economic development. Extreme poverty and underdevelopment have hindered growth opportunities for the Ethiopians, and in 2011 the country was still ranked amongst the poorest (174) in terms of human development: according to the Human Development Report 2011, only 13 countries in the world showed worst indicators than Ethiopia.

Nevertheless, outstanding improvements both in economic development and poverty reduction have been registered in Ethiopia in recent times. A report released by the Department of Poverty Reduction and Economic Management of the World Bank in 2014 argued that the outputs of their economic assessment in Ethiopia for the period 1996-2011 show how "the pace of structural change is accelerating" (Martins, 2014: 25). The authors highlight some core facts that pushed the Ethiopian economy in the targeted period: an output growth strongly accelerated since 2003, the growth of the service sector, trends of increasing urbanisation, the increase of student numbers, a decline of the share of agricultural employment in favour of other sectors, a considerable increase in labour productivity, a constant process of structural transformation, and a positive impact of the demographic dividend over the economic growth (*ibid.*).

In 2013 Stratfor included Ethiopia among the only four African countries that deserved a place in its assessment over the post-China 16 emerging economies in the world, thus confirming a trend of sustained growth that could push Ethiopia to reach the group of middle-income countries by 2025 (Figure 46).

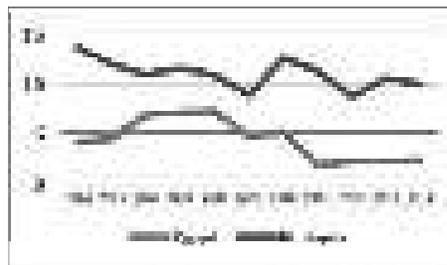
Figure 46: Post-China 16 Emerging Economies



Source: Stratfor, "<https://www.stratfor.com/image/post-china-16-emerging-economies>" Post-China 16: Emerging Economies is republished with permission of Stratfor."

The GDP annual growth rate has showed sustained growing figures for the last 15 years: from 5.9% in 2000 to 12.6% in 2010 (GoE, 2012b). Moreover, if compared with Egypt's annual growth rate, the data shows a relative advantage acquired by Ethiopia in the last decade (see Figure 47 for the 2004-14 period), and projections foresee a similar trend for the next future (see Table 9).

Figure 47: GDP growth (annual %), 2004 - 2014



Source: author's compilation (data from WB World Development Indicators, <http://data.worldbank.org>)

Table 9: Real GDP (annual % change)

Country/ Year	Avg.									Projections		
	1996- 2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2019
Egypt	4,8	6,8	7,1	7,2	4,7	5,1	1,8	2,2	2,1	2,3	4,1	4
Ethiopia	5,4	11,5	11,8	11,2	10	10,6	11,4	8,5	9,7	7,5	7,5	6,5

Source: author's compilation (data from IMF, 2014)

Since the proclamation of the Federal Republic of Ethiopia, the investment of the state into the national economy has been a priority for the Ethiopian authorities as a strategy to boost the domestic development. Indeed, the public investment has represented a consistent share of the Ethiopian production, reaching almost 20% of GDP in 2011. On the contrary, Egypt has maintained a level of public investment inferior to 10% of its GDP all across the decade of the 2000s, and has shown a significant decrease since 2009 (see Figure 48).

Figure 48: Gross public investment (% of GDP), 1992-2001

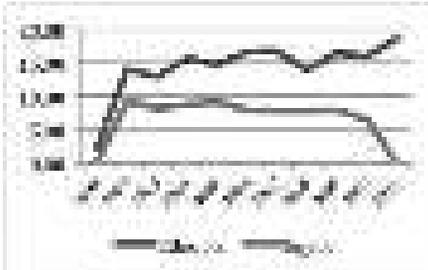


Figure 49: GDP per capita growth (annual%), 2003-14

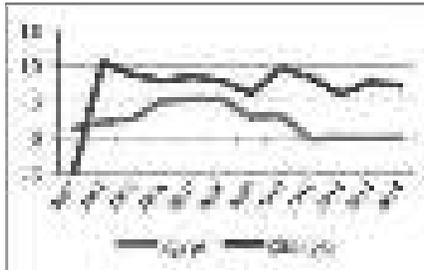


Figure 50: Net official development assistance and official aid received (current US\$, in million), 2002-12

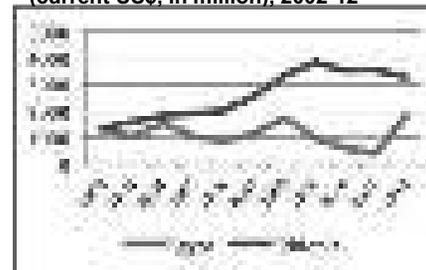


Figure 51: Technical cooperation grants (BoP, current US\$, in million), 2007-13

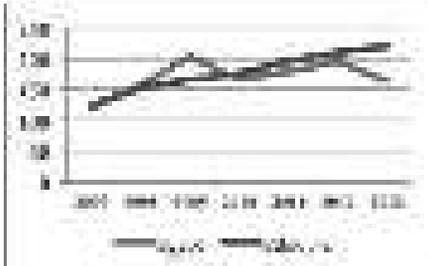


Figure 52: Export of goods and services (% growth/year), 2012-16

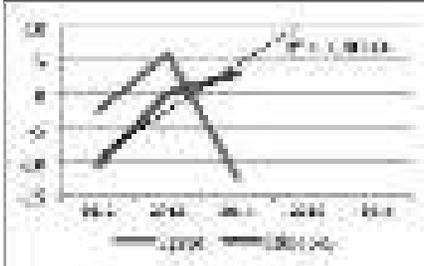


Figure 53: Export of goods and services (% of GDP), 2008-14



Source: author's compilation (data from WB World Development Indicators, <http://data.worldbank.org>)

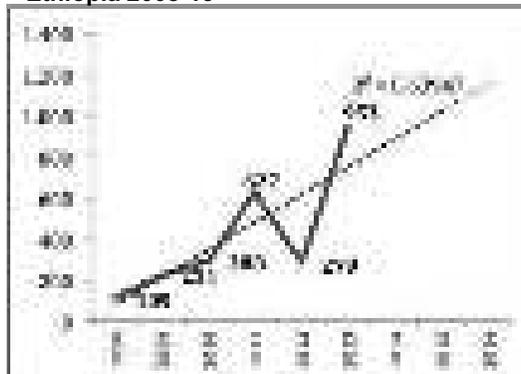
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Other economic indicators show evidences of the growing economic capacity of Ethiopia, as the following figures testify: in comparison with Egypt, the GDP per capita growth, the financial inflows for development assistance and for cooperation grants, and trends in exports, have registered several improvements by the Ethiopian economy, which has been able to reduce its once huge gap with Egypt in these dimensions (see Figures 49-53).

The increase in the flow of direct investments to Ethiopia is also a crucial factor in explaining the country's economic growth in recent years: in the last 5 years Ethiopia has seen the direct investments growing by almost 10 times, from US\$ 109 million in 2008 to US\$ 953 million in 2013 (Figure 54).

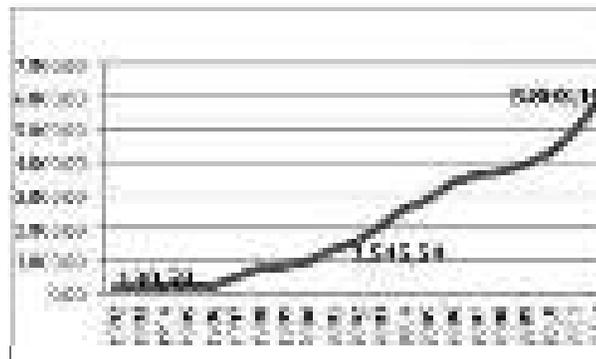
Accordingly, the trend in the FDI stock has experienced a large growth, which has pushed the figure from 1,500 million US\$ in 2002 to nearly 6 billion US\$ in 2012 (Figure 55).

Figure 54: Foreign direct investment, net inflows (BoP, current US\$, in million), Ethiopia 2008-13



Source: author's compilation (data from WB World Development Indicators, <http://data.worldbank.org>)

Figure 55: Inward foreign direct investment stock, in million US Dollars, 1992-2012



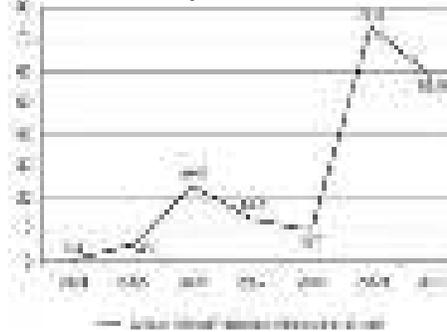
Source: author's compilation (data from UNCTADstat)

Increasing foreign investments (from both private companies and IOs), have contributed to the expansion of both public and private expenditures in Ethiopia's main economic sectors. The World Investment Report 2014 published by UNCTAD placed Ethiopia as the third largest recipient of FDI in Africa in 2013, with a remarkable increase of 240% from the 2012 figure: among the first 5 countries that have increased their investments in Ethiopia there are China, Turkey, India, Sudan and the US. In particular, the role of China has been exponentially growing in the last decade, allowing the government to develop infrastructures and commercial services.

Figure 56 graphically illustrates the trend in the Chinese investments over the period 2004-10, while Figure 57 presents the main sectors of Chinese economic interventions in Ethiopia for the period 2006-15, with Transport and Energy receiving the largest share of the investments.

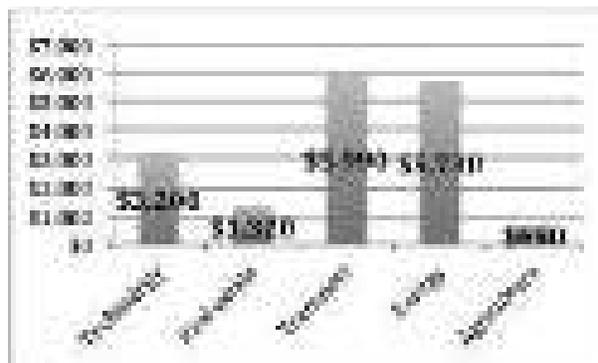
In terms of poverty reduction, the recent years have seen a constant decrease of the population below the poverty line: from nearly 50% of the population censused as poor in 1990, to less than 40% in 2010 (GoE, 2012b). Human progress, as measured by the Human Development Index (HDI), has increased by 3.1% annually growth over the last decade, placing Ethiopia as the third fastest mover of human development in the world (UNDP, 2013): in the period 2000-2013 the life expectancy at birth has increased from 52.2 to 63.6, the expected years of schooling have doubled (from 4.3 to 8.5) and the same has

Figure 56: Direct Investment from China to Ethiopia, 2004-10



Source: Ministry of Commerce of the People's Republic of China. (2010)

Figure 57: Chinese Investments and Contracts in Ethiopia (in million US\$), 2006-15



Source: author's compilation (data from China Global Investment Tracker, compiled by The American Enterprise Institute and The Heritage Foundation)

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done the GNI per capita (from 607 US\$ to 1,303 US\$).

Finally, the overall value for the HDI has shown a substantial improvement, from a mere 0,284 in 2000 to 0,435 in 2013 (see Figure 58 and Table 10 for past trends in HDI values, and Figure 59 for the 1990-2015 trend in poverty reduction).

Figure 58: HDI trends, Ethiopia, 2000-2013



Source: UNDP (2014)

Figure 59: Proportion of population below the poverty line, Ethiopia, 1990-2015



Source: GoE (2012b)

Table 10: HDI trends, Ethiopia, 1980-2013

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP\$)	HDI value
1980	43.8	3.2			
1985	44.6	3.1			
1990	46.9	3.1		0,637	
1995	49.3	2.5		0,563	
2000	52.2	4.3	1.5	0,607	0.284
2005	56.6	6.6	1.5	0,722	0.339
2010	61.5	8.2	2.2	1,058	0.409
2011	62.3	8.4	2.4	1,147	0.422
2012	63.0	8.5	2.4	1,216	0.429
2013	63.6	8.5	2.4	1,303	0.435

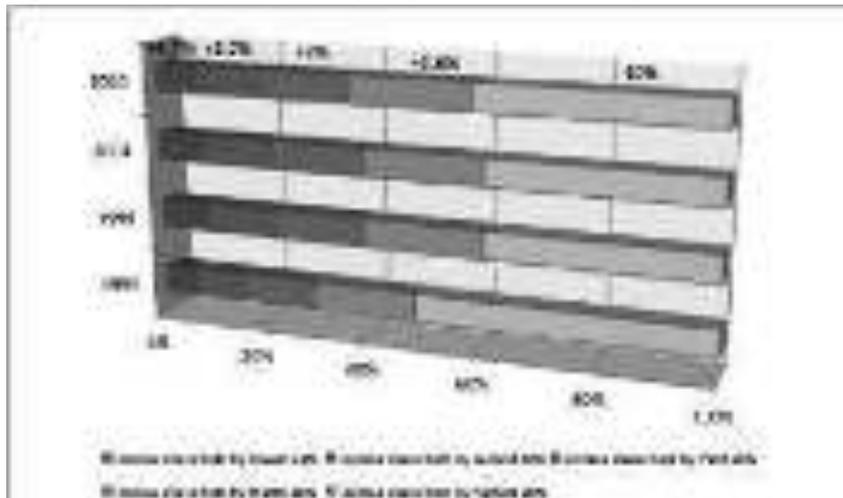
Source: GoE (2012b)

Due to the performance of the Ethiopian economic and financial sectors in the last decade, and the contingent trends in overall poverty reduction, Ncube et al. (2013) conclude that the country has the highest ranking with respect to inclusive growth among all the African countries with an average growth above 6% from 2001 to 2014. Macroeconomic stability and supported growth, assisted by lower inflation and prudent fiscal policies, are promoting structural transformations in a country, whose industrial and service sectors are expanding in parallel with the decrease of agricultural contribution to the GDP (OECD, AfDB, UNECA, and UNDP, 2015). This has favoured the expansion of a middle class in the country, which in turn is providing the country with more investments and opportunities for business: according to AfDB (2011), Ethiopia is the country that, together with Nigeria and South Africa, is expected to provide the continent

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with the largest new middle class in the next future. This forecast is supported by the trend in income distribution experienced by Ethiopia in the last two decades: in 1995, the third (lower middle class) and fourth (upper middle class) quintiles of the population held together the 32% of the total income, while the 38% in 2010 (Figure 60).

Figure 60: Income distribution per quintiles, in %, Ethiopia 1995-2010



Source: author's compilation (data from WB World Development Indicators)

Table 11: GTP Targets for the Energy Sector (2010-15)

Description of Target	2010	2015
1. Electrification, about generating capacity (MW)	1,000	60,000
2. Total length of transmission lines (km)	150,000	120,000
3. Total length of distribution lines (km)	100	10,000
4. Balance power savings (%)	10.0	10
5. Number of investments with sources of financing	100,000	1,000,000
6. Coverage of electricity supply (%)	40	70
7. Total investment of power distribution system (Birr)	40	100

Source: GoE (2010: 72)

Sustained economic growth, rising international investments and poverty reduction strategies have favoured structural changes in Ethiopia, and at the same time have had a substantial impact over the political agenda, whose priorities have evolved according to the changing national interests of the country.

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Particularly, the emphasis over hydropower development had been explicit in the Growth and Transformation Plan (GTP) 2009/10-2014/15, the Ethiopian government's programmatic document for policy guidance for the period 2010-2015. The GTP targets for the Energy sector was to quintuplicate the hydroelectric installed generating capacity by 2015 (from 2,000 MW to 10,000), to double the distribution lines (from 126,000 Km to 258,000 Km), to double the population with access to electricity (from 2 to 4 million) and to expand the coverage of electricity services by 30% (see Table 11). Not surprisingly indeed, as seen above, Chinese investments in the country have addressed the Transport and Energy sectors in a larger measure than traditional sectors, which absorbed most of the interventions in the past (i.e. agriculture).

Despite the unlikely achievement of such ambitious goals by the end of 2015,¹⁴⁵ the Ethiopian government succeeded however in implementing several hydroelectric projects for power generation, and is currently planning to expand its generating capacity between 2015 and 2020. Due to the completion of hydroelectric (i.e. the Tekeze, Gibe II, Tana Beles and FAN projects) and wind power infrastructures (i.e. the Ashegoda and Adama I projects), in the period 2008-12 power generation increased by 230% ("Generating power to transform Ethiopia", 2015). Moreover, the trial production at Gilgel Gibe III begun in September 2015 (GoE, 2015) and the completion of almost half of the GERD project as per October 2015 (Yohannes, 2015), are promising evidences of a fast-growing sector, which should ensure Ethiopia with expanding opportunities for the years to come. Indeed, the Ethiopian government allocated 20 billion US\$ for its power development program in its GTP II for the period 2015-20 (Assefa, 2014), whose main target is to generate additional 12,000 MW by 2020 (Maasho, 2015). Table 12 shows the installed and planned power generating capacity from hydroelectric sources in Ethiopia, as per the year 2015.

In the plans of the Ethiopian government, the additional electricity generated in the following years would allow Ethiopia not only to supply energy for the growing domestic demand, but also to trade energy with its neighbouring countries, thus providing the state with substantial revenues.

The vision of Ethiopia as the future power hub of East Africa has been embraced by the government for the last 10 years,¹⁴⁶ and the opportunity for untapping its vast potential in renewable energy resources (about 45,000 MW hydro; 10,000 MW geothermal and 5,000 MW wind potential) resides in its ability to implement an effective operational plan, in order to develop "organizational structures that can help plan and implement cross-border interconnection facilities, harmonize operational rules of practice for

¹⁴⁵ As per September 2015, the total installed generating capacity stands at 2,200/2,300 MW (Yewondwossen, 2015; "Closing the books on GTP I", 2015)

¹⁴⁶ "We have sufficient resources to power a very large part of Africa," Azeb Asnake, Chief Executive of state-run Ethiopian Electric Power (as cited in Maasho, 2015)

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interconnected national power grids, and put in place a transparent, fair, and viable commercial framework for cross-border trading in energy services" (World Bank, 2012). Once the GERD will be fully operational, Ethiopia could earn around 530 million US\$ per year from the export of energy through regional trade, provided that the government develops efficient power grids and transmission lines (Kebede, 2015). Furthermore, the World Bank (2012) estimates that total energy exports from hydroelectric resources could provide Ethiopia up to \$1 billion per year from the regional market, if the development plans of the government are respected. Figure 61 shows the potential for energy trade in the Nile basin.

Figure 61: Long-term electricity trade scenario in the Eastern Africa sub-region



Source: UNECA (2014: 52)

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Table 12: Existing and planned hydroelectric infrastructures in Ethiopia

Year Built	Name / River	Capacity	Year Built	Name / River	Capacity
1932	Aba-Samuel / Akaki	6 MW	2017	Gilgel Gibe IV / Omo	1,472 MW
1953	Tis Abai / Nile	11.5 MW	2017	GERD / Nile	6,000 MW
1960	Koka / Awash	42.3 MW	2020	Tekeze II / Tekeze	301 MW
1966	Awash 2 / Awash	32 MW	n.d.	Halele Werabesa	422 MW
1971	Awash 3 / Awash	32 MW	n.d.	Chemoga Yeda	278 MW
1973	Fincha / Fincha	134 MW	n.d.	Geba 1 and Geba 2	391 MW
1989	Melka / Melka	153 MW	n.d.	Baro-1, Baro-2 & Genji Diversion	896 MW
1990	Sor / Sor	5 MW	n.d.	Karadobi	1,600 MW
2000	CharaChara	84 MW	n.d.	Wabe-Shebelle (WS18)	87.75 MW
2001	Tis Abai 2 / Nile	75 MW	n.d.	Mandaya	800 MW
2004	Gilgel Gibe I / Omo	184 MW	under feasibility study	Beko Abo	1,600 MW
2010	Gilgel Gibe II / Omo	420 MW	under feasibility study	Border	1,200 MW
2010	Tekeze / Tekeze	310 MW	under feasibility study	Gilgel Gibe V / Omo	660 MW
2010	Tana Beles / Lake Tana	435 MW	preliminary study	Birbir	467 MW
2011	Finche Amer-ti Nesse (FAN) / Fincha	100 MW	preliminary study	Lower Dedessa	613 MW
2014	Genale Dawa 3	254MW	preliminary study	Dabus	425 MW
2015	Genale 6	256 MW	preliminary study	Tams	1,000 MW
2015	Geba 1 and 2	366 MW	preliminary study	Genale Dawa 5	100 MW
2015	Gilgel Gibe III / Omo	1,870 MW			

Source: EEPKO (2010); EEPKO (2011); Bekele et al. (2012); EEPKO website; MOWR website.

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In 2011 Ethiopia signed a deal with Djibouti for the sale of 35 MW (expandable to 60 MW) through a 230 Kv transmission line 283 Km long, estimated to be earning Ethiopia around 1.5 million US\$ monthly ("Djibouti-Ethiopia Power Interconnection: Hydro-Powering East Africa", 2013). In 2013 Ethiopia signed a similar deal with Sudan for exporting 100 MW (expandable up to 300 MW) (GoE, 2012a): the connector with Sudan also targets the Egyptian market, with an export potential of 3,400 MW by 2018 (UNECA, 2014: 192). Also Kenya is among the countries interested in purchasing energy from Ethiopia, and an energy deal signed in 2011, which followed a first deal signed back in 2006 (regarding the future sale of 500 Mw from the Gilgel Gibe III) (Teklu, 2006), preceded the 2012 agreement for the development of a US\$666 million transmission line, later included in the Eastern Electricity Highway Project of the same year.¹⁴⁷ According to the Ethiopian government, the interconnection will be fully operational by 2016, enabling Ethiopia to export up to 1,000 MW to Kenya (EEPCCO, 2013). Figure 62 shows the targets of the energy export planned by the Ethiopian government.

Figure 62: Electricity export plan and implementation of Ethiopia



Source: UNECA (2014: 193)

Sustained economic growth, poverty reduction strategies, and increasing capacity to attract foreign investments are among the factors that enable Ethiopia to develop its hydraulic mission, which mainly addresses

¹⁴⁷ In 2012 the World Bank secured funding of US\$243 million for Ethiopia and US\$441 million to Kenya ("World Bank Approves New Power Transmission Line between Ethiopia and Kenya to Boost Electricity and Economic Growth in East Africa", 2012). In 2013, the African Development Bank (with USD 338 million) and Agence Française de Développement (with USD 118 million) further funded the project, with remaining USD 88 million and USD 32 million to be covered by the Government of Kenya and the Government of Ethiopia, respectively ("Ethiopia-Kenya Power Interconnection: Phases I and II - The Power of Regional Interconnection", 2013)

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the energy generation potential of the country from renewable resources (hydropower, particularly). If Ethiopia achieves its energy goals, the eventual revenues originating from the energy export to the Nile states could substantially contribute to boost its domestic economy, thus increasing its relative material power within the basin. Moreover, the opportunity to become the power hub of East Africa would not simply provide Ethiopia with enhanced possibilities for regional trade, but will also allow the country to become the main benefit provider of the region (through the sale of cheap energy), thus augmenting its relative bargaining power among the Nile riparian states.

