Is it one Nile? Civic engagement and hydropolitics in the Eastern Nile Basin: the case of Egypt, Sudan and Ethiopia

Abazeed, A.R.Y.

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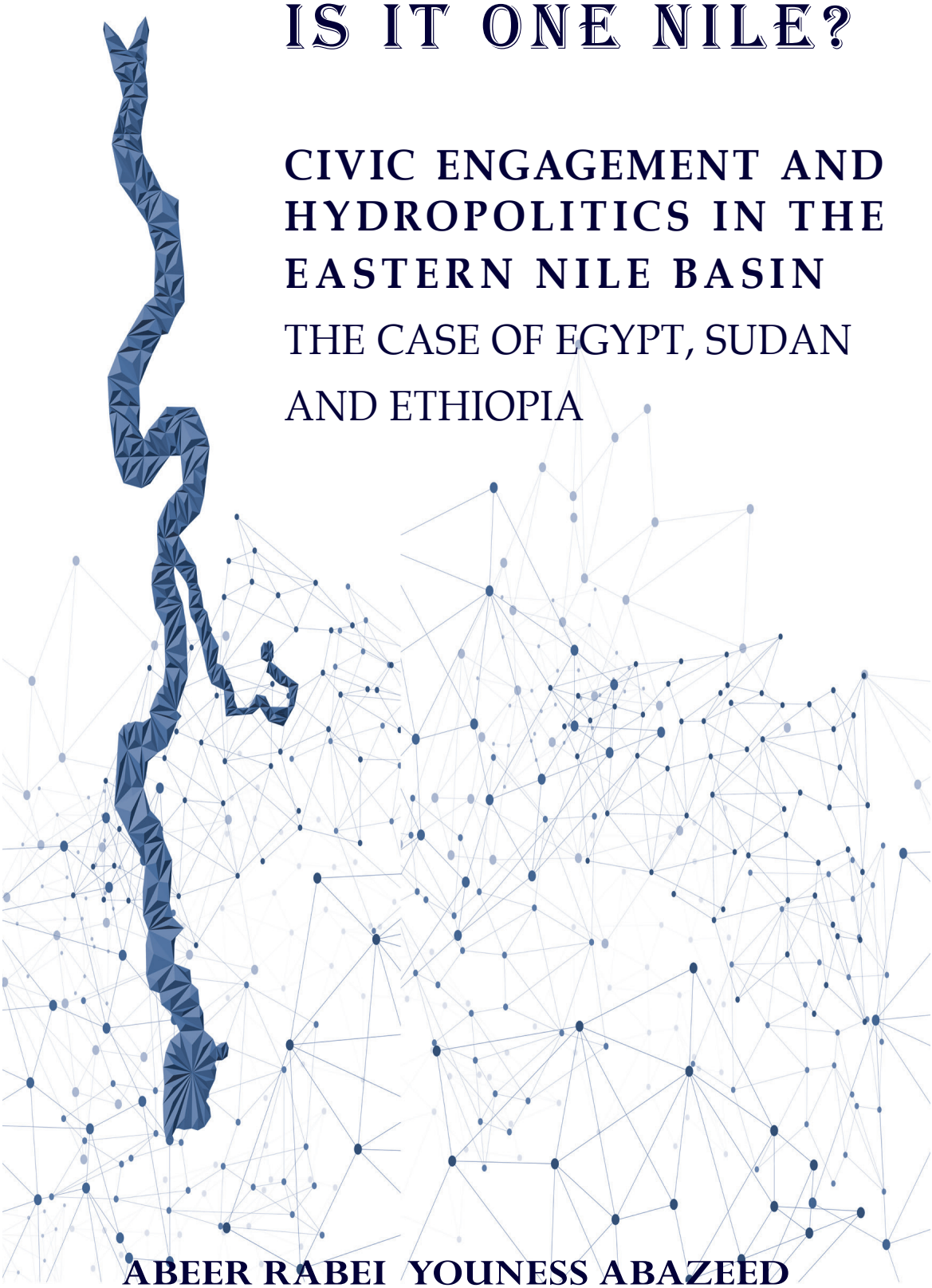
THE CASE OF EGYPT, SUDAN AND ETHIOPIA



ABEER RABEI YOUNESS ABAZEED

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Promotores:

Professor dr. Madeleine O. Hosli
Professor dr. Mohamed. A. R. M. Salih

Promotiecommissie:

Prof. dr. Rob de Wijk	Faculty of Governance and Global Affairs, Leiden University
Prof. dr. Larissa J. van den Herik	Grotius Centre for International Legal Studies at Leiden University.
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List of Acronyms and Abbreviations

ANBO	African Network of Basin Organisations
AFWA	African Water Association
AMCOW	African Ministers' Council on Water
AOYE	Arab Office for Youth and Environment
BMZ	Federal Ministry of Economic Cooperation and Development (Germany)
CIDA	Canadian International Development Agency
CFA	Cooperative Framework Agreement
CIWA	Cooperation in International Waters in Africa
CBSI	Confidence Building and Stakeholder Involvement
CSOs	Civil Society Organisations
DoP	Declaration of Principles
DFID	Department for International Development (U.K.)
EtNDF	Ethiopian National Discourse Forum
EPRDF	Ethiopian People's Revolutionary Democratic Front
EIPSA	Ethiopian International Professional Support for Abay
ENTRO	Eastern Nile Technical Regional Office
Eg-NDF	Egyptian Nile Discourse forum
EU	European Union
FCC	Forces of Freedom and Change
GERD	Grand Ethiopian Renaissance Dam
GNB	Group of the Nile Basin
GTP	Growth and Transformation Plan (Ethiopia)
GWP	Global Water Partnership
HYDROMET	Hydro-meteorological Monitoring System
IMF	International Monetary Fund
IGAD	Intergovernmental Authority on Development
IUCN	International Union for Conservation of Nature
ICCON	International Consortium for Cooperation on the Nile
IWRM	Integrated Water Resources Management
LVBC	Lake Victoria Basin Commission
MWRI (Egypt)	Ministry of Water Resources and Irrigation
NBD	Nile Basin Discourse
NBI	Nile Basin Initiative
NBCBN	Nile Basin Capacity Building Network
NDFs	National Discourse Forums
NELSAP	Nile Equatorial Lakes Subsidiary Action Program
Nile-COM	Nile Council of Ministers
NGOs	Non- Governmental Organisations
OAU	Organisation of African Unity
PJTC	Permanent Joint Technical Commission
RAED	Arab Network for Environment and Development
SAPs	Subsidiary Action Programs
SVP	Shared Vision Program

MIWR (Sudan)	Ministry of Irrigation and Water Resources
SYPW	Sudanese Youth Parliament for Water
SDGs	Sustainable Development Goals
TECCONILE	Technical Committee for Co-operation for Integrated Development and Environmental Protection of the Nile Waters
WB	World Bank
WASH	Water, Sanitation and Hygiene
WUAs	Water Users Associations
WYPW	World Youth Parliament for Water

Acknowledgments

Revolution is a momentum to unlearn, relearn, and engage with complex reality while dreaming of an idealist future. The idea of this research was developed after the 25th of January 2011 Revolution in Egypt when the public sphere was open and youth initiatives were blooming up, reflecting activism and solidarity. Building collaborative initiatives with African civil society was one of my goals after the Revolution. Through moving here and there, I unlearned that legal rules and treaties are the only scope to analyse the relations between Egypt and the Nile Basin countries. I relearned that each riparian community has distinct bonds with the Nile that deserve to be reconnected to attain Nile solidarity, which was like a big dream! Therefore, I intended to study civil society engagement in Nile-related issues and how to build collaboration across the Nile Basin. Years passed and the revolution momentum in Egypt faded away, but the Ethiopian uprisings spread out in 2015 and were echoed by Ethiopian groups based in Cairo. When the political contestation in Ethiopia had started to settle down by 2018, the Sudanese Revolution erupted in December 2019. Thus, without the Nile peoples' dreams and activism in these contexts, I would never have engaged so thoroughly in research on this topic.

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This research could not have been accomplished without the generosity of all respondents in interviews conducted in Egypt, Sudan, Ethiopia, and Uganda. I am grateful to every respondent

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Summary

Nile politics has evolved around interstate relations and been analysed through the lens of cooperation and conflict. However, Nile politics is characterized by a complexity of variables including colonial policies, national development plans, the legitimacy of the river's treaties, in addition to intergovernmental arrangements. These dynamics demonstrate that the nation state and its institutions are central actors in Nile politics, while civil society has been left behind. Contrary to this strand of Nile analysis, this research investigates civil society engagement in Eastern Nile politics.

The centrality of the Nile for its people's cultures and livelihoods as well as for state development has supported civil society engagement through several transnational actions. In the first decade of the 2000s, civil society participation in global platforms on water, environment and sustainability has been facilitated by international organisations and by donor agencies. The Nile Basin Discourse (NBD) was established in 2003 to be the first basin-wide civil society organisation representing all riparian countries. In addition to this, scientists and think tanks are significant actors designing the river development policies and who collaborate with civil society organisations. Moreover, anti-dam movements, youth initiatives and diaspora groups are active in the framework of Nile politics. Although the reality of Nile politics indicates arising engagement of civil society, Nile literature emphasizes the analysis of historical relations, geopolitical interactions, legal and organisational arrangements and finally, a micro analysis of water development projects in the Nile Basin. Therefore, this research aims to integrate the analysis of civil society engagement in the produced knowledge about the Nile.

To understand civic engagement, the main research question driving the analysis in this dissertation is what determines civic engagement in transboundary hydropolitics and why it has been muted in the Eastern Nile Basin. Answering these questions is by investigating 1) the geopolitical circumstances which empowered and contributed to the rise of national and regional civic activism in Eastern Nile politics; 2) the magnitudes and patterns of civic engagement in

Eastern Nile politics; 3) the way in which Eastern Nile national civil society engagement developed into relations immersed in transnational civic engagement; and 4) the parameters of civic engagement in Eastern Nile politics.

In theoretical terms, the research studies civic engagement in Eastern Nile politics from a relational perspective of international relations that refutes a dualist analysis of cooperation or conflict to describe interstate behaviour. The relational perspective allows us to consider the engagement of different actors and actual political dynamics among the riparian countries. Conventional international relations theories (notably approaches based on realism and liberalism) articulate a cooperation impetus (or impediments) to mitigate environmental challenges; however, the very principle of national interest can impede sustainable international cooperation. By comparison, relational thinking in international relations is based on the complexity of interactions (i.e. water scarcity, development strategies, ecological threats, historical treaties and regional institutions) which can better interpret the context of civic engagement.

The network approach is an analytical framework compatible with the relational perspective because it allows scrutinizing interactions between different types of actors that can have multi-layered connections. Additionally, through the network scope, the engaged actors' power is revealed in creating networks, regulating interactions inside the network, or in making connections between global and national networks. To operationalize the networked relations among civil society actors, the state and donors in the Eastern Nile Basin, this research applies social network analysis (SNA) as an explanatory mechanism to reveal the position of civil society and its relationships regionally and globally. The SNA is composed by three basic elements: 1) nodes that represent actors, either as an individual or collective entity; 2) ties which represent relations among nodes that can be tangible (e.g. funds) and intangible (e.g. norms and information); and 3) the structure which represents the pattern of interactions and reflects the power of actors according to their positions and connections within the network.

The fieldwork conducted for this dissertation took place in countries of the Eastern Nile Basin (Egypt, Sudan, Ethiopia) in addition to Uganda, where the headquarters of the Nile Basin Discourse and the Nile Basin Initiative are located. The sample of interviews to be held with

relevant actors was generated by applying the 'snowball technique', because there is no pre-prepared list of civil society actors in the Eastern Nile Basin available. The majority of interviews were carried out in two phases in the course of 2017 and 2018. In addition, resolutions, statements and newsletters that were released by civil society organisations and initiatives were included into the analysis.

The network map of civic engagement in the Eastern Nile Basin shows that civil society, research centres, governments, donors and intergovernmental organisations are entangled. On the international level, the World Bank, donor agencies and think tanks have financial and technical capabilities available to convey norms of participatory development and multistakeholder governance which in fact endorse interaction with civil society actors. Additionally, diaspora groups provide funds, knowledge and political support (and possibly opposition against their respective communities or political regimes regarding water projects and policies). Regionally, the Nile Basin Discourse plays an intermediate role between civil society in the riparian countries and the Nile Basin Initiative which represents governments. Furthermore, Eastern Nile politics has endorsed engagement of public diplomacy delegations and youth-based initiatives (besides the activities of African and Arab think tanks). These civil society actors have established networked activities aiming to participate in Nile development and cooperation.

The transnational interactions (ties) among civil society actors can take different forms. They can be built on organisational relations when the national civil society organisation represents a regional organisation (e.g. the relation between the Nile Basin Discourse and its representatives in the riparian countries). The prevailing form in the Eastern Nile Basin, however, is a partnership where civil society actors conduct joint projects or programs. Furthermore, philanthropy and volunteerism are more visible in ties among diaspora groups, ethnic-based activism and youth initiatives. The interactions across multiple spaces have significantly developed around four trajectories: 1) knowledge exchange and technology; 2) building technical capacity for communities and organisations; 3) providing water services; and 4) advocacy activities that may include awareness campaigns or resistance to water projects.

The research's main findings are that the network of the Eastern Nile Basin indicates a cluster structure, since civil society actors tend to operate within small groups. Additionally, many of the conducted activities have been in a project or program format; thus, the strength of ties within the network is generally weak and unsteady. The influence of the global discourse on the necessity to involve civil society in water governance has been a significant driver behind transnational civic engagement in the Eastern Nile Basin. Nevertheless, national determinants and dynamics of regional relations between the riparian countries have contributed to shaping the narrative of civic engagement on contested issues. As a consequence of this, most civil society activities have evolved around non-political development approaches and have been marginalized in political negotiations over contested issues focused on the Nile (i.e. water shares and dam construction). Moreover, civil society activism in the Eastern Nile Basin has challenged the grand notion of collectiveness in governing transboundary rivers and the 'One Nile' slogan. In reality, civil society actors have been creating or joining networks driven by their hydraulic location within the Basin (e.g. downstream or upstream), interests (e.g. representing youth or ethnic group concerns) and benefits (e.g. receiving funds to implement water activities). But networks of civil society actors can be a way to further foster transnational activities and patterns of collaboration in water politics, also in the framework of the Eastern Nile Basin.

Samenvatting

De Nijlpolitiek is geëvolueerd rondom interstatelijke relaties en geanalyseerd door de lens van samenwerking en conflict. Nijpolitiek wordt echter gekenmerkt door een complexiteit van variabelen, waaronder koloniaal beleid, nationale ontwikkelingsplannen, de legitimiteit van de verdragen van de rivier, in aanvulling op intergouvernementele akkoorden. Deze dynamieken tonen aan dat de natiestaat en zijn instellingen centraal staan in de Nijlpolitiek, terwijl de burgermaatschappij achter is gelaten. In tegenstelling tot dit onderdeel van de Nijlanalyse, gaat dit onderzoek de betrokkenheid van de burgermaatschappij in de Oost-Nijlpolitiek na.

In het eerste decennium van de jaren 2000 werd de bijdrage van de burgermaatschappij aan globale platforms op het gebied van water, milieu en duurzaamheid gefaciliteerd door internationale organisaties en door donoragentschappen. De Nile Basin Discourse (NBD) werd in 2003 opgericht als de eerste burgermaatschappelijke organisatie voor het hele stroomgebied die alle oeverstaten vertegenwoordigt. In toevoeging hiervan zijn wetenschappers en denktanks belangrijke figuren die het rivierontwikkelingsbeleid vormgeven en die samenwerken met matschappelijke organisaties. Bovendien zijn anti-dambewegingen, jongereninitiatieven en diasporagroepen actief in het kader van de Nijlpolitiek. Hoewel de realiteit van de Nijlpolitiek duidt op een toenemende betrokkenheid van de burgermaatschappij, legt Nijliteratuur de nadruk op de analyse van historische relaties, geopolitieke interacties, juridische en organisatorische regelingen en tot slot een microanalyse van waterontwikkelingsprojecten in het Nijlbekken. Daarom beoogt dit onderzoek de analyse van de betrokkenheid van de burgermaatschappij te integreren in de geproduceerde kennis van de Nijl.

Om de burgerbetrokkenheid te begrijpen, is de belangrijkste onderzoeksvraag die de analyse in dit proefschrift drijft, wat de burgerbetrokkenheid bij grensoverschrijdende hydropolitiek bepaalt en waarom het gedempt is in het oostelijke Nijlbekken. Het beantwoorden van deze vragen wordt gedaan door onderzoek te doen naar 1) de geopolitieke omstandigheden die de opkomst van de nationale en regionale burgeractivisme in de Oost-Nijlpolitiek hebben versterkt en eraan hebben bijgedragen; 2) de omvang en patronen van de burgermaatschappij in de Oost-Nijlpolitiek; 3) de

manier waarop de betrokkenheid van de nationale burgermaatschappij in de Oost-Nijl zich ontwikkelde tot relaties die ondergedompeld zijn in transnationale maatschappelijke betrokkenheid; en 4) de parameters van burgerbetrokkenheid in de Oost-Nijlpolitiek.

In theoretische termen bestudeert het onderzoek maatschappelijke betrokkenheid in de Oost-Nijlpolitiek vanuit een relationeel perspectief van internationale betrekkingen dat een dualistische analyse van samenwerking of conflict weerlegt om interstatelijke gedrag te beschrijven. Het relationele perspectief stelt ons in staat om de betrokkenheid van verschillende actoren en de feitelijke politieke dynamiek tussen de oeverstaten te beschouwen. Gebruikelijke theorieën over internationale betrekkingen (met name benaderingen gebaseerd op realisme en liberalisme) verwoorden een samenwerkingsstimulans (of belemmering) om milieu-uitdagingen te verzachten; echter kan het principe van nationaal belang een belemmering vormen voor duurzame internationale samenwerking. Ter vergelijking: relationeel denken in internationale betrekkingen is gebaseerd op de complexiteit van interacties (d.w.z. waterschaarste, ontwikkelingsstrategieën, ecologische bedreigingen, historische verdragen en regionale instituten) die de context van maatschappelijke betrokkenheid beter kunnen interpreteren.