In terms of water infrastructure development over the Nile River, challenges to the established hydro-hegemonic regime have recently emerged from Sudan, too. In particular, while Ethiopia has mainly focused on the development of water infrastructures for the exploitation of the hydropower potential within the country, Sudan has also implemented a strategy of expansion of its irrigation potential for agricultural production. The 2004 peace agreement, the revenues from the oil exports and the growing flow of investments from China are among the factors that have promoted the national planned strategy of hydraulic development (Large and Patey, 2011). The separation from oil-rich South Sudan in 2011 has accelerated the need for Khartoum to exploit the potential of other national resources, and the priority given to the agricultural sector by the government reflects the urgency of harnessing the huge domestic water potential in terms of both irrigation opportunities and hydropower development. Remarkable outcomes of Sudanese water policies in the last decade are, among others, the completion of the Merowe multipurpose project and the heightening of the Roseires Dam, both on the river Nile, and the planned development of further infrastructures by 2025.

The USD 2 billion Merowe multipurpose project, completed in 2009 over the main Nile north of Khartoum, is currently the largest hydropower project in Africa (Chen and Swain, 2014) and doubled the overall energy production of the country at the time of the inauguration, with a generation capacity of 1,250 Mw. Moreover, it also guarantees the irrigation of 20,000 ha for agricultural projects. Originally conceived in 1947 by Egypt, which lately decided to implement the HAD downstream instead, the Merowe dam was finally realized after the completion of numerous feasibility studies, whose most recent were the 1993 and 1999 studies conducted by a Canadian and a Russian company, respectively (Hashim, 2008).

Following the Egyptians' approval to the project by the 1959 Nile Waters Agreement, Sudan built the Roseires dam on the Blue Nile in 1966. Originally conceived for irrigation purposes, in 1971 the project was expanded with the addition of a power generation plant of 280 Mw. Without the Egyptian approval, Sudan decided in 2008 to proceed unilaterally in

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raising the height of the dam (Waterbury, 2002). After five years, the project was inaugurated in January 2013 with an increased capacity of 3 bcm in its reservoir, the potential of irrigating up to 1.3 million ha, and a power generating capacity of 1,800 Mw ("Roseiris Dam Heightening Project Achieves a Lot of Economic, Social Advantages, DIU Director", 2012).

The hydropower production of Sudan is estimated to be around 45,000 Gwh per year (Awulachew et al., 2008), and Khartoum is planning to exploit this potential by implementing several water infrastructures in the next future. The proposed dams on the main Nile include Mugerat (240 Mw), Dugash (285 Mw), Shereik (350 Mw) and Sabaloka (120 Mw), which will follow the completion (expected within the end of 2015) of the Atbara and Seteet projects in Gedaref and Kassala states (with a combined capacity of 320 Mw). Additionally, the Dal (780 Mw) and Kajbar (120 Mw) dams downstream of the Merowe project are currently under study on the 2nd and 3rd Nile cataract respectively, along with other minor water projects on the White Nile (Cascão, 2009; Hashim, 2008; Yassin, 2014).

Sudan currently hosts the second largest irrigated land in the Nile Basin,¹⁴⁸ and is also planning further agricultural expansion projects in the Blue Nile Basin: additional infrastructures and development of existing schemes are estimated to add approximately 888,950 ha to the present irrigated land by 2025, which will require additional 9,000 Mm3 of water than current withdrawals (Awulachew, 2008). Table 13 illustrates the projects planned by Khartoum by 2025.

Table 13: Major planned irrigation development in the Sudanese portion of the Blue Nile Basin

Name	Location	Command area (ha)	Description	Benefit (ha)
Atbara	Sudan	241,000	Expansion of existing scheme	500
Seteet	Sudan	4,500	Expansion of existing scheme	500
Dugash	Sudan	285,000	Expansion of existing scheme	500
Mugerat	Sudan	240,000	Expansion of existing scheme	500
Sabaloka	Sudan	120,000	Expansion of existing scheme	500
Kajbar	Sudan	120,000	Expansion of existing scheme	500
Dal	Sudan	780,000	Expansion of existing scheme	500
White Nile	Sudan	1,750,000	Expansion of existing scheme	500
Atbara	Sudan	241,000	Expansion of existing scheme	500
Seteet	Sudan	4,500	Expansion of existing scheme	500
Dugash	Sudan	285,000	Expansion of existing scheme	500
Mugerat	Sudan	240,000	Expansion of existing scheme	500
Sabaloka	Sudan	120,000	Expansion of existing scheme	500
Kajbar	Sudan	120,000	Expansion of existing scheme	500
Dal	Sudan	780,000	Expansion of existing scheme	500
White Nile	Sudan	1,750,000	Expansion of existing scheme	500
Total		888,950		500

Source: Awulachew et al. (2008: 42)

¹⁴⁸ About 1,750,000 ha, second only to the almost 3,000,000 of irrigated land in Egypt (NBI, 2012)

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amounted to 14.5 bcm in 2009 (Hashim, 2008), Cairo claimed that Sudan was already using its full quota (18.5 bcm) allocated under the 1959 water agreement (Tawfik, 2015). The Egyptian claim was indirectly confirmed by a previous statement made by a water expert of the Sudanese Ministry of Irrigation and Water Resources, who in 2007 estimated the future evaporation losses in three main dams (Merowe, Kajbar, Dal) being over 4 bcm (Hashim, 2008). Moreover, the 25-year strategy (2002-2027) of the Sudanese governments projects a severe increase in the country's total water demand, estimated to reach 48.1 bcm in 2025 (GoS, 2010). If these projections are confirmed, the future water needs of Sudan will require not only a revision of the 1959 agreement with Egypt, but most probably a thorough re-negotiation of water allocation principles among the riparian states, given the evidence that the Nile basin has already reached its "closure" point.

9.1.2 Military strategies of the counter-hegemons

In terms of counter-hegemonic mechanisms, the upstream Nile states have barely resorted to coercive strategies or covert operations against the downstream hydro-hegemon. The gap in term of material power that has characterised the intra-basin relationships for the 20th century has dissuaded the less powerful states to take any concrete action, despite the recurrent threats of the use of force made by Egypt with regard to the Nile-issue.¹⁴⁹

Ethiopia, for example, has recently embarked a psychological war of words with Egypt over the Gerd-issue, before the two countries signed a Declaration of Principles with Sudan in March 2015. In particular, Ethiopia reacted vehemently to the infamous 2013 Morsi's statement in defence of the Egyptian historic rights over the Nile,¹⁵⁰ with Dina Mufti, Ethiopia's foreign ministry spokesman, who replied that Addis Abeba was "not intimidated" by Egypt's psychological warfare (Verhoeven, 2013b). This message was repeatedly advanced throughout the last two decades by the Ethiopian authorities, whose determination in stating that there are no "earthly forces" (Ethiopian Foreign Minister Seyoum Mesfin, as cited in Mbaria, 2013) that could stop the country from exploiting the Nile waters acts as a counterbalance of the Egyptian narrative, which sees in its acquired historical rights a "red line" (Egypt's Irrigation Minister Mahmoud Abdel-Muttalib, as cited in Ashenafi, 2014) that won't be allowed to be crossed. Nevertheless, the Ethiopian government has not threatened military interventions so far, nor has declared the intention to recur to violence with regard to the Nile dispute, although the country's army remains on

¹⁴⁹ See previous Chapter 8.2.2.2 on the military mechanisms of Hydro-Hegemony

¹⁵⁰ "In May, in one of his last acts in power, Morsi claimed that "all options" were on the table to protect his country's water supply. "We are not calling for war, but we will never permit our water security to be threatened," he said, adding that "our blood is the alternative" to losing one drop of water". (Malone, 2013)

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"high alert" due to rumours of an eventual Egyptian attack over the GERD ("Ethiopia and Sudan set to launch joint military operation", 2014).

The most recent military confrontation between the two countries dates back to 1876, when Ethiopia defeated the Egyptian army at Gura (nowadays in Eritrea) and scaled down Egypt's plans of invading the upstream territories of the Nile basin (Arsano, 2007). While an open conflict has since then never occurred, allegations of Ethiopian-led covert operations to destabilize Egypt's internal security have periodically been reported by the Egyptian authorities. In particular, Ethiopia was accused to indirectly act against Egypt through the support to the SPLA in early 1980s in Sudan, which ultimately targeted the construction of the Jonglei Canal on the White Nile in southern Sudan, a project conceived and supported by the Egyptian authorities (Collins, 1990). The Menghistu's dictatorship had backed the SPLA leftist movement since the beginning of the civil war in Sudan in 1983, with logistic support within the Ethiopian border and the provision of army to the rebels (El Zain, 2007). Joint Ethiopian army-SPLA operations also targeted on three occasions (1987, 1989 and 1997) the twin towns of Roseires and Damazin (De Waal, 2007), where the Roseires dam is located. However, rather than counter-hegemonic strategies aimed at contrasting Egypt's hydro-hegemony over the Nile, these military interventions have to be ascribed to the generalised conflictive nature of the inter-regional relationships of that specific historic period, where civil wars in Sudan and Ethiopia were dictating the foreign policies of both countries in a domestic environment of permanent instability. Despite the fact that *a)* the SPLA was supported by Menghistu's Derg regime; *b)* the Jonglei Canal was part of the Egyptian hydro-hegemonic strategy of resource capture upstream; and *c)* that the Egyptian were supporting the Sudanese central government, there is a lack of evidence for arguing that the Jonglei operation was dictated by basin-wide Nile-related interests: rather than a Sudanese counter-hegemonic strategy against the northern hydro-hegemon, or an indirect confrontation between Ethiopia and Egypt in Sudanese territories, the Jonglei scheme was most probably a military target as it was seen by the southern Sudanese as the iconic infrastructure of the domination of northern Sudanese.

Another reason for Egypt to claim that Ethiopia was covertly acting against it emerged in 1995, when Mubarak survived an assassination attempt in Addis Abeba. The Egyptian president travelled to Ethiopia to attend to a meeting of the Organization of African Union (OAU), and a group of gunmen ambushed his motorcade. Mubarak survived the assassination attempt and returned immediately to Egypt (Hedges, 1995). While the Egyptian government never accused Ethiopia of being responsible for the organisation of the attack, some doubts persisted on a hypothetical participation of Ethiopian citizens in the operation ("Egypt says Ethiopians had assassin role", 1995). However, lately that year the responsibility for

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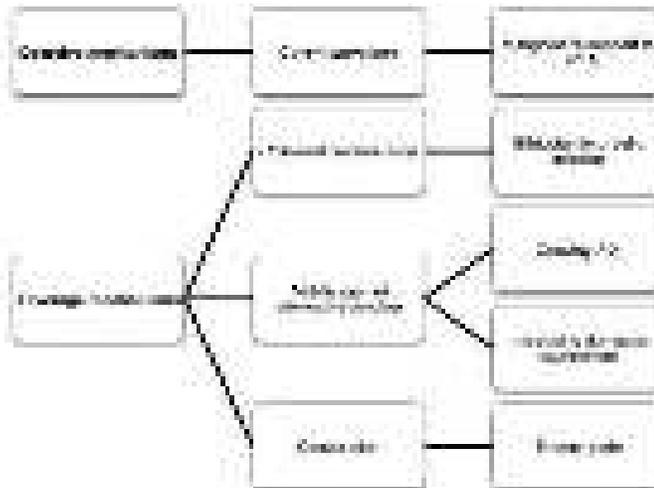
the assassination attempt was claimed by Al-Gama'a al-Islamiyya (The Islamic Group), an Islamist militant group strictly connected to the Egyptian Islamic Jihad that had been fighting the Egyptian government for over a decade (Ibrahim, 1995). In 2013, Hussein Shamit, the self-confessed head of the operation, stated in an interview that all the people involved were Egyptians, and did not reveal any new details about the possible participation of Ethiopians to the operation (Hatita, 2013).

Despite evidences of covert military operations or direct involvement of the Ethiopian army in other riparian states' internal affairs, it can be argued that these initiatives were not primarily addressed at increasing Ethiopia's control over the Nile waters, but were mainly driven by the broader conflictive nature of the contingent situation in the region. In particular, Menghistu's support to Sudanese SPLA during the Derg regime has to be analysed within the framework of reciprocal mistrust between Khartoum and Addis Abeba in that specific political era, rather than as a precise strategy to increase control over the Nile waters. At the same time, the failed assassination attempt against Mubarak in 1995 had little to do with water-related issues, regardless of the actual involvement of Ethiopian and Sudanese citizens in the operation.

One operation that, despite not being military in nature, was certainly unilaterally and resolutely conducted by Ethiopia, was the launch of the GERD project in 2011 and the alleged amendment to the originally planned size of the reservoir. Although the announcement of the construction of a water infrastructure is not a military operation per se, the Egyptian government claimed that it was equivalent to a declaration of war, since the project is likely to harness the Egyptian water security, which is "a matter of life or death, a national security issue that can never be compromised on", according to foreign ministry spokesman Badr Abdellatty (Igunza, 2014). Ethiopia was accused by Egypt not only to have failed to notify on time the Egyptian government about the project (Malone, 2011), but also to have secretly quintuplicated the reservoir capacity taking advantage of the turmoil in Egypt against Mubarak's regime: according to Nouredine (2013), the originally planned reservoir capacity of 14 bcm was deliberately increased to 74 bcm during the 2011 revolution that dismissed Mubarak (Hussein, 2015).

The analysis of resistance-mechanisms developed by Ethiopia in the last decades has shown how the Country is deploying strategies of counter-hegemony in order to increase its relative material power vis-à-vis Egyptian's historic preponderance on this dimension. Whether these facts and data validate the hypotheses of a shift in terms of material power over the Nile waters control and utilisation need to be further developed, but some evidences of the increasing material power of Ethiopia can be deduced from the trends and economic indicators identified.

Figure 64: Ethiopia's counter-hegemonic tactics



Source: author's compilation

In conclusion, since the early 2000s Ethiopia has effectively deployed counter-hegemonic mechanisms in order to challenge the Egyptian hydro-hegemony. In the specific dimension of material power, Ethiopia has attempted to reduce the huge long-term existing gap with Egypt in terms of economic development through a process of structural reforms aimed at the achievement of the middle-income status by 2025. In particular, coercive and leverage counter-hegemonic mechanisms have contributed to shift the regional power balance, favouring in relative terms the rising of the regional role of Ethiopia.

9.2 Power shifts in the bargaining and ideational dimensions

In terms of control over the agenda and influence over negotiations, Egypt has gained regional supremacy in the second-half of the 20th century, and has been able to consolidate its position by exploiting external international support and by taking advantage of its internal national cohesion. Relative gains over the other Nile countries in terms of power to negotiate, inherited from Britain's strategic role during colonial times, have been maintained thanks to proactive diplomatic initiatives and support from international superpowers: as Cascão (2006) argues, in the intra-basin relationships Egypt has exploited the support from Britain first, then from the Soviet Union, "and finally, in the period since 1974 [from] the United States and the World Bank". In addition, the government of Egypt has since the

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1960s put the water security issue at the top of the priorities of its agenda, and has deployed its strong bargaining capability in order to preserve its acquired rights over the control of the Nile waters. Furthermore, the diplomatic efforts of the Egyptians have aimed at influencing the other riparian states towards the vision that the interests of the basin merge with the interests of Egypt: the preservation of the status quo of hydropolitical relations in the basin, which serves the very interests of Egypt, was indeed announced in bilateral and multilateral negotiations as the only feasible way to preserve the integrity of the Nile system (Arsano, 2007). The fact that no basin-wide agreement over the Nile is still in place, and that the only existing legal frameworks are the ones conceived by the Egyptian authorities is a direct effect of the ability of Egypt in setting the agenda for the whole basin.

The level of bargaining supremacy reached by Egypt in contemporary times is the effect of a proactive deliberate strategy of securing the control over water resources through a mix of coercive measures and consensus-building advocacy. The normative nature of some of the tactics used by Egypt is clear in the legal agreements that it has contracted with other Nile riparian states, in particular with Sudan and Ethiopia. The 1959 Agreement with Sudan for the Full Utilisation of the Nile Waters, and the 1993 Framework for General Cooperation proposed to Ethiopian PM Meles Zenawi, are explicative of the diplomatic moves that enabled Egypt to secure significant portion of the Nile flows for its own internal uses (Cascão, 2009). In addition to normative tactics, Egypt has also employed containment tactics, in order to prevent upstream hydraulic developments and eventual amendments to previous agreements signed. Finally, the hegemonic strategy of Egypt has included utilitarian tactics, such as the utilisation of systems of incentives to other Nile riparians in order to see its own interests recognised in exchange of smaller concessions in other areas external to the water sector (i.e. financial compensations and investments).

Finally, the ability to influence the regional agenda according to national interests has shown Egypt's success in both setting certain priority issues and silencing controversial topics that risk downplaying the Egyptian aspirations over the Nile: Cascão (2009) finds out that the main themes that Egypt has prioritized in the political agenda are its strong dependence on the Nile waters, its historical rights and the legitimacy of the "prior use" conception, and the legitimacy of the water agreements in place. At the same time, Egypt's diplomatic initiative has been able to exclude from the agenda the revision of past agreements and the potential development of water infrastructures upstream.

Despite the consolidation of asymmetries in the dimensions of bargaining and ideational power during the 20th century, some evidences of a shift in the regional power balance have emerged in the last 15 years: challenging the status quo, the upstream riparian states have increasingly

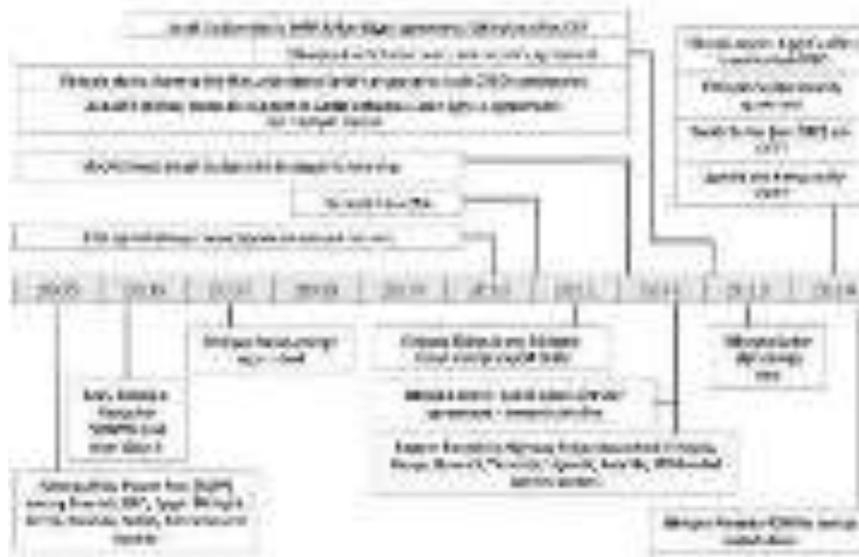
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contested the legitimacy of the hydro-hegemon, and advanced creative alternatives to resist the co-option by the most powerful. In particular, the non-hegemons have employed leverage and liberating mechanisms, and to a lesser extent coercive, in order to increase their relative power in the bargaining and ideational dimensions. The use of both reactive and active diplomacy as a resistance tool and the promotion of multilateral cooperation are evidences of leverage mechanisms in the dimension of bargaining power (Cascão, 2009), while liberating mechanisms in the dimension of ideational power include, among others, the promotion of principles of IWL (i.e. equitable and reasonable utilisation of transboundary waters) and the rejection of the narrative of historical acquired rights of prior use (Tawfik, 2015).

During the first 15 years of NBI's operation, Ethiopia has engaged in intense diplomatic activities in order *a)* to obtain support to its claims by the other upstream riparian states, and *b)* to promote the design of a new basin-wide legal framework. As a result of its perseverant strategy of resistance to the Egyptian hydro-hegemony, Ethiopia succeeded in strengthening its relationships with most of the Nile states (the "upstream block"), and led the process that brought five riparian countries to sign the Cooperative Framework Agreement (CFA) in 2010. In order to secure support from the other Nile states, Ethiopia has promoted bi- and multi-lateral agreements by offering economic and military benefits to the other parties. By offering energy deals and military assistance, Ethiopia has progressively replaced Egypt as regional benefit-providers in the Nile Basin (see Figure 65). This feature of the evolving Nile hydropolitics is not only an evidence of changes in the regional power balance, but also a further confirmation of the cross-sectoral nature of water issues: in order to gain advantages in the water sector, Ethiopia has offered to the other riparian states economic benefits and cooperation in separate fields, for example in terms of peace and security agreements. One of the main shifts that have concerned Egypt relates to the progressive convergence between Ethiopia and Sudan: indeed, al-Bashir has recently stated its support to the Ethiopian GERD project, and has repeatedly confirmed its intention to join the CFA. The upstream-midstream re-flourished cooperation between Ethiopia and Sudan not only could deprive Egypt of an important historical ally, but it would especially push forward the process of adoption of the CFA, leaving Egypt as the only country in the Basin who opposes it. The so-called "Big-Blue Temptation" (Waterbury, 2002) of Sudanese-Ethiopian cooperation has been always regarded by Egypt as a potential threat to its interests in the Basin, but is currently more likely to occur than ever before, given the rising role of Ethiopia as regional superpower and the relative erosion of the hegemonic legitimacy historically acquired by Egypt.