De netwerkbenadering is een analytisch raamwerk dat verenigbaar is met het relationele perspectief, omdat het interacties nauwkeurig onder de loep neemt tussen verschillende soorten actoren die meerlagige verbindingen kunnen hebben. Bovendien wordt door de netwerkomvang de macht van de betrokken actoren onthuld bij het creëren van netwerken, het reguleren van interacties binnen het netwerk of bij het maken van verbindingen tussen globale en nationale netwerken. Om de genetwerkte relaties tussen actoren uit de burgermaatschappij, de staat en donoren in het oostelijke Nijlbekken te operationaliseren, past dit onderzoek sociale netwerkanalyse (SNA) als een verklarend mechanisme toe om de positie van de burgermaatschappij en zijn relaties regionaal en mondiaal te onthullen. Het SNA is samengesteld uit drie basiselementen: 1) knooppunten die actoren vertegenwoordigd, hetzij als een individuele of collectieve entiteit; 2) banden die relaties vertegenwoordigen tussen knooppunten die tastbaar (bijv. fondsen) en immaterieel (bij. Normen en informatie) kunnen zijn; en 3) de structuur die het patroon van interacties weergeeft en de kracht van de actoren weerspiegelt volgens hun posities en verbindingen binnen het netwerk.

Het veldwerk voor dit proefschrift vond plaats in landen van het oostelijke Nijlbekken (Egypte, Soedan, Ethiopië) in aanvulling op Oeganda, waar de hoofdkantoren van de Nile Basin Discourse en het Nile Basin Initiative gevestigd zijn. De steekproef van af te nemen interviews met relevante actoren was gegenereerd door de toepassing van de 'sneeuwbaltechniek', omdat er vooraf geen opgestelde lijst van actoren uit de burgermaatschappij in het oostelijke Nijlbekken beschikbaar was. Het merendeel van de interviews is in de loop van 2017 en 2018 afgenomen in twee fasen. Daarnaast zijn moties, verklaringen en nieuwsbrieven die uitgebracht zijn door maatschappelijke organisaties en initiatieven meegenomen in de analyse.

De netwerkkaart van burgerbetrokkenheid in het oostelijke Nijlbekken laat zien dat de burgermaatschappij, onderzoekscentra, regeringen, donoren en intergouvernementele organisaties met elkaar verweven zijn. Op internationaal niveau beschikken de Wereldbank donoragentschappen en denktanks over financiële en technische capaciteiten om normen voor participatieve ontwikkeling en multi-belanghebbenden bestuur over te brengen, die in feite de interactie met actoren uit de burgermaatschappij onderschrijven. Bovendien bieden diasporagroepen fondsen, kennis en politieke steun (en mogelijk oppositie tegen hun respectievelijke gemeenschappen of politieke regimes met betrekking tot waterprojecten en -beleid). Regionaal speelt de Nile Basin Discourse een intermediaire rol tussen de burgermaatschappij in de oeverstaten en het Nile Basin Initiative, dat regeringen vertegenwoordigd. Bovendien heeft de Oost-Nijlpolitiek de inzet van publieke diplomatie-delegaties en op jongeren gebaseerde initiatieven onderschreven (naast activiteiten van Afrikaanse en Arabische denktanks). Deze actoren uit de burgermaatschappij hebben netwerkactiviteiten opgezet om deel te nemen aan de ontwikkeling en samenwerking van de Nijl.

De transnationale interacties (banden) tussen actoren uit de burgermaatschappij kunnen verschillende vormen aannemen. Ze kunnen worden gebouwd op organisatorische relaties wanneer de nationaal maatschappelijke organisatie een regionale organisatie vertegenwoordigt (bijv. de relatie tussen de Nile Basin Discourse en haar vertegenwoordigers in de oeverstaten). De heersende vorm in het oostelijk Nijlbekken is echter een partnerschap waarbij actoren uit de burgermaatschappij gezamenlijke projecten of programma's uitvoeren. Bovendien zijn filantropie en vrijwilligerswerk meer zichtbaar in banden met diasporagroepen, etnisch gebaseerde activisme

en jongereninitiatieven. De interacties tussen meerdere ruimtes hebben zich significant ontwikkeld rond vier trajecten: 1) kennisuitwisseling en technologie; 2) het opbouwen van technische capaciteit voor gemeenschappen en organisaties; 3) het leveren van waterdiensten; 4) belangenbehartigingsactiviteiten die bewustmakingscampagnes of weerstand tegen waterprojecten kunnen omvatten.

De belangrijkste bevindingen van het onderzoek zijn dat het netwerk van het oostelijke Nijlbekken duidt op een clusterstructuur, aangezien actoren uit de burgermaatschappij de neiging hebben om binnen kleine groepen te opereren. Bovendien waren veel van de uitgewerkte activiteiten in een project- of programma-indeling; dus de sterkte van de banden binnen het netwerk is over het algemeen zwak of instabiel. De invloed van het mondiale discours op de noodzaak om de burgermaatschappij te betrekken bij waterbeheer is een belangrijke motor achter transnationale maatschappelijke betrokkenheid in het oostelijke Nijlbekken. Desalniettemin hebben nationale determinanten en dynamiek van regionale betrekkingen tussen de oeverstaten bijgedragen aan het vormgeven van het verhaal van burgerbetrokkenheid over betwiste kwesties. Als gevolg hiervan zijn de meeste activiteiten van de burgermaatschappij geëvolueerd rond niet-politieke ontwikkelingsbenaderingen en zijn ze gemarginaliseerd in politieke onderhandelingen over betwiste kwesties die gericht zijn op de Nijl (d.w.z. wateraandelen en de aanleg van dammen). Bovendien heeft het burgermaatschappelijke activisme in het oostelijke Nijlbekken het grootse idee van collectiviteit in het besturen van grensoverschrijdende rivieren en de 'One Nile' slogan in twijfel getrokken. In werkelijkheid hebben de actoren van de burgermaatschappij netwerken gecreëerd of zich aangesloten bij netwerken die worden aangedreven door hun hydraulische locatie binnen het bekken (bijv. stroomafwaarts or stroomopwaarts), belangen (bijv. belangenbehartigers van jongeren of etnische groepen) en voordelen (bijv. geld ontvangen om wateractiviteiten uit te voeren). Maar netwerken van actoren uit de burgermaatschappij kunnen een manier zijn om transnationale activiteiten en samenwerkingspatronen in de waterpolitiek verder te stimuleren, ook in het kader van het oostelijke Nijlbekke.

Chapter One

Introduction

ولا بيوصل ولا بيتوه
It (he) neither reaches its (his) destination nor loses the way
ولابيرجع ولا بيغيب
Nor comes or goes away
النيل سؤال ومازال مجاش عليه الرد
The Nile is a question without an answer yet
-Egyptian song [1]

1.1 Background

The Nile is a central natural resource for its peoples not only for their livelihood activities, but also because it is rooted in their culture. The riparian countries, on the other side, have been evolving their economic aspirations as well as their political power around the river's resources.

The Nile Basin Water Resources Atlas (2016) purports that 53 percent of the total population of people inhabiting the Nile countries live along the river basin. The Main Nile and the Blue Nile are highly congested with the population figures comparable to that of the other sub-basins[2]. Virtually the entire Egyptian population lives along the Nile banks (85.8 million); while in Sudan and Ethiopia these figures are 37.6 and 31.4 million respectively. This consternation in the Nile Basin embeds cultural connections reflected in their religions, rituals and traditions. The Nile communities have inherited many rituals that are practised up until the present time, such as 'rainmaking rituals and prayers' and inundation festivals. All of these rituals and cultural practices posit the communities' world views about the animals and plants that share the river with them[3].

[1] El-Neel (The Nile) is an Egyptian song written by Kawthar Mustafa and sung by Mohamed Mounir in 1986. Retrieved from: https://www.youtube.com/watch?v=B_QMQUIrnJQ

[2] The Nile River is hydraulically divided into ten sub-basins: Main Nile, Tekeze- Atbara, Blue Nile, White Nile, Baro-Akobo-Sobat, Bahr El Jebel, Bahr El Ghazal, (politically, these sub-basins flow in the borders of Egypt, Sudan, Ethiopia, Eretria and South Sudan), Lake Albert, Victoria Nile and Lake Victoria (they are shared by Burundi, DR Congo, Kenya, Rwanda, Tanzania and Uganda).

[3] The Nile River seems has agency in the riparian cultures. In the Ethiopian (Amharic) and Egyptian and Sudanese (Arabic) official languages, The Nile gets a masculine pronoun (He) referring to his powerful hydraulic attribute. However, I use 'it' pronoun in this research because different actors tackle the River as an object needs to be developed.

Importantly, the features of water formulate the identity of the riparian communities. This identity differs where the community has plenty of water or where there is a scarcity (upstream or downstream). It is also reflected in their daily life practices of water usage, such as rituals performed to bring water or to conserve water resources (Østigård, 2009).

Nevertheless, urbanization is combined with this population growth. The Nile Basin Water Resources Atlas (2016) estimated that 50 percent of the total population in all Nile countries would live in urban settlements by 2050. These dynamics have contributed to an increasing need for water, particularly the fact that the Nile Basin countries are highly dependent on agriculture for the production of food and cash crops for domestic and export purposes. On the other hand, the Nile Basin countries have pursued economic development policies leading to their integration into the neoliberal global economy. The implementation of these policies has promoted foreign investment, free market and privatization. Furthermore, an increased energy consumption which necessitated the need for generating more energy to meet development plans, has also increased dramatically. Therefore, maintaining higher levels of hydropower production requires the sustenance of water levels conducive to achieve an accelerated need for energy production.

Along with these developmental policies, the Nile Basin is vulnerable to climate change which has been linked to the fluctuation of precipitation and variability of water flows. Historically, the Nile water levels have been susceptible to environmental changes such as prolonged famine due to reliance on rain for irrigation. Hence, frequent floods and droughts have a direct impact on development plans. Therefore, the dependency on the water is considered critical for up and downstream countries.

In respect to the centrality of the Nile, the produced literature on the relation among the Nile Basin countries and its geopolitics is not divergent from the lens of cooperation and conflict. The Nile Basin region is considered by academics and policymakers alike as one of Africa's potential water conflict areas (Mason, 2005; Mahamoda, 2003; Serageldin, 2009). The trajectories of cooperation and conflict have been contested due to colonial policies, the national development plans and the legitimacy of the river's treaties in addition to intergovernmental arrangements. These factors constitute the three main interwoven themes of the Nile politics literature.

The colonial legacy has formulated a historical foundation of the confrontation between the upstream and downstream countries. Exploiting the Nile waters had been a determinant of the British empire arrangements with the other European rivalries (France, Italy, Germany) to divide and control colonies along the Nile River (Sanderson, 1964). Under British rule in Egypt and Sudan, many irrigation projects had been planned, such as the Jonglei Canal (Collins, 1990) and large-scale irrigation schemes like the Gezira Scheme (Ertsen, 2015). In conjunction, Mehmed Ali Pasha (1805-1848) and his reigns had restructured the agriculture sector in Egypt by constructing irrigation projects (the Delta Barrage and the first Aswan dam) which had been combined with social and administrative transformations (Mikhail, 2011). These different colonial managements of the Nile flow had been for economic purposes to feed the textile industry in Britain (Tvedt, 2011) and to consolidate the political power of Mehmed Ali Pasha (Fahmy, 1997).

The second theme that prevails in the Nile literature departs from the policies of riparian countries to utilise the river's resources for their national development. Waterbury (2002) argues that the 'national determinants' delineate the prism of cooperation and the possibility of establishing a 'basin-wide regime'. The national interests of riparian countries have been deviated according to hydraulic features of the river and water availability (surface water, rainfall, abundance, scarcity); in addition to the domestic politics and the political relations with neighbouring countries and international powers. These dynamics have illuminated Egypt, Sudan, Ethiopia and Uganda as focal players in Nile politics. In line with the national determinants argument and the frontiers of cooperation, the concept of hydro-hegemony is widely used to explain interstate relations in the Nile Basin. The main argument is that Egypt has been a hegemonic power depending on its economic and military advantages; the riparian position as a downstream country in addition to knowledge, legal regulations and international support. Hence, Egypt has negotiating power to set out the rules of using water by the upstream countries and to control the river (Haynes and Whittington, 1981; Zeitoun and Warner, 2006; Carles, 2006; Williams, 2002; Akwei, 2015). However, the construction of the Grand Ethiopian Renaissance Dam (GERD) is described as a counter-hegemonic act by the Ethiopian government. Some of the studies emphasize that the Ethiopian dam has introduced new rules of Nile Basin management (Cascão, 2008; Abtew and Dessu, 2019). Other studies, on the other hand, have highlighted the challenges of the Eastern Nile

Basin cooperation due to the contestation between Egypt and Ethiopia over the GERD (Tawfik, 2015; Tayie, 2018).

The third theme of literature interrogates the legal frameworks of interstate relations in the Nile Basin, primarily the debates relying on the deliberations of the colonial policies and national interests. Distributing the Nile water has been the core of disputes between downstream and upstream countries. Egypt claims the historical rights/ acquired rights of water shares as defined in treaties, while the upstream countries question the legitimacy of treaties signed during the colonial period which did not represent the nation-states (Carroll, 1999; Rashidy, 2014; Knobelsdorf, 2005). In 2010, this contentious situation came to the forefront again when five upstream countries signed the Cooperative Framework Agreement (CFA) in Entebbe without the consent of the downstream countries. Some studies tackle the CFA as a legal arrangement that could counter the hegemony of downstream countries despite the lack of political will to comply with it collectively on the whole Nile Basin, and not in a rivalry way between the upstream and downstream countries (Ibrahim, 2011; McKenzie, 2012; Salman, 2013).

The aforementioned three themes are intertwined in analysing the Nile as a transboundary resource. Furthermore, these themes delineate that the nation state and its institutions are central actors in Nile politics, whilst society or community has been left behind.

Nevertheless, some of the Nile studies denote the prospective role of civil society in Nile politics but without investigating how the riparian civil society organisations (CSOs) can play this role. For instance, some studies have concluded that civil society (the church, students and scholars' groups, business forums, trade unions and NGOs) would enhance Eastern Nile Basin cooperation through capitalizing on non-political relations (Arsano, 2007; Zaerpoor, 2019, Abdelwahab, 2012). Another study highlights the importance of the ecological balance of the Nile Basin, and for that reason the decision-makers should consider the communities' needs and culture when designing water policies and projects (Yohannes, 2009). By the same token, a study points out the possible role of civil society in observing the social and environmental impacts of the GERD in endorsing the global principle of environmental justice (Abdelhady et al., 2015). Regionally, a study urges for the Nile Basin Discourse (NBD) role in channelling the voice of civil society to the

policymakers in the Nile Basin Initiative (NBI) with emphasis on the importance of CSOs to attain sustainable management of the river (Kameri-Mbote and Kindiki, 2009). Contrary to these few studies, Waterbury (2002) emphasises the dominance of the state actors in Nile politics and omits any role of civil society except the role of environmental NGOs that work on technical projects and are funded by donors. Commenting on the community, he stated

> 'No domestic, civilian constituencies have yet developed sufficient weight or definition of interests to influence national policy. It will be very difficult for them to do so under any circumstances because transboundary water is seen as a matter of national security and strategic interests. National policy will not willingly permit open debate of these issues in the domestic political arena.' (Waterbury, 2002:25)

Between the aspired recommendations and the negation of the role of civil society, the Nile politics in fact involves varieties of civic activism. The Nile Basin Discourse (NBD) is the regional CSO that has represented the riparian civil society since 2003. Concomitantly, different civic engagement initiatives have emerged on national and local scales with transnational purposes, such as Nile Basin Capacity Building Network (NBCBN) and the Ethiopian diaspora groups that have claimed divergent positions regarding the GERD. On the other side, the NBI, an intergovernmental organisation, has established a mechanism to interact with civil society as a stakeholder in designed water development projects.

Accordingly, this research attempts to avert this negation and to explicate the prospective role of civil society in the Nile cooperation and conflict debates by investigating the different existing civic activism efforts in Eastern Nile politics.

1.2 Problem statement

The Nile literature confines the relations to the state as one cohesive dominant entity. On the other side, there are water studies where hydropolitics debates are shaped and where the role of civil society actors is highlighted. However, several analyses refer to micro-cases at local and national levels. On the other hand, the engagement of civil society in transboundary rivers is bounded by

the examining the role in the river basin organisations or by documenting the activism of anti-dam movements.

Community-based natural resource management, water governance and rights-based claims are the prevailing trends that enunciate the dynamics between civil society and decision-makers at local and national levels.

Both community-based natural resource management and water governance militate for civic involvement to attain development. According to the former approach, water is considered a root source of other natural resources such as crops, wildlife parks and forestation on which national economies depend. Therefore, maximizing economic gains and profits from natural resources has been the engine of approaching the community and involving it in management. The assumption of this cause is that community engagement would sustain revenues from natural resources because they would conserve their resources (Fabriciusr, 2004; Leach, Mearns, and Scoones, 1999).

The water governance lens anticipates civil society as a third sector besides the state and market whose participation is valuable in the management process. Under the scarcity condition of water resources, it is crucial to increase water productivity and deliver water services effectively. Accordingly, it has become a global principle to involve civil society or local communities in the process of managing water resources (Rahaman and Varis, 2005; Camkin and Neto, 2016; Tyagi, 2019).