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Figure 65: Evidences of changes in the dimension of bargaining power in the Nile hydropolitics, 2005-2014



Source: author's own compilation

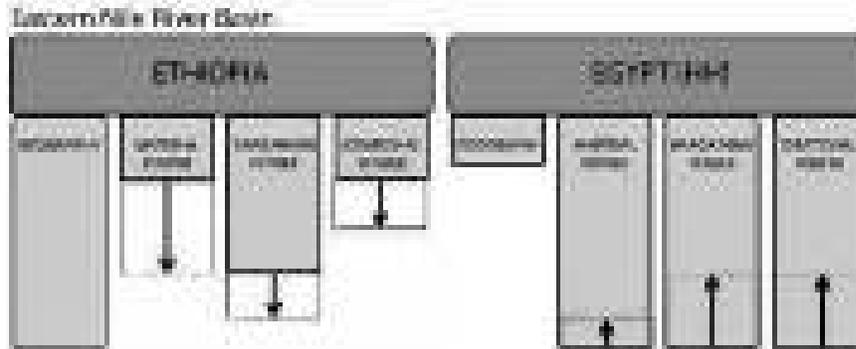
The process of contestation of the hydro-hegemon's rule led by Ethiopia also holds interesting ramifications in the dimension of ideational power. The analysis over water narratives advanced in Chapter 7 explored the role of alternative discourses employed by Ethiopia in order to construct water imaginaries, which aim at challenging the Egyptian "sanctioned discourse". The claim over rights of water utilisation more and more loudly advanced by the upstream countries is a direct challenge to the downstream narrative over the principle of historical acquired rights of prior use, and at the same time an explicit contestation of existing water agreements over the Nile. The entry into force of the UNWC in 2014 is an additional factor that undermines the legitimacy of the Egyptian claims, and reinforced the promotion of the principle of "equitable utilisation" upon which Ethiopia has built its entire counter-hegemonic discursive strategy. In particular, Ethiopia has insisted in denying the legal nature of a formal veto power that downstream states might hold with regard to upstream hydraulic developments, one of the main arguments in the Egyptian water narrative: indeed, the most largely accepted interpretation of the UNWC clearly states that riparian countries are not entitled to veto power on projects over international watercourses (Rieu-Clarke et al., 2012). In addition, the UNWC subordinates the duty of prior notification, another core argument of the downstream narrative, to the no-harm rule: prior notification on

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planned projects is only due in cases where a transboundary *significant and adverse* impact is likely to occur, and not in *any* case of hydraulic planning. Therefore, the evolution of the norms of IWL in terms of transboundary water management has provided Ethiopia with counter-arguments to the historical discursive claims of the hydro-hegemon: as a result, the regional balance of power in the ideational dimension has shifted towards the Nile upstream block, at the expenses of Egypt.

In conclusion, the counter-hegemonic mechanisms employed by the non-hegemons have succeeded in contesting the legitimacy of the historical hydro-hegemonic regime consolidated by Egypt. The relative erosion of the Egyptian leadership in the dimensions of bargaining and ideational power has favoured the Ethiopian claims, spurred by both reactive and proactive diplomatic efforts and by the institutionalisation of legal water principles at global level. As evidence of the dynamic nature of inter-state relationships, the power balance in the Nile Basin currently shows changes in all the three pillars of hydro-hegemony (see Figure 66): rather than be static, the Nile hydropolitics entails processes that at different stages registers and reflects the evolving dynamics of regional broader interrelationships.

Figure 66: Changes in the pillars of hydro-hegemony for Ethiopia and Egypt



Source: author's compilation, adapted from Cascão and Zeitoun (2010)

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Chapter 10. The Nile River Basin Regime by 2050: Opportunities for Basin-wide Integrated Water Management

This chapter concludes the analytical section of the study, and presents projections over the future of the Nile Basin. A critical elaboration of the projected data is advanced in ch. 9.2, with particular attention to both physical and economic aspects attained by the resource water in the Nile basin. Then in ch. 9.3 the implications of the water-food-energy nexus for the development of water policies in the Nile are assessed in terms of both potential and constraints of the economic exploitation of water resources in the basin. Finally, ch. 9.4 presents an assessment over future challenges and potential solutions towards the institutionalisation of effective cooperation among the riparian states. With a precise focus over water policy development, this analysis aims at contributing to the advancement of the hydropolitical literature with its in-depth empirical assessment over the case study.

10.1 The future of the Nile

The Nile River Basin represents one of the major transboundary water regimes in the world, connecting 11 countries with an estimated population of 300 million. The interdependence between upstream and downstream countries goes far beyond the hydrologic features of surface and groundwater resources and involves socio-political as well as economic linkages, which rely both on historical (often conflictive) relationships and on evolving patterns of diplomatic developments. The challenges arising from the complex management of the Nile flows urge for an analytical shift from the *watershed* paradigm to a broader *problemshed* approach in order to take into account regional power asymmetries, dynamics of bargaining processes, legal assessments within international water law, social implications of water management policies and economic analysis of benefit-sharing opportunities.

The changing pattern of power asymmetries, the ambitious plans of unilateral development of water infrastructures by upstream countries, the evolving practices of International Law and the growing interconnectedness of most Nile countries on water-related fields (such as hydroelectric power generation and intra-basin energy trade) are substantially changing the status-quo towards the emergence of a new Nile Basin water regime. In the following sections, the rapidly evolving setting of the Nile Basin water management will be investigated from the perspective of social science studies, with the aim to address past and present water crises within the established regime, and with the purpose of advancing appropriate policies according to the range of future scenarios identified.

10.1.1 An increasing population with limited water resources

Population growth in the Nile countries is likely to severely impinge on future water availability in the region: past and future trends show that the rapidly increasing population in the basin will substantially affect not only the quantitative availability of water, but also its quality and its inter-sectoral distribution. These in turn are expected to impact at different levels on several regional dynamics, from social to economic stability as well as on political relationships and features of water governance.

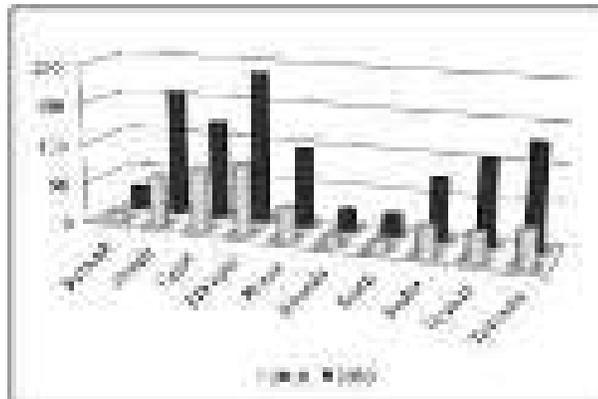
Estimates over the population growth in the region vary according to the accuracy of data and the methodological approaches of different scenario modelling, but it is undeniable that the overall population in the Nile basin will experience a sharp increase in the next decades. According to the most recent World Population Prospect (UNDESA, 2013), the Nile basin population is likely to almost double by 2050, and the Eastern Nile

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River Basin alone will host more than 400 million people,¹⁵¹ doubling the figure for 2010. Obviously this increase won't be evenly distributed among the riparian countries, and the inter-state disparities in terms of population growth will deeply affect not only national policies, but also, and most importantly perhaps, the harmonization of regional strategies and the processes toward the institutionalisation of basin-wide cooperative mechanisms. Indeed, with the regard to population increase, it is remarkable to highlight the growth that both Egypt and Ethiopia will experience, these states being the most important representatives of downstream and upstream interests, respectively.

The Egyptian population, despite a relatively low growth rate,¹⁵² is expected to reach 120 million by 2050, with an expected 56% increase with respect to the 2010 figure. Estimations over the population growth in Ethiopia are even more apocalyptic: with an expected increase of 115% over the period 2010-2050, the Ethiopians will likely reach 190 million by 2050, a figure that would push Ethiopia to the 9th place in the world ranking of the most populated countries (UNDESA, 2013).¹⁵³ See Figure 67 for the actual and estimated population prospect in the Nile Basin.

Figure 67: Nile Basin population, actual (2010) and estimated (2050), in million



Source: author's compilation (data from UNDESA, 2013)

Moreover, despite a population increase in Egypt and Ethiopia of 20% and 34% respectively over the period 2002-2013, the total freshwater

¹⁵¹ The 2013 UNDESA World Population Prospect estimates that by 2050 the population of Egypt, Ethiopia, South Sudan and Sudan will reach 411,268,522 people under the medium fertility scenario.

¹⁵² Population growth rate in Egypt was calculated around 2% in 2013, a low value relatively to the 3-4% growth rate for the other riparian countries (UNDESA, 2013)

¹⁵³ According to the UNDESA (2013) estimations, among the top-20 countries for population size in 2050 there will be 6 Nile Basin riparian states, with Egypt and Uganda following Ethiopia with 122 and 104 million people respectively.

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withdrawals have remained the same over the same period in both countries. Consequently, the decrease in water availability per capita has shown constant regressive figures both in Egypt and Ethiopia: if the total water withdrawal per capita in Egypt was 1,000 m³ in 2000 (FAO, 2015), this was reduced to 832 m³ in 2013, whereas the figure for Ethiopia shows a decrease from 80 m³ per capita in 2002 (*ibid.*) to a mere 59 m³ in 2013. If this trend will continue over the next decades, the availability of water per capita is likely to experience a constantly rapid decrease as the population keeps growing and the water withdrawals remain constant: according to UN Water projections, by 2050 in Egypt the share per person will decrease to less than 300 cubic meters/years (Oestigaard, 2012).

These figures alone would not automatically provide evidences for increased regional water stress in the future, but the exceptional growth of the Nile population is likely to exert increased pressure over the available freshwater resources. Nevertheless, while a purely neo-Malthusian approach would equate the increase in population with raising competition over scarce resources, the causality-link is not always proved and population growth is nothing but one of the several factors that will impact over the withdrawal, distribution and utilisation of water resources in the Nile River Basin.

10.1.2 Urbanisation prospects in the Nile basin

Population growth not only shows disparities among the basin countries, but it is also unevenly distributed at domestic level: whether most of the population increase will be experienced in rural areas or otherwise in urban settlements is likely to have a substantial impact on the distribution and utilisation of available water resources. For example, in Egypt and Sudan the proportion of population living in rural areas has remained constant over the last 20 years,¹⁵⁴ meaning that there has not been any major migration towards urban areas. In Ethiopia instead, the percentage of rural population has decreased by more than 5% in the period 1993-2013, while the urban settlements has shown an increase of 10 million people over the same period. Therefore, according to this population distribution over time, the UN estimates that while the urban population in Egypt and Sudan is expected to increase by 13% and 16% respectively by 2050, Ethiopia will experience a much greater rural-urban migration that will account for an increase in urban population larger than 20% by 2050 (UNDESA, 2013).

Without disregarding the character of uncertainty of these projections, these figures shall however be taken into account when addressing the likelihood of future water crises in the Nile basin, since they suggest that if

¹⁵⁴ According to the WB, the rural population in Egypt accounted for 56,9% of total population in 1993, and 57% in 2013 (The World Bank, Worldwide Governance Indicators)

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the population distribution changes, so would do the future water demand as well, if these trends are confirmed. Urban settlements have usually higher levels of per capita water use than rural areas, since the water demand for municipal needs constantly grows (WWAP, 2015). This increase is not only driven by the population growth itself, but mainly by the changing patterns of water use and consumption that rapid urbanisation originates along with sustained economic development: not only the industrial sector will increase its water demand due to the likely expansion of the sector (industries are mainly settled in or near urban settlements rather than in rural areas), but also the demand for piped access to water facilities will increase as the urban population grows, as well as the demand for new water-consuming goods by a growing middle class, and the demand for more (and more diverse) food items. Therefore, despite the fact that agriculture will still hold the lion share of the available water resources in the basin (WWAP, 2015), in the next decades the Nile riparian countries will have to face the challenges that increased water needs for the urban areas and industrial activities will pose to both domestic and regional water policies, besides general population growth.

10.1.3 Changing patterns of sectoral distribution

Among others, one of the crucial aspects to be included into the analysis is represented by the sectoral distribution of water resources: inter-sectoral competition over an increasingly scarce resource is likely to rise, with possible consequences over the intensification of disputes or conflicts among different water users.

Agricultural activities currently account for the greatest proportion of total water use worldwide, driven by the high demand for irrigation purposes: in 2005, agriculture was estimated to consume 70% of total freshwater withdrawals worldwide. In Africa, the share of water used in agriculture over the total consumption is even higher, accounting for more than 80% (WWAP, 2012). In the Easter Nile River Basin is remarkable the figure for Ethiopia, where agriculture water use has remained stable over the last decade with almost 94% on total withdrawals, whereas industrial activities only consumes less than 0,4% of the national water availability.¹⁵⁵

Despite trends of growing industrialisation processes in the countries along the Nile River, FAO estimates that new vast harvested areas will be developed in the next decades, in particular in the Blue Nile Basin: the projections for 2050 in Egypt, Ethiopia and Sudan show an expansion in irrigated areas of about 2 million ha with respect to 2005, with Ethiopia expected to increase its land exploitation by more than 120% by 2050 (FAO, 2011). According to these figures, the water demand for irrigation in these three countries is expected to grow by 13% over the same period, thus es-

¹⁵⁵ The World Bank, World Development Indicators (WDI), <http://databank.worldbank.org/data/> accessed on 06/04/2015.

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calating the competition for water among the different economic sectors of the societies within the basin. In Egypt, for example, the growing water demand in all sectors will likely increase the gap between available water and unmet demand: the WB estimates that in the decade 2040-2050 the overall unmet demand will reach almost 12,000 MCM, a scenario that would cost to Egypt 11 billion USD annually in order to reduce water shortages (Immerzel et al., 2011).

10.1.4 The river closure as a constraint for future withdrawals

On the water-supply side, the Nile River Basin does not provide many opportunities for untapping new additional freshwater resources. Considering that a) over the 2000-2010 period, 90% of the total water withdrawals in the Nile region occurred in the Eastern Nile Basin (NBI, 2012), and that b) neither Egypt nor Ethiopia nor Sudan have experienced increases in the annual freshwater withdrawals since 2002,¹⁵⁶ it could be scientifically argued that the Nile is already a “closed” basin,¹⁵⁷ which means that it has already been exploited at its full potential and no water is left for additional withdrawals.

Being a closed basin means that on the supply side little room is left for increasing the availability of surface freshwaters, and that the exploitation potential needs to be addressed in terms of groundwater resources, intra-basin transfers, virtual water trade, wastewater treatment, minimization of water losses, upgrading of current hydraulic infrastructures and development of new technologies (such as desalination processes).

On the demand side however, strategic policies and improved water governance could well provide proper mechanisms in order to address the increasing water demand, as well as the inter-sectoral competition for water, its distribution and utilisation. Therefore, given for granted that the water availability in the region will unlikely increase and that the population growth will put a raising pressure over an increasingly scarce resource, both technical management and institutional governance should be given priority in order to face the various range of challenges that will likely arise from the growing unmet water demand.

10.2 The water-food-energy nexus in the Nile basin

Despite the limited water resources available, the Nile riparian countries have developed plans for expanding their hydraulic sector, in order both to face the challenges of providing water for their increasing popula-

¹⁵⁶ World Bank, World Development Indicators (WDI), <http://databank.worldbank.org/data/> accessed on 04/04/2015

¹⁵⁷ “Basins are closed when additional water commitments for domestic, industrial, agricultural or environmental uses cannot be met during all or part of a year” (Falkenmark and Molden, 2008).

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tion and to support the development of their growing economic activities. In particular, extensive irrigation projects for crop agriculture, development of hydroelectric infrastructures for energy generation and expansion of the urban supply networks have been given priority by the national governments of the riparian countries in the last decades, although with diverging outcomes.

10.2.1 The Egyptian food demand and upstream irrigation development

Egypt has carried out its ambitious plans of “hydraulic mission” (Allan, 1999) all over the 20th Century, succeeding in building massive water infrastructures (i.e. the Aswan Dam), developing plants for generating hydroelectric power and expanding its cultivated areas (from 2,5 million ha in 1962 to 3,6 million in 2012) (FAO, 2015). Despite these national efforts however, the Egyptians still rely significantly on food and energy imports, given the unmet demand for feeding its growing population and meeting the demand of the industrial sector: in 2013 for instance, cereals accounted for the largest proportion of the total Egyptian imports (49%) (GoARE, 2014). The World Bank (2007) calculated that Egypt imports more than 16 bcm of virtual water stocked in crops, thus supporting its food needs through external trade.¹⁵⁸

Nevertheless, given the increasing demand for food in the next decades, it is unclear whether the Egyptian economy could sustain such a food import, considering also that its current account balance has kept worsening from +2,1 US\$ billion in 2005 to -5,5 US\$ billion in 2011.¹⁵⁹ Adding that international food prices are highly volatile, that domestic inflation has risen to 11,2% in 2011, and that exports of good and services as proportion of GDP have decreased by 7% over the period 2005-2011,¹⁶⁰ it is likely that for Egypt will become much more challenging to support its future food requirements internationally. At the same time, the domestic crop production has not experienced significant increases during the last years.¹⁶¹ Given these figures, it is arguable that both domestic (physical limitations to expanding crop production) and international (food prices and balance of trade) factors will severely impinge on the food security of the country over the next decades.

¹⁵⁸ Food imports in Egypt have increased from 1,4 to 5 billion US\$ from 2000 to 2010 (World Bank, World Development Indicators (WDI), <http://databank.worldbank.org/data/> accessed on 04/04/2015)

¹⁵⁹ World Bank, World Development Indicators (WDI), <http://databank.worldbank.org/data/> accessed on 04/04/2015

¹⁶⁰ *ibid.*

¹⁶¹ The results for crop production index in Egypt shows a slight increase from 108,2 in 2007 to 108,8 in 2011 (World Bank, World Development Indicators (WDI), <http://databank.worldbank.org/data/> accessed on 14/04/2015)

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Unlike Egypt, Sudan and Ethiopia hold both water resources for improving their irrigation potential and suitable land for expanding their agricultural production. According to FAO (2011) projections, Sudan and Ethiopia will increase their irrigated areas by 57% and 124% respectively by 2050, thus improving their agricultural production. Nevertheless, not all of the new irrigated areas will be assigned to crop production for food consumption, nor the domestic markets will be the only sectors to absorb the future agricultural outputs: land lease to foreign investors for export-oriented food production and cultivation of agricultural inputs for biofuel generation are increasing practices observable in both countries. In the last decade Sudan and Ethiopia signed agreements for leasing suitable lands for agriculture investments of almost 4,9 and 3,6 million ha respectively (GRAIN, 2012), and increased their domestic biofuel production. If these trends have to be confirmed in the next future, not only their national water demands (and withdrawals, accordingly) are likely to increase, but also the competition for water between agricultural production for domestic consumption and for exports, and between water for food and water for fuel, will impinge on the decreasing water availability within these countries.

In terms of water productivity, the Eastern Nile River Basin shows significantly lower performances with respect to the Equatorial Nile riparian states, and to the rest of Africa too: indeed, whereas the water productivity for the sub-Saharan Africa as a whole registers an annual value of 8,5 US\$ GDP per cubic meter of total freshwater withdrawal, in Egypt, Sudan and Ethiopia the average value only reaches 2,6 US\$, about 8 times lower than the value calculated for the Equatorial states (Burundi, Congo, Kenya, Rwanda, Tanzania, Uganda).¹⁶² Considering that variations exist across the Nile basin (i.e. Burundi's value for water productivity is ten times lower than that of Rwanda), it is remarkable that among the Eastern Nile riparians Ethiopia is the only state that has seen a significant increase of its water productivity in the last decade (from 1,8 in 2002 to 5 in 2013), while both Egypt and Sudan have not shown any sign of substantial improvement.

Projections for the future are uncertain, as "improvements in water productivity are difficult to track" (WWAP, 2012): technological innovation and improved water management hold the potential to increase water productivity for food production over the next decades (as it has increased about 100% between 1961 and 2001 (*ibid.*)), but on the other hand higher temperatures could reduce the potential land and water productivity (Turrall et al., 2011). Moreover, rather than relying on irrigated systems, most of

¹⁶² Value of year 2013, constant 2005 US\$ GDP per cubic meter of total freshwater withdrawal, World Bank, World Development Indicators (WDI), <http://databank.worldbank.org/data/> accessed on 14/04/2015)

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the Nile riparian countries, with the exception of Egypt, depend on rainfed farming, which is largely affected by spatial and temporal variations in rainfalls, besides being generally less water productive than irrigated agriculture (Karimi et al., 2011). Thus, estimations on future water availability in general, and on land/water productivity in particular, are challenging and hard to accurately measure because the outputs not only depend upon the changing patterns of agricultural use, technological innovation and water management, but also on the rainfall scenarios, as well as on the effects of climate change.

10.2.2 The impact of climate change

With regard to the likely impact of climate change over the hydrologic system of the Nile River, predictions for the future decades are very much uncertain and conflictive figures result from different studies, since “climate change progresses cannot be predicted” (Kloos et al., 2013).

According to the most recent studies, temperature is expected to increase across the Nile Basin, thus modifying the precipitation patterns, but the extent of such variations is hardly predictable. Whereas some scholars estimate temperature rises in the order of 1.5-2.1 % by 2050 (SFG, 2013), others point out the importance of considering spatial variations across the basin: for example, focusing on the Ethiopian portion of the Blue Nile basin over the period 2021-2050, McCartney et al. (2013) estimate an increase of only 1°C in the average annual temperature, a slight decrease in rainfalls (20mm only), and even a decrease in actual evapotranspiration (17mm) and a consequent increase in the average annual flow at the Ethiopia-Sudan border ($60 \text{ m}^3\text{s}^{-1}$).

The uncertainty around the prediction of future runoff is due to the fact that rising temperatures could increase evapotranspiration, but at the same time rainfalls “can lead to an expanded cloud cover, higher humidity and lower temperatures, causing reduced evaporation and increased soil moisture, therefore potentially increasing runoff” (Link et al., 2014). The thesis of an increase in the overall runoff in the Nile basin is also advanced in Kim et al. (2008), and in Jägerskog and Phillips (2006), where a 2050 projection based on a IPCC scenario results in a 20% increase of the runoff with respect to the average 1961-1990 value in most areas of the Blue Nile Basin (Arnell, 2004).

For these reasons, the impact of climate change over the Nile flows through the modification of precipitation patterns, temperature and overall runoff is hard to predict, and future scenarios vary according to the models and data used. What is certain is that, due to the high variability of climatic events, the Nile Basin states could be exposed in the next future to a huge range of possible climate change outcomes, which not only will modify the actual water systems but will also affect the agricultural production and hy-

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hydroelectric power generation as well as the provision of ecosystem services.

Climate change thus urges the Nile riparian states to adopt resilient strategies in order to enhance their adaptive capacity and face the different range of potential climatic outcomes: if national as well as regional policy plans do not properly include the results of future scenario analyses, and if water demand and supply governance are not addressed in an integrated and sustainable way, the riparian states' ability to respond timely and efficiently to climate change challenges will be significantly lowered, with severe consequences over the likelihood of future water crises within the Basin.

In order to deal with the challenges of securing food supplies in the future, FAO (2011) suggests the Nile countries to prioritize two key variables: an improved agricultural productivity of water across the basin, and an enhanced cropping system diversity. The first would provide the riparian countries with more efficient agricultural production, minimizing water losses and increasing the productivity per yield, while the second would allow them to diversify their production system, gaining from intra-basin comparable advantages and diminishing the risks of the variability in international trade prices. Moreover, improvements in these variables would also benefit other economic sectors, providing more water available for the industrial and domestic uses as well as inputs for agricultural non-food production. In order to achieve the expected outcomes, the Nile countries must invest in infrastructure, research and development, innovation, water management and enhance their water governance: to gain the maximum benefits from, to and by the river they finally need to strengthen their relationships towards the concretization of joint efforts in order to coordinate their strategies, exchange data, and improve the overall management of their shared water resources.

10.2.3 Implications of the water-energy nexus

The water resources of the Nile river basin are not only used as primary input for agricultural production, but are also increasingly exploited as a source of renewable energy. The hydropower potential in the Nile basin is estimated over 20 GW, of which less than 30% is currently generated (NBI, 2012).

According to the International Energy Agency (IEA) (2013), global energy demand is expected to grow by one third by 2035, supported by a significant increase in demand for electricity, which is projected to increase by 70% over the same period. In this scenario, the largest proportion of the increase would be driven by the growing demand for renewable sources of energy, which is expected to increase by 77%: if these trends are confirmed, renewables will account for 30% of all electricity production by

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2035, thus doubling their current share (IEA, 2013). Current trends and projections at regional level do not differ substantially from the global scale, indicating a sharp increase in energy demand as well as a growing exploitation of renewables, of which hydropower represents the largest share: energy demand in sub-Saharan Africa has grown by 45% over the period 2000-2012, and it is expected to further grow by 80% by 2040 (IEA, 2014), with hydropower generation expected to increase significantly.

Regional trends and projections for the Nile Basin countries show even higher figures: energy demand between 2000 and 2010 has increased by more than 100% (from 86,000 GWh to 180,000 GWh) (NBI, 2012), and it is expected to constantly grow in the future decades. In particular, faster growth in the upstream states is expected to half Egypt's share by 2030, which currently accounts for three-quarters of the regional demand: indeed, with the exception of Egypt, Eritrea and Uganda, the Nile riparian countries are predicted to double their demand every five years up to 2035.

Currently, existing hydropower generation facilities only account for the 26% of the potential capacity in the basin, but in 7 out of 11 basin states it represents the largest share of total national installed capacity (reaching more than 85% in Uganda, Burundi, Ethiopia and Congo) (IEA, 2014), and energy generation from hydroelectric sources is expected to be significantly developed in the next decades across the whole basin. Actually, hydropower generation is very attractive both for national government and foreign investors, and "remain the preferred source of energy in the region" (NBI, 2012) for several reasons, among which the most important are:

- It generally represents a non-consumptive water use, except for evaporative losses, therefore it doesn't necessarily affect the water flows downstream (WWAP, 2015);
- It allows power generation at very low per unit cost of energy;
- It delivers additional benefits such as flood control and river-flow regulation.

10.2.4 Current and planned hydropower developments

The combination of growing domestic and regional energy demand (due to both population growth and urbanisation trends, as well as to increasing industrialisation and development expectations), with hydropower unexploited potential, increasing foreign investments and national infrastructure improvements, is expected to drive the Nile states' agenda towards the prioritisation of hydropower generation over traditional sources of energy, in particular in Congo, Ethiopia, Sudan and Uganda. Actually these states have already started developing their energy policy plans, constructing and/or planning hydropower facilities across the Nile River.

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In Congo, the Inga I, Inga II and Inga III along with the controversial multilateral project Grand Inga (which could generate up to 39,000 MW) could convert the country in the largest African net exporter of energy by 2040, followed by Ethiopia (whose current generation represents the 5% of its hydropower potential), changing the picture of energy supply and trade in the continent (IEA, 2014).

Ethiopia is currently carrying on the ambitious construction of the Great Ethiopian Renaissance Dam (GERD) on the Blue Nile, which once completed will be the largest in Africa, providing 6,000 GW of hydropower. Other hydroelectric facilities developed by the Ethiopian government include, among others, the Tekeze Dam (300 MW), the Tana Beles project (460 MW), the Gilgel Gibe I (190 MW), Gilgel Gibe II (420 MW), with an overall installed capacity of 5,109,000,000 KWh,¹⁶³ and other hydraulic projects are planned to be implemented in the next years.¹⁶⁴ With energy trade agreements already signed with Djibuti, Kenya and Sudan, Ethiopia is arguably aiming at becoming the biggest regional power supplier for the decades to come.

Sudan too is currently improving its hydraulic infrastructures in order to exploit its water potential, for both hydropower generation and irrigation purposes: among others, the Merowe Project (1,250 Mw) and the Roseires Dam (250 MW). The fact that Sudan is willing to increase its use of the Nile waters is also demonstrated by the planning of several hydraulic projects, i.e. the Kajbar, the Shereiq and the Rumala dams, which could generate additional 450 Mw of energy supply.

Regional integration through energy trade is currently one of the main paradigm advocated in order to supersede the water-related disputes that the utilisation of the Nile flows has spurred over the regional relationships since the past 50 years: exploiting the hydropower potential in areas where the flows are suitable for generating energy more efficiently (i.e. in Ethiopia) could indeed provide the other basin states with reliable energy supplies at affordable costs, thus enabling all the riparians to share the potential benefits acquired from a common resource. Indeed, the on-going expansion of cross-border transmission lines along the Nile river (i.e. the Sudan-Ethiopia and Kenya-Ethiopia interconnection projects) is exactly serving this purpose, within the ambitious frame of the strategic plan by the Programme for Infrastructure Development in Africa (PIDA),¹⁶⁵ in particular

¹⁶³ World Bank, World Development Indicators (WDI), <http://databank.worldbank.org/data/> accessed on 14/04/2015

¹⁶⁴ Major planned projects include: Tekeze II (450 MW), Gibe III (1,870 MW), IV (1,400 MW) and V (600 MW), Mabil (1,200 MW), Mandaya/Mendala (1,600 MW), Beko Abo (2,100 MW), Karadobi (1,000 MW) (Verhoeven, 2011).

¹⁶⁵ The Programme for Infrastructure Development in Africa (PIDA) is a continental ini-

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with reference to the Eastern Africa Power Pool (EAAP) and Southern Africa Power Pool (SAPP) Projects, which jointly aim at fostering the regional energy sector and the intra-continent energy trade through connecting the national grids of supplier and buyer states from Egypt down to South Africa.

Considering the growing energy demand in the Nile basin and the vast hydropower potential in some of the riparian states, the improving interconnectedness among the riparian states in terms of energy trade could also foster cooperation in other sectors in the following decades, driving the process of regional integration towards the establishment of a new Nile Basin Regime.

10.2.5 Future water demand and policy implications

Population growth and urbanisation trends, increasing industrialisation and exploitation of hydropower potential, are among the main factors that will drive the increase in water demand for the decades to come in the Nile Basin. Whereas the expected demand increase for the Equatorial Nile riparians does not constitute a major concern (due to the unexploited potential of diverse water sources other than the Nile River), the most demanding scenario emerges from the analysis of future water demand in the Eastern portion of the Nile, also because it's where the river itself acquires a more pivotal role in terms of share of total water availability, in particular in Sudan and Egypt.

Egypt, for example, which can't rely on many water resources but the Nile, already exploits the river flows almost at their full potential, and projections for 2050 suggest an increase in demand up to more than 100 bcm whereas the annual average flow measured at Aswan dam is 84 bcm only (WWAP, 2009). Both Sudan and South Sudan are expected to double their water demand by 2050, a factor that could potentially threaten the respect of the water quotas allocated by the 1959 Agreement.¹⁶⁶ Thus, for these three countries, the supply-side of water management would only partially provide their populations with affordable solutions, and water-demand management should be prioritized in order to face future challenges.

Finally, Ethiopia will more than triplicate its water requirements by 2050, but due to an overall demand substantially lower than its neighbours and given the domestic availability of large renewable resources, its future

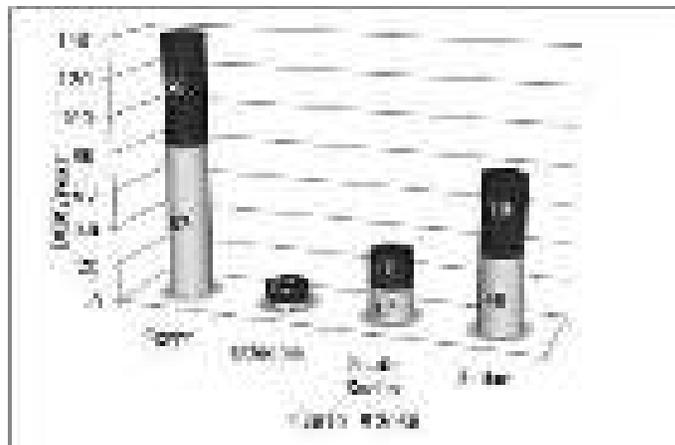
tiative supported by the African Union Commission, in partnership with the African Development Bank and the NEPAD Planning and Coordinating Agency. See <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/PIDA%20note%20English%20for%20web%2020208.pdf>

¹⁶⁶ The 1959 Nile Waters Agreement signed by Egypt and Sudan allocate 75% and 25% of the Nile flows respectively, leaving thus no quotas for the other riparian states. Upstream countries, in particular Ethiopia, have been consistently critical over this agreement (Allan, 1999)

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water challenges could be tackled with improvements in both demand- and supply-side of water resource management.

Figure 68: Water demand in the Eastern Nile River Basin, actual (2010) and estimated (2050)



Source: author's compilation (data from Kenyi, 2011)

According to the most recent studies, in 2050 agriculture will still represent the largest water-consuming sector, even if patterns of water use will change toward an increase of the share for the industrial sector and the urban population (WWAP, 2014; WWAP, 2015). According to Molden et al. (2007), global water consumption for agricultural production would need to increase by 70-90% by 2050, if land and water productivity do not improve significantly over time. Therefore, even if technical management could expand the water supply, “managing overall demand through a focus on water productivity rather than concentrating on the technical efficiency of water use alone” (WWAP, 2015) is a more viable policy recommendation in order to tackle potential water scarcity in the Region.

Water demand management (WDM) is explicitly aimed at managing water “in a more efficient, equitable and sustainable way” (Zeitoun et al., 2010), and in its broader conceptualisations it implies not only technical solutions and technological transfers, but also political, economic, social, institutional and financial policies (Brooks 2003). According to Zeitoun et al. (2010), WDM needs to be supported by socio-economic reforms as well as political engagement, and interventions should include food trade (i.e. the institutionalisation of regional food market), changing consumption patterns (i.e. in water conservation and food demand), agronomic interventions (i.e. diversification of production and improved rainfed farming), environmental interventions (i.e. water harvesting and watershed

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management) and international cooperation (i.e. in transboundary water management and climate change adaptation).

A focus on integrated WDM might be particularly effective in the management of the Nile Basin water system (and specifically in areas where the water supply management could hardly advance) in order to contrast potential water crisis and intra-basin disputes, by the provision of coordinated strategies to face the challenges of a growing population and of the increasing food and energy demand, to supersede narrow national-based interests and to foster a broader integration through cooperation in the water sector.

10.3 Conclusions: improved water governance for a new Nile basin regime

The riparian states of the Nile River Basin are exposed to an evolving situation of physical, socio-economic and political nature: climate change, population growth, patterns of water utilisation and development needs are factors that impact on the overall management of the river flows. Moreover, upstream infrastructure development (i.e. the expansion of hydroelectric facilities in Ethiopia), changing international alliances (i.e. with regard to Sudan and Egypt), foreign investments (i.e. in land acquisition and energy generation) and recent political events (i.e. the independence of South Sudan, the dismissal of Mubarak and the political turmoil in Egypt, the death of Ethiopian PM Meles Zenawi, the signature of the Cooperative Framework Agreement) are changing the power relationships among the basin states and affect the way in which water issues are considered in domestic and regional agendas.

Economic development and increase in population will likely drive the water-demand curve to a steady rise, whereas the “potential for further supply increase is limited” (NBI, 2012). Moreover, upstream riparian states are increasing their (previously bare) utilisation of the Nile flows, thus increasing the intra-basin competition for ensuring national water needs.

The projections for water, food and energy demand in 2050 are controversial, but certainly point out at the exploiting limitation of an increasingly scarce resource such as water. However, a narrow “watershed” perspective focused solely on technical solutions and managerial approaches would not account for the broader picture of socio-economic and political implications, since “Technology alone will not be sufficient to completely offset increasing resource limitations” (FAO & WWC, 2015). Cooperative efforts toward an increasing integration among the Nile riparian states could constitute the strategy for the establishment of a new Nile Basin Regime based on mutual trust, equitable utilisation of shared national resources and benefit-sharing: thus, a water-driven basin-wide

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cooperation could hold the potential to trigger benefits to other sectors too, and at the same time foster improved relationships among the national governments in the Basin. This in turn could lead to more efficient water management, better adaptation and resilient capacity, sustained economic development and, even more importantly, to the overcome of past and present disputes among upstream and downstream countries.

The hysteria around the likelihood of future water wars in the Nile basin has not yet concretized in actual conflicts, and the opportunity that improved regional water governance and integrated water management could supersede inter-state political disputes and lead the basin toward a new regime grounded on the principles of equitable and sustainable use of water resources is real. However, integrated water governance can not be achieved if an effective political commitment is missing, and if national interests and historical mistrust are not downplayed: in order for a new Nile Basin Regime to be established, inter-state joint efforts and the convergence of interests through win-win solutions should be given the highest priority.

Chapter 11. Concluding Remarks

11.1 Introductory remarks reconsidered

The analysis advanced in this study addressed the dynamic configurations of hydropolitics in the Nile River Basin and the patterns of cooperative and conflictive relationships among the riparian states, with an analytical focus over the period 2000-2015.

The origins of the research puzzle, outlined in the introductory chapter, stand in the relevance of the topic of transboundary water management (TWM) at international level, in the urgency for improved water governance at global level, and in the need for combining theory and practice in order to inform policy makers towards more efficient water policies and integrated water resources management. Moreover, the search for an innovative theoretical framework of multi-disciplinary nature (Ch. 3) addressed the gaps and limitations detected in the existing Literature (Ch. 2), through the application of an original perspective to the study of TWM towards the advancement of a critical approach to the Nile hydropolitics (Ch. 8 and Ch. 9).

The main research question aimed at exploring "how power relations influence the hydropolitics of the Eastern Nile River Basin" (pag. 32), substantiating a conceptual focus over processes besides the outcomes (the how- question), a theoretical focus over the role of power, and an empirical focus over the ENRB. The three-level analysis adopted (over the International, Trans-national and Sub-national levels) has guided the methodological perspective adopted through the definition of inquiries that led to the advancement of multi-level power analyses, which ultimately detected and critically assessed past and current patterns of complex relationships that have had a fundamental impact over the management of the Nile waters system. By the identification of

the core features of power relationships in the case study, this study attempted to shed light upon hidden and subtle determinants of water allocation and utilisation in transboundary contexts, while at the same time advancing policy proposals for attaining a more effective and equitable management of the Nile waters than the current status quo presents.

For purpose of analysis and methodological rigour, the main research question included three substantive sub-questions, which in turn presented three additional questions each, in order to address the number of sub-topics that have informed the investigative process.

The first sub-question (What are the determinants of the Nile water dispute and the drivers of change for Transboundary Water Management in the Eastern Nile River Basin?) facilitated the investigation over the inter-

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linkages between the domestic and the regional levels, in order to define the specific relationships established by each riparian state with the river Nile. In order to pursue national interests the riparian states aim at increasing their share over the river flows, but competing uses among the states risk increasing the potential for disputes and violent confrontations, which ultimately rest on domestic and regional factors. The descriptive nature of this what-question helped identifying the strategies of the riparian states to secure control over the Nile waters (additional question n. 1), the transboundary impact of domestic water policies (additional question n. 2), and the changes over time in terms of inter-state relationships (additional question n. 3).

The second sub-question (How has Egypt achieved the role of regional hydro-hegemon? How do the other riparian states contest the Egyptian hydro-hegemony?) addressed the features of the regional regime emerged in the Nile Basin. The focus over mechanisms, strategies and tactics of coercive and/or consent-inducing nature, has disclosed the core features of evolving processes of inter-state hydropolitical relations, and the impact of power plays over water-related negotiations and/or disputes in the case study. The analysis has identified discourses and practices implied by the Hegemon and the counter-hegemons (additional question n. 1), the regional outcomes of domestic changes in the riparian states (additional question n. 2), and the existing divergent perspectives over the effectiveness of the consolidated Nile Basin regime (additional question n. 3).

The third sub-question (Why is cooperation stalling in the Nile? How can water foster integration among the riparian countries?) addresses issues of conflict/peace potential among the Nile riparian states, and focuses upon the institutionalisation of (existing and potential) cooperative mechanisms for the integrated management of transboundary water resources. Whether water could be foster cooperation or be a trigger of conflicts has been investigated through the identification of regional drivers and constraints for an effective integration among the riparian countries (additional question n. 1), an historical outlook over bi-lateral and multi-lateral negotiations over the management of the Nile Basin (additional question n. 2), and a critical assessment over existing agreements and Institutions aimed at the identification of potential legal frameworks for an equitable and reasonable utilisation of the Nile waters (additional question n. 3).

The rationale for a geographical focus over the Nile River Basin, preliminary justified in Chapters 1.2 and 1.3, has been further strengthened throughout the investigative process. Indeed, this study confirmed the assumption that the choice of the case study is appropriate for a number of reasons: i) first, the Nile Basin presents unique features with respect to other international basins, in terms of hydrogeological attributes (Ch. 5.1), historical patterns of relationships among the riparian states (Ch. 5.2), ex-

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isting legal frameworks (Ch. 6), construction of water narratives (Ch. 6), and evolving regional power asymmetries (Chapters 5.3 and 5.4, Ch. 8 and Ch. 9); ii) second, the evolution of the relationships among riparian states presents features of hydro-hegemonic setting (Ch. 5.3 and Ch. 8), as well as mechanisms of counter-hegemonic strategies (Ch. 5.4 and Ch. 9), which are evidences of the role of power plays in determining the outcomes of water-related negotiations (Ch. 2 and Ch. 3); iii) third, the Nile Basin represents a remarkable case in terms of the application of principles of international water law, both with regard to past agreements (Ch. 5.2.1 and Ch. 5.2.2, Ch. 6.1), diverging perspectives on legal interpretations (Ch. 5.2.3, Ch. 6.2 and Ch. 6.3), and likely outcome of current negotiations (Ch. 6.4); iv) and fourth, notwithstanding the specificity of regional features, the present analysis over the Nile waters dispute is believed to explore new theoretical directions, which could arguably be adapted to different empirical case studies. Accordingly, the choice for a disciplined interpretive case study results justified by the two-fold outcome of the research: i) adding explicit counterfactual arguments has uncovered alternative interpretations to the mainstream perspective over the management of transboundary water resources in the Nile Basin, leading to the explanation of a specific process (the historical patterns of evolution of the Nile hydropolitics) through the expansion of a known, yet barely used, theory (the Framework of Hydro-Hegemony); and ii) the findings from the case study validated the importance of a disciplined interpretive case study in "usefully complement[ing] formal and statistical research" (Odell, 2001), and led as well to the evaluation and refinement of the original theoretical framework used, which -I believe- can be further applied to other case studies over transboundary water management (see also above section 11.3).

The multi-focus of the project (pag. 31) has been carefully followed, and has guided every stage of the research process. The disciplinary focus on Theories of International Relations informed the theoretical focus over the study of hydropolitics, while the geographical focus on the Nile Basin allowed the exploration of both the analytical focus on interstate power relationships and mechanisms of hydro-hegemony, and the specific empirical focus on the Eastern Nile River Basin (ENRB) case study.

The outcomes of the study are consistent with the objectives identified at the beginning of the research process, and with the theoretical considerations emerged from the literature review. In particular, the overall objective of "contributing both to the theoretical development of framework of analysis of TWM, and to the empirical understanding of past and current tensions over the water management in the Nile basin" (pag. 30) is believed to have been reached through the careful application of the methodological approach adopted. Developing "new insights from the case study" (*ibid.*), the research project has reframed "the scholarly and policy debate by exploring new perspectives where power analysis is applied to

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the water sector" (ibid.). In particular, the overall objective was reached by fulfilling the expectations enshrined in the three main objectives of the project, namely i) To identify the main drivers, variables, actors, and practices, which shape the hydropolitics of the Nile Basin; ii) To explore the manifestations of the multiple dimensions of power in TWM; and iii) To deconstruct the mainstream knowledge over the Nile waters dispute (pag. 29).

Finally, despite having met most of its initial objectives, this work also presents weaknesses and limitations, in terms of both theoretical and empirical analyses. Addressing such limitations in a critical way is believed to enrich the present study, rather than diminishing its impact potential in terms of contribution to the literature on TWM. While some of the weaknesses are explicit and are presented below in Ch. 11.3, others are subtler and call for the review of this study from water experts, practitioners and academic. For this reason, I would be most grateful to anyone who would like to address criticisms to this work, and receptive to any suggestions for a further development of this research project.

11.2 From potential conflict to cooperation potential in the Nile river basin

Current status of the Nile waters management: scarcity, mismanagement or power plays?

The collection of secondary data over the geophysical attributes of the Nile River Basin disclosed the existence of different hydrogeological sub-systems, with uneven distribution of water resources across the region, a multitude of patterns of climate variability, and substantial differences in population distribution and water uses among the riparian countries. The asymmetries in terms of water availability and accessibility, in the knowledge management and in the capacity of attracting foreign funds have historically affected the ability of exploiting the domestic natural resources potential in each Nile country. Thus, the combination of both sub-regional areas of physical water scarcity (i.e. Egypt) and economic water scarcity (i.e. Ethiopia until the late-1990s), and the absence of an integrated framework for the management of transboundary water resources resulted in intra-basin differences in water withdrawals, utilisation and management, ultimately in terms of water governance.

Besides hydrogeological, economic and technical reasons, this study assumes that the core feature of the Nile hydropolitics resides in the regional power asymmetries, consolidated in the last Century by the most powerful actor (Egypt) at the expense of the powerless (the upstream countries), through a mix of coercive and consent-inducing mechanisms of resource capture. The resulting regime of hydro-hegemony over the Nile Basin has been consolidated through strategies aimed at counterbalancing

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the geographical disadvantage of Egypt (the most downstream of the Nile riparian states, with no internal tributaries to the main river) with relative gains in the three dimensions of power, namely the material, the bargaining and the ideational. Evidences of the existence of a hydro-hegemonic regime are, among others, the allocation of the full Nile waters to Egypt and Sudan only (as per the 1959 Nile Waters Agreement), the interference in the internal affairs of the other riparian states, and the opposition to hydraulic projects upstream. This conduct has consolidated and reinforced the status quo established during the 20th Century, and procrastinate the adoption of a new legal framework for the integrated management of the Nile water resources in the 21st. As a result, Egypt is currently entitled to utilise 66% of the whole Nile flows and Sudan 22%, with no quotas left for all the other upstream countries (given that 12% of the waters is estimated to evaporate at Lake Nasser).

Divergent approaches to cooperation in the Nile Basin: multilateral agreements or unilateral developments?