However, the procedural vision of civil society participation in the water management process has been challenged in practice. Water policy, similar to other public policies, is a sphere of power dynamics where the interests of the three sectors are contested. However, civil society and community concerns are retrained by the state authority and private sector capabilities.

To address this power inequality, some water studies discuss the communities' right to access water services in an equal manner and the right to be presented in formulating water policies (Narayanan et al., 2018). Some studies argue for the integration of norms of environmental justice

and indigenous people's rights while governing water resources (Zwarteveen and Boelens, 2014). Additionally, some scholars in agrarian studies have emphasised peasants' rights in the sphere of contestation with state neoliberal policies with investors over different irrigation projects (Bush, 2010).

Despite the wide array of studies addressing the dynamics of civil society engagement, this water literature has drawn mostly on case studies from rural, urban or pastoral contexts, while there is a gap in exploring civic engagement in transboundary rivers. Approaching transnational activism is configured in terms of the normative role of civil society in global governance or a stakeholder in the transboundary river basin organisation; in addition to the practices of the anti-dam movements and resettlement politics.

Regarding the normative role, civil society plays the role of a conductor of norms and interests between the local and global levels. International organisations such as UN agencies and international water platforms have endorsed the engagement of civil society. The driving assumption is that civil society is a channel to voice grassroots needs and to negotiate their interests against the private sector and state interests and priorities. Additionally, civil society supposedly can monitor the implementation of global principles on national and local levels (Global High-Level Panel on Water and Peace, 2017; Maganda, 2010).

The presence of CSOs in the river basin organisations is under the frame of stakeholder participation alongside the government and private sectors. The mechanism of governing the river basin organisation is more important to analyse its relations with civil society because the 'governance mechanisms' is the translation of principles, norms and rules that were settled by founder governments. Therefore, it identifies the level of public participation in the policymaking process and whether the public voice is a determinant in decision making or contained in the level of information sharing (Schmeier, 2015:62-63). Furthermore, the domestic politics of the relation between civil society and governments, as well as the capacity of CSOs to evaluate water polices and projects, defines their role in transboundary river management (Nicol et al., 2000).

Resisting big dams has revealed how transnational civil society has developed a movement against the construction of big dams. The civic (or indigenous) groups became capable of hindering or reframing big dam projects domestically; hence, transnational oppositions emerged to resist the support of international donors such as the World Bank in financing big dams that affected people. As a result of resistance, the World Dam Commission was established in 1998 after consultation with the World Bank to evaluate the environmental and social impacts of dams that had been financed by the international finance institutions (Khagram, 2000; Brinkerhoff, 2002). Similarly, in the African context, the national civil society collaborated with international civil organisations to mobilise the global opinion against the dam projects (Wirkus and Böge, 2006; Abdelkareem, 2018). In the main Asian transboundary rivers, 'river activists' from the riparian countries protested against dam projects. They mobilised grassroots by highlighting the destructive impacts of dams; on the other hand, they interacted with the governments and the river basin organisations to reconsider the hydropower policies (Yeophantong, 2017).

Comparable to other water studies on local and national levels, the arguments in these studies have been driven by hydraulic projects such as dam construction or by global events (international water conferences) or through the lens of institutionalization of water management (river basin organisation). As a result, such studies provide a sporadic and thematic analysis of transboundary civic engagement, omitting the constant relations that have evolved among riparian communities due to the sharing of watercourses.

Yet, despite the centrality of the Nile River across historical periods and for the development of its riparian countries, civil society involvement in its governance as a transboundary resource is not represented either in water studies nor in the Nile scholarship. Therefore, to fill this two-fold gap, the central question of this research is what determines civic engagement in transboundary hydropolitics and why has it been muted in the Eastern Nile Basin? Answering this question draws on the two strands of scholarly debates in water studies and international relations.

1.2.1 Research questions

This research approaches the Eastern Nile politics from the relational perspective of international relations that refutes the dualist analysis of cooperation or conflict to describe interstate behaviour. The relational perspective allows us to consider the engagement of different actors and the political dynamics among the riparian countries. Eastern Nile politics involves the state, river basin organisations and civil society actors. Moreover, the behaviour of riparian countries entails cooperation and contestation where both national interest and values are manifested in their interactions. Importantly, the centrality of the Nile for its people's cultures and livelihoods as well as for state developments has endorsed civil society engagement through several transnational actions by CSOs, academic groups or social movements.

In other words, the relational perspective assumes that the international system encompasses different interacting actors and it is no longer a static system. This research underpins this assumption to analyse civic engagement in the Eastern Nile Basin politics. The network approach is a compatible analytical framework with the relational perspective because it allows scrutinizing the interactions between different types of actors that can have multilayered connections. Additionally, through the network scope, several actions either evolved around issues or institutions or incidents can be included in the analysis.

Based on the assumptions of the relational international politics and network approach, the main research question is split into four sub-questions. These are as follows:

- What are the geopolitical circumstances which empowered and contributed to the rise of national and regional civic activism in Eastern Nile politics?

- What are the magnitudes and patterns of civic engagement in Eastern Nile politics?

- How has Eastern Nile national civil society engagement developed into relations immersed in transnational civic engagement?

- What are the parameters of civic engagement in Eastern Nile politics?

From the network perspective, these questions attempt to answer the main question by applying social network analysis (SNA). To understand the divergent positions of civil society in relation to the conventional actors (the state and donors), it is important to elucidate the political and development context in the Eastern Nile Basin. The second and third sub-questions address the components of the network, including the capabilities of actors and the strength of their interactions. Lastly, it looks at the power dynamics that affect the structure of relations in the network.

1.2.2 Academic significance

Departing from the Nile scholarship and water studies, this PhD research aims at three interconnected conceptual and empirical objectives.

The first one is to be a full-fledged study of the increasing engagement of country and cross-country civil society and social movements in the Nile Basin. Theoretically, the research blends the strands of thought and concepts in international relations and gauges critical civic activism focusing on transboundary hydropolitics.

The second objective is to contribute to water studies where civic engagement in the Nile Basin is still at a nascent state. Through the research's findings, it explores the convergence and divergence between the Nile experience and what has been addressed regarding the prospective role of civil society in governing transboundary river basins.

The third one is a broad objective; this research looks to contribute to studies of global civil society and social movement by providing an empirical case from the South. It would show the possibilities and impediments of South-South collaboration in the issue of water resources.

1.3 Research scope

The research is situated in the field of international relations; however, national and local politics are not isolated from regional and global dynamics. Particularly the Nile is a central natural resource for its eleven riparian countries and therefore, what occurs in the national (upstream) domain certainly affects the other countries (downstream). Furthermore, civil society engagement is practically generated from local/national concerns that can transcend national borders and be enacted regionally or globally.

Nevertheless, the scope of this research is confined by a time framework between the years of 2003 and 2020, the reasons for this time frame are presented below. And geographically, it focuses on the Eastern Nile Basin which includes Egypt and Sudan as downstream countries and Ethiopia as the upstream country.

1.3.1 The time frame

Regarding the time frame, the establishment of the Nile Basin Discourse (NBD) in 2003 was a highly important development in the Nile cooperation. It was the first basin-wide civil society organisation that represents CSOs from all riparian countries.

The formulation of the NBD was purposefully coincided with the founding of the NBI, the most recent cooperative institutional framework which includes all of the Nile Basin countries. Notably, unlike the previous Nile Basin intergovernmental arrangements, the NBI has widened the scope of cooperation to cover non-water technical issues. Moreover, it has acknowledged the role of civil society as a stakeholder in governing the development of the Nile Basin.

On the other side, in the decade of the 2000s, the global platforms on water, environment and sustainability have been increased, such as the World Water Forums. Civil society participation in these global platforms has been endorsed by international organisations and donor agencies. Since

then it has become common international practice to invite representatives of civil society to discuss hydraulic issues with decision makers and technical bureaucrats.

Nonetheless, the data collection phase of this research was terminated by February 2020 for the sake of analysis. At this time, the stalling of ongoing negotiations over the GERD between the three countries has re-provoked transboundary civic activism, mainly as regards the Ethiopian civil society, and this research includes some examples of this activism. However, civil society involvement in the Nile Basin affairs is incessant, especially with globalization facilities of communication and the centrality of the Nile River to its peoples.

1.3.2 The geographical sub-basin

Geographically, the research investigates civic engagement in the Eastern Nile Basin including Egypt, Sudan and Ethiopia. Despite the hydraulic features that aggregate the three countries, politically, South Sudan is part of the institutional arrangement of the Eastern Nile Basin, but it is not involved in the analysis. Concomitantly, the three countries of the Eastern Nile Basin have experienced revolutionary waves and popular uprisings that have bolstered civic activism both nationally and transnationally. The following paragraphs explain the changes and the rationale for excluding South Sudan.

1.3.2.1 Egypt

The revolution of 2011 that toppled Hosni Mubarak (1981-2011) reflected continuous activism by loosely structured groups and citizen-based protests that had been initiated to challenge the authoritarian political regime and impoverished economic policies. With the beginning of the 2000s, the moments of protesting intensified as a result of global and national causes, as explained by Abdelrahman (2013). The Palestinian intifada in 2002 was a compelling cause for solidarity activism, while the financial global crisis in 2008 contributed to economic hardship due to the decline in the Egyptian remittances and national income in general. Nationally, the impenetrable privatization of state-owned enterprises and layoffs in addition to severe consequences of

liberating agriculture policies on farmers' conditions had fuelled civic dissatisfaction. The economic causes of protests have been continued and political opposition to the regime sometimes drove public protests such as the demonstration against the rule of the Muslim Brotherhood; their rule ended in 2013 with military intervention.

The Nile politics were characterised by part of this activism, and some of the youth-led initiatives were established induced by the momentum of the revolution such as the Nile Project. In addition, there was also the formation of the public diplomacy delegation by Egyptian activists and politicians who attempted to negotiate with the Ugandan and Ethiopian heads of state to halt the ratification of CFA and the construction of GERD, as discussed in chapter five.

Furthermore, the political transformation from the Muslim Brotherhood to military intervention has influenced the structure and contents of Nile politics, namely, the negotiations with Ethiopia over the GERD. Under the rule of the Muslim Brotherhood, the former president Mohamed Morsi (2012-2013) invited the political parties and some public figures to a public discussion - which was live-streamed - to evaluate the situation with Ethiopia and to suggest actions to manage the GERD dilemma (Newscentereg, 2013). In spite of the hostile tone of discussion toward the Ethiopian Government and people to stop the dam's construction, this meeting was an indicator to bring the Nile issue into the public sphere and not to keep it within closed high-level political assessment. Yet, the expressed position of the Egyptian political frictions in this meeting escalated the contestation with the Ethiopian Government. Furthermore, nationally, the undesirable result of this meeting was added to the persuasive causes of ousting the rule of the Muslim Brotherhood.

On the contrary, Al-Sisi's regime (since 2014) has been attempting to boost a collaborative manner in negotiations with the Ethiopian and Sudanese governments, and consequently the Declaration of Principles (DoP) was initiated by the Egyptian Government and later signed in 2015. The DoP puts in place certain guiding rules for negotiations about the GERD with the pursuit of preventing potential harm to Egypt (Tawfik, 2016). This collaborative, statist behaviour induced disagreement by a group of Egyptian scientists, as will be discussed in chapter five.

Despite the orientation of the political regime in Egypt, there has always been activism by different societal segments that can be counted as part of Nile politics.

1.3.2.2 Ethiopia

The country has been witnessing a political struggle for a long time. The regimes shifted from the empire that was dissolved in 1975 by the military socialist regime led by the Derg (1974 – 1987); then to federalism that has been represented by a coalition of parties under the Ethiopian People's Revolutionary Democratic Front (EPRDF) since 1994 and recently, in 2019, it became renamed to the Prosperity Party. However, EPRDF has a prolonged internal contestation among its constituting political parties. Besides, ethnic federalism has been the catalyst to the Oromo vast uprising in November 2015 which later accompanied Amhara ethnicity-based action and ended by reshuffling political power within EPRDF (Tessema, 2018).

The implication of ethnic federalism has not secured the ethnic nations' rights to govern their lands. The trigger of the uprising in 2015 was due to the Addis Ababa Master Plan that incorporated lands in the Oromia region and was designed to enable investors to utilise the lands for modernizing the capital city without a consensus from Oromo inhabitants as the constitution alleges. Additionally, internal political contestations among the Tigray People's Liberation Front (TPLF) occupied the top of the political coalition although the numbers of the Tigray population represent less than Oromo and Amhara, whose political parties did not have equal power in the coalition. This divergence determined the decision making which in turn caused the TPLF to gain leverage and dominate (Tessema, 2018). So, in Ethiopia, the ethnic and party sub-system led to the uprisings and the concurrent social unrest.

The Nile issue has been present in these political dynamics. The foremost indicator is the GERD that was announced by the former prime minister, Meles Zenawi (1995-2012). The construction of the dam on the Blue Nile has been a stake to mobilise people and reaffirm the Ethiopian nation against ideas of the nation's fragmentation. Therefore, the GERD has been branded as a national project that different ethnicities together with the government would collectively help transform

the nation from poverty and starvation to prosperity; moreover, constructing a giant project would be evidence of the nation's great capability (Belay, 2014).

To mobilise the nation, the Office of the National Council for the Coordination of Popular Participation on the Construction of GERD was established, in addition to the noteworthy engagement of scientists and researchers in the diaspora to support the project. Chapter five of this dissertation discusses the activism that resulted from the GERD national project. Contrary to Zenawi's vision, the Oromo massive demonstration in 2015 raised the GERD issue to depict irrational TPLEF projects; furthermore, it was utilised to get support from the Egyptian Government for Oromo uprisings, as discussed in chapter seven on the role of the Ethiopian diaspora.

In principle, the openness of the public sphere due to massive uprisings induced activists to raise awareness and mobilise the public for a different cause and that is what some of the Amhara activists did to protect Lake Tana in the framework of the 2017 campaign.

1.3.2.3 Sudan

The Sudanese revolution that erupted in December 2018 toppled Omar Al-Bashir's regime that seized power in 1989. This revolution has been a result of civic grievances against the authoritarian Al-Bashir regime.

The political contestation that ended with the military Islamist regime (Ingaz) rebased the political system on clientelism to secure its power. Therefore, it depended heavily on military and security arrangements to defend the ruling regime. However, this high securitization and penetrating of armed groups in the different areas of the state's apparatus fuelled the civil war and conflicts in East Sudan as well as in West Sudan, even after the secession of South Sudan (Hassan and Kodouda, 2019).

Although Sudan has diverse natural resources, this richness of resources fed the clientelism of the regime. However, after the secession of South Sudan, the country lost its important source of national income (oil) and accordingly, the regime faced difficulties to cover patronage relations and support Al-Bashir's junta. Later on, the inflation and cutting of wheat subsidies in particular caused the riots that turned into a nation-wide wave of uprisings in 2013, but the regime suppressed it violently. Then, in 2016, the wide civil disobedience was a counter-technique by the people to oppose the regime´s outrage and avoid its brutality (Hassan and Kodouda, 2019).

Parallel to the consolidation of patron relationships, the Al-Bashir regime had intimidated collective action by dissolving trade unions and syndicates and by arresting activists. Despite these fierce policies, activists organised different 'shadow' unions and syndicates to counter Al-Bashir's elite penetration in different state and societal bodies. They then formed the Sudanese Professional Association (SPA) that played a leading role in mobilizing people, which gradually expanded to include various civic groups from different regions (conflict, rural and urban areas). This collective activism was structured in the Forces of Freedom and Change (FFC) that led the December 2018 revolution and subsequent negotiations with the military apparatus to establish a civilian government in August 2019 (Hassan and Kodouda, 2019).

Relevant to the Nile issue, the Al-Bashir regime espoused a 'hydro-agricultural mission' to be a mainspring of his salvation ideology. The abundance of water and land fertility were the main pillars of this mission. To exploit these recourses, the regime constructed dams for irrigation and power generation which in turn would attract investment in the agriculture sector (mainly wheat and cotton yields). This envisioned mission would secure income to feed patrons and ensure the stability of the regime (Verhoeven, 2015a). However, the 'hydro-agricultural mission' was challenged by the frequent protests of farmers' unions, particularly in the Gezira Scheme that Al-Bashir promoted for foreign investments while suppressing farmers' voices. Furthermore, anti-Dam movements contested the state policy of displacement and succeeded in halting construction. Movements such as these, e.g. the anti-Kajbar dam movement, will be discussed in chapter five.

1.3.2.4 Excluding South Sudan

After the secession of South Sudan in 2011, it joined the NBI and its two Subsidiary Action Programs (SAPs): The Nile Equatorial Lakes Subsidiary Action Program (NELSAP) and the Eastern Nile Technical Regional Office (ENTRO). Although South Sudan hydraulically is the home of the White Nile, the second major tributary of the Nile waters, it is part of the Eastern Nile Basin politically. Because the White Nile waters are trapped in one of the largest wetlands in the world and have not been optimally utilised, the downstream countries have a surge of interests to construct water projects there. On the other hand, due to the political contestations in the newly independent country in the Nile Basin, civil society engagement in Nile politics is not explicit in the flames of political conflict.

Hydraulically, the source of the White Nile flows from the equatorial lakes (Victoria and Albert) and from there many small tributaries (including Baher el Arab, Lol, Kura, Pongo, Suo, Tonj, Baher el Jebel and Pibor) merge with the Sobat river that comes from Ethiopia, with all of these rivers creating the White Nile tributary. This subsystem of the Nile Basin, the White Nile, covers 98 percent of the South Sudan territory and feeds the main Nile by 10-15 percent of its flow (Nile Basin Initiative [NBI], 2012; NBI, 2016).

Despite these multiple streams and small rivers in South Sudan, the Sudd swamps are a critical hydraulic challenge where water is clogged and around 50 percent of it evaporates. This water loss has induced the downstream countries, mainly Egypt, to devise a way to minimise the loss.

The Jonglei Canal has been the preeminent hydraulic project to utilise water in this area. The canal project is designed to channel water from Baher el Jebel to the Sobat river (360 kilometres long) instead of it being blocked in swamps and evaporating[4]. The initial proposal of this project was in 1904, by the British engineer William Garstin, who was in charge of the water sector in Egypt. Since that time, however, the canal construction has been suspended several times. In the beginning, the interruption was due to the outbreak of the world wars and then the independence

[4] Ahmad (2008) stated the canal is 280 kilometres long

of the equatorial lakes' countries (Uganda, Tanzania and Kenya) who feed these swamps, whose approval was a requirement (de Mabior, 1981).

Despite these disruptions, the Egyptian water strategies continued to be constituted mainly in the canal project. Therefore, it had been revived again in 1978 with a plan to be completed by 1985. The prospective main result of the project was to add around 2 billion cubic metres for both Egypt and Sudan to share[5]. This increase in water flow would be invested in expanding irrigation projects in Sudan and Egypt. For South Sudanese people it would develop their life through modernizing the area by establishing roads so that they could be able to connect with the other cities. A further advantage in the drying up of swamps is that it would contribute to decreasing wetlands-related diseases (Ahmad, 2008).

However, the construction of the project instigated demonstrations and uprisings in Juba which ended with causalities. The Jonglei people received 'rumours' that Egypt would deploy farmers to cultivate the lands that would be regulated after constructing the canal and that the benefit of the water flow would be for the downstream countries and not for South Sudanese people. Furthermore, contrary to the modernized perspective of the Egyptian and Sudanese governments, the canal construction would distract the mobility routes of herds; the main economic activity of the area´s inhabitants. Besides, removing the swamps would facilitate the connection of militia which in turn increases the possibility of conflict. All of these perceived contradictory narratives contributed to sparking the second civil war in 1983 (de Mabior, 1981; Kenyi, 2011; Ahmad, 2008). Since that time the project has been suspended, but Sudd water is considered a critical input for the Egyptian water policies.

On the other side and beyond the direct Nile relations, the Egyptian governments maintain active and vibrant cooperation with the Government of South Sudan in various fields, including educational grants, military cooperation and sponsoring negotiations between the groups in the political frictions (El Taweel, 2017).

[5] According to the treaty of 1959 between Egypt and Sudan (de Mabior, 1981).

Apparently, South Sudan with its water resources is significant for the downstream countries, mainly Egypt. As a result, it joined the Eastern Nile Technical Regional Office (ENTRO) although hydraulically it is part of the Equatorial Sub basin system that is organised in the Nile Equatorial Lakes Subsidiary Action Program (NELSAP).

Salman (2011a) explains that despite it being part of the Eastern Nile Basin group, South Sudan occupies a peripheral position in the Nile politics. This position is framed by the politics of secession as the process has not been straightforward and in view of it having challenged the African Union, namely the value of maintaining the political unity of the African countries. Therefore, the negotiating actor (the Sudan People's Liberation Movement/Army, SPLM/A) had not been willing to take part in the unfinished negotiations of CFA or to confront the Nile riparian countries in general, which could result in obstructing the ultimate goal of the secession. On the other hand, at the time of independence, South Sudan had not had irrigation projects under construction and the strategic plan of irrigation and agriculture projects had not yet been settled, including the Jonglei canal project, and so the SPLM/A did not prioritize the Nile issue.

Accordingly, the national government became the only entity by law to govern Nile water. Salman (2011a) quoted from the Power Sharing Agreement and the Interim Constitution to explain the comprehensive authority of the newly independent state over the Nile:

> '(…) the national government exclusive jurisdiction over "Nile Water Commission, the management of the Nile Waters, transboundary waters and disputes arising from the management of interstate waters between northern states and any dispute between northern and southern states"' (Salman, 2011:160).

Therefore, South Sudan was not included in the analysis and the data collection was drawn from civic activism in the three countries described above (Egypt, Sudan and Ethiopia).

1.4 Structure of the study

The study is organised into eight chapters, including this introduction.

The second chapter elaborates on the research methodology and unfolds the research rationale by discussing the scope of civil society in the African context and international cooperation. It then proceeds to explain data collection and processing, as well as the social network analysis (SNA) to explain civil society activities in the Eastern Nile Basin network. The chapter concludes with a reflection of positionality in the fieldwork.

Chapter three introduces the theoretical framework which informs the structure and content of this thesis by demonstrating how the classical international relations theories interpret cooperation in their assumptions. It then goes on to illustrate the relational perspective in international relations and the differences from conventional theories, and continues to explain the network approach and how it articulates power dynamics.

Starting from chapter four, the study investigates civic engagement in Nile politics. The context of the Nile hydropolitics in the Eastern basin is critical to understand civil society activism. The chapter covers how the Nile has been a central natural resource for the development of the riparian countries and then explains the impact of water scarcity in shaping Eastern Nile politics.

Chapter five offers a mapping of the social network analysis that shows the structure of the Eastern Nile Basin network, after which it explains the capabilities and drivers behind civil society actors' involvement across national, regional and international levels.

Chapter six explores civil society interactions with the other actors in the Eastern Nile Basin network by elucidating the components of linkages and strength of engagement in Eastern Nile geopolitics.

Chapter seven offers a deeper analysis of four cases of civic engagement (Egyptian Nile Discourse Forum [Eg-NDF], The Sudanese Youth Parliament for Water [SYPW], The GERD and Ethiopian diaspora engagement and the Nile Basin Capacity Building Network [NBCBN]). It delineates how they configure their relations with the state and the external actors, directly or indirectly.

Chapter eight provides a synthesis of civic engagement in Eastern Nile geopolitics in light of water and Nile studies. This is followed by the conclusions that highlight the main findings and the last section addresses future research agenda for promoting civic engagement studies in the Nile.

Chapter Two

Methodology

2.1 Introduction

This chapter elucidates the context and process involved in conducting this research, which led to the writing of this thesis between 2017 and 2020. The first section explains how civil society was identified in this research, considering the liberal and African framing of the role of civil society in international relations. The first section is followed by illustrating the type of collected data and the process of aggregating it. It then goes on to analysing the data, with social network analysis (SNA) being applied. This section explains how it operationalized the mapping of the spectrum of engaged civil society actors in the Eastern Nile Basin and the attributes of constructed relationships in the network. The last two sections discuss the limitations of this research and the reflexive encounters as well as positionality in conducting this research.

2.2 Research rationale: civil society boundaries

This study encountered the international relations discipline by exploring civil society actors in the Eastern Nile Basin. During the fieldwork of this research, the boundaries of civil society and the definition of liberal analysis were revealed. On the other hand, the classical binary strands of international relations, as cooperation or conflict, were challenged. Therefore, the rationale of this research was restructured to consider several forms of civic engagement and transboundary relations, as have been practised in the Eastern Nile Basin.

2.2.1 Two realms of civil society

State-society relations in Egypt, Sudan and Ethiopia have obviously been reconfigured as a result of the revolutionary waves and wide uprisings (Egypt in 2011, Ethiopia in 2015 and Sudan in

2018). Therefore, people's engagement in the public sphere has been recognized by researchers and policy analysts.

Civic engagement is arranged in various forms that can be theoretically interpreted through civil society organisations and social movement disciplines. Principally, these theories are derived from a normative premise that the pursuit of association and collective action is to influence the public sphere for the betterment of society.

Individuals associate into groups that reflect their common understanding to discuss their position regarding a public issue and their way of dealing with it. Castells (2008) defines the public sphere as

> 'An essential component of sociopolitical organisation because it is the space where people come together as citizens and articulate their autonomous views to influence the political institutions of society'. (Castells, 2008:78)

The prospective influence of engagement in the public sphere is to work towards creating a better society. Edwards (2009) observed that the practices of civil society activists are guided by a normative image of civil society as a space where liberal and democratic norms of freedom of expression and tolerance are aspirational endeavours and with equality to access and by circulating information public consensus can be built. In other words, the liberal perspective assumes the associations (NGOs) are based on norms and voluntary will of citizens and through associations citizens can refine their interests and demands and then channel them outside their space so they will be able to account for state polices. Complementary, these associations are the tools with which to empower citizens because they can offer solutions to decision makers (Lang, 2012).

In the globalization era, this image of a good civil society has transformed to the international level and the purpose of global civil society is to create a global consensus about values of human rights, peace and cooperation, which supposedly articulate the governance of international relations. Besides physical public spaces, communication tools (via the internet) constitute the spaces of

discussion and this is where participants take a collective stand regarding public issues globally (Edwards, 2009; Castells, 2008).

However, there is no consensus on what is good or what the features of these norms and values are, and therefore the public sphere is contested.

In the view of Castells (2008), the public sphere is where the state, civil society and citizens interact according to democratic principles and the distortion of these interactions leads to change. However, the fact is that these conditions are not optimal, as presumed. The state conditions impede civic engagement or purposefully transform it for the regime's interests. Furthermore, civil society activists themselves compete in approaching and framing the public issue. What is more, the communication tools that enable discussions around a public issue could be discriminated so that a public issue could be framed in accordance with the private interests of the associated group. Moreover, the engagement of marginalized or subaltern groups could be contested (Edwards, 2009; Lang, 2012). In addition to state conditions, civic associations could circumscribe their activities. For instance, if the public issue is sensitive politically or socially, civic associations could decide to keep their distance by focusing on service delivery activities and avoiding to engage in public discussion of this public issue (Lang, 2012).

In the African context, the liberal vision of the public sphere and the role of civil society in securing democratic norms emanated from African politics under the waves of employing neoliberal policies in the market and democratization thrust in the 1980s and 1990s. However, Africanist scholars (Shivji, 2007; Hassan, 2009; Ellis and Van Kessel, 2009) refuted this take on an interpretation of civil society. They argue that the people's engagement in the public sphere in the African nations was before the 1980s, unlike what is documented in the literature. Many forms of associations and collective actions were the engine with which to fight the colonial powers and they were a manifestation of civic engagement, but this engagement in the public sphere was framed as national liberation movements.

Another refutation to the liberal revelation of civil engagement in Africa concerns ethnically and religion-based associations; a dimension that cannot be excluded from the delineation of civil

society in Africa, i.e. these associations play a significant role in shaping the politics. Many studies that have discussed civil society in Egypt and Sudan make forays into religious activism (Ibrahim, 1998; Ali, 2010; Tadros, 2011; Sullivan and Abed-Kotob, 1999).

To entangle the liberal perspective and the African deliberation of civil society, Ekeh (1975:92) amply demonstrated the co-existence of the two realms of civil society in the African context. The first realm is the civic public which was artificially created after the building of state. This civic public is based on tangible and material interests between the civic associations and the state. The second realm is the primordial public where there is no difference between private and public spaces and it is based on volunteerism and a sense of belonging. Accordingly, in Nile politics, which is one of the public sphere issues, the two publics are engaged under different mandates and forms.

The civil society organisations, i.e. the civil public realm, has been founded to be a third sector between the state and market. It is here that the idea of pursuing a good society is espoused; nevertheless, this discourse of third sector contributes to declining the political dimension of civil society (Fowler and Biekart, 2011). In this research, although the data panel involves organisations that provide water as a public service and advocate for universal values such as 'water for all' or 'integrated water resources management', political contestation in the Eastern Nile Basin has been reflected in their methods of engagement and collaboration with other actors in the Nile Basin.

Additionally, the involvement of scientists, researchers and think tanks are significant in the Nile politics and their connections with the state institutions are a profound feature. This visibility of scientists is back to the role of engineers and bureaucrats (hydrocracies) to regulate water resources for maximizing economic benefits and to supervise the construction of water projects because they are high cost and labour intensive works (Molle et al., 2009). On the other side, the CSOs collaborate with scientists and researchers to provide them with knowledge and technology for mitigating water challenges. CSOs then formulate their activities according to these scientific materials. Therefore, this research includes research centres to form part of civil society actors.

The realm of the primordial public is not separated from the Nile politics, mainly because water is a basic need and a fundamental input for agriculture activities. In the fieldwork, I found examples of ethnic-based mobilization and associations such as the anti-dam movement in Sudan which were established by displaced Nubians or the case of water users' associations (WUAs) which are based on constituencies.

Under globalization conditions, these two publics are not mutually exclusive, e.g. the diaspora associations are transnational organisations. They transcend the narrow ethnic private sphere to the civic global sphere when diaspora groups establish legal entities to operate their knowledge and financial support to their local ethnic communities (Ellis and Van Kessel, 2009). And in Nile politics, diaspora groups play a significant role.

Given the entangled two publics, the notion of civic engagement encompasses a variety of activities that come together in Nile affairs. Some studies (Berger, 2009; Ekman and Amnå, 2012) argue that civic engagement is a fuzzy term because it includes various actions such as small individual actions (e.g. paying attention to a public issue), community activity (e.g. voluntary work) and political actions (e.g. voting and political advocacy).

Nevertheless, in this research, the width of the civic engagement notion was helpful to explore the objectives and dimensions of actions by civil society in the Eastern Nile Basin, given the fact that the topic of civil society's role in the Nile, as a transboundary resource, has been overlooked in analysing Nile politics. Thus, investigating this topic with the broad lens of civic engagement allowed me to deliberate the diversity of civil society actions. However, as will be demonstrated in chapter six, civic engagement in the Eastern Nile Basin has been narrowed down into four significant trajectories that describe different actions in Nile politics.

On this spectrum of civic engagement in the public sphere (i.e. the issue of Nile politics), the network approach enables one to allocate different forms of civic engagement in relation to the global arena and the state.

2.2.2 Transnational civic engagement

The debates around the role of civil society in international relations posit the normative reason for civic engagement as the mitigation of global challenges. As mentioned before, civil society is a good actor that drives cooperation and positive change. Different conditions have culminated in the influential role of civil society in the international arena. The first condition was the stability of the international system, whereas universal rules and norms have been espoused by international actors. Another prerequisite was the willingness of the state to give legitimacy to civil society to assist it in providing public goods and services. Furthermore, information and technology facilities have enabled civil society to be highly responsive to global problems and to take collective action with low transaction costs. Also, the uncertainty of global challenges concedes the ability of civil society in providing information and technical assistance to face challenges (Josselin and Wallace, 2001; Halliday, 2001; Florini, 2004).

I adopted this normative vision of civil society in the international arena at the beginning of framing this research because it coincided with the atmosphere of the Egyptian revolution when civil society was empowered. I participated in a workshop in 2013, organised by the Nile Project, involving a group of researchers, artists and practitioners from the Nile Basin countries and from other countries who were interested in the Nile issue. The purpose of the workshop was to create a collaborative space to exchange visions about our civic engagement which could contribute to civic cooperation among the Nile peoples. This workshop and the other activities later organised by civil society organisations or initiatives had this normative vision of cooperation in the Nile mainly at the time of political contestation due to the CFA and the GERD. Hence both the international relations theories and practices of civil society shaped my former assumption that civic engagement in Nile politics have the potential to bring cooperation.

However, the fieldwork revealed that the various civil society organisations and activists have approached Nile politics differently and have formulated distinct meanings of the social reality of the Nile in the context of political contestation and cooperation. As a result, I have reconfigured my normative assumption of the role of civil society in Nile politics. As will be demonstrated in the next chapters, civil society engagement is diverse and their interactions differ in substance,

density and continuity in relation to national and international contexts. Consequently, civil society activists and practitioners have different positions about Nile cooperation and how to attain it.

After the fieldwork had been completed I restructured my theoretical framework to amplify the theoretical foundation of the relational perspective of international relations; where actors are 'mutually dependent, not autonomous' and the network relations involve cooperation and conflict performances (Hafner-Burton et al., 2009:562).

2.3 Methods of data collection and analysis

This research relied on both primary and secondary data resources and it applied a snowball sampling method to recognize the civil society engaged in Eastern Nile politics. Interviews were the main data collection tool. The data generated and collected were complemented by social network analysis (SNA) and the Gephi computing program to depict the maps of interactions. Furthermore, a qualitative analysis of documents was applied to understand the perceptions of civil society activists and practitioners in Eastern Nile politics.

2.3.1 Data collection

The data for this research was collected between 2017 and 2020. The ongoing data collection while writing the manuscript was because of the continuous civic actions responding to the political contestation between Egypt and Ethiopia over the GERD. The types of data included in this research are primary and secondary data, as described below.

Primary data

Because of the lack of documentation of civic activism in the Nile Basin, interviews were the main tool through which to understand the position and relations of civil society activists and practitioners in Eastern Nile politics. The process of conducting interviews will be discussed in the following section.

Secondary data

It includes the resolutions and statements that were released by civil society organisations and initiatives as well as by the regional Nile organisations. Also, newsletters, brochures and organisations' reports were the common medium of documenting civic activism. Furthermore, civil society activists depend heavily on non-conventional communication tools and therefore news feeds on websites and social media pages were also consulted in conducting this research.

Additionally, several studies have been conducted on Nile politics and consequently this research reviewed many books and journal articles that have discussed political interactions in the Nile Basin. These studies were written in English and Arabic. Alongside this, I attempted to include the voice and arguments of scholars from the Eastern Nile Basin countries alongside those of international researchers. On the other side, this research used the analytical reports and papers produced by international think tanks in the water governance field.

2.3.2 Fieldwork process

The sample of interviews was generated through applying the snowball technique because there was no prepared list of civil society actors in the Eastern Nile Basin[6] that I could depend on to collect my data or to send a questionnaire asking actors to define ties in the networks, as some studies which have applied SNA were able to do (Luzi, 2007, Borg, Toikka and Primmer, 2015, Prell et al., 2008).