The history of cooperative engagements in the Nile Basin is a complex patchwork of mistrust, aborted negotiations, unilateral hydraulic developments, and partial bi-lateral agreements. The absence of a basin-wide comprehensive agreement over the utilisation of the Nile waters and the perpetuation of reciprocal hostilities among the riparian countries resulted in the lack of a shared vision for a more effective management of the existing water resources. While past inter-states initiatives (such as Hydromet, Undugu, TeccoNile) were partial in scope and limited in their effectiveness, the establishment of the Nile Basin Initiative (NBI) in 1999 inaugurated a new era of relationships among the Nile countries, which for the first time were all participating as members of a Nile Basin institution. However, despite it provides a forum for knowledge sharing and joint technical programs, the NBI has failed in addressing the core of the Nile waters dispute, which is essentially of political nature: the allocation and the rights of utilisation of the water resources in the Basin. Conceived as a transitional institution with the aim of establishing a permanent Nile Basin Commission (NBC) and a new legal framework for the management of the Nile waters, after 16 years of operation the NBI has not yet reached its main goal.

The major divergences in terms of perspectives over principles of international water law (IWL) stand at the core of the Nile waters disputes with regard to the proper legal framework to adopt for the future management of the Basin: while Egypt and Sudan advocate for the supremacy of the no-harm rule and the recognition of historical acquired rights of prior use, the upstream block asks for a revision of past agreements in the light of the principle of equitable and reasonable utilisation. This impasse has hindered the resolution of the legal dispute for over a decade of negotiations, and resulted in a (irreconcilable?) breakage between downstream and upstream countries: while the latter signed the Cooperative Frame-

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work Agreement (CFA) in 2010, Egypt decided to withdraw from the negotiation process. As a result, the Nile Basin is nowadays both governed by partial bi-lateral or multi-lateral agreements, and exposed to the unilateral development of hydraulic infrastructures likely to have transboundary impacts over the other riparian states (i.e. the GERD project in Ethiopia). The coexistence of multilateral agreements and unilateral development is a specific feature of current Nile hydropolitics, and this work assumes that only a basin-wide comprehensive treaty informed by the UN Water Convention (UNCW, entered into force in 2014) and other instruments of IWL could overcome the present impasse and provide the Nile states with proper norms for an effective TWM.

Regional drivers and constraints to cooperation.

Ensuring an effective cooperation "in good faith" among the riparian countries encompasses a slow and complex process of confidence building, as well as the guarantee of an equal distribution of potential benefits among all the members. While on the one hand cooperation is desirable since it provides opportunities for information sharing and knowledge transfers, enhanced possibilities for joint projects and external funding, and improved mechanisms for dispute settlements, the Nile countries could be reluctant in transferring part of their sovereignty over the management of natural resources to supra-national institutions, and in changing the established status quo towards an uncertain new Basin regime.

Among the factors that hinder the possibilities for an improvement in the intra-basin cooperative engagement, an important role is played by the concern of being bound by unfavourable water distribution quotas and allocation measures: this is particularly a relevant issue to Egypt, whose argument is that the current situation of water scarcity in the country would make almost impossible to eventually cede portions of its present allocations to the other Nile riparian states. Furthermore, the establishment of a permanent NBC would mean that all the potential projects over the Nile tributaries (and connected aquifers) envisaged by a riparian state should be submitted for approval to the Commission, which could arguably halt the project, while the current situation allows the Nile states to develop unilateral projects without a formal prior approval (in the respect of general principles of International Law). Another constraint to cooperation is represented by the difficulties in quantifying the potential benefits, and the distribution of them, accruable from the integrated exploitation of the Nile water resources: for example, while some riparian states might value more economic benefits, others could rather focus on environmental ones, and the balance between different kinds of benefits is a delicate matter that have not yet reached a shared agreement within the international community.

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With regard to the drivers of cooperation, an integrated management of the Nile Basin could facilitate the multiplication of benefits of both external and internal nature (Cascão, 2009). In terms of external benefits, the institutionalisation of a cooperative framework would enhance the opportunities for foreign investments and financial assistance by third parties, attract institutional support and contribute to the improvement of instruments of IWL at international level. For example, the potential assistance of the World Bank is currently halted, since an internal disposition (the Operational Directive 7.5) requires the prior approval for projects on international watercourses from all the interested states. At domestic level, the downstream countries would attain more guarantees against eventual unilateral initiatives upstream, access to a broader database of affordable data and information, and rely upon precise norms for water allocation and dispute settlements. In the same way, upstream countries would have their rights of utilisation recognised and protected, accrue major economic benefits from the exploitation of their water resource potential, access to funds for regional energy interconnections, and ultimately counterbalance the historical power asymmetries with the downstream countries.

Relevant alternatives to the current hydropolitical regime in the Nile Basin.

Given the ineffectiveness of the present configuration of the Nile hydropolitics, and the growing contestation of its current outcomes, in particular by the upstream states, the search for potential alternative regimes and the eventual policy implications that a change in the status quo would convey represents one of the main issues of this study. Asserted that a hydro-hegemonic regime is in place in the Nile Basin, the analysis advanced assessed both the mechanisms through which the status quo has been consolidated, and the emerging strategies of resistance employed by the counter-hegemons.

The relative erosion in all the three dimensions of power that Egypt has experienced in the period 2000-2015 is likely to endure for the next future, with a consequent re-balancing of power asymmetries between the Nile riparian states. The diverse range of counter-hegemonic strategies (through coercive, leverage and liberating mechanisms) advanced by the upstream block, and by Ethiopia in particular, has increasingly contested the hegemonic order consolidated by the downstream states, and unlocked the opportunities for a change in the status quo.

What this change would bring about, still remain the biggest question left open in this study. Whether the Ethiopian strategy is aimed at *a)* supplanting the current hydro-hegemon with a new but likewise hegemonic regime, different in terms but similar in purposes; or if its final objective is to *b)* overcome an hegemonic setting towards a more cooperative, integrated order of symmetric power balance and equal power sharing for all the Nile member states; is hardly predictable and remains open to debate. Nevertheless, the entry into force of the UNWC and the likely adoption of

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the CFA in the next few years would arguably facilitate a transition towards a non-hegemonic setting of the future Nile hydropolitics.

Conflict prevention: Transboundary Water Management as a tool for integration?

This study argues that the establishment of integrated mechanisms for a shared and agreed management of the Nile waters would be beneficial for all the riparian countries, since the status of water availability in the Basin has already reached its closure point. Indeed, it is estimated that the current patterns of water withdrawals and utilisation are already exploiting the full potential of the existing Nile waters: rather than foresee increases in water availability due to more effective systems of withdrawal in the future, projections show a constant decrease in water availability in the Basin, given the impact of climate change on the region, the trends in population growth and the increasing water demand by sectors other than agriculture (see Ch. 10). The figures draw worsening scenarios of water availability in the whole Basin, and in particular in the relatively more arid downstream countries, Egypt and Sudan. For a number of reasons, a situation of water scarcity is more prone to the occurrence of water-related disputes, or even inter-state conflicts (see Ch. 2).

In order to prevent the likelihood of intra-basin water wars, the Nile countries should develop policy frameworks for the integrated management of transboundary water resources, which would provide them with coordination mechanisms, efficient technical solutions, and norms for dispute settlements, thus minimizing the risk of conflict. A system of integrated management, with precise rules and effective mechanisms, would accrue larger benefits for all its members and ensure the equitable share of such benefits, contribute to the de-securitisation of water-related issues in the region, and promote cooperation in other sectors too, thus fostering a deeper integration among the Nile riparian countries. To be effective, such system urges to be supported by a cross-sectoral enabling environment, which can only be achieved through actual political engagement by fostering synergies among the members. Unless the broader political context become more accommodating in order to include the large range of demands by all the different actors in the region, an integrated management of TWM in the Nile Basin would not be effective.

Towards a theory of practice: normative attempts

Despite the descriptive nature of the project, the analysis advanced throughout this work also assesses policy implications for improving the management of the transboundary water resources of the Nile River Basin. The assumption that an analytical research could arguably advance ontological claims on observable and, most importantly, unobservable events, resulted in the attempt to provide the readers with prescriptions of normative nature. This exercise has followed a two-fold direction: in theoretical terms, it tried to define the ontology of hydropolitics through the de-

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construction of mainstream paradigms, the de-composition of power conceptions and the application of an innovative framework for analysis; with regard to empirical findings, this work has questioned the prevailing order in the Nile Basin in the search for viable alternative regimes of water management.

The origins of the research project stand in the assumption that power relationships, institutions and social relations are not to be taken for granted: the focus over dynamic processes unveiled the nature of interactions among the actors identified, and drew a dialectical history of hydropolitical relationships in the Nile River Basin. Like Cox's "world orders", the current hydro-hegemonic regime in the Basin is grounded in social relations, rather than on technical "neutral" mechanisms of water management: for this reason, the contribution that an analytical perspective from social sciences, and an IR approach in particular, could bring to the study of TWM is explicitly expressed by the recognition of subtle power dynamics and the role of cross-sectoral relationships in shaping both norms and practices of water management. The forms of hydro-hegemony observable in international river basins are functions of the broader political contexts (Woodhouse and Zeitoun, 2008): unveiling observable and unobservable changes in the regional context of the Nile Basin, this study showed how forms of hydro-hegemony evolve, and how the contestation of the consolidated status quo opens new directions for a change in the regime structure.

11.3 Strengths and limitations of the study

The main original contributions of this elaborate lie on both theoretical and empirical grounds. At conceptual level, the interdisciplinary approach adopted explored new directions towards the definition of a critical hydro-politics for the study of international relationships in transboundary river basins. On the empirical ground, the analytical outlook over the Nile River Basin unveiled hidden features and subtle dynamics of evolving processes of water distribution and utilisation in the region. The narrow perspective over the case study selected, combined with a broader approach in the search for complementarities across disciplines, reveals the originality of the study and the contribution to the existing literature. At the same time, the original elaboration of secondary data and the collection of primary data during the fieldwork activities, enriched the research with information that were overlooked in previous research on the topic of the Nile hydro-politics. Finally, the analysis over viable alternatives to the current status quo and the identification of possible future scenarios, are believed to contribute to improve policy-making processes by showing directions towards a more effective and equitable management of the transboundary water resources in the region.

The weaknesses of the project are in the same way of both theoretical and empirical nature. While the analytical framework proposed

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facilitates original research in the field of hydropolitics, at the same time it presents explicit limitations: *i)* first, the relation among the pillars of the dimensions of power in the Framework of Hydro-Hegemony needs to be further explored, in order to properly weight the relative importance of each power dimension with regard to the others; *ii)* second, the framework is limited by the lack of a unique indicator or index (either qualitative or quantitative) for each pillar able to measure variations in the specific power dimension, and by the consequent absence of a weighted power index able to account for all the three dimensions of power; *iii)* despite the focus on the role of ideas and narratives, the study largely analysed dynamics of material power; *iv)* the analysis over the trans-national and sub-national level is relatively downplayed with respect to the international level.

In terms of limitations of the study at empirical level, one weakness is related to the geographical focus of the fieldwork activities conducted: due to financial and time constraints, it was impossible to visit all the Nile riparian countries, and this limitation is reflected by the collection of primary data in Ethiopia only. Second, the high degree of securitisation of water issues in the Nile Basin revealed to be a severe obstacle for the collection of reliable information, both in terms of quantitative data over water availability, withdrawals and on-going projects, and in terms of qualitative information over perspectives and narratives. Finally, language and cultural issues resulted sometimes a constraint for conducting interviews and visiting hydraulic projects across Ethiopia.

11.4 Suggestions for further research

Given the limitations outlined above, the outcomes of this project reveal the need for further research, both at theoretical and empirical ground. The Framework of Hydro-Hegemony would benefit from conceptual improvements on more accurate definitions of the three dimensions of power, and on the exploration of the reciprocal relationships among them. At the same time, it would be very relevant to aim at defining new indexes for measure changes in the power dimensions. While this study has identified useful indicators for the measurement of changes in material power, it has partially failed in providing proper indicators for the dimensions of bargaining and ideational power. At empirical level, the collection of primary data in all the other Nile riparian countries would greatly contribute to the analysis of recent changes in the dimensions of power. Finally, a comparative effort aimed at applying the theoretical framework to different river basins would provide more insights over the evolution of hydropolitical dynamics at global level.

The analysis over transboundary water management is more and more relevant in a world where water is increasingly felt as scarce and where water wars are believed to occur in the next future. Thus, the role of

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the researchers results of pivotal importance in order to foster cooperation, avoid the risk of water conflicts and advance solutions for an equitable and effective management of shared water resource, as Professor Aaron Wolf brilliantly argued more than 15 years ago:

“The history of sharing waters is a rich one, filled with nuanced collaborations and practical applications. Yet the resources are threatened by dangers old – population and poverty among them – and new – climate change and commodification, for example. Avoiding crises and violence in the future will require heroic effort and political will, and will rely heavily on the work of the vibrant research community of the next 20 years”. (Wolf, 1999)

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Appendices

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Appendix n. 1: Contacts in Ethiopia for fieldwork interviews

<i>Organisation/ Institution</i>	<i>Name</i>	<i>Position</i>
Addis Ababa Science and Technology University	Memar Ayalew Demeke	Lecturer
Addis Ababa University	Mehari Taddele Maru	Former Director
Addis Ababa University, College of Law and Governance Studies	Tadesse Kassa Woldetsadik	Dean
Addis Ababa University, College of Social Sciences	Demeke Achiso	Coordinator, Undergraduate Programme
Addis Ababa University, College of Social Sciences	Tesfaye Tafesse	Chairman, Center for African and Oriental Studies
Addis Ababa University, College of Social Sciences	Susanne Epple	Assistant Professor
Addis Ababa University, Department of Foreign Languages and Literature	Yewulsew Shitie	Lecturer
Addis Ababa University, Department of Geography and the Environment	Wondwossen Michago Seide	Lecturer
Addis Ababa University, Department of History	Shiferaw Bekele	Faculty Member
Addis Ababa University, Department of Political Science	Kassahun Berhane Alemu	Director
Addis Ababa University, Department of Political Science and IR	Yacob Arsano	Associate Professor
Addis Ababa University, Ethiopian Institute of Water Resources (EIWR)	1) Dereje Hailu Asfaw 2) Azage Gebreyohannes Gebremariam 3) Solomon Seyoum Demissie	1) Director 2) Assistant Professor in Transboundary Water Management 3) Assistant Professor in Water Resource Engineering and Management
Addis Ababa University, Faculty of Law, Ethiopian Civil Service College	Mohammed Abdo	Lecturer
Addis Ababa University, Institute for Peace and Security Studies (IPSS)	1) Tigist Yeshiwas Engdaw (Ms.) 2) Yonas Tariku Metaferia	1) Lecturer 2) Lecturer
Addis Ababa University, Institute of Ethiopian Studies (IES)	1) Zelalem Teferra 2) Ahmed Omer	1) Assistant Professor 2) Director

<i>Organisation/ Institution</i>	<i>Name</i>	<i>Position</i>
Addis Ababa University, School of Civil and Environmental Engineering	Yilma Seleshi	Assistant Professor
Addis Ababa University, School of Law and Governance	Getahun Kassa	Lecturer
Addis Standard	1) Kalkidan Yibeltal 2) Nolawi Melakedingil	1) Deputy editor in chief 2) Journalist
California State University, San Bernardino	Alemayehu G. Mariam	PSI professor
Dilla University	Zerihun Abebe Yigzaw	Lecturer, blogger
Ethiopian International Institute for Peace and Development (EIIPD)	Abel Abate	Researcher
Ethiopian Ministry of Water and Energy	Fekahmed Negash	Director of "Boundary and trans-boundary rivers"
EU Delegation in Ethiopia	Jean Baptiste Fauvel	Project Manager (energy sector)
GERD Project	1) Semegnew Bekele 2) Roman Gebreselasie	1) Project Manager 2) Representative
Green Vision Consultancy Plc.	Gedion Asfaw	Managing Director
Institute for security studies (ISS)	Ademola Abass	Chief
International Water Management Institute (IWMI), East Africa and Nile Basin Office	1) Dr. Kai WEGERICH 2) Matthew McCartney 3) Tadesse Alemayehu 4) Abeyu Shiferaw 5) Seleshi Bekele Awulachew 6) Simon Langan	1) Senior Researcher - Water Policy, Institutions and Organizations 2) Senior researcher - Hydrology and Water Resource Management 3) Lecturer at the University of Bahir Dar 4) Coordinator of an international Nuffic project on integrated river basin management at Addis Ababa University 5) Senior researcher 6) Principal Researcher – Agricultural Water Management and Head of Office
National Panel of Experts on GERD, Ethiopian Committee	-Gedion Asfaw -Yilma Seleshi -Tehome Atnafu -Wubeshet Demeke	Members

<i>Organisation/ Institution</i>	<i>Name</i>	<i>Position</i>
Nile Basin Discourse Forum	-Mengesha Workneh -Amare Kebede Wede -Tamrat Kebede	Staff
ODI in Ethiopia	1) Josephine Tucker 2) Beatrice Mosello	1) Research Associate 2) Project officer for the Climate and Development Knowledge Network
Office of the National Council for the Coordination of Public Participation for the Construction of the Grand Ethiopian Renaissance Dam	Fekadu Ketema	Office Media and Communications Director
San Diego State University	Asfaw Beyene	Professor of Mechanical Engineering and Director of the Center for Renewable Energy and Energy Efficiency
St. Thomas University, School of Law	Abadir M. Ibrahim	Guest Lecturer for Human Rights and Religion
University of Bahir Dar	Embiale Beyene Admassu	Lecturer
University of Mekelle, College of Social Science and Languages	1) Wuhibegezer Ferede 2) Sheferawu Abebe	1) Lecturer 2) Public prosecutor for the Ethiopian Ethics and Anti-Corruption Commission
UNWSP Strengthening Ethiopian universities in integrated river basin management (NPT-ETH-205)	1) Abraham Abhishek 2) Hirut Hussien	1) Programme coordinator 2) Project officer UWSP

Appendix n. 2: Main activities held at the Ethiopian Institute of Water Resources, Nov. 2014 - Feb. 2015

<i>Date</i>	<i>Place</i>	<i>Activity</i>
Nov. 27	EIWR (UNISA, Akaki campus)	-meeting with Dr. Azage
Dec. 2	Faculty of Civil Engeneering (Hamst Kilo)	-meeting with Dr. Yilma Seleshi and Dr. Azage
Dec. 12	EIWR (UNISA, Akaki campus)	-meeting with Dr. Azage + meeting with Dr. Dereje (EIWR Director) and EIWR staff
Dec. 15	EU Delegation in Ethiopia	-meeting with Jean Baptiste Fauvel (EEAS Addis)
Dec. 22	EIWR (UNISA, Akaki campus)	-meeting with Dr. Azage
Jan. 9	EIWR (UNISA, Akaki campus)	-meeting with Dr. Azage
Jan. 12	EIWR (UNISA, Akaki campus)	-seminar with WREM Msc students: <i>Water Resource Management and Global Politics</i>
Jan. 13	Ghion Hotel	-meeting with Professor Aaron Tesfaye
Jan. 26	Addis Ababa University, Dep. of Pol. Science	-meeting with Prof. Kassahun Berhane Alemu and Dr. Demeke
Jan. 26	Addis Ababa University, IPSS	-meeting with Tigist Yeshiwas Engdaw and Yonas Tariku Metaferia
Jan. 27	Italian Embassy	- meeting with Cons. Giuliana Del Papa
Jan. 29	Faculty of Civil Engeneering (Hamst Kilo)	- meeting with Dr. Yilma Seleshi and Dr. Azage
Jan. 29	CFEE, Kebenna	-meeting with Shiferaw Bekele
Jan. 30	EIWR (UNISA, Akaki campus)	-meeting with Dr. Azage + meeting with Dr. Dereje (EIWR Director) and EIWR staff
Feb. 10	IWMI (at ILRI Campus)	-meeting with Simon Langan, Kai Wegerich, Adrian Coutts
Feb. 16	Addis Ababa University, Dep. of Pol. Science	-meeting with Yacob Arsano
Feb. 20	Addis Ababa University, Dep. of Social Science	-meeting with Tesfaye Tafesse

Appendix n. 3: Questionnaire for interviews, Jan. - April 2015

Questionnaire on the Nile hydropolitics, 2015	
1	What are the main challenges to achieve water security? Are they of technical, managerial, institutional, or political nature?
2	Ethiopia holds great water potential, however its hydraulic infrastructures and management is still poor: what are the causes and possible solutions to this situation?
3	Does politics matter in Water Resource Management? If yes, how does water policies reflect (or are reflected by) domestic and international politics?
4	What's your opinion on recent Ethiopian development of water infrastructures? Are they mainly intended to serve the population needs, or are they addressing foreign capital demands?
5	Investments in water management: what should the Government, International Organisations and private companies do to increase funding in Ethiopia?
6	Are water conflicts occurring in Ethiopia? Provide examples of either water conflicts or water cooperation you are aware of (either at international or domestic level)
7	Environmental concern and development need: are they compatible, or one should be given priority over the other?
8	The Nile River Basin: what are the main challenges to reach an agreement among Nile member states for the utilisation of the Nile flows? What's the future of the CFA? Is the UN Convention on watercourses (entered into force in 2014) likely to impact on the Nile shares?
9	The GERD: is it a counter-hegemonic tool vis-à-vis Egyptian hegemony? Or is it a first move towards the expansion of Ethiopian hegemony in the Horn of Africa?
10	Water-energy nexus: what would be the benefits and the risks for Ethiopia in becoming the main hydroelectric power deliver in the Horn of Africa?