Conferences and workshops were convenient occasions from which to apply the snowball technique and to build a list of interviewees. The same technique was applied during field visits to the cities of Cairo, Entebbe, Addis Ababa, Bahir Dar and Khartoum. The majority of interviews were carried out in two phases in 2017 and 2018.

The first phase of the fieldwork departed from participating in two regional conferences and then exploring the Egyptian case study. It began in late September 2017 and extended to January 2018.

[6] The NBD list are the only list but not a complete and on local level; therefore, I followed the snowball strategy

The process was started at the 5th Nile Development Forum held in October 2017 and organised by the Nile Basin Initiative in Kigali. Aside from the scientific presentations and discussions in this forum, I was introduced to the water community/network in the Nile and I observed political dynamics, especially since the majority of attendees were ministers, officials and technocrats. I was thus able to start making connections and collect the first group of actors for interviewing.

I then attended a workshop about water diplomacy. This took place in Alexandria and was organised by the Swedish Institute in Alexandria, the University of Twente and Fanack. The workshop included academic sessions and a virtual game on the possibility of cooperation among different players in the Nile Basin. The workshop was an opportunity to meet specialized scholars on water governance and I got their insights about interactions in the Nile Basin.

Then, in November 2017, I participated in the first NBD Summit (Integration and inclusion: new ideas for collaboration in River Basins) that was held in Entebbe. This summit was an active start to collect data and conduct interviews because the attendees were representatives of civil society from the Nile. Additionally, I observed the dynamics of national forums of the NBD on the regional level. After this summit, I spent a week in Entebbe to visit the headquarters of NBI and NBD and to conduct interviews with the officials of these two organisations. Additionally, I collected documents that cover the position of civil society in their scope of work from the NBI library.

Subsequently, in Cairo, I broadened my scope and focussed not only on regional actors or transnational actors, because I had learned from the NBD summit that the majority of organisations build their mandate and scope of activities on a local level to interact on grassroots level or with the community they represent. However, the regional activity can take place when a regional or an international organisation intervenes and organises a multilateral venue for interactions across the Nile. Therefore, I conducted interviews with various actors (entities) of which water is part of their scope and who are involved in transnational connections.

The second phase in 2018 started by attending the Nile Day celebration in Addis Ababa on the 22nd of February. This annual celebration is when the governmental entities represented by the national ministries of water resources and the NBI joined with civil society organisations to reveal

the cooperation in the Nile Basin. Here I observed the interactions and the narratives about cooperation as explained by governmental officials. Importantly, I scheduled interviews with Ethiopian actors who engage in Nile politics and I visited the ENTRO office, conducted interviews there and checked the documents in its library.

In April, I went to Khartoum and took part in a workshop (Media, Science and Transboundary Cooperation in the Nile Basin) at Khartoum University. Similarly, I got contacts of civil society activists who attended this workshop besides a list of recommended names I had compiled before traveling.

I subsequently returned to Ethiopia in October 2018 to visit the Bahir Dar region where the Blue Nile originates and to contact researchers in the Blue Nile Institute at Bahir Dar University and activists in the campaign of Save Lake Tana. However, before that, I participated in the 20th International Conference of Ethiopian Studies at Mekelle University where I met a diverse group of researchers who study the Nile from different perspectives. These contacts provided me with the contact details of possible informants in Bahir Dar.

This second phase of fieldwork was concluded by attending the first Cairo Water Week in October 2018, where I met some officials in the Egyptian Ministry of Water Resources and Irrigation (MWRI) and I figured out how the ministry framed its relations with the WUAs as a relation with civil society.

As a result of following the snowball technique, 60 interviews were conducted with several actors including registered civil society organisations, civil society initiatives, national governmental organisations, intergovernmental organisations, donor agencies and think tanks besides consultants and specialized researchers (see annex 2). These different interviewed actors and their organisations/initiatives in addition to their interactions with other actors constituted the base to build the network analysis.

2.3.3 Interviews process

Semi-structured interviews were conducted, focusing on the three major elements of network analysis (Wasserman and Faust, 1994): 1) the node (characteristics of actors); 2) the ties (all ties with peers, regional, international actors) and 3) the structure of the network (evaluation of the network structure).

The semi-structured interviews are typically a 'conversation and informal in tone'; thus the questions are aimed at guiding the dialogue because the endeavour is to explore the meaning of social reality as perceived by the respondents. On the other side, because of the flexibility in this type of interview, the setting of the interview cannot be 'neutral' since it takes time to break down the barriers with the interviewee (Longhurst, 2010:105, 110). In the field, I conducted the interviews according to the availability of interviewees and sometimes in café settings after their working hours. Also, some interviews included interventions from other people besides the main interviewee, either because they had a meeting with the respondent or they were asked by the interviewee to share their insights. Nevertheless, two interviews were conducted as a group discussion when the main respondents invited the heads of committees in the initiative to explain their activities. On the other hand, I met other PhD researchers in the field who approached the same interviewees and therefore, we co-organised to interview some respondents together as shown in the interview list (see annex 1). Furthermore, some interviewees (often the officials) asked for their interviews to remain short.

Some respondents allowed me to record the interviews without reservations; while others consented to allow me to record upon my request so that I could focus on the content of their responses to my questions. Some officials in Ethiopia and Egypt refused to allow recordings of the deliberations because of their governmental positions and the sensitivity of the GERD issue in Nile politics. I worked to transcribe these interviews after returning from the field. Two interviews were conducted via phone, which meant that I had to take notes during the call and attempted to transcribe afterwards. Additionally, one interview was completed through email correspondence. Accordingly, my data included recorded audio and word format documents.

Language of interviews

The practiced languages were both English and Arabic with the latter being the preferable language for communication in Sudan and Egypt. However, the interviews with hydraulic researchers were almost exclusively conducted in English because they used technical terminology to describe their understanding to the Nile politics. Moreover, English terms such as raising awareness, advocacy, knowledge sharing and sustainability were widely used by interviewees who represented transnational organisations. In contrast, the philanthropy organisations used the same terms in their activities but they narrated these in Arabic. Such a difference in language reflected the strength of connections with global actors or grassroots organisations.

Nevertheless, the English language was a barrier in Ethiopia; I could not approach cases from community-based organisations similar to what I did in Egypt and Sudan. Hence, the interviews were limited to actors who could communicate in English. Therefore, the list of Ethiopian respondents included diaspora, researchers and officials.

Transcription

The 60 interviews were collected, with the duration of each interview ranging from 20 minutes to 2 hours. I used timestamps as a technique to transcript the recorded interviews that were originally operationalized via computer software programs. An advantage of this technique is that it is not time-consuming, noting that a verbal transcription of one hour takes multiple hours to turn into text (Bokhove and Downey, 2018).

To timestamp the recorded interview, it was broken down into intervals and labelled and dated with the topics or key ideas covered in each interval. Timestamping was not a heavyweight task because there were guiding questions in the interviews. Being the interviewer and transcriber made it easier for me to draft the transcribed recording and identify the main themes raised by the interviewees. However, I did the timestamp manually because not all interviews were conducted in English, as some of them were in Arabic, which is not supported by the transcription software programs.

Moreover, I did a complete transcription for some parts of interviews to include in analysis as quotations. I translated the quotations that were extracted from the interviews conducted in Arabic. For the interviews that were in English, the quotations were edited (grammar and punctuation) to enhance the readability without changing the meaning.

2.3.4 Data analysis

Qualitative analysis (notably the interviews) was the main strategy used to capture the perceptions of civil society on the Nile River politics and how they have engaged with it. Additionally, I used social network analysis (SNA) as a quantitative technique to delineate the position of civil society among the conventional actors (state apparatus) and the relationships.

2.3.4.1 Social Network Analysis

In this research, social network analysis (SNA) was applied as an explanatory mechanism to reveal the position of civil society and its relationships across the Eastern Nile Basin. SNA explains the interdependent interactions and relational ties among the societal actors and the outcome of these myriad relations (Wasserman and Faust, 1994). The elements of SNA are:

- Nodes: these are the actors in the network. Nodes may represent an individual or collective entity such as a department or an organisation or a state (Wasserman and Faust, 1994). However, the position of the node is more important than its characteristics. For example; there is a broker node that is located in the centre of the network and it has ties with all other nodes; accordingly, it is a critical node in the network because it is able to diffuse information and resources to attract other nodes for collective actions (Prell et al., 2009). The node's capabilities are used to enhance its position in the network, e.g., it can move from the periphery to the centre of the network (Hafner-Burton et al., 2009).
- Ties: they are the relations among nodes that carry the components of relations, either tangible components such as goods or intangible components like norms and information (Hafner-Burton et al., 2009). Scholars give classifications of ties in a network according to

different criteria. For example, 1) The degree of strength of a tie is either strong or weak according to the frequency of interactions and interchanges between the nodes (Prell et al., 2009); 2) The nature of interactions that includes cooperative/positive ties or competitive/negative ties (Hafner-Burton et al., 2009); 3) The similarity and difference of interactions between two nodes, i.e. if it is symmetric or asymmetric (Hafner-Burton et al., 2009); and 4) The visibility of interactions; it may be a direct interaction due to agreements or an indirect interaction because the tie is based on intangible causes (e.g. sharing norms and identity) (Prell et al., 2009).

- Structure: it is the result of ties among nodes that represents the frame of interactions which determines the behaviour of nodes. The structure of the network can be described according to:
  - The centrality of the node that defines the movement of resources and information in the network. Additionally; it reflects the position of powerful nodes in the network. There are three descriptions of the centrality of a node: 1) degree centrality is about the ties between the node and all other nodes in the network. It describes whether all nodes in the network are connected or scattered; 2) closeness centrality measures the length of a tie between nodes and shows the time consumed to channel the components of a relation; 3) betweenness centrality indicates the shortest ties that a node has with other nodes inside the network. This position reflects the significance of the node inside the network (Hafner-Burton et al., 2009).
  - The degree of cohesiveness of the internal ties that form subgroups (clique) in the network. The hypothesis here is that the more cohesive and similar the structure of the subgroup, the more possible the node changes its behaviour to be similar to others in the subgroup (Hafner-Burton et al., 2009).

2.3.4.2 Operationalizing the SNA framework

To build up the network, I created a matrix of actors and ties mentioned in the interviews as well as in the websites and documents concerning the civil society entities I had reached. The majority of the represented nodes are affiliated to the civic realm of civil society.

I listed all actors in an excel sheet (see annex 3) and cleaned the list of all repeating names of actors, taking into consideration the reality that each civil society actor is an ego in the self-network with connections expanded around it.

To organise the variety of actors (nodes), I gave them two attributes: 1) the country/scale of affiliation; and 2) the type of entity.

Regarding the country/scale attribute, I labelled them as:

- Entities based in the countries of the subject (Egypt, Sudan, Ethiopia);
- Regionally based entities that are located in the African and Arab regions;
- Global entities that operate internationally; and
- Entities with global branches, labelled by the country of its headquarters.

For the type of entities, I classified these into:

- governmental organisations (referring to the state apparatus besides the intergovernmental organisations);
- civil society (includes the two realms of civil society, both structured organisations or initiatives/movements); and
- Research institutions (includes the think tanks and universities).

Regarding the ties, the different entities have overlapping linkages representing several practices of collaboration. In the sample of this research, it was rare to find a direct tie based on one component. For example, the organisational hierarchical relation between the NBD regional office and the national forums in the riparian countries implies reversed ties that carry back information, knowledge and position. Similarly, for the relationship between the aid agencies and local NGOs, the financial disbursements are exchanged by getting empirical experience from the grassroots level that strengthens the knowledge of the international aid agency.

However, for the sake of analysis and presenting the findings of the fieldwork, I analysed the ties according to two aspects: 1) the structure of relations; and 2) the components of interactions.

Structure of the relations: this shows if the relations are based on a structured arrangement or ad-hoc relations. I classified them into:

- Focal point/national office;
- Partnership; and
- Volunteering.

I then applied a simple scale (from 1 to 3) to these three types, reflecting the weight of relations by their stability in terms of constant relationships. The focal point represents the higher degree of stability of relations between the global/regional entity and its national/local office (scale 3). The partnership (scale 2) relies on the nature of the implemented programs or projects; some of the partnership ties exist for a long time and others represent ad-hoc collaboration. Volunteer-based relations received the lowest score (scale 1), because they represent fluid relations, occurring on a short-term basis.

The second aspect was driven by the perception of interviewed actors as to the substance of their connections with the other actors. I categorized the ties according to the main component of interactions into:

- Scientific/knowledge interactions (e.g. workshops, joint research projects);
- Capacity building (e.g. training activities);
- Service provision (e.g. water development projects); and
- Advocacy (e.g. awareness campaigns or anti-dam movements).

After adding the labels to the actors in the excel sheet, I used the Gephi software program (Bastian et al., 2009). This is an open-source program providing statistical calculations based on graph

theory[7], to depict the connections among the nodes and to visualise how they are (dis)connected. To present this overall picture of the network, Gephi software calculates the density of ties among actors as well as the centrality measures. For the map layout, I chose Gephi's Yifan Hu Proportional layout algorithm that posits and distributes the nodes in the graph, considering 'a better optimization of distances between nodes' (Cherven, 2015:76); therefore, the overlapping nodes are minimised and the outlier nodes are clearly visualised in the entire network

The produced maps of Gephi in this research will portray the nodes with the attributes and the weight of ties. Moreover, because of the overlapping linkages among actors, I set the graph type as undirected to show the reciprocity ties. Chapters five and six will depict the SNA maps based on the calculated measurements.

2.3.5 The rationale of four case studies

The SNA provides the whole map of actors' positions and connections across the Eastern Nile Basin. However, it is important to analyse how civil society actors have engaged in the Nile network; to understand their perceptions and narratives regarding their capabilities and positions as well as to investigate how they established their ties with different entities on national, regional and global scales (Stein and Jaspersen, 2019). Therefore, chapter seven presents four cases that approached Nile politics differently and depicts their ego-networks.

These cases were selected from the three countries (Egypt, Sudan, Ethiopia) according to four criteria:

1) Two realms of civil society: primordial and civic based entities;
2) The degree of organisation: loosely structured in the initiation phase, incubated by another entity and established and legally registered organisation;

[7] Graph theory is part of mathematics and its main vocabularies of nodes (points) and ties (lines) constitute the foundation of social network analysis. Therefore, 'graphs have widely used in social network analysis as a means of formally representing social relations and quantifying important social structural properties' (Lacobucci, 1994:93).

3) The time of engagement in Nile politics: the involvement was correlated with the global thrust to environment governance or recently engaged or event-based involvement; and
4) The relevance of activities to the main trajectories of activism in the Eastern Nile Basin.

Table 2.1 The case studies: selection criteria

	Civil society realms		The degree of organisation			Time of engagement			Activities			
	Primordial	Civic	Structured	Incubated	Loose-structured	Early (2000s)	Recent	Event based	Knowledge interaction	Capacity building	Service provision	Advocacy
Eg-NBD (Egypt)		X	X			X			X	X		X
SYPW (Sudan)		X		X			X		X	X		X
Diaspora (Ethiopia)	X	X			X			X				X
NBCBN (Egypt)		X	X			X			X	X		

The four above-mentioned civil society cases have been used to illustrate these criteria (see table 2.1) in the geopolitics of the Eastern Nile. These are, per country:

- The Egyptian Nile Discourse Forum (Eg-NDF), the national focal point of the Nile Basin Discourse. It was involved at the beginning during the phase of establishing the NBD itself in 2003. Besides being a link between the national and regional levels, the organisation builds its activism on partnership with networks of donor agencies.
- The Sudanese Youth Parliament for Water (SYPW). This is a youth initiative that recently became formulated under a global notion of engaging youth in water decision making. As a youth-based entity, the founder and members are engaged as volunteers and not as professionals. The organisation is active in advocacy and capacity building.
- The third case from Ethiopia, where the Nile issue has been raised in the public sphere, is due to the GERD as a national project. Different ethnic diaspora groups have integrated the

GERD issue in their contestation with political regimes. Some groups advocate for it as a symbol of national unity while other groups mobilised against it due to unequal national development in Ethiopia.

- Besides these national-based cases, the fourth case is the Nile Basin Capacity Building Network (NBCBN), which is worth studying because it is the most formidable regional organisation established with the aim of enhancing knowledge exchange and fostering cooperation across the Nile. Moreover, this organisation has intensive interactions with a wide range of intergovernmental Nile organisations and other international water research centres.

2.3.6 Complementary qualitative analysis

Mathematical and computing analyses are heavily applied in many SNA studies despite the premise of SNA departing from an anthropological discipline to explore human interactions in domains of family, friendship and kinship (Marshall and Staeheli, 2015). Therefore, in this research, SNA was constituted by feeding its elements (nodes and ties) with qualitative data such as interviews and information derived by documents. The advantage of the qualitative approach is to explain ´social reality´ that differs from actor to actor according to self-perspective and context; hence, actions are dynamic and formulate the meaning of their realities (Hollstein, 2011:405).

However, the results of SNA that have calculated the centrality and degrees of relations are not satisfactory to understand power dynamics in the network. As Marshall and Staeheli (2015) demonstrated in their study on the network of youth civic engagement organisations and donor agencies about SNA limitations, it was found that 'it would be wrong to treat sets of relationships, and the greater field of relations comprised, as complete artifice' (Marshall and Staeheli, 2015:61). However, they have purported that SNA gives a sense of the relationships so that the researcher can dig deep and utilise other theories to analyse the pattern of the map. Akin to their argument, the SNA map enabled me to give an aerial view with which to depict where civil society is situated in relation to the conventional actors (the state and donors) in the Eastern Nile Basin. However, to explain the divergent positions of civil society actors and why some have close ties while others are outliers in the network, a deep analysis is required. Therefore, this research complements the

calculated numbers emerging from the SNA with international relations, civil society, and water governance arguments.

2.4 Research limitations

Investigating the role of civil society in Eastern Nile politics from the network approach entailed two main research limitations; one was driven from the topic of transnational civic activism and the second was about the Nile River and its hydraulic features and political meaning.

Regarding the topic-based limitation, the lack of prior studies on civil society engagement in the Eastern Nile Basin was a challenge. This was reflected in the process of data collection because there was no reference list of organisations that have acted in the Nile Basin. Importantly, there was no clear delineation of which civil society organisations has been engaged in the Nile. For instance, I found policymakers in the Nile regional organisations considered research centres and academic groups to form part of civil society. Because of this limitation, I defined the boundaries of civic society in this research by transboundary engagement, which could be driven by the actor's objectives, activities or relations with external actors.

Furthermore, practically in the fieldwork, the collected data was 'self-reported information' by the interviewed actors and their publications and websites which were generated during different periods. Furthermore, the interviewees could not possibly remember the names of all their partners across times; they mentioned the main or sustainable one or two partners in their network and asked me to consult their websites which regrettably had not been updated.

Relevant to the civil society scope, it was difficult to study the engagement of South Sudanese civil society in Nile politics although it does form part of the Eastern Nile Basin. Civil society is still being affected by political conflicts. The majority of CSOs engage in the activities of humanitarian relief, peacebuilding and refugee issues (Awany, 2020). Thus, Nile politics is not an enduring sphere for civil society engagement.

Nevertheless, I attempted to communicate with South Sudanese representatives during the Nile events. In the Nile Day celebration in Addis Ababa in 2018, I had an informal conversation with a researcher who is affiliated to the ministry of water resources. He affirmed that Nile politics is in the hand of the Ministry with assistance from a research institute, but CSOs are not a visible stakeholder in the Nile issue.

Moreover, I met with representatives of the South Sudan national discourse forum[8] during the NBD summit in November 2017. Regrettably, they fled out of the country due to the conflict, and they are based in Uganda. In the conversation with them, they mentioned that lack of funds is the main challenge to providing basic services; efforts that have been destroyed or not completed due to the conflict. Also, it is stated on the website of the NBD that:

> 'With only seven individuals as actual members, SSNDF [South Sudan Nile Discourse Forum] lacks the semblance of a civil society organisation. It will, therefore, need financial and technical support to recruit members and achieve the expected image or structure.' (NBD, 2020: para.2)

Therefore, the exclusion of South Sudan added another limitation to studying the role of civil society in the Eastern Nile Basin.

The second main limitation concerns the Nile as a hydraulic and political river. Hydraulically, the Eastern basin consists of four sub-basins across the borders of the three countries: Ethiopia, Sudan and Egypt. Both Tekeze-Atbara and the Baro-Akobo-Sobat sub-basins run within Ethiopian and Sudanese borders[9], while the Blue Nile sub-basin comes from the Ethiopian Highlands and Lake Tana. These waters then converge with the White Nile in Khartoum forming the Main Nile sub-basin that runs through Sudan and Egypt (NBI, 2016). There are many development-led interactions that take place between the state, donor agencies and civil society around these sub-basins. However, the Nile is socially constructed according to how actors are engaged in its affairs.

[8] The South Sudan forum was established by Ambrose Lomini Pitia, who used to be a member in the Sudanese Environment Conservative Organization which represents the national forum of Sudan in NBD. On this see: NBD (2020).
[9] Part of Tekeze-Atbara watershed is located in Eritrea.

The interviewed actors described the Nile from the lens of their operations. For example, the Nile is a grid of irrigated canals for the organisations that support WUAs. On the other hand, for the inhabitants of Bahir Dar city in Ethiopia, the Nile is Lake Tana. Nevertheless, the Nile is factually a transboundary water resource in the vision of technocrats in the ministries of water resources, officials in the regional organisations and scientists in think tanks. Accordingly, the boundaries of the Eastern Nile network involve, in reality, several actors and multiple ties. As a result, the network could be redefined and reinterpreted if different civil society actors are investigated. This is a disadvantage of network analysis that there are no objective conditions of framing the network boundaries (Stein et al., 2011:1088).

On the other hand, the securitized meaning of the Nile has been highly contested because of the GERD. Though the dam has been an opportunity to uphold civic actions from different perspectives, it has been tackled as a highly secretive national issue and officials were not allowed to talk about or discuss it openly. During the fieldwork, the negotiations were stalled in November 2017, following by rounds of disagreements and not concluding the studies. As a result, I did not get responses from two officials in the Egyptian MWRI to emails and calls requesting the scheduling of an interview; and neither from an official in the Sudanese MIWR. Moreover, the representatives of both Ethiopian and Sudanese national discourse forums in the NBD summit in 2017 were reluctant to do interviews. Similarly, some scientists were reticent in the interviews and did not want to cite their opinion about the issue. Thus the names of interviewees were treated anonymously throughout this research.

2.5. Reflexivity and positionality

The core of Nile politics lies in the contestation between the downstream (Egypt) and upstream countries over water shares and the development of the river's resources. Being of Egyptian nationality and as a researcher investigating the Nile from a non-conventional discussion of its politics, raised reflexive thoughts as well as positionality concerns in the field.

The reflexive analysis intersects the coloniality/de-coloniality debates, not between the North and the South but rather between the downstream and the upstream countries. The political narrative of the upstream countries evolved around the colonial allegations in the Nile treaties that secured the river waters to Egypt. Furthermore, the contestation over CFA and GERD have unfolded the historical and social narratives where Egypt has a hegemonic position against Sudan and Ethiopia. During the fieldwork in Sudan and Ethiopia, some interviewees as well as ordinary citizens in daily interactions expressed their grievances about the Egyptian control over the Nile and its role in developing other Nile Basin countries.

On the other hand, the complicated historical/political relations between Sudan and Egypt were highlighted during the fieldwork. Many respondents framed their analysis of Nile hydropolitics in such a way that Egypt was a colonizer with Britain and both had comparable interests in securing the river flows to Egypt. Additionally, the grievance concerning the displacement of people in Wadi Halfa to construct the High Aswan Dam echoed in narrating the political relations between the two countries. These kinds of interviews interrogated my self-consciousness about my position as a researcher and Egyptian. The challenge was to establish a balance between my scholarly bias to de-colonized knowledge through integrating subaltern/less-powerful subjects in the analysis and on the other side my livelihood's dependency on the Nile water in Egypt.

The second reflexivity issue is related to the coloniality /de-coloniality debate which is driven by the literature on Nile politics. The prevalent arguments are not divergent from the classical international relations theories that are ascribed to Western/European thought. In their assumptions, the state is the central actor in the international arena and moreover, the interactions have been framed hierarchically according to power capabilities (Jones, 2006). Added to this is the nationalistic vision inherited in the nation-state from the colonial/imperial powers (Saurin, 2006). The literature of the Nile politics, as explained in the previous chapter, relies on investigating inter-state behaviours. Furthermore, the analysis of cooperation and conflict has evolved around assessing the power capabilities of each state. As a result, the scholarly argument has been polarized between Egypt's power 'hydro-hegemony' as opposed to the other riparian countries. This dominant argument implicitly reproduces the colonial understanding of international relations in the Nile Basin. Therefore, framing this research according to the relational perspective and

network approach was an attempt to de-colonize the scholarly debates in Nile politics by refuting the hierarchical relation's assumption between the riparian countries. Moreover, underlining the role of civil society in this research aimed to explore other actors beyond the centrality of the state, with particularly the African perspective on international relations highlighting how non-state actors developed transnational relations (Faleye, 2014).

Interweaving with reflexive thoughts about the de-coloniality debate, I contended with my position in the field as not a fully-insider, or outsider, researcher. Rather, my feelings and practices were akin to 'halfie-self' researcher or 'ambiguity' between being an insider and an outsider. As Subedi (2006) and Sherif (2001) point out concerning this betweenness, such a position is raised even though the researcher collects data in her/his home country. Furthermore, the affiliation to a Western university renders the researcher an outsider to the local community even though the researcher belongs to this community. So the researcher has different identities that could be situated according to the context of a conversation with informants.

My belonging to the Nubian ethnicity facilitated entering the field in Sudan and Ethiopia. The staff in offices (gatekeepers of officials), in addition to many of the interviewees, welcomed me because of my ethnic features similar to local people and I am not like the labelled Egyptians who are seen as White/Arab people. In other words, I was not perceived as a colonizer but instead was like an insider for these groups of interviewees.

However, my affiliation to a Western university interlocked with the coloniality debate since the West is a superior power in terms of quality of education and resources as well as refined knowledge in contrast to the universities in the South (Vanner, 2015:2). In this regard, I encountered two opposite positions in the fieldwork.

One respondent assumed that I adopted the Western vision of the absence of democracy in developing countries as the political regimes have challenged the role of civil society. The interviewee presumed this Western assessment would cause me to negate real activism by civil

society. In this situation, I had to clarify my position that my affiliation to a Western university did not intersect with my arguments about civic engagement in Nile politics.

The second encounter about being in Europe means I have extensive connections and I am able to connect CSOs in the Nile Basin with funding opportunities. Again this interviewee assumption underpinned the vision of the power of the West. This narrative of the financial and knowledge capabilities of the Western organisations has been entrenched in many examples of CSOs in the Nile Basin, as will be explained throughout this research.

Nevertheless, the affiliation to a Western university was a protective technique I used when I introduced myself to the officials. Being a Western and not an Egyptian affiliated researcher lessened the sensitivity of the Nile contestation, mainly when the negotiations were stalled. I played at the colonial assumptions of superiority of Western education and its objectivity and quality of produced knowledge. Some officials accepted the interview because they understood that conducting interviews is a requirement of the degree and therefore they agreed to help me. In fact, I used this technique with officials rather than with civil society respondents who welcomed me to interview them even though the interviews were requested on short notice.

In short, in conducting this research my interlocked circles of identity (middle class, Carian Egyptian and Nubian, in no order) contended with the scholarly debate of coloniality and de-coloniality in international relations theories and Nile politics.

2.6 Preliminary conclusion

Throughout this chapter, I explained the process of conducting this research. The boundaries and role of civil society had been reidentified to suit the practices of civil society in the Eastern Nile Basin and accordingly, civil society includes both primordial and civic activism. This study consequently explored the role of ethnic-based groups as well as NGOs in Nile politics. Moreover, the normative assumption of promoting cooperation in international relations has also been reviewed in this research.

The data collection and process were extensively built on a qualitative strand. The interviews were the primary resources besides analysing the secondary resources of the organisations' reports, newsletters and websites. Additionally, the relevant academic books and articles were reviewed. Then the Social Network Analysis (SNA) was the technical tool to map the position and relations of civil society actors regarding the state apparatus in the three countries of the subject.

Nevertheless, investigating civil society in the Eastern Nile Basin encountered limitations that emerged from the topic of transnational civic engagement and defining the network boundaries along the Eastern Nile Basin. Moreover, discussing Nile politics in the context of highly political contestation was another limitation in conducting the research. In view of Nile politics and civil society conditions, reflexive thoughts and positionality concerns were raised during the framing of this research and in view of conducting the fieldwork.

Chapter Three

Theoretical Framework

3.1 Introduction

This chapter examines how some international relations theories address cooperation as an inevitable policy option for states to maintain self-interests in transboundary water resource management challenges. It unravels the complexity and uncertainty confronting the assumptions of national interests within the power structures underlined in the classical theoretical strands oscillating between cooperation and conflict or between state and non-state actors. This plethora of relations induces us to adapt the lens of analysis and espouse a relational perspective where power is in motion across different categories of actors, and their interests are networked.

This chapter demonstrates, firstly, how scholars of classical international relations theories have underpinned the necessity of collective action to mitigate transboundary environmental challenges. Secondly, it demonstrates the anticipation of relational thinking through the premise of the complexity notion in international relations. And, thirdly, it elucidates the main premises of power relations in the network approach as an under-theorized aspect of hydropolitics.

3.2 International relations theories and collective action

Managing water challenges has been globally approached from the lens of sustainability and the environment (Duda and El-Ashry, 2000). Alongside this, international relations theories acknowledge that cooperation is a required behaviour of states to encounter environmental crises that entail water impediments. However, two main classical theories in international relations, realism and liberalism, approach environmental challenges from the perspective of power structures in the international system. Furthermore, they entail a debate about interpreting motives and impediments to cooperation under global challenges.

By comparison, the arguments of non-positivist theories are based on normative views. The Marxist and Gramscian approaches, for example, contend that facing global environmental challenges is to attain human prosperity in terms of liberation from the dominating structure. In other words, people's culture and social settings have been threatened by the power structures of states and markets; therefore, these strands of theories propose alternative settings based on norms of equity and justice (Cox, 1981:129; Manuel-Navarrete, 2010:783-784). The constructivist view assumes that environment protection is one of the norms that developed in international politics driven by idealist motives. 'Reality' is seen as constructed by patterns of social interaction. However, the process of norms adoption in international relations is conditioned by behaviours of states, international organisations, and activists (Finnemore and Sikkink, 1998). In the following, I will mainly focus on positivist international relations theories, as they particularly adopted in the Nile scholarship to explore the dynamics of the Nile Basin interactions and transboundary water management challenges, as explored in this dissertation. However, I will also take constructivist thoughts into account whenever they seem particularly suitable to the analysis.

3.2.1 Impetus to cooperation

Anarchy is a determinant of the international system according to realist and liberal assumptions, and it is combined with limited resources. These two determinants define the state's behaviour in the international arena. Accordingly, the conduct of the state is such that it is expected to cooperate with the other states to encounter environmental challenges under the conditions of anarchy and limited capabilities (Niou and Ordeshook, 1994; O'Neill, 2009; Kütting, 2013; Thomas, 1992). In case of non-cooperation, realism assumes that the state loses its power and then its national security is threatened; while liberalism argues that the state is not able to get its prospective absolute gains (Jervis, 1999; De Coninck and Bäckstrand, 2011).

According to neoliberalism, absolute gains are achieved through collective arrangement, which is a founding way to cooperate effectively for the long term (Niou and Ordeshook, 1994: 209-214). As regards the aspect of environmental challenges, neoliberalism assumes that all states in the

international system have been suffering from similar impacts of environmental challenges. When they cooperate, however, they attain absolute equal gains.

For neoclassical realism, relative gains are a fundamental factor in analysing cooperation. The state decides whether to cooperate or not according to its capabilities and willingness to allocate resources for collective mitigation and adaptation of international strategies. Moreover, the notion of relative gains is suitable for the nature of environmental challenges because the returns of mitigation policies take time and infer costs. Therefore, the involvement in cooperation secures its relative gains (Purdon, 2014: 309).

Under a system of anarchy, both realism and liberalism assume the state is a rational actor. The state defines its preferences and behaviours to cooperate or to take conflict actions to maximize its resources (Niou and Ordeshook, 1994; O'Neill, 2009). The state may choose for cooperation because it attains prospective gains (Kütting, 2013). In this regard, some theorists of neorealism justify state cooperation by the status of hegemony when a hegemonic state can force other states to cooperate to secure stability in the international system. Nevertheless, the reality of establishing cooperative arrangements to deal with global environmental change has not been enforced by a hegemonic power that had used its tangible resources. The state projects its structural power inside the international institutions, and this is reflected in the process and priorities of arrangements. Regarding the rational choice explanation; the required inputs to prefer cooperation as a rational decision are not necessarily available for states. Additionally, there are other complications, where changeable inputs are generated by internal forces and affect the decision (Kütting, 2013).

Furthermore, Niou and Ordeshook (1994: 224-226) refute the realist rationale of maximizing resources when they explain the status of equilibrium in an anarchic international system. The state obtains its relative power in the international order; therefore, it aims at relative and absolute gains. So, the equilibrium status entails competitive and cooperative behaviour, this enabling it to sustain this status. On the other side, there are non-rational factors, such as subjective beliefs, time of events, and the way to practice its intentions; and given that, the state attempts to maximize its welfare, not power (Niou and Ordeshook, 1994).

According to constructivism in international relations, state interests are formulated by normative assets such as ideas, identities, and knowledge. Therefore, state power is measured by its persuasive capability and its ability to influence others, not only by its physical capabilities underlying realist and liberalist assumptions. In other words, the ideas and values of the state affect its way of using tangible powers towards other actors in the international system (Wendt,1995; Hopf, 1998:175-178).

Regarding collective action, cooperation between states is a result of the diffusion of values and principles. Agents identify their interests after formulating a collective meaning about their contexts. The consequent practices regenerate norms and values which maintain or change the collective meaning. Institutions in this regard are a space where agents can share their perceptions and then convert them to general norms and rules (Hopf, 1998:189-190; Finnemore and Sikkink, 1998).

The environmental impacts transcend the territorial borders of the state and the technical mechanisms for mitigation exceed the capacities of the state. Therefore, according to classical theories, the sovereign state cooperates because mitigating the environmental threats reflects on its national security and allows it to benefit from the resources. Given these assumptions, the Egyptian cooperation behaviour has been explained as attempts to secure its interests in the Nile waters (Zeitoun and Warner, 2006).

Nevertheless, the constructivist view of international relations, i.e. a focus on norms and identity, are highly contested in Nile politics and are not persistent to constitute shared values, knowledge, and meaning across the Nile Basin. Namely, the principles of equitable utilization and no harm are contested between the downstream and upstream countries. Similarly, there is no agreement on the definition and boundaries of equitable distribution at the domestic level among economic sectors. Additionally, the institutions (e.g. the river basin organisations and legal agreements) have reflected the contested national interests of the riparian countries, and could not promote and legitimize these principles in the Nile Basin (Beyene, 2004; Yohannes, 2009). The next chapter will demonstrate the contentions over water shares and the emergence and fall of the river basin organisations.