Appendix n. 4: Selection of Deals/Agreements signed by Ethiopia, 2004-15

<i>Year</i>	<i>Deal / Agreement</i>	<i>Sector</i>	<i>Actors involved</i>	<i>Details / Budget</i>
2004	Debt Cancellation	Economy	G8, IMF, WB, Italy (HIPC initiative, October in Paris), Ethiopia	Italy has cancelled the 100 percent debt owed to it by Ethiopia amounting to \$432 million (Nov. 2004)
	Gibe II project	Water Infrastructure	Italy	Ethiopia and Italy signed agreements for a soft loan of \$277 million (Euro 220 million) for the Gilgel Gibe II hydropower project
2005	Eastern Africa Power Pool (EAPP)	Energy	Burundi, DRC, Egypt, Ethiopia, Kenya, Libya (2011), Rwanda, Sudan, Tanzania (2010), Uganda (2012).	Inter-Governmental Memorandum of Understanding (IGMOU) for the development of energy resources in the region
2006	Energy export deal	Energy	Ethiopia, Kenya	MoU for 500MW energy export from Gibe III
	Salini-EEPCO agreement for GIBE 3	Water Infrastructure	Salini (Italy), EEPCO (Ethiopia)	USD 1.75 billion contract agreement
2007	Energy export deal	Energy	Ethiopia, Sudan	Preliminary deal for energy sale to Sudan
	Investment in sugar industry	Industry	Ethiopia, India	The Indian Export-Import Bank has pledged USD 640 million of credit over five years for Ethiopia's sugar industry (at a low rate of 1.75% with five interest free years to be paid back in 20 years).
2009	Gibe III hydro power project	Energy	Ethiopia, Norway	ETB400 million for two feasibility studies
	Gibe IV hydro power project	Energy	Ethiopia, China	China and Ethiopia signed a 1.9 billion EUR deal for the construction of the Gibe IV and Halele Werabesa dams
2010	Cooperative Framework Agreement	Transboundary Water Management	Ethiopia, Kenya, Uganda, Rwanda and Tanzania	Five Nile riparian states sign the CFA
	Airlines industry deal	Industry	ICBC (China), and Ethiopian Airlines (Ethiopia)	Financial loan of 750 million USD by ICBC to Ethiopian Airlines

<i>Year</i>	<i>Deal / Agreement</i>	<i>Sector</i>	<i>Actors involved</i>	<i>Details / Budget</i>
2011	Energy export deal	Energy	Ethiopia, Djibouti	Deal for 35MW of electric power supplied beginning May 2011, for a 1.5 million-dollar a month utility bill
	Energy export deal	Energy	Ethiopia, Kenya	400 megawatt export deal
	Cooperative Framework Agreement	Transboundary Water Management	Burundi	Burundi signs the CFA
	Ethiopia-Djibouti transmission line officially inaugurated	Energy	Djibuti, Ethiopia, AfDB	The 283-km 230-kV line, enabling Djibouti to import up to 60 MW of electricity, is estimated to be earning Ethiopia at least USD 1.5 million per month. AfDB has invested a loan of USD 42.89 million for Ethiopia and loan/grant of USD 54.79 million to co-finance the project with the Ethiopian Electric Power Corporation (EEPCo) and the Ministry of Economy, Finance and Planning Electricité de Djibouti (EdD)
	Bedele-Metu road project	Road infrastructure	AfDB, Ethiopia,	The total budget for this project is roughly US\$75.45 million. The government of Ethiopia will fund about US\$13.88 million while the African Development Bank (AfDB) will fund approximately US\$61.59 million.
Gas pipeline agreement	Energy	Ethiopia, Somaliland, Petronas	Agreement with Petronas and Somaliland for gas pipelines from Ogaden to Berbera (Usd 3 billion)	
2012	LAPSSET project	Energy, Infrastructure	Ethiopia, Kenya, South Sudan	Agreement Kenya-Ethiopia for a Sh54 billion (\$666 million) transmission line (The International Development Association, African Development Bank, the French Development Agency and the government will fund the project). Ethiopia, Kenya and South Sudan agreed to jointly launch the Lamu transport corridor, which consists of a new 32 port berth in Lamu, linked to a 1300km new oil pipeline, 1700km of new roads, 1600 km of new railway and 3 new airports
	Gadar-if Galabat electric transmission line	Energy	Djibouti, Ethiopia, Kenya	100MW transmission line from Ethiopia to Djibuti and Kenya
	Eastern Electricity Highway Project launched	Energy	Kenya, Burundi, Ethiopia, Tanzania, Uganda, Rwanda	World Bank financing of US\$243 million to Ethiopia and US\$441 million to Kenya

Year	Deal / Agreement	Sector	Actors involved	Details / Budget
	Joint Strategic Partnership	Peace and Security	Ethiopia, South Sudan	Memorandum of Understanding on a Joint Strategic Partnership aimed at promoting development, peace, security and stability in the region.
	Adama 1 Wind Farm project inaugurated	Energy	Ethiopia, HydroChina Int. Eng. Company	51 MW, is the country's first operational wind power farm and was inaugurated at the end of 2012 (117million USD). 153MW under construction at Adama II, powered by Sany. Both projects were awarded to Hydro-China International Engineering Company in a joint-venture with Chinese construction group CGCOC and backed by the Exim Bank
	Ashegoda Wind Farm begins production	Energy	Ethiopia, Vergnet SA (France)	The 210 million euro (\$289.68 million) Ashegoda Wind Farm was built by French firm Vergnet SA with concessional loans from BNP Paribas and the French Development Agency (AFD). The Ethiopian government covered 9 percent of the cost.
	CPS for Ethiopia launched	Economy	Ethiopia, World Bank	The World Bank launched the Country Partnership Strategy (CPS) for Ethiopia: 4 billion US dollars to the country for the coming four years supporting its Growth and Transformation Plan (GTP).
2013	Energy export deal	Energy	Ethiopia, Sudan	300MW from GERD
	Bi-lateral agreements signed	Multi-sector	Ethiopia, Sudan	13 agreements signed, including the sale of 100MW and the ending of the dispute over Fashagah region.
	Failure of negotiations with Egypt	Transboundary Water Management	Ethiopia, Egypt	Ethiopia starts diverting the Nile, and rejects Egypt's proposal to halt GERD construction
	Baro-Akobo River hydropower project	Energy	Ethiopian Ministry of Water and Energy, ELC Electro Consult	Prefeasibility and feasibility studies to build a hydro power plant along the Baro-Akobo River Basin: the dam to be built will have a height of up to 270 meters and its generation capacity is estimated to be 1060 megawatt (1,367,117. 95 \$US dollar).
	Agreement Ethiopia-China for the construction of power transmission lines for the GERD	Energy	Chinese government, State Grid Corporation of China (SGCC), EEPCo (Ethiopia)	Ethiopian Electric Power Corporation (EEPCo) signed a \$1.4bn agreement with China Electric Power Equipment and Technology Company (CET), part of the State Grid Corporation of China, to build a 619km double-circuit 500kV AC transmission line to connect the 6,000MW Grand Renaissance dam to the grid. The project is expected to be implemented in stages between 2014 and 2016. The work will also include construction of a 98km double-circuit AC transmission line and two new 500kV substations as well as expanding three 400kV substations. (Budget: 1.458 billion USD: \$1.02 billion loan from China, the rest from

<i>Year</i>	<i>Deal / Agreement</i>	<i>Sector</i>	<i>Actors involved</i>	<i>Details / Budget</i>
				the Ethiopian government).
	Ethiopia-South Sudan Peace and Security Agreement	Peace and Security	Ethiopia, South Sudan	Senior army officers of Ethiopia and South Sudan signed agreement to work in collaboration on issues related to ensuring peace and security along their common border
	South Sudan rejects the 1959 Sudan-Egypt agreement; Ethiopia and Rwanda ratify the CFA	Transboundary Water Management	Ethiopia, Rwanda, South Sudan	South Sudan expressed its opposition to a 1959 Nile Water agreements between Sudan and Egypt. Ethiopia and Rwanda ratify the CFA
	Aysha Wind Project	Energy	Exim Bank (China), EIB, EEP Co, Metal and Engineering Corporation (Ethiopia)	EIB (phase 2 for 120MW). The Export-Import Bank of China will provide a loan covering 85% of the \$345 million project cost (for phase 1 -120 MW- and phase 3 -60MW), with the Ethiopian government making up the balance (for phase 2 - 120 MW).
	Deal between Metal and Engineering Corporation and Alstom for GERD.	Energy	Metal and Engineering Corporation (Ethiopia), Alstom (France)	Supply of eight 375MW turbines and generators for phase 1 of GERD (Eur 250 million).
	Corbetti Geothermal Farm	Energy	Ethiopia, Reykjavik Geothermal (Iceland)	\$4 billion deal with Reykjavik Geothermal for a 1000MW geothermal farm in Awassa
	Ethio-Djibouti Railway Line Project	Transport	Ethiopia, Exim Bank (India)	Line of credit of USD 300 million for financing the new Ethio-Djibouti Railway Line Project (Asaita-Tadjourah portion)
	Ethiopia-Kenya electricity highway	Energy	Ethiopia, Kenya AfDB, World Bank, Agence Française de Développement	-1,068 km of high voltage direct current (HVDC) electricity highway between Ethiopia and Kenya, with a power transfer capacity of up to 2,000 MW. -Budget: AfDB (USD 338 million), World Bank (USD 684 million), Agence Française de Développement (USD 118 million), Government of Kenya (USD 88 million) and Government of Ethiopia (USD 32 million).
	Energy export deal	Energy	Ethiopia, Rwanda	Ethiopia-Rwanda 400MW energy export deal
2014	Failure of negotiations	Transboundary Water Management	Ethiopia, Egypt	Ethiopia rejects Egypt's offers to co-finance the GERD
	Nekemte-Bure road	Transport	Ethiopia, World Bank	WB loan for Nekemte-Bure road project (USD 320 million)

<i>Year</i>	<i>Deal / Agreement</i>	<i>Sector</i>	<i>Actors involved</i>	<i>Details / Budget</i>
	project			
	Airlines industry deal	Industry	ICBC (China), Ethiopian Airlines	MoU for financial loan to Ethiopian Airlines (USD 500 million)
	South-Sudan peacekeeping operations	Peace and Security	UN Peacekeeping operations in South-Sudan	Ethiopia leads IGAD forces in UN Peacekeeping in South-Sudan
	Hilala and Calub geothermal project	Energy	Ethiopia, Poly GCL (China)	Poly GCL announces to exploit 3millions tons of natural gas from the Ogaden by 2018
	Aluto and Alalobad geothermal project	Energy	Ethiopia, World Bank	Loan of USD 200 million dollars to the Ethiopian government to develop its potential geothermal sites at Aluto and Alalobad, in the rift valley of Afar Regional State
	MoU for solar energy projects	Energy	EEPCo (Ethiopia), Green Technology Africa Inc. (USA)	Investment for the development of 300MW of new solar projects
	Geba hydro power project	Energy	Ethiopia, Exim Bank (China)	-391MW from twin power plants (Geba 1 and Geba 2). -Budget: USD 583 million (80% from for Exim Bank of China in a preferential credit modality. The Ethiopian government covers the remaining 20%)
2015	Declaration of Principles	Transboundary Water Management	Ethiopia, Egypt, Sudan	Joint declaration over the GERD dispute
	3rd ratification of CFA deposited	Transboundary Water Management	Tanzania	Tanzania ratifies the CFA

Appendix n. 5: List of meetings of the International Panel of Experts (IPoE), the Tripartite Ministerial Committee and the Tripartite National Committee over the GERD project, 2012-2015

International Panel of Experts (IPoE)		
<i>Date</i>	<i>Place</i>	<i>Details</i>
May 15-18, 2012	Addis Abeba	<p>1st meeting, IPoE launched:</p> <ul style="list-style-type: none"> • IPoE members visited the GERDP and were provided on site briefing of the project; • IPoE identified issues that are required to be reviewed by panel members and related topics of study and design documents; • IPoE members were provided with project study and design documents in soft copies as per the list attached to the minutes of the launch meeting; • IPoE agreed on working procedures, communications and documents submission including the necessary of using a website to be accessed by members; • IPoE agreed to conduct the next meeting in Cairo.
Jun. 19-21, 2012	Cairo	<p>2nd meeting:</p> <ul style="list-style-type: none"> • Discussed GERD project activities and progress; • IPoE members' exchanged their views and reflection regarding the structure and gaps on submitted documents; • Conducted a detailed technical discussion on the preliminary review of the submitted documents; • Conducted discussion on the IPoE work plan and way forward.
Oct. 9-11, 2012	Addis Abeba	<p>3rd meeting:</p> <ul style="list-style-type: none"> • Conducted a one day field visit to GERD project site; • Agreed on fielding a geotechnical verification mission to the GERD project site; • Discussed on review notes submitted by IPoE members.
Nov. 26-28, 2012	Addis Abeba	<p>4th meeting:</p> <ul style="list-style-type: none"> • Discussed on GERD documents on the basis of review notes prepared by IPoE members; • Discussed on proposed additional studies; • Discussed on the preparation of the final report;

		<ul style="list-style-type: none"> Discussed on the necessity of extending the mandate up to May 2013.
Feb. 3-9, 2013	GERD site	<p>Geotechnical Expert group mission (composed of three international experts accompanied by an expert each from Egypt and Sudan and four experts from Ethiopia).</p> <ul style="list-style-type: none"> The mission reviewed 16 geotechnical documents prepared by the EPC contractor and conducted a two days field visit. The mission submitted its report on March 20, 2013
Mar. 25-28, 2013	Rosseries Township, Sudan	<p>5th meeting:</p> <ul style="list-style-type: none"> Discussed on the review note on gated spillway design report Discussed on the geotechnical mission report Discussed on the presentations of the environment and socioeconomic and water resources experts Discussed on the IPoE final report structure and table of content and assigned sections of the final report to be drafted by individual members of the IPoE
May 26-31, 2013	Addis Ababa	<p>6th meeting:</p> <ul style="list-style-type: none"> Discussed on and finalized the IPoE final report

Tripartite Ministerial Committee (Ministers of Water Resources of Egypt, Ethiopia and Sudan)		
Date	Place	Details
Nov. 4, 2013	Khartoum	1st meeting: suspended for disagreements and postponed to December 2013.
Dec. 8-9, 2013	Khartoum	2nd meeting: no agreement reached.
Jan. 4-5, 2014	Khartoum	3rd meeting: suspended and indefinitely postponed
Aug. 25-26, 2014	Khartoum	4th meeting: agreement reached over the two studies on the GERD project suggested by the IPoE in its final report, a Water Resources/Hydropower System Simulation Model and a Transboundary Environmental and Socio-Economic Impact Assessment. The three countries agreed on the establishment of a Tripartite National Committee (TNC), comprising four experts from each country, to conduct the studies recommended by the IPoE. The TNC will conclude its work within six months starting from the 1st of September and the studies will be implemented according to an agreed timetable by International Consultancy Firm(s) according to the "Draft Scope of Work" presented in the IPoE final report. The Ministers also agreed on the nomination of

International Experts who would be able to provide technical opinions.
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Tripartite Ministerial Committee (Ministers of Water Resources of Egypt, Ethiopia and Sudan)		
<i>Date</i>	<i>Place</i>	<i>Details</i>
Nov. 4, 2013	Khartoum	1st meeting: suspended for disagreements and postponed to December 2013.
Dec. 8-9, 2013	Khartoum	2nd meeting: no agreement reached.
Jan. 4-5, 2014	Khartoum	3rd meeting: suspended and indefinitely postponed
Aug. 25-26, 2014	Khartoum	4th meeting: agreement reached over the two studies on the GERD project suggested by the IPoE in its final report, a Water Resources/Hydropower System Simulation Model and a Transboundary Environmental and Socio-Economic Impact Assessment. The three countries agreed on the establishment of a Tripartite National Committee (TNC), comprising four experts from each country, to conduct the studies recommended by the IPoE. The TNC will conclude its work within six months starting from the 1st of September and the studies will be implemented according to an agreed timetable by International Consultancy Firm(s) according to the "Draft Scope of Work" presented in the IPoE final report. The Ministers also agreed on the nomination of International Experts who would be able to provide technical opinions.

Appendix n. 6: Selection of official speeches by Ethiopian and Egyptian authorities, 2011-15

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
n.d.	Ethiopian narratives	Berhanu Kebede, Ethiopia's Ambassador to the UK	"The Diaspora has to rise to the occasion and mobilize resources for construction of the Renaissance Dam, which symbolizes the bright future and reawakening of Ethiopia".	http://www.gerduk.org/testimonials/
n.d.	Ethiopian narratives	Alemayehu Tegenu, Ethiopia's Minister of Water, Energy and Irrigation	"Ethiopia has a firm policy based on equitable utilization, no significant harm and win-win approach, committed to genuine and transp cooperation with all Nile basin countries".	http://www.gerduk.org/testimonials/
n.d.	IPoE Final Report	Yilma Seleshi, Ethiopian member of IPoE	"Among the panelists, ten of us concluded that the dam is designed based on international standards and code of practice and is being under construction accordingly. This implies that the dam is safe both in its design and its construction; and as a result it has no problem to the downstream countries. So, what we concluded was that the dam has no significant impact to the downstream countries. The spillway of the dam is also safe. Therefore, the issue of the safety of the dam is unquestionable and a finished business. Therefore, the study also shows that it is only 3 per cent of the Blue Nile flow reduced to the Sudan-Ethiopia border through evaporation and this is not at all significant impact to either the Sudan or to Egypt. However, in Sudan the experts have found that there will be a dramatic increase of their hydropower. And at the same time, we have found out that flood and sediment would show a dramatic decrease in the two countries, and problems related to reservoir sediment deposition reduce in both countries. These have been shown in the report. And if the report has shown otherwise, and, if it was to dramatically decrease their water volume and causes other related problems, as they say, due to the construction of the dam, they would have not signed the final report".	http://www.ethpress.gov.et/herald/index.php/herald/herald-guest/5...er-is-a-scarce-resource-for-ethio-pia?tmpl=component&print=1&page=
03/03/2011	CFA	Egypt's State Information	"Egypt is intensifying its political efforts to preserve its historical rights in the Nile water. Egypt and Sudan, the downstream countries, will never give up their current shares of the	http://www.sis.gov.eg/En/Templates/Articles/t

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
		Services, official statemnet	Nile water. Egypt also called for amending the majority vote rule into consensus rule or that the majority should include the downstream countries, i.e. Egypt and Sudan".	mpArti- cles.aspx?Artl D=53981#.VP6 jygWlqM
30/03/2011	Ethiopian narratives	Meles Zenawi, Ethi- opian PM	"We are so convinced of the justice of our cause, so sure of the strength our arguments, so convinced of the role of our hydro-power projects eliminating poverty in our country that we will use every ounce of strength and every dime of money we can save to complete our programs".	http://www.ger duk.org/testimo nials/
02/04/2011	Launch of the GERD	Egypt's Min- ister of Irrigation	"[This] is a violation of the rights of Sudan and Egypt".	https://academi c.aucegypt.edu /caravan/story/ egypt-looking- ways-offset- crisis-over-nile- river
02/04/2011	Launch of the GERD	Nabil Fahmy, Dean of Egypt's School of Global Affairs and Public Policy	"The situation now is much harder than before because of the signing of six countries. We should now find projects and solutions that interest and benefit all countries and help them find ways to store the excess water they have"; "Most of the suggested projects are for electricity and power use which is not going to affect the water level that comes to Egypt. But some of the dams or projects might be designed to prevent or control the passage of water to Egypt".	https://academi c.aucegypt.edu /caravan/story/ egypt-looking- ways-offset- crisis-over-nile- river
02/04/2011	Launch of the GERD	Abdel-Fatah Motawee, Head of the Nile Water Department (Egypt's Wa- ter Resources and Irrigation Ministry)	"Any project should be studied collectively to ensure it would not harm other countries un- der the Nile Basin Initiative".	http://www.sis. gov.eg/En/Tem plates/Articles/t mpArti- cles.aspx?Artl D=54612#.VR EzBigWlqM
02/04/2011	Launch of the GERD	Meles Zenawi, Ethi-	"Equally, the benefits that will accrue from the Dam will by no means be restricted to Ethio- pia. They will clearly extend to all neighboring states, and particularly to the downstream	http://www.aiga fo-

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
		opian PM	Nile basin countries, to Sudan and Egypt. The Dam will greatly reduce the problems of silt and sediment that consistently affect dams in Egypt and Sudan. These countries will have the opportunity to obtain increased power supplies at competitive prices. The Millennium Dam will increase the amount of water resources available, reducing the wastage from evaporation. In other words, the Millennium Dam will not only provide benefits to Ethiopia. It will also offer mutually beneficial opportunities to Sudan and to Egypt. Indeed, one might expect these countries to be prepared to share the cost in proportion to the gains that each state will derive. On this calculation, Sudan might offer to cover 30 per cent and Egypt 20 per cent of the costs of the entire project"; "No matter how poor we are, in the Ethiopian traditions of resolve, the Ethiopian people will pay any sacrifice. I have no doubt they will, with one voice, say: "Build the Dam!". So, the first message is that we not only have a plan, but we also have the capacity to assert our rights. The second message we want to send is that the intention to exercise our rights to use our own rivers is in order to fight poverty in our own country. It shows no malice to any of our neighbors."	rum.com/news/Melse_speech_at_abay_dam.php
19/04/2011	Ethiopian narratives	Alemayehu Tegenu, Ethiopian Minister of Water, Energy and Irrigation	"No. They found out from the media," Alemayehu Tegenu told Reuters when asked if Ethiopia had officially informed Egypt. "It is not (a national security issue) and it will not be," he said. "What we plan in this country does not impact on Egypt in a negative way." He said Egypt had yet to officially discuss the dam with Ethiopia. "I have not received any official objection from the Egyptian side," Alemayehu said. "If Egypt continues with the old mentality, they may not support this dam. If they change their mind and follow a win-win approach, I think they will."	http://grandmillenni-umdam.net/interview-ethiopia-keeping-egypt-in-dark-on-nile-dam/
09/08/2011	Ethiopian narratives	Misikir Negash, public relations officer for EEPCo	"No matter what is reported, the project will continue, and financing to the project is certain as the Industrial and Commercial Bank of China has provided 470 million dollars, and the remaining might be covered by Ethiopia", speaking about UNESCO's concerns over the Gibe III.	http://grandmillenni-umdam.net/ethiopia-continues-dam-construction-over-un-objections/
09/08/2011	Ethiopian narratives	Meles Zenawi, Ethiopian PM	"They don't want to see a developed Africa; they want us to remain undeveloped and backward to serve their tourists as a museum," speaking about Survival International and other lobbies	http://grandmillenni-umdam.net/ethiopia-continues-

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				dam- construction- over-un- objections/
02/06/2013	Ethiopian narratives	S. Bekele, GERD project manager	"I see similarities between the Grand Ethiopian Renaissance Dam and Hoover Dam, the Great Depression-era dam that in its time became an icon of American enterprise; and hope Ethiopia's dam can achieve for the country what Hoover Dam did for the U.S".	http://www.gerduk.org/testimonials/
02/06/2013	Egypt threatens to file the GERD dispute to UN	Ahmad Abdul Halim, Egypt's Major General	"As a last resort, Egypt could present its case to the International Court of Justice, the Security Council, and the International Criminal Court."	http://gulfnws.com/news/region/egypt/egypt-may-opt-to-move-icj-over-ethiopia-s-dam-1.1191624
05/06/2013	Egyptian narratives	Mohamed Bahaa El-Din, Egyptian Irrigation Minister	The Egyptian government "will not give up on one drop of water"; "The state has started taking procedures that we will not announce".	http://english.ahram.org.eg/NewsContent/1/0/73283/Egypt/0/Egypt-irrigation-minister-hints-at-covert-response.aspx
06/06/2013	Egyptian narratives	Egyptian Ministerial meeting	Younis Makhyon, a senior member of the ultraconservative Salafi Nour Party, said he believed that the United States and Israel were secretly behind the dam project and "would use it as a lethal bargaining chip to pressure Egypt."; "We should intervene in their domestic affairs," said Ayman Nour, a liberal politician. Mr. Nour proposed exploiting political rivalries in Ethiopian society as a cost-effective way to fend off the danger of the dam. He also proposed that instead of attacking Ethiopia, Egypt could leak false "intelligence information" to the news media suggesting that such an attack was imminent; Saad El-Katatni, a leader of the Muslim Brotherhood's political wing, told the gathering that the government had to be prepared to do anything "in order to protect our water security, because for us, water security is a matter of life and death."	http://thelede.blogs.nytimes.com/2013/06/06/with-cameras-rolling-egyptian-politicians-threaten-ethiopia-over-dam/?_r=0
09/06/2013	Ethiopian	Ambassador	"There is no internal or external force that could stop the dam project";	http://www.sudantrib-

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	narratives	Dina Mufti, Ethiopia's foreign ministry spokesperson	"The final findings indicate that Egypt and Sudan will be benefited from clean energy generated by the plant and will also reduce the accumulation of sedimentation on lower riparian countries"; "Ethiopia will continue to push ahead with building the power plant despite what so ever".	une.com/spip.php?iframe&page=imprimable&id_article=46880
10/06/2013	Egyptian narratives	Mohammed Morsi, Egyptian President	"Egypt's water security cannot be violated at all"; "As president of the state, I confirm to you that all options are open"; "If Egypt is the Nile's gift, then the Nile is a gift to Egypt"; "The lives of the Egyptians are connected around it... as one great people. If it diminishes by one drop then our blood is the alternative".	http://www.bbc.com/news/world-africa-22850124
12/06/2013	Ethiopian narratives	Ethiopian Ministry of Foreign Affairs, official statement	"Ethiopia's diversion of the Nile [was] conducted after giving ample advance notice to Egypt and Sudan, to whom the Nile flows from Ethiopia. Ethiopia has accepted the findings of the report, which states that the dam meets international standards, but recommends further studies in certain areas".	http://www.mfa.gov.et/pressMore.php?pg=51
17/06/2013	Egyptian narratives	Group of Nile Basin (GNB) at Cairo University to Support Egypt	"The committee has recently concluded its review and issued its report with the following conclusions: 1. There are no sufficient structural studies. 2. There is a lack in the hydrological investigations. 3. There are no environmental impact assessments on the two downstream countries; Egypt and Sudan. The current design capacity of GERD of 74 Billion cubic meter will have harsh negative impact. The ideal target for the negotiation from Egypt's point of view would be to prevent constructing the dam. Considering the above, the following are the suggestions: 1. Request stopping the construction at once until completing the negotiation and assess the effects through scientific means and agree on them. 2. The minimum requirement for the Egyptian Government should be the maximum size of the Dam not to exceed 14 billion cubic meter as per the proposal prior to the January 2011 Revolution. 3. Ethiopia to commit officially not to use the water behind the GERD for the agricultural purposes as previously announced. 4. Ethiopia to commit for the advance notice for any future projects. The major threat is the result of the magnified size of the dam. Without reducing the dimensions of the dam itself,	http://egyptianchronicles.blogspot.it/2013/06/cairo-university-report-on-ethiopia.html

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			the major negative impacts as indicated above are unavoidable".	
18/06/2013	Egyptian narratives	Hani Raslan, Director of the Nile Basin studies department (Cairo's al-Ahram Centre for Political and Strategic Studies)	"Ethiopia has aspirations to be a regional power at Egypt's expense. It is taking advantage of the instability after the revolution, especially now that there's a weak Muslim Brotherhood president with no experience whatsoever who is not in sync with the institutions of the state".	http://www.theguardian.com/world/2013/jun/18/egypt-ethiopia-dam-blue-nile
18/06/2013	Ethiopia-Egypt negotiations	Tedros Adhanom, Ethiopian Foreign Minister	"We have two options, either to swim or sink together. I think Ethiopia chooses, and so does Egypt, to swim together," Tedros said.	http://www.theguardian.com/world/2013/jun/18/egypt-ethiopia-dam-blue-nile
27/06/2013	Ethiopian narratives	Ethiopian National Panel of Experts, in response to the Group of Nile Basin (GNB) at Cairo University to Support Egypt	"The "experts", instead of being faithful to their calling and informing truth and science into the discussion over the GERD, have sadly joined the bandwagon of those who have politicized the issue out of proportions for short-term expediency. There has been strong rhetoric from senior Egyptian politicians who have crossed the boundaries of minimal diplomatic civility and instigated direct attack on the people and government of Ethiopia, the very people who, in unprecedented gesture of goodwill and in good faith stretched their hands and called upon Egyptian and Sudanese brothers to jointly study potential impacts of the dam. We believe that the People of Egypt and Ethiopia are connected by the Nile blood line. We also believe they deserve to know the objective facts about GERD un-obscured by fancy wishes to sustain hydro-hegemony in perpetuity. It is also glaringly obvious even to the layperson, leave alone to "engineering professors and scientists", that Hydropower generation does not result in water abstraction. Hydropower dams only redistribute what otherwise would be variable flow in the river so that multiple beneficial uses of the water could be maximized. Given the above, advocating for any sort of intervention which in any form and	http://www.mowr.gov.et/index.php?pagenum=0.1&ContentID=88

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			manner strives to stop Ethiopia from tapping its hydropower potential is the highest form of ill-will toward our long suffering people, and can rightfully be considered as a desire to keep Ethiopians in abject poverty. Hydropower does not consume water and in no way causes significant harm for the downstream countries. 1. The GERD neither consumes nor diverts water to another basin; 2.The evaporation loss GERD incurs is significantly lower than the amount of water that the GERD saves from evaporation loss. 3. The GERD regulated flow brings forth multiple benefits no les to Egypt and Sudan; 4. Dam Safety: The dam design, construction, management follows international standards; Ethiopia is a responsible nation and the design is adequate and has robust filling strategy that does not lead to any appreciable harm during filling period in the worst case combination that HAD reached minimum level and dry year occurs during filling. Contrary to the hysteria politicians generated, which the GNB seems established and is intent to catalyze, the Grand Ethiopian Renaissance Dam (GERD), as shown above, is a win-win undertaking which Ethiopia has earnestly embarked upon. Egypt in a nutshell benefits from this Ethiopian project in multiple ways".	
09/07/2013	Egyptian narratives	Mohamed Nasr El Din Allam, Egyptian minister of water and irrigation	"The dam would lead to political, economic, and social instability. Millions of people would go hungry. There would be water shortages everywhere. It's huge."	http://www.counter-punch.org/2013/07/09/over-the-water-of-the-nile/
14/07/2013	Sudanese narrative	Abdulhalim Al-Mutaafi, Sudanese Irrigation and Agriculture Minister	"The tripartite dam investigative committee established by Ethiopia, Sudan and Egypt showed in its initial report that the dam's construction represents a positive development"; "Some Egyptian politicians have used the issue as a political tool to pressurize their opponents"; "It is known that the building of the dam will benefit downstream countries as it enables them to receive regulated free water".	http://www.egyptindependent.com/news/sudan-backs-ethiopian-dam-project
07/11/2013	Ethiopian narratives	Ethiopian Ministry of Foreign Af-fair, official statement	"Ethiopia is successfully helping to build a new regional security, political, economic and environmental partnership with the active participation of the other states of the Horn of Africa and of the East Africa region in the changing world of the 21st century. Ethiopia's regional development strategy today essentially depends on the concept of "a community of power" to collectively secure peace and stability and to jointly integrate and benefit from the	http://www.mfa.gov.et/pressMo re.php?pg=55

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			current global and international market. Ethiopia, in fact, is unflinchingly committed to contribute to speed up regional integration in Eastern Africa, to achieve the goal of an economically and politically integrated region, as a central building block for the economic and political integration of Africa, to provide for Africans to be the captains of their own souls and of their own destinies in this coming century".	
15/12/2013	Ethiopian narratives	S. Bekele, GERD project manager	"Like the Adwa victory, the Great Ethiopian Renaissance Dam (GERD) will be venerated for generations".	http://addisfortune.net/columns/like-the-adwa-victory-the-great-ethiopian-renaissance-dam-gerd-will-be-venerated-for-generations/
06/01/2014	Ethiopia-Egypt negotiations	Fekahmed Negash, Director of Ethiopian Boundary and Trans-boundary Rivers Affairs Directorate	"We will not negotiate on this issue with any country. That is why we say take it to the right platform".	https://www.middleeastmonitor.com/news/africa/9144-ethiopia-rejects-egypts-demand-to-guarantee-its-water-allocation-of-the-river-nile
06/01/2014	Egyptian narratives	M. Abdel-Moteleb, Egyptian Irrigation Minister	"We have exhausted all opportunities to negotiate with Ethiopia because of the intransigence of Addis Ababa"; Egypt "has escalatory steps to assert our historic rights to the Nile waters"; "We need 80 billion cubic meters. We will not let go of one drop of water."	http://www.bloomberg.com/news/articles/2014-01-08/ethiopia-rejects-egyptian-proposal-on-nile-as-dam-talks-falter
06/01/2014	Ethiopian	Gideon	"There is nothing that will stop it".	http://www.bloomberg.com/ne

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	narratives	Asfaw, head of Ethiopia's technical team in Khartoum		ws/articles/2014-01-08/ethiopia-rejects-egyptian-proposal-on-nile-as-dam-talks-falter
16/01/2014	Ethiopian narratives	Ministry of Water, Irrigation & Energy of Ethiopia	"The IPoE Final Report has reconfirmed Ethiopian assertion that the design and construction of the GERD is based on on international design criteria and standards, codes, guidelines and engineering practices. The IPoE has also shown that the GERD does not have significant impact on the downstream countries and in fact will provide huge benefits to all the three riparian countries, namely Egypt, Ethiopia and Sudan. The timing of the commissioning of the GERD has nothing to do with the turmoil in Egypt, as it is asserted by some uninformed individuals in Egypt".	http://www.mwr.gov.et/index.php?pagenum=0.1&ContentD=108
17/01/2014	Egyptian narratives	Egyptian Ministry of Water Resources and Irrigation	"The dispute between Egypt and Ethiopia during the negotiations is related to two points. First, Ethiopia refused the participation of international experts in the new mechanism put in place to follow up on Ethiopian studies about the consequences of the Renaissance Dam. These studies will be conducted in accordance with the report of the international committee. Second, Ethiopia refused to discuss the document on 'principles of confidence-building' between the countries of the eastern Nile basin — namely Egypt, Sudan and Ethiopia. Egypt proposed this document to provide guarantees for the downstream countries against any negative effects that may be generated from the construction of the dam."	http://www.al-monitor.com/pulse/originals/2014/01/egypt-ethiopia-renaissance-dam-negotiations-dead-end.html#;xzz2v0naOVfy
17/01/2014	Egyptian narratives	M. Abdel-Moteleb, Egyptian Irrigation Minister	"We tried to set forth more than one initiative to build the trust Ethiopia always talks about when promising not to cause Egypt any harm. However, we will not attend or participate in any technical negotiations concerning the Renaissance Dam until we make sure Ethiopia is proposing genuine initiatives that are in line with the Egyptian view, so that these meetings will be meaningful. Egypt has concerns and reservations over the Renaissance Dam. It is not logical to build a dam that big without completing the technical and environmental studies required by the international committee. Ethiopia agreed to these studies and signed [the committee's] final report. Egypt agreed on attending the three rounds of negotiations, so that it could not be accused of rejecting cooperation. We are always striving [to hold] a	http://www.al-monitor.com/pulse/originals/2014/01/egypt-ethiopia-renaissance-dam-negotiations-dead-end.html#;xzz2v0naOVfy

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			dialogue that is based on the principles of not causing harm and creating benefits for all parties. Currently, we do not have the luxury of giving up any drop of water from Egypt's share of Nile water".	
17/01/2014	Egyptian narratives	Mohammad Nasreddin Allam, former Water Minister and Head of the Nile Basin Studies Unit	"We are currently drafting an international claim comprising five parts, which will be filed to donor countries, international institutions and organizations entitled to settle this dispute. Such a dispute can threaten peace and security in the East African region. The memorandum will comprise a legal part documenting the historical rights of Egypt to the Nile water, and another part stating the Ethiopian violations of the law and international agreements, after it constructed a large dam without taking into consideration the safety of downstream countries. It will also include a call to form a fact-finding committee to prove the dangerous impact of the dam on Egyptian water security, as stipulated by the regional dispute settlement mechanisms, the UN pact and the African Union Peace and Security Council. The memorandum will call for the immediate halt of all construction works at the site until the fact-finding committee fulfills its task".	http://www.al-monitor.com/pulse/originals/2014/01/egypt-ethiopia-renaissance-dam-negotiations-dead-end.html#ixzz2v0naOVfy
20/01/2014	Egypt threatens to file the dispute to UN	Khalid Wasif, the official spokesman for the Egyptian minister of irrigation and water resources	Egypt has "begun to explore international channels for setting up alternative diplomatic and political tracks to ward off the dangers that might afflict the country if the Renaissance Dam is built, in light of the announced specifications of the dam"; "Egypt will not allow the dam to be built and will move to rally international pressure to prevent it from being funded. Moreover, Cairo will work [to secure] a public declaration by the international community rejecting the dam's completion, in the absence of [Ethiopian] guarantees that Egypt and Egyptians will not suffer any loss in water security, nor will the other states of the Nile Basin. Egypt has rights guaranteed by international law and agreements, which the Ethiopian side is not respecting"; "According to existing agreements governing the river — which require upriver states to notify Egypt in advance and obtain its consent prior to embarking on any projects that would affect the Nile sources — Egypt's is the stronger legal position. Yet, Egypt has nevertheless insisted upon resolving the issue in a friendly manner, through reciprocal dialogue with the Ethiopian side, devoid of any escalation. But the government in Addis Ababa has shown no appreciation for this fact. Thus, Egypt has refused to continue the latest Khartoum meetings, given Ethiopia's insistence on not providing the necessary guarantees that Egypt's share of the water supply will remain secure".	http://www.al-monitor.com/pulse/originals/2014/01/egypt-renaissance-dam-dispute-internationalize.html#ixzz2v0nfwbf1

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20/01/2014	Egypt threatens to file the dispute to UN	Ayman Salama, an Egyptian expert in international law	"One cannot adopt international arbitration to settle the crisis, since that would require the assent of both parties to the conflict to adopt this formulation of crisis resolution. The Ethiopian government has indicated that it will be highly intransigent on this issue. International arbitration has therefore become extremely unlikely. But Egypt might be able to turn to the Security Council. This, however, would require the preparation of a file containing documented facts of legal and material evidence of the harm that this dam would incur, both to Egypt and to its vital interests. The issue must be shown to threaten the peace and security of the two countries. [If successful], a number of measures could then be taken by the Security Council to compel Ethiopia to meet Egyptian demands".	http://www.al-monitor.com/pulse/originals/2014/01/egypt-renaissance-dam-dispute-internationalize.html#ixzz2v0nfwbf1
20/01/2014	Egyptian narratives	H. Moghazy, Egyptian Minister of Water Resources and Irrigation	"The topographic nature in the dam's area does not allow the water stored behind the dam to be exploited in agriculture".	http://www.al-monitor.com/pulse/originals/2014/09/egypt-ethiopia-renaissance-talks.html
09/02/2014	Ethiopia-Egypt negotiations	Khaled Was-sif, spokesman for the Egyptian Ministry of Water Resources and Irrigation	"We insist on including international experts in the committee, but they [Ethiopia] only wants to include representatives from the three countries [Egypt, Ethiopia and Sudan]".	http://www.dailyn-ewsegypt.com/2014/02/09/ethiopia-dam-talks-resume-mon-day/#sthash.zWKaJTU.dpuf
09/02/2014	Ethiopia-Egypt negotiations	M. Abdel-Moteleb, Egyptian irrigation Minister	"Egypt's firm position on the issue of the GERD... does not conflict at all with the Ethiopian government's desire to increase development and achieve the aspirations of the Ethiopian people in raising the standard of living".	http://www.dailyn-ewsegypt.com/2014/02/09/ethiopia-dam-talks-resume-mon-day/#sthash.zWKaJTU.dpuf
11/02/2014	Ethiopia-	M. Abdel-	"All suggestions by the Egyptian delegation to solve sticking points were met with unjusti-	http://www.dailyn-

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	Egypt negotiations	Moteleb, Egyptian irrigation Minister	fied rejection, reaching the level of obstinacy".	ewsegypt.com/ 2014/02/11/sol ution-reached- dam-talks- egyptian- ethiopian- water- minis- tries/#sthash.iR 86nBFV.dpuf
11/02/2014	Ethiopia- Egypt nego- tiations	Ethiopia's foreign minis- try	"Egypt wants to include international experts on this committee. Ethiopia and Sudan have made it clear they see no need for anything more than representatives from the three countries on the proposed committee".	http://www.dail yn- ewsegypt.com/ 2014/02/11/sol ution-reached- dam-talks- egyptian- ethiopian- water- minis- tries/#sthash.iR 86nBFV.dpuf
11/02/2014	Egyptian nar- ratives	Khaled Was- sif, Spokesman for the Egyp- tian Ministry of Water Re- sources and Irrigation	The GERD "lacks legitimacy" so far, since "no country has announced its approval of ongoing construction".	http://www.dail yn- ewsegypt.com/ 2014/02/11/sol ution-reached- dam-talks- egyptian- ethiopian- water- minis- tries/#sthash.iR 86nBFV.dpuf
12/02/2014	Ethiopia- Egypt nego- tiations	Alemayehu Tegenu, Ethiopia's minister of Water and Energy	"They came here to talk only about two items on the agenda they prepared for the meeting, without giving a chance for discussion for what we have to say".	http://www.thea fricare- port.com/North - Africa/ethiopia- egypt-in-war- of-words-over- dam-talks-

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19/02/2014	Egyptian nar- ratives	An anonym- ous diplomatic source in contact with the Egyptian government	"The campaign initiated by Egypt is on two tracks, one that is explicit and involves meetings by Egypt's ministers of water and foreign relations with their counterparts in countries with influence in the Nile Basin, and one that is undeclared and involves meetings by Egypt's ambassadors in these countries. The two tracks aim to persuade the international community to reject the dam's construction because it may lead to further conflict and instability in the region of the Nile Basin. More negotiations with Ethiopia only waste time and directly threaten Egypt's water security. We realized that Ethiopia doesn't want genuine solutions to end the crisis, but is only trying to portray Egypt as approving of the dam's construction to facilitate access to funding. But [Ethiopia] didn't provide genuine guarantees that the dam will not affect Egypt and has shown no intention to amend the technical specifications to minimize the potential risks according to the report by the international experts' committee, which recommended reconsidering the dam's safety studies".	impasse.html http://www.al- moni- tor.com/pulse/o rigi- nals/2014/02/e gypt-lobby- renaissance- dam- ethio- pia.html#ixzz2v 0o85Rwc
19/02/2014	Egyptian nar- ratives	Ambassador Gamal Bay- oumi, the secretary- general of the Egyptian- European partnership at the Minis- try of International Cooperation	"The issue of the Renaissance Dam has become very complex, and we have a state that is violating international customs and traditions. Egypt's moves now target all countries that provide technical assistance for designing and building the Renaissance Dam through private contractors and also the states likely to fund the construction of the dam. ... Discussing this crisis during the visits of Marshal [Abdel Fattah al-] Sisi and of the Russian foreign minister [Sergey Lavrov] has had a good effect because Russia's relations with Ethiopia are still good, and can be leveraged for the benefit of Egypt"; "We are still at the stage of dialogue. And we are trying, as much as possible, to attract Ethiopia to talk and negotiate. But [Ethiopia] is being stubborn and the impact of the dialogue session broadcast during [former President Mohammed] Morsi's era has clearly caused the collapse of trust between Egypt, Sudan and Ethiopia".	http://www.al- moni- tor.com/pulse/o rigi- nals/2014/02/e gypt-lobby- renaissance- dam- ethio- pia.html#ixzz2v 0o85Rwc
19/02/2014	Egyptian nar- ratives	Alaa al- Zawahiri, member of the national committee to assess the	"If this construction continues at that pace, there will be a fait accompli, and it will be difficult to persuade the Ethiopian side to amend the dam's specifications or height after that."	http://www.al- moni- tor.com/pulse/o rigi- nals/2014/02/e gypt-lobby- renaissance- dam- ethio-

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		effects of the Renaissance Dam		pia.html#ixzz2v0o85Rwc
19/02/2014	Egyptian narratives	Egyptian Ministry of Irrigation	"We will not participate in the meeting in line with the Egyptian position taken in 2010 to freeze our activities in the Nile Basin Initiative after the unilateral signing of the Entebbe Convention by the Nile headwaters countries without reaching an agreement on the contentious items and without recognizing the legitimacy of any decisions that may be issued by ENTRO".	http://www.al-monitor.com/pulse/originals/2014/02/egypt-lobby-renaissance-dam-ethiopia.html#
18/03/2014	Ethiopia-Egypt negotiations	Mahamoud Dirir, Ethiopia's ambassador to Egypt	"There are two, and only two, countries in the entire world which are well-placed to mediate between Egypt and Ethiopia; and these are, of course, Ethiopia and Egypt themselves".	http://www.dailyn-ewsegypt.com/2014/03/18/ethiopian-ambassador-doubts-need-mediator-egypt-ethiopia/
19/03/2014	Egyptian narratives	Egypt's State Information Services, official statement	"The environmental and socioeconomic report [IPoE final report] fails to address the impacts on the downstream countries. The present Hydrological and Reservoir Simulation Study shows detrimental impacts on Egypt's water demand and High Aswan Dam (HAD) Hydropower generation, taking into account the current specifications and proposed filling criteria suggested by the Ethiopian side (filling the GERD in 6 years)"; "There was a deadlock on other significant issues such as the establishment of an International Panel of Experts, due to the Ethiopian continuous rejection to include any International Experts"; "The Government of the Arab Republic of Egypt conducted its own hydrological trans-boundary impact assessments of the GERDP according to the announced dimensions. These assessments provide strong grounds to believe that the GERDP would cause appreciable harm, including material environmental and socioeconomic harm to Egypt"; "Regrettably despite the absence of complete environmental and hydrological impact assessment studies, Ethiopia has continued the construction process at the dam site in violation of all the well-known international legal principles regarding projects and/or con-	http://www.sis.gov.eg/En/Templates/Articles/tmpArticles.aspx?ArtID=76729#.VP6jSgWlqM