3.2.2 Perimeters of cooperation

According to realism, states will not continue to cooperate once they have attained their prospective gains. The neoliberal view, however, is that institutions pledge their sustained cooperation (Jervis, 1999; Purdon, 2014).

Sustainable international cooperation is a fundamental assumption of neoliberalism. The source of sustainability is generated from the state's preference to minimise the transaction costs of international interactions and that is why the state is open to receive and acknowledge changes in the other states' preferences and situations. Under this condition, the state prefers to be involved in a collective arrangement where it can predict and manage changes (Jervis, 1999; Gomes, 2012). In other words, the existence of the institution constrains the state self-interest as an ultimate goal. Moreover, generated information and knowledge inside institutions play a role in empowering institutions as a frame of collective arrangement (Jervis, 1999).

In the realist perspective, engaging in an institutional arrangement does not guarantee cooperation in the long run. Furthermore, introducing new information into a cooperative framework does not change state preferences because the state's decision of engagement is based on maximizing gains. Accordingly, institutions are there to dominate and practice power and attain benefits. This realist view explains why some international institutions are not sufficient as standard tools to achieve the state's goals. It might be deconstructed when their function is completed or confined to merely sharing information without consolidating mutual trust among members (Jervis, 1999). Another viewpoint privileges the international power distribution for ensuring control over the effectiveness of institutions. For example, powerful states employ institutions as tools to lessen their responsibility through diffusing it with the other states or a sphere to project power and hegemony in the international system (De Coninck and Bäckstrand, 2011).

In light of the classical theories, the environment is framed in a dualistic relation with national interest. The changes in the environment and their consequences have been theorized as a risk to the stability of economic and political systems (Cudworth and Hobden, 2013). To avert this

potential challenge, the state and intergovernmental organisations (institutions) act in cooperation mode as long as their interests are maintained. In Nile politics, the prevailing analysis resonates with the contestations over CFA and GERD, for instance, to attain the national interests of Egypt as a downstream country as opposed to the upstream countries.

3.3 Complexity and international relations

Environmental challenges are uncertain as regards occurrence and impacts. Therefore, mitigation interventions have entailed complex analyses of the causes, motions and potential impacts of ecological impediments.

Given this fact, a critical challenge to international relations theories is that complexity endorses relationality that refutes the notion of a structured/stable system. The dynamics of interactions lead to alteration of structure (somewhat similar to some constructivist notions of power changes), so it is not stable or closed, as assumed in classical international relations theories. Therefore, in the complexity paradigm, many entangled structures/systems are in motion and interlocked with other systems.[10] As a result, there is interdependency in structures' configurations and reproductions (Cudworth and Hobden, 2013). In other words, there are extraordinary ecological events that occur in the international system and causality thinking does not provide sufficient explanations of these events. Therefore, the complexity lens envisions political realities 'as emerging from interactions among interdependent but individual agents within evolving institutional formations' (Harrison, 2006a:2).

Furthermore, the complexity paradigm intends to explore the various factors that affect the dynamics rather than determining specific factors or assuming zero impact of factors, to investigate

[10] Cudworth and Hobden (2013: chapter 3) elaborate on the convergence and divergence between their account of complexity and theories of international relations. The argument of the influence of the international system on the state's behaviour as coined by Kenneth Waltz (neo-realist school of thought) intersects with complexity thinking about the impact of system interactions on changing actors' behaviours. Additionally, the pluralist approach to international relations meets the complexity analysis in considering the multilateralism of actors and levels in the analysis. Similarly, the integral role of capitalism in analysing international politics as developed by neo-Marxist theorists, interlinks with complexity thinking when including economic interaction with one of the other subsystems which co-evolves through international interactions.

a social phenomenon. This is unlike the prevailing social theories that interpret interactions and power relations within the frame of a closed system to control the influence of factors/conditions which entail, on the other side, reductionism of analysis. However, complexity means to claim the intersectionality among various agents and across levels or micro-systems (Cudworth and Hobden, 2013; Harrison, 2006a).

On the other hand, reality is complex and uncertain conditions surround the policy process due to global changes. Thus, scientific investigations are incompetent to produce complete information and knowledge. Harrison explains that

> 'In complex systems, problems are unclear, solutions have uncertain effects, and points of leverage are never simple. But complex systems can be pushed and prodded, and changed; yet, caution is required and instruments are imprecise. Because institutions and social systems are influenced by human perceptions of the world and how it works, dethroning the rational choice paradigm is the best way for scholars to positively influence world politics.' (Harrison, 2006b:192)

Harrison (2006a) argues that alongside the uncertainty of global challenges, the state itself is composed of multiple systems. The interactions among individuals and groups configure the institutions and practices of the state.

In other words, the economic and social systems interact with their counter-systems in other states, hence the description of the state as an 'open system'. Due to this openness, the changes and reconfigurations can be caused by various factors, not only domestic or external factors as proposed by classical international relations theories. In the complexity perspective, there is no determinism and actors' behaviours are reconfigured according to any factors that influence the system. Therefore, Harrison (2006a), together with Cudworth and Hobden (2013), refutes the cause-effect interpretation of dualism as portrayed in classical international relations theories because causation is not sufficient to explain structural interactions due to the constant reconfiguration process. Additionally, historical, internal and external dynamics prompt the states (as agents) to situate and voice their interests, which in turn reformulates the structure.

Similarly, sub-systems influence the system and set it in motion because the behaviours of agents cannot be predictable or consistent with the rational calculations of the other agents. Conversely, the interests and identity of agents are relative and continuously adapting to the situation they experience. From this perspective, minor events can cause change or influence the structural configuration of the relationship between agents and subagents (Harrison, 2006a).

The complexity account as presented by Cudworth and Hobden (2013) and Harrison (2006) challenges the assumptions of realism and liberalism. However, their arguments intersect with the constructivist analysis of international relations. Mainly, both complexity approaches and constructivism understand the international system as a result of 'coevolution' of entangled sub-systems (e.g. economy, social, and culture)[11] and actors' interests, ideas, and values. Importantly, actors' behaviours are socially constructed where both domestic and external situations influence them as well as actors' actions contribute to changing international politics.

The analysis in this dissertation is based on the approach of complexity thinking, and precisely the relational analysis and network concepts, as shall be shown below. On the one side, this way of approaching international politics does not put the binary division of cooperation and conflict as the end purpose of international relations analysis, like the classical theories and constructivism do (e.g. Wendt's argument of collective security). In contrast, relationships among actors are the emphasis of the analysis. One the other hand, applying the relational and network approaches helps to avoid some critiques to constructivism in international relations.

The first critique is about the state which is a central and unitary actor in Wendt's account. He has explained that the state is an 'organisational actor' that involves social dynamics but by the end, the state represents one identity in international dynamics (Wendt, 1999: chapter 5). By comparison, complexity thinking assumes that individuals have their ideas and values which are adaptable to surrounding situations, and they are not necessarily dissolved into one identity of the state (Harrison, 2016a:9-10). Furthermore, Weber (2007:98) argues that unlike Wendt's account, social constructivism allows the inclusion of different actors, i.e. civil society and corporations in

[11] Cudworth and Hobden (2013) affirm that ecology (non-human system) is not an exogenous subsystem; instead, it is an integral part in the coevolution process that shapes international relations.

analysing international dynamics. Therefore, in this dissertation, civil society entities (e.g. organisations, initiatives, and movements) constitute the unit of analysis. The network concept of nodes facilitates demonstrating the actor's relationships with the state, companies, donor agencies and their peers of civil society. Chapter five will show the diversity of relations of civil society in the three countries. Additionally, chapter seven will explain through four case studies how the values and interests of civil society actors are adaptable to international and domestic changes; finally, it will reveal how values could be divergent from the nation-state identity.

The second critique concerns normativity in the constructivist understanding of the emergence of norms and principles in international relations. Constructivists discuss the role of non-state actors by advocating for norms as ideals, mainly in discussing global challenges. Haas (2002:75) argues that the participation of civil society actors in UN conferences on the environment has led states to adopt 'ecological integrity' as a norm and to establish global environmental governance. Similarly, Finnemore and Sikkink (1998:898-899) contend that civil society plays a significant role in emerging and cascading new norms in international politics. Civil society organisations (e.g. the Red Cross, the women's rights organisations, and environmentalist networks) advocate for global norms utilizing intergovernmental organisations as a space where to interact with state actors. Subsequently, they drive states to apply the new norms at the national level. Morality, altruism, esteem, and legitimacy are among the motives and tools to persuade state actors to conform to the new norms.

In this regard, this dissertation builds the analysis beyond the normative role of civil society actors as explained in chapter two (see section 2.2.2). Definitely, norms and identity shape the actions of civil society, but that does not mean their norms and ideas are in pursuit of a collective vision for Nile governance, as will be shown throughout this research.

In addition to state centrality and normativity critiques, constructivism as well as classical theories exclude non-human actants (animal and plant species) from the analysis (Cudworth and Hobden, 2013). However, Barder (2020) argues that actor-network theory corresponds with constructivism in terms of focusing on the actor's entangled relations. Additionally, constructivism considers interactions between tangible capabilities and social dynamics. According to the actor-network

theory, non-human actant can influence the constituted relationships around it; accordingly, it can change the behaviours of the other actors in the network. Therefore, Barder (2020) suggests actor-network theory as a methodology for constructivist analysis. He claims that actor-network theory is 'an empirically driven process of tracing connections in order to illustrate how a variety of actants interact, form networks, and crystallize into what we observe as 'stable' sociological structures' (Barder, 2020:45).

Accordingly, this research is built on the centrality of the Nile either as a given natural resource to riparian countries or embedded in the culture of peoples and communities that motivates them to organise themselves and constitute entangled relations with the Nile River according to their social reality and interests.

3.4 International relational politics

The dynamics in the Eastern Nile Basin portray co-existence of cooperation behaviours represented in the NBI and the bilateral interactions and contestation over the CFA and GERD. Furthermore, the voice of the sovereign states is not the only narrative, and it is combined with the engagement of international and regional intergovernmental organisations. Importantly, civil society activists and practitioners, as well as researchers, have been involved in Eastern Nile politics.

Hence, contrary to the premise of classical theories where the actor (state) constitutes international relations, and its power defines behaviour, Eastern Nile hydropolitics depicts the involvement of other actors that influence the dynamics in the Eastern basin. As a result, Eastern Nile politics can be framed in a relational perspective. The relational thinking believes the relations are the substance, not the entities themselves. In other words, what formulates the relationship (culture, identity, material, discourse) defines the entities' behaviour to each other and simultaneously, affects the objects themselves (Kurki, 2019). Therefore, McCourt (2016) frames relationalism (together with practice theory) as 'the new constructivism', because it developed from constructivist thinking. Moreover, relationalism allows inclusion of social and cultural dynamics

in the analysis of international relations without negating material capabilities. Additionally, relationalism broadens the constructivist lens by focusing on relationships instead of the binary division of structure and agency.

Emirbayer (1997) and Kurki (2019) state that the relational thinking delves to discover what lies beyond the 'observable objects', because objects do not control the substance/power, but the relation that connects them. On the other hand, the prediction of behaviour is derived from calculating substances, interests, goals and capabilities. As a result, entities themselves do not designate the political scene, but instead their interactions, which influences their content and the whole structure. Thus, it is not a one-directional relation, but constitutes reciprocal interaction.

Another dissenting assumption from classical theories concerns rational choice. According to international relations theories, the rational option of actors means that their interests are determined in advance, and they are static, dissimilar to international relations theories in which norms and ideas are paramount. Therefore, behaviours are generated from the substance of actors, either self-interests or self-norms. In light of this scope, Emirbayer (1997) describes behaviours as 'inter-actions' with a hyphen. He argues,

> 'The variable based analysis (as in the interactional perspective) is an equally unviable alternative; it, too, detaches elements (substances with variable attributes) from their spatiotemporal contexts, analyzing them apart from their relations with other elements within fields of mutual determination and flux'. (Emirbayer, 1997:288)

So, in the framework of the classical theories, the actors and their features and capabilities are defined first, and then their behaviours follow in a causation format. However, in the international relational approach, substantive power, interests, norms and even identities are generated based on motion and relations, which are in a process all the time and across various spaces. In Emirbayer's words:

> '(…) the transactional approach is that it sees relations between terms or units as preeminently dynamic in nature, as unfolding, ongoing processes rather than as static ties among inert substances.' (Emirbayer, 1997: 289)

As far as the premise of relations is concerned, the context, where the actor moves, is decisive. Kurki explains:

> 'It does so particularly effectively by emphasizing that we of course only know of the world around us from our situated perspectives but also that our situated perspectives are conditioned by our natural and social legacies which constrain and limit our perspectives.' (Kurki, 2019:73)

Therefore, situatedness defines an actor's position in the relations according to the distance from other actors and simultaneously, it calculates the opportunities and limitations of the situation. Emirbayer states that 'individual persons, whether strategic or norm following, are inseparable from transactional contexts within which they are embedded' (Emirbayer, 1997:287).

In the same vein as the previous arguments of Emirbayer and Kurki who theorized relational thinking, Qin (2016:35-38) articulates the network approach from the international relational perspective. He argues that the power lies in 'interrelatedness' that is configured between various entities in the network and, importantly, is affected by and influences the context. Therefore, relational dynamics define the network rationality of motions rather than the 'absolute rational mind' of the actor. Therefore, rationality is taken according to calculating the relations that the actors are involved in, after which the behaviour can be assessed as rational or not, and so it is more than 'instrumental rationality' or 'normative rationality'.

Moreover, because of 'actors-in-relations', the network structure reconfigures the actor itself by redefining the roles, values and norms, which in turn can lead to start a new network or abandon the present one. And through processes and reconfigurations occurring in the network, power is shaped; so it is a relational power that entails both tangible and intangible substances. Accordingly, the actor's power is identified by holding multiple or limited relations, not by the hard or soft capabilities that the actor retains or lacks. And the rationality of actors is to avail their relations by

expanding the network or starting new networks, after which they become dominant because they are the centre (ego) of different networks or the original one and can benefit from other actors. Therefore, being in the centre of relations is more significant than holding material capabilities (Qin, 2016).

3.4.1 Power(s) in the network society

Emirbayer and Kurki demonstrate the relational thinking to theorize social interactions, while there are studies that elucidate the relational reasoning from an empirical perspective.

Coward (2018) describes the network as a metaphor that prevails in theoretical discussions, and has become a present-day methodology in which Social Network Analysis (SNA) is applied to explain relations. The network metaphor has evolved as a result of connectivity innovations starting from materials such as infrastructure and communication devices, and then information technology, that influence the global political economy. He explains that 'the network is not simply a category of analysis, but also an everyday concept constitutive of thought and action and thus, the practices of global politics' (Coward, 2018:450).

Furthermore, Coward (2018:452) points out that the essence of the network lies in the relations rather than the actor itself. Therefore, relationships are not stable, because actors move to create, deconstruct or maintain relationships, and according to these multiple relations, the actor can gain or lose power. Additionally, these motions are not bounded, so the network is 'post-territorial'. A prominent scholar in the field of network analysis is Castells, who has developed his concept of network society based on various case studies across global and national levels.

Castells (2010, 2016) argues that the network society embarks on capitalism by connecting and speeding up production around the globe with capital accumulation due to advanced technology. As a consequence, both production and organisation have been in the process of reconfiguration and therefore, the global economy became complex as 'a network-based social structure is a highly

dynamic, open system, susceptible to innovating without threatening its balance' (Castells, 2010:501-502).

In his analysis, a network is defined as the connectedness between entities (nodes), and each field consists of networks. In general, the nodes are connected with other nodes that could be positioned in the same network or an external one. Furthermore, the connections between nodes could be intense and frequent or rare or absent, with all of these dynamics defining the network(s) (Castells, 2010).

In the vein of advanced information technology and a complicated global economy, people's culture has also been reconfigured to become more autonomous. In the network society, individuality and autonomy are the principal doctrines, where people can move and act beyond national borders. In other words, people are not assembled at the local level as they used to be in the frame of cooperatives, to be able to take collective action. Instead, they engage in different networks across spaces under the prevailing narratives of 'networking' and 'outsourcing' to increase their opportunities of engagement in the global capital network (Castells, 2010).

So, Castells addresses these capitalist and cultural dynamics in the network society as follows:

> 'The social construction of new dominant forms of space and time develops a meta-network that switches off non-essential functions, subordinate social groups, and devalued territories. By so doing, infinite social distance is created between this meta-network and most individuals, activities, and locales around the world. Not that people, locales, or activities disappear. But their structural meaning does, subsumed in the unseen logic of the meta-network where value is produced, cultural codes are created, and power is decided.' (Castells 2010:508)

However, in the network society, there is a confrontation between these dynamics. People who act independently from the network, are empowered to engage in transboundary collective action. Capitalizing on their technological development, various actors have become able to challenge the capitalist process, particularly policies that are formulated and decided on the global level, and not by national organisations. On the other hand, the exercised power of the state's bodies has been

changed because of networking with other actors, either governmental at global or regional levels and with non-governmental actors (Castells 2016).

Regarding the matter of power in the network society, Castells (2016) argues that because technology and information have been consolidated in different forms of economic production, consumption and culture dynamics, persuasive power has been exercised more than coercive power. From this understanding, he coined communication power to define the power that flows in complex relations in the network society. Nonetheless, he scrutinizes it into different forms to be compatible with the idea of multiple interactions among various actors in the network society. So, he defines four types of power starting from the overarching form, continuing on to the power of involved actors in the network: 1) networking power; 2) network power; 3) networked power; 4) network-making power. Both networking and network power are related to the capability of the network as one among other global networks.