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			<p>structions on international rivers, particularly; the obligation to prevent harm to other riparian states, the general obligation to cooperate, the obligation of prior notification and prior consultations with the potentially affected states, the obligation to determine through an impact assessment whether the planned activities may have an adverse effect upon another riparian states sharing the same international watercourse, and the obligation to exchange data and information on a regular basis";</p> <p>"It's worth mentioning as well, that the conduct of the Ethiopian government is inconsistent with its obligations according to the 1902 Treaty between Great Britain and Ethiopia in which article 3 needs "His Majesty the Emperor Menilik II, King of Kings of Ethiopia, engages himself towards the Government of His Britannic Majesty not to construct or allow to be constructed any work across the Blue Nile, Lake Tana, or the Sobat, which would arrest the flow of their waters except in agreement with His Britannic Majesty's Government and the Government of Sudan", and the 1993 Agreement on the framework for cooperation between Egypt and Ethiopia, in which each party is committed to "refrain from engaging in any activity related to the Nile water that may cause appreciable harm to the interests of the other party" in pursuance of Article 5 of the Agreement";</p> <p>"Absent of such an agreement, and the continued construction by the GOE of the said dam, creates a fait accompli that potentially constitutes a significant threats to Egypt's national and water security".</p>	
22/03/2014	Egyptian narratives	Badr Abdelatty, Egyptian foreign ministry spokesman	"It is a matter of life or death, a national security issue that can never be compromised on".	http://www.bbc.com/news/world-africa-26679225
23/03/2014	Egyptian narratives	Mohamed Abdul Muttalib, Egyptian Minister of Water Resources and Irrigation	"The proposed [ENTRO] projects that fall under the umbrella of the Nile Basin Initiative are stalled due to legal issues relating to our current position toward the Initiative, and thus we cannot work on these projects at the current stage".	http://www.al-monitor.com/pulse/originals/2014/03/egypt-water-minister-interview-renaissance-dam-

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
				ethiopia.html
26/03/2014	Egypt threatens to file the dispute to UN	Mohamed Nasser Eldin Allam, former Minister of Water Resources and Irrigation	"No state can remain silent regarding risks threatening the people. Therefore, we ought to take all the necessary international measures against Ethiopia, and we hope that the Security Council will consider our case, which represents a thirst crisis for 90 million Egyptians. According to Chapters VI and VII of the UN Charter, the Egyptian government has the right to resort to all means to put an end to this crisis. Thus, it has the right to take advantage of regional alliances, use soft power and threaten interests. All this is allowed under international law".	http://www.al-monitor.com/pulse/originals/2014/03/egypt-renaissance-dam-dispute-icj.html#
06/05/2014	Ethiopian narratives	Ambassador Berhane, Ethiopian State Minister for Foreign Affairs	"The water will pass through turbines to conduct electricity, and then continues its flow. On the contrary, [Egyptians] can get electricity from Ethiopia after the dam's construction is complete".	http://capitalethiopia.com/index.php?option=com_content&view=article&id=4308:gerd-to-provide-power-for-egypt-&catid=35:capital&Itemid=27
n.d./06/2014	Ethiopian narratives	Ambassador Dina Mufti, Ethiopia's foreign ministry spokesperson	"Ethiopia is not intimidated by Egypt's psychological war and will not halt the construction of the dam for a second".	http://mondediplo.com/2013/08/04nile
28/06/2014	Ethiopia-Egypt joint statement	Egyptian President and Ethiopian PM	"1.To resort to the principles of dialogue, cooperation, mutual accommodation, as the best means to fulfill win win situations and avoid adverse effects to each other. 2 To give adequate priority to regional water resources development projects in order to meet the rising demand on water and mitigate water shortages; 3.To respect the principles of international law. 4.To immediately resume their participation in the trilateral technical committee regarding the Grand Ethiopian Renaissance Dam project (GERD) with the participation of Sudan, in order to implement the recommendations of the international panel of experts (IPOE), and to respect the outcomes of the joint technical studies recommended in the (IPOE) final	http://www.mfa.gov.eg/English/EgyptianFunds/EgyptianFundAfrica/Pages/NewsDetails.aspx?Source=6781921f-3993-444a-859e-ee26ce851de8

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
			report throughout the implementation phases of the project. 5.The government of Ethiopia will avoid any potential adverse effects of the GERD on the water uses of Egypt. 6.The government of Egypt is committed to a constructive dialogue with Ethiopia that takes into account the developmental needs and aspirations of the Ethiopian people. 7.Both countries are committed, in the context of the existing trilateral dialogue, to undertake their work in good faith by consensus".	&newsID=942cac21-0b94-4eeb-a0ae-a1f678c7faea
25/09/2014	Egypt threatens to file the dispute to UN	Khalid Wasif, the official spokesman for the minister of irrigation and water resources	"Egypt will not allow the dam to be built and will move to rally international pressure to prevent it from being funded. Moreover, Cairo will work [to secure] a public declaration by the international community rejecting the dam's completion, in the absence of [Ethiopian] guarantees that Egypt and Egyptians will not suffer any loss in water security, nor will the other states of the Nile Basin. Egypt has rights guaranteed by international law and agreements, which the Ethiopian side is not respecting".	http://www.al-monitor.com/pulse/originals/2014/01/egypt-renaissance-dam-dispute-internationalize.html
16/12/2014	Ethiopian narratives	S. Bekele, GERD project manager	"This is our primary agenda, number one agenda for our country; this is a project which is equipping us to fight poverty, our common enemy. The government has devised a strategy to improve the lives and livelihoods of individuals, the citizens".	http://capitalethiopia.com/index.php?option=com_content&view=art...=4795:gerd-42-percent-complete-&catid=45:news-in-brief&Itemid=37
27/12/2014	Sudanese narratives	Yasir Yusef Ebrahim, State Minister of Information for Sudan	"With regard to the Nile, the Sudanese position is very clear. No country will be affected by Ethiopia's hydroelectric dam. The Nile is for the benefit of all the riparian countries and the region. All countries, I think, have accepted this Sudanese position on the Nile".	<a ?tmpl='component"' href="http://www.thereporerethiopia.com/index.php/interview/item/2931-...-affected-by-ethiopia-s-hydroelectric-dam">http://www.thereporerethiopia.com/index.php/interview/item/2931-...-affected-by-ethiopia-s-hydroelectric-dam"?tmpl=component

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
28/01/2015	Ethiopian narratives	H. Desalegn, Ethiopian PM	"I think we can share this resource without harming each other, without impeding Ethiopian development, without making insecurity in Egypt. We know that it is a bloodline. The Nile is a bloodline to Egypt. To the people of Egypt,"	http://english.al-arabiya.net/en/News/africa/2015/01/28/Ethiopia-aims-to-soothe-Egypt-fears-over-the-Nile.html
29/01/2015	Ethiopian narratives	H. Desalegn, Ethiopian PM	"The Nile is a gift from God for all of us and we have to use this gift in a legal, reasonable way, so that Ethiopia develops and the Egyptian people get their safe portion of water. We have no reason to make the Egyptians feel insecure".	http://english.ahram.org.eg/NewsContent/1/0/121692/Egypt0/Relations-have-improved-since-ElSisi-came-to-power.aspx
02/03/2015	Ethiopian narratives	Alemayehu Tegenu, Ethiopia's minister of Water and Energy	"I would like to emphasize that Ethiopia is a sovereign state and will not wait for permission from anyone to build dams and development projects on tributaries of the Nile River, and we reiterate that this dam will not cause any harm to the interests of others. Our battle is against poverty, hunger and thirst, and we seek to illuminate every house in Ethiopia, as well as provide potable water supply, and this is the wish of all Ethiopians".	http://www.sudantribune.com/spip.php?iframe&page=imprimable&id_article=54162
06/03/2015	Ethiopian narratives	Alemayehu Tegenu, Ethiopia's minister of Water and Energy	"Ethiopia will undertake its development projects in a way that does not cause any significant harm to any country. Ethiopia has no intention to harm Egypt even for a day"; "Egyptians are our brothers and sisters"; Ethiopia "does not want to harm Egyptian farmers, whose lives are based on irrigation".	http://www.mfa.gov.et/weekHomeAfrica/morewha.php?wi=1707#1707
09/03/2015	Ethiopia-Egypt negotiations	Ali Karti, Sudan's foreign minister	"The agreement among the eastern Nile basin countries made during the ministerial talks on the GERD represents a new page of cooperation among Egypt, Sudan and Ethiopia".	http://allafrica.com/stories/201503092390.html
09/03/2015	Ethiopia-	Sameh	"This agreement is a beginning for further political and technical cooperation. The agree-	http://allafrica.c

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
	Egypt negotiations	Shoukry, Egyptian Foreign Minister	ment addresses the concerns of the two downstream countries, Sudan and Egypt".	om/stories/201503092390.html
11/03/2015	Ethiopia-Egypt negotiations	Hossam Maghazi, Egypt's Minister of Water Resources and Irrigation	"The document relates to Egypt's and Sudan's concerns regarding the Ethiopian Renaissance Dam. The document is seen as a positive step forward, which will be followed by other steps once it is referred to the presidents of Egypt, Sudan and Ethiopia for review and ratification".	http://www.al-monitor.com/pulse/originals/2015/03/egypt-ethiopia-sudan-negotiations-political-renaissance-dam.html
11/03/2015	Ethiopia-Egypt negotiations	Mohammed Abdel Aty, former head of the Nile Water Department at Egypt's Ministry of Water Resources and Irrigation	"The [semi-formal] preliminary document, which was drafted according to international standards and agreed upon by the ministers of foreign affairs and agriculture, is the best way to settle the dispute, especially in light of the slow process to find technical solutions to this effect".	http://www.al-monitor.com/pulse/originals/2015/03/egypt-ethiopia-sudan-negotiations-political-renaissance-dam.html
24/03/2015	Egyptian narratives	al-Sisi, Egyptian PM	"The GERD represents a development project for the Ethiopians, but for Egyptians it represents a constant source of worry".	http://www.ena.gov.et/en/index.php/politics/item/562-ethiopia-egypt-sudan-ink-agreement-on-gerd?tmpl=component&print=1
24/03/2015	Egyptian nar-	al-Sisi, Egyp-	"You will develop and grow and I am with you, but be aware that in Egypt the people live	http://www.sudantrib-

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
	ratives	tian PM	only on the water that comes from this river".	une.com/spip.php?iframe&page=imprimable&id_article=54369
24/03/2015	Ethiopia-Egypt negotiations	NBI	"This is a milestone in the history of cooperation on the Nile. It should be pointed out that NBI is NOT a "supranational" entity with basin-wide authority and mandate to "clear" or otherwise "approve or disapprove" national water resources investment plans and programs that sovereign Member States undertake".	http://www.nilebasin.org/index.php/news/192-nbi-congratulates-egypt-ethiopia-and-sudan-on-signing-the-agreement-on-declaration-of-principles-on-the-gerd-project
24/03/2015	Ethiopian narratives	Hailemariam Desalegn, Ethiopian PM	"We are tied by the cords of the Nile. We are one family and share the same destiny. The Nile is a matter of survival and a prerequisite for the economic development of the Nile Basin countries. We can materialize the development we aspire in the Basin only through dialogue and continuous cooperation in order to ensure mutual benefit for all; These all confirms Ethiopia's readiness and commitment for mutual benefit and cooperation among the three countries; The Declaration of Principles defies any past legacies of mistrust. I am sure and it is my hope that the Declaration of Principles will pave the way for further cooperation and collaboration among the three basin countries. It further cements trust and confidence between our sisterly countries; This Agreement on Declaration of Principles on GERD is in line with the Basin wide Cooperative Framework Agreement (CFA). The CFA will continue to serve as very important basin wide instrument, the implementation of which would benefit all the states within the Nile Basin. In this regard, Ethiopia calls for our sisterly countries, Egypt and the Sudan to join the basin wide cooperative framework, which enhances our cooperation and regional development.; Ethiopia's water development projects mainly are based on the principle of sustainability and environment friendly by which the benefits are to all in the region and beyond. GERD is part of such an endeavor. Indeed, as we have been saying, Ethiopia strongly believes that GERD stands as an expression of our commitment	http://www.fanabc.com/english/index.php/news/item/2533-prime-minister-hailemariam's-speech-at-the-signing-ceremony-of-adp-on-gerd

<i>Date (dd/mm/yr)</i>	<i>Topic</i>	<i>Who</i>	<i>Quotation</i>	<i>Reference</i>
			to the benefit of all the countries of the Nile Basin. It is my strong belief that the Agreement on the Declaration of Principles will pave the way for renewed cooperation and enhance our efforts to build trust and confidence".	
24/03/2015	Ethiopia-Egypt negotiations	al-Sisi, Egyptian PM	"We have chosen confidence among each other and further cooperation for the sake of building and development. We in Egypt have no reservations on the establishment of the Renaissance Dam as long as it does not affect the Egyptian people and their vital interests in water. For thousands of years, the Nile water has been flowing with God's order. We are starting a new era of cooperation, amity and trust. We are confident that Ethiopia and Sudan are interested in cooperation. We could cooperate and accomplish great things or disagree and hurt each other...we have chosen to cooperate".	http://www.sis.gov.eg/En/Templates/Articles/tmpArticles.aspx?ArticleID=91586#.VR EyMigWlqM
25/03/2015	Ethiopia-Egypt negotiations	Egypt's State Information Services, official statement	"President Abdel Fattah El Sisi said on Wednesday 25/3/2015 that he relies on Ethiopians' understanding of the concerns of the Egyptians who have no other water source except Nile river. Sisi said during his meeting with the Ethiopian popular diplomacy delegation, Egypt also understands Ethiopia's fears that the starvation they suffered in the 90s would be repeated. The President added "We were all saddened by what happened in the 90's and we hope it would not be repeated".	http://www.sis.gov.eg/En/Templates/Articles/tmpArticleNews.aspx?ArticleID=91640#.VR PYDgWlqM
25/03/2015	Ethiopia-Egypt negotiations	Sameh Shoukry, Egyptian Foreign Minister	"The agreement also guarantees the Egyptian people live without worries over their right to water and at the same time guarantees the Ethiopian people's right to achieve progress and development. He explained that the most important part of the agreement is setting a timetable for reaching a final agreement on the three pending issues on this score; namely, the bases for filling in the dam's reservoir, the bases of annual operation and outlining a mechanism for maintaining cooperation and coordination among the three signatory countries after ending the construction of the dam".	http://www.sis.gov.eg/En/Templates/Articles/tmpArticleNews.aspx?ArticleID=91630#.VR PX_SgWlqM

**Appendix n. 7: Interview to the author by M.
Kouwenhoven, Radboud University (Nijmegen, Holland),
June 2013**

1) Could you tell me more about the historical connection between Ethiopia and Egypt? Has there been always tension over the Bleu Nile waters or is this a recent event?

The history of Ethiopia and of Egypt has always been strictly inter-linked, both for geophysical reasons (the proximity of the two countries, the Nile waters, etc.) and for cultural aspects (the Christian heritage for example). This doesn't mean that the relationship between the two countries has mostly been conflictive or, the other way round, cooperative; it means instead that from an historical perspective the interconnections between these two countries have been complex, rich and ever changing across the centuries. Secondly, it means that to properly understand the processes that have characterized their relations it is necessary to look at the political level and at the different ways the official discourses have been built accordingly to political goals and expectations. Finally, it means that it is of fundamental importance to look at this topic not only from an historical perspective (what C. Tilly would call a "long-historical sociology" of political processes) but also to broaden the analytical approach in order to include the wider region of the Horn of Africa and the interlinkages among the diversity of observable cultural processes, migration flows, sociological values and political games. Due to the complexity of the topic, it's hard to define in a dichotomic way whether there have always been tensions or cooperative efforts, and I guess it's worth to consider that there have been intense conflictive periods (but it doesn't necessary mean that conflictive relations led to violent wars) as well as more peaceful, and even cooperative periods (but note that cooperative does not necessary means absence of conflicts!). Moreover, it's important to bear in mind that there are many different forms of using power, and this includes both overt and cover ways of influencing/guiding/threatening the other, which also help us to understand that tensions over one sector (e.g. water) does not necessarily means tension over all the other sectors, as well as that cooperation on certain topics does not necessarily involve real cooperation over other issues at hand.

Focusing on the Eastern Nile River Basin, we could recall that Erodoto wrote that "Egypt is the gift of the Nile", and that the early advancements of a rich civilization allowed the downstream populations to take advantage of their geographical position and exploit its waters for agricultural development, accelerating a process of sedentarization of nomadic pastoralists all along the Nile river. On the other hand, in Ethiopia the nomadic culture has persisted for longer time, and the exploitation of its agricultural potential has been developed much later. This is only one reason, among many, which could explain why in the past centuries there have not been violent conflicts over water between these two countries,

since not only the water needs have been very different (Egypt is mainly desertic, while in Ethiopia the highlands are very fertile and certainly not missing the necessary annual rainfalls), but also the socio-cultural organization of the productive activities has been for long substantially different. But these aspects did not prevent the emergence of tensions between the two countries: tensions that probably did not have “water” as main issue of confrontation, but that might have also involved water issues (either as real threat or as secondary objective). For example, from 1865 to 1885 Egypt took advantage of the decline of the Ottoman Sultanate and conquered Massawa (at that time the most important port on the Red Sea, and today part of the Eritrean territory) as part of its plan to create an Egyptian African empire by swallowing up Sudan and Ethiopia. Due to the strong resistance by the Ethiopians in the area of Gondar (in the north-west of the country, near the Tana lake) the military plan of the Egyptian command was never accomplished: in 1875 in Gundet and in Gura in 1876 the Egyptian forces were seriously defeated and had to leave the region. In 1898 the British started building a dam in Aswan, a process which continued through different phases in the XX century, and which anticipated the Egyptian “hydraulic mission” of the second half of the century. In more recent times, we have witnessed an escalation of tensions between Egypt and Ethiopia (directly connected with the use and control of the Nile waters) since the final phase of the construction of the Aswan High Dam in the 60s and the emphasis over the “historic rights” held by Egypt over the Nile. When Ethiopia started its own hydraulic mission about 15 years ago, the Egyptian concerns with the eventual decrease of the Blue Nile flows provoked an escalation of the tensions between the two governments, influencing many scholars and diplomats (among them, Ban Ki moon, former UN Secretary-General) to affirm that the “water wars” era was begun.

2) Could you tell me more about the role the United Kingdom has played during colonial time? Ethiopia wasn't colonized, but did the bilateral relationship with Egypt suffered under the influence of the British?

The role of the British has always been a very influential one in the Region, in particular with regard to the Egypt's administration: from 1882 to 1953 Britain occupied the Khiedevate of Egypt (directly until 1914, and later through a protectorate, but the British forces remained in the Country until 1956) and favoured the affirmation of Egypt as the leading power in the Region. Concerning the utilization of the Nile flows, in 1902 a Treaty between Great Britain and Menelik II prevented Ethiopia from constructing any work across the Blue Nile which “would arrest the flow”, and in 1929 the Agreement between Egypt and Anglo-Egyptian Sudan stated that “Egypt assumed the right to veto any construction projects that would affect its interests adversely”. Both treaties have been strongly contested by the Ethiopian government: the former due to the different interpretations given to the articles related to the waters control, while the latter was considered not binding since Ethiopia was neither invited nor included.

3) Could you tell me more about the role of the United States of America and the Soviet Union in this conflict seen from an historical perspective?

The Horn of Africa had been a very important area of confrontation between the two blocks during the cold war era, and both Egypt and Ethiopia had been strongly affected by the foreign policy and interests of the two superpowers. Egypt played different roles since the 50s: its historical relations with the British and, after the WW2, with the US broke apart first when Nasser proclaimed the non-alignment of its government and his refusal to ally with the US, and later in 1956 when he refused the Anglo-American offer to fund the Aswan Dam works, and consequently decided to nationalize the Suez Canal (see the Suez Crisis and the role of Israel). As a result of the power plays at hand in that period, Nasser ended up aligning his country with the Soviet Union (his relationship with Khrushchev had already started a couple of years before) with the aim of transforming Egypt into the leading power within the Arab country vis-à-vis Israel.

4) What is the role of the United States in Ethiopia nowadays?

Since the Sadat era, Egypt experienced an alignment with the West, and the US in particular. The US have played an increasing role in the Region, both through military support and development aid, which gave Egypt the core role for the US foreign policy in the MENA region. The fact that for more than 10 years Ethiopia had been ruled by the regime of Menghistu, threatened the American interests in the region, and pushed the US Governments to invest more and more on his downstream ally. Mubarak has always been a strong ally for the US, which had constantly supported his government. An important role has also been played by the Institutions of the so-called "Washington Consensus", in particular IMF and WB, which heavily influenced both the domestic and the foreign policy of Egypt since the 80s. Now I can't remember exactly who said that "the WB needs Egypt more than Egypt needs the WB", meaning that the strategic value of the country for the broader context of the MENA area and the Arab world in general heavily depends on the role that Egypt can play. With regard to Ethiopia, the US government has been a strong and very influential ally since the mid-90s, and played a crucial role also during the Ethiopia-Eritrea war. Nowadays the presence of the US in Ethiopia is testified by the huge investments in the Country, and by the military operations that from the bases on the Ethiopian territory are launched to Somalia.

5) When and why did Ethiopia started to question the control Egypt had over the Nile? When did Ethiopia put a claim on the Blue Nile waters and why?

Ethiopia has never accepted neither the 1929 treaty nor the 1959 agreement over the use and control of the Nile waters. Due to its strong refusal, we could affirm that Ethiopia has never consented to the Egyptian hegemonic role over the hidropolitics of the region, and has instead tried to ally with the other upstream riparians to question the presumed "historic

right” that Egypt has been claiming to hold over the Nile. I think we should look at this topic from a wider perspective that should involve both the multilateral political processes in the Region and the role of external actors (such as the US and, more recently, the Gulf states, and emerging countries such as India and China). At political level, Egypt has enjoyed a favourable position due to its international relations with the West, and has used its increasing power to spread its influence over the region: it’s often said that on the Nile, “Egypt uses power to get more water, while the downstream riparians use water to get more power”, and it’s certainly true. Until the end of the Menghistu regime Ethiopia had not had the power to question the leadership of the most powerful nation in the region; moreover, Ethiopia had not started its hydraulic mission until mid-90s, and for these reasons it has never had the potential to challenge Egypt on water issues. In recent years, also thanks to the increasing investments made in the country by India, China and the Gulf states, Ethiopia has witnessed a strong economic growth, which has allowed Ethiopia to invest more and more on hydraulic works. At the same time the creation of the NBI and, most importantly, the signature of the CFA are direct signs that the balance of power in the region is slowly shifting, and Ethiopia is able now to question the unfair claims over the Nile made by Egypt

6) Why did Israel variously supported Egypt and Ethiopia? And what was the consequence for the relationship between Egypt in Ethiopia?

Israel has played an important role in the political relations across the Region, in particular with regard to Egypt. After the Arab-Israeli war of 1948m the Suez crisis in 1956 and the 6-days war (Egypt had occupied the Gaza strip from 1948 to 1967), the relations between the 2 countries have been increasingly tense, leading to the Yom Kippur war in 1973. After the peace agreements in 1979 (Egypt was the first Arab nation to make peace with Israel) there have been only minor tensions between the 2 countries, but the overall situation in the region remain instable and unpredictable, in particular after the riots which ended the Mubarak’s rule. With regards to Ethiopia, I don’t have many info on its political relationships with Israel, but I can just mention that from a cultural and historical perspective it does exist a long history of religious influence by the Jewish culture: Ethiopians believe that they directly descend from King Solomon, and in Israel there is nowadays a huge community of the so-called “falasha”, the Ethiopian Jewish.

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