The networking power is revealed when the network has a significant position in global networks. Accordingly, actors who are involved in this network are connected to the higher level of decision makers who formulate comprehensive policies. Moreover, some of the involved actors play the role of 'gatekeepers' to maintain the centrality of their network and exclude other networks that do not carry benefits for them.

Network power is about the 'protocols' that regulate the dynamics among the actors in the network. Treaties and agreements, particularly in financial areas, trade and markets, are examples of these protocols. However, these protocols are developed by influential actors who create the network, and these rules are the defending mechanisms to exclude or invite other actors from or into the network. Accordingly, separable networks as components of the 'network society' exercise power to retain their positions on the global level.

Networked power is about the power relations inside the network according to the objective of forming a distinct network. However, the network's aim is defined by the capabilities of its nodes. So, if there is an actor who has more competences than the others, then this actor influences the relations inside the network.

Network-making power is about proceeding relations in the network and across networks. This power is generated from creating networks and defining their objectives with the flexibility to reformulate the network to attain its interests. At the same time, actors of the networks are in connection with the other networks, which can be competitors for them. Therefore, actors attempt to establish relationships with other networks, particularly those that have common interests and can generate mutual benefits.

The actors who make the power of the network in terms of vibrant objectives are 'programmers'. They play the role of creating a network based on convinced interests; importantly, they are aware of the changes in milieus, so they react by modifying and reconfiguring the network's objectives.

On the other side, networks encompass actors who perform as 'switchers' by creating relations between their network and the other ones to maximize their benefits. The ties between scholar and business networks are an example of generating power by assembling economic gains based on science and knowledge.

Castells articulates a significant explanation from this form of power 'network-making'. He claims that

> 'A central characteristic of the network society is that both the dynamics of domination and the resistance to domination rely on network formation and network strategies of offense and defense, by forming separate networks and/or reprogramming existing networks.' (Castells 2016:14)

Because of that, two dynamics of creating networks are conformed: one being unleashed to give the network distinct features to gain a central position among various global networks; which could lead to being a hegemon in the field of interest. And the second formulation is developed due to rapid information technology and autonomy of actors so that they can challenge the dominant networks, or at least collaborate with them, although that implicitly requires reconfiguration of the initial objectives of the network.

3.4.2 The implications of the network approach in international politics

Based on empirical studies, Sikkink (2009) concluded that the types of networks in international politics take the form as a structure or an agent network. The latter emphasises the characteristics of actors who formulate the network and aim to fulfil their interests by joining a distinct network. Therefore, they influence the network's relations. The former frame, the structure, reflects networks that are generated due to regulations such as treaties. In that case, the actors can adjust the network. Furthermore, the cases of networks in the international arena depict the correlation between the nature of the network and the situation as regards which actor has a central or hegemonic role inside the network. Examples of this are human rights networks and civil society organisations.

Regarding the dynamics of the network, in violent networks (e.g. terrorist networks) the interactions among actors are minimal and conducted in a secret way. On the contrary, advocacy networks strive to enlarge their connections to reach out for their causes and gain support.

Furthermore, the force of advanced technology, as Castells (2016) has explained, induces global interdependence and networking. Therefore, governments have become attracted to formulating networks as a tool of 'delegation'. Empirical studies indicate the state delegates competences to professional networks to perform the task of policy harmonization. A remarkable delegation is when the state designs a network, including NGOs, in pursuit of delivering and implementing public service projects.

Sikkink (2009) points out general features of networks in the international arena which are: the network is formulated by the free will of its actors which in turn gives the founding actors the capability to regulate and decide who can join or disregard it (networked power in Castells's argument). The network's relations are constructed on the basis of the flow of information that actors exchange in their interactions. However, the effectiveness of reciprocity means there is a bottom level of trust among actors and that is why they joined the network and agreed to share

their knowledge in the first place, which forms part of their capabilities. Additionally, mutual trust among actors induces collective action and extends connections with other networks.

Hafner-Burton et al. (2009) argue that the network approach enriches classical international relations theories that are characterized by a systematic design where the notions of power and balance of power are the dominant factors in analysing relations in the international system. From the network perspective, the position of actors inside the complex of relationships and the dynamic of relationships identify the opportunities and constraints that affect actors' behaviours towards international issues. Regarding the notion of power in the network perspective, power is located in the interactions among actors and not in the actors' capabilities per se, like realist theory assumes. Therefore, 'network power' is generated from the distribution of actors' positions inside the complex of interactions. On the actor level, actors may use their capabilities to maximize the gains of their position in the network. Due to the fact that network analysis and international relations are a web of interactions that are changeable over time, actors change their behaviour accordingly, which reshapes their relationships.

Furthermore, the state behaviour in the intergovernmental organisations can be analysed from a network perspective. International governmental organisation is a network where the state has a position in the network which has evolved among states inside the institution. Each state uses its 'relative position' in the network(s) to maximize its gains, e.g. to enlarge its alliance or trade benefits. Furthermore, being part of a network in an international governmental organisation creates social relations where states can share beliefs and norms, which are then reflected in states' behaviour. Therefore, the network approach provides a framework to investigate both cooperative and antagonistic behaviour taken by the state according to its calculation of its relative position within the network(s) (Hafner-Burton and Montgomery, 2006).

Another implication of the network is driven by global problems and crises that have challenged states' capabilities to encounter cross-border problems. As a result, these problems have driven the states to become part of networks, to be able to mitigate global challenges. For that reason, the state compromises its sovereignty and creates or joins various networks internationally and internally. The membership of international and regional organisations provides a space to build

networks. Additionally, participating in global summits is a way to mobilise coordination regarding pressing challenges. Internally, the state creates networks with other actors in the political system so that they can participate in the decision-making process and share the responsibility of mitigating challenges. However, the inclusion of other actors enhances the legitimacy of the state and in this regard, the state is called the 'network state' (Castells, 2008:88). Similar to this argument is that of 'network-based structures', when the level of coordination and cooperation among governmental bodies is increased to mitigate problems. In the view of the network state, the classical perspective of state power and sovereignty over citizens is retracted because network practice requires information and authority diffusion to attain effective policies (Schneider et al., 2003).

However, the network perspective of managing global problems has embedded challenges that affect its efficiency. Internally, the network model allows competitive behaviour among the state's bodies and other actors who seek to enhance their power and position within the state structure. Hence, they underrate the required coordination for effective policies. In international and regional governance networks, however, the obstacle comes from the perception of the state as part of the network. Usually, the state considers the network as a space to negotiate with the priority of maintaining its sovereignty, national interests and position, and not as a space to share responsibilities for improved mitigation of global problems. As such, the majority of global governance networks are unsustainable networks (Castells, 2008).

Moreover, the framework of the network perspective has been applied to the development sector, because it facilities the process of decision making and collective action. Building trust among stakeholders through sharing information and resources can enhance the effectiveness of development policy and, on the other side, attains a mutual commitment regarding the agreed policies among stakeholders (Schneider et al., 2003).

Development practitioners have also paid attention to analyse the role of stakeholders in planning, implementing and evaluating development projects. Stakeholder analysis focuses on the attributes of actors to build a map of actors' interests and assess to what extent they are matched or contradicted, and how actors' competition over resources has defined their behaviour and the

policies of managing development projects. Thus, the term stakeholder implies a powerful actor who has interests to intervene and defends its interests in implementing a development project. According to the level of power, the stakeholders are categorized as between primary actors and secondary actors, influential actors and subordinated actors (Grimble and Wellard, 1997).

From the perspective of the network, development is the pursuit of change, which helps to investigate the social learning process of the network members. This is because the behaviour of actors is affected by the pattern of relations inside the network. When actors take collective action, they share their interests, objectives, knowledge and techniques, and through that, a social learning process occurs genuinely. This social learning process is essential in examining and initiating participatory and adoptive resource management (Prell et al., 2008).

3.5 Preliminary conclusion

This chapter has attempted to demonstrate how environmental challenges are addressed in the international relations theories. Conventional international relations theories (realism and liberalism) articulate the cooperation impetus to mitigate environmental challenges; however, the principle of national interest can impede sustainable international cooperation. By comparison, the relational thinking of international relations is based on complexity of interactions. Capabilities, norms, and interests are defined according to changing context. Given that, in network society actors exert power differently. They do not rely only on their tangible capabilities; rather, power is revealed in creating networks, regulating interactions inside the network, or in connecting across networks.

The Nile as a transboundary natural resource is addressed in regional water governance as one unit. Because the natural and human-induced impediments transmit from one part to another in the Nile Basin, the riparian countries adopt cooperative behaviour to maintain their interests in utilizing the Nile resources. Furthermore, the discourse of global environmental challenges has consolidated the necessity of cooperation in their international relations. Despite prospective cooperation in governing the Nile River, the vision of the one water unit embeds complex

interactions where development and political priorities are entangled with communities' aspirations, besides accelerated ecological changes. Therefore, cooperative relations among the riparian countries have not reflected linear progress in governing the Nile waters. Moreover, cooperation and conflicting behaviour have co-exercised in these countries, particularly in the Eastern Nile Basin. So, analysing the interactions in Nile governance requires a different perspective that entails the complexity of relations. Therefore, the relational perspective underpins interlocked natural and human interactions as well as regional politics in the Nile Basin.

Chapter Four

The Context of the Nile Hydropolitics in the Eastern Nile Basin

4.1 Introduction

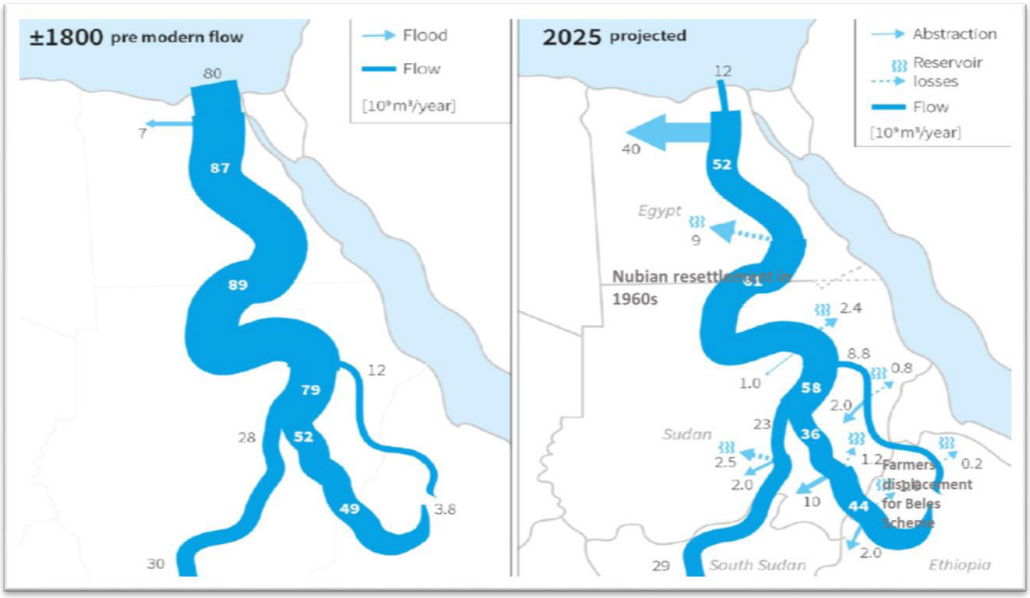
Governing, managing and allocating the waters of the Nile involves complex regionally-networked politics. Applying the relational perceptive, this chapter describes and explains the centrality of the Nile for national development in Egypt, Sudan and Ethiopia. However, the Nile flows are vulnerable to environmental changes and human-induced interventions which articulate the discourse of water scarcity. On the other hand, dealing with this scarcity embodies uncertainty. Hence, the second section describes the Nile water scarcity in various water indices that explain divergence of national water needs and water shares among the riparian countries. The subsequent challenge of uncertainty pervades the relational policies between Ethiopia, Egypt and Sudan. In this respect, two critical issues will be examined: the Nile water shares and regional arrangements, which invites both cooperation and antagonistic behaviours, and the framing of transnational civic activism.

4.2 The centrality of the Nile

The Nile River is not only an integral part of the culture of the riparian communities; it also constitutes a spearhead of the national development strategies. Driven by this value, the River is not a passive object; rather, a central player. In the complexity perceptive, Law (1999), one of the leading scholars of actor-network theory, explains that the actor (could be human or non-human) forges the centre that the 'decentred network' interacts with; at the same time, 'actors are network effects. They take the attributes of the entities which they include' (Law, 1999:5). In Nile politics, the behaviours of different actors reflect the ecological features of the Nile tributaries. The nation-states and the antecedent colonial powers have designed hydraulic projects upon abundance and scarcity of water flows between the upstream and downstream positions.

Therefore, Smit (2019:19) argues that the 'river transforms' in the Eastern Nile Basin under the changes in hydraulic investment aspirations which have been supported by scientific discourses. Map 4.1 below depicts how the river attributes have changed since 1800 where the river was flowing naturally and how will it be shaped in 2025 due to different constructed projects and other planned interventions.

Map 4.1 The Nile river in the 1800s, and in 2025 with hydraulic projects and social resettlements



Source: graph adapted from Smit (2019:53)

The changes over the river course as shown in Map 4.1 have occurred because of the hydraulic projects that have redistributed waters away from its natural flow. These projects have encountered the livelihood of peoples either by creating economic opportunities or by interrupting the social settlements[12]. On the other hand, the established and prospective projects have been planned

[12] Smit (2019) argues that the objectives of hydraulic projects have not achieved water security in the Basin because these water investments have not secured social equality for the beneficiaries (farmers and agri-labour); additionally, the investment models have not contributed to increasing the national production as assumed. Along this line of Smit's

according to the national development priorities and have condoned the unity of the Nile Basin. Therefore, the relations between the riparian countries have been contested and the changes in the river have been formulating the context of civic engagement in the Eastern Nile Basin. The following parts explain that the centrality of the Nile for development purposes is driven from different national perspectives.

4.2.1 Egypt: the gift of the Nile

This prevailing narrative is based on the hydraulic fact that the Nile is the main river in Egypt with limited freshwater resources (rainfalls and groundwater) that run through an arid area. Said (1994), an Egyptian geologist, explained that the Nile flow had been changing over time due to the climatic transitions while the current shape of the Nile stabilized 10,000 years ago. Hereafter the Nile became a perennial river receiving water from the Ethiopian highlands and Equatorial Plateau, and these two resources secure its flow.

Historically, the sustainable flow of the Nile and floods discharge sediments renew the soil fertility and increase land productivity. The ancient Egyptians, who used ancient technology, were able to regulate the Nile floods and recession by constructing a series of canals and dikes. Wittfogol (1957) described these hydraulic developments and the Egyptian intervention to control the Nile as a significant contributor to the creation of 'hydraulic society'.

It is only during the reign of the Ottoman empire that Mehmed Ali Pasha, the Khedive of the Ottoman ruler in Egypt, was able to transform the ancient Egyptian technologies and modernize the use of the Nile water management for economic purposes. During that time, mega water infrastructures were constructed such as the Delta Barrages (completed in 1861). Therefore, Pasha's irrigation and water management infrastructure is viewed as one of the manifestations of

=analysis, I can argue that the riparian states mitigate the impacts of climate change by water infrastructures that affect the social settlements of riparian communities. In response, the affected communities have struggled against the state and investors as will be shown throughout this research. The activism of anti-dam movements as well as the contestation between farmers' associations and investors in the large irrigation schemes demonstrate that possible gains of water abundance will not for certain produce prosperity for communities.

building modern Egypt.[13] Pasha's reign continued the construction with the British intervention (occupied in 1882). In this time, the Aswan dam was constructed in 1902 and was twice heightened in 1912 and 1934 (Chesworth, 1994).

In modern Egypt the Nile had been managed centrally. The water barrages and canals had combined with technical and bureaucratic control to irrigate the expansion of cotton fields, grow sugarcane and fruits for exportation. Additionally, these interventions had been supported by agriculture laws, forced farming, and taxation systems. All of these dynamics had formed the Egyptian state (El Nour, 2018).

During the rule of Gamal Abdel Nasser, his Arab socialist political ideology (1953–1970) promulgated and promoted significant agricultural transformation. He abolished feudalism and redistributed lands in pursuit of social equality for the peasantry. Along the same lines, Nasser policies encountered the resistance of the colonial powers nationally and regionally.[14] In light of socialist policies and decolonization ambitions, Nasser constructed the Aswan High Dam in 1960 and completed it in 1970, as a giant hydraulic infrastructure and a symbol of nation-making.[15] Economically, the Aswan Dam regulates water flows, and generates hydropower for agriculture, fish and industrial production (Samaan, 2019).

However, the abundant waters of the river Nile have become scarce as a result of expansion in cultivation to meet increasing domestic consumption and export crops. The population lives on the banks of the Nile which constitute 4 percent of the total area of the country. It is estimated that 98 percent of this narrow strip of cultivable land relies on the Nile water flows (FAO 2016a; Hefny and Amer, 2005).

[13] For more information about the Mehmed Ali Pasha vision and polices see for example: Fahmy (1997) and Mikhail (2011).

[14] On national sphere, Nasser signed a treaty in 1954 to evacuate British troops from Suez Canal. Then the Tripartite Aggression followed in 1956. Regionally, he was active in decolonization policies in Africa and cofounded the Organization of African Unity in 1963 besides the Non-Aligned Movement in 1961.

[15] For more information about Nasser and Aswan High Dam, see for example: Hanna and Allouche (2018).

To govern the population growth on the Nile banks and economic pressures to increase food production, Egypt's subsequent governments have developed policies for desert reclamation. On the other hand, reclamation projects have added to the political legitimacy of political regimes. Both Sadat (1972-1981) and Mubarak (1981-2011) initiated ambitious reclamation plans as part of national development strategies after wars.[16] The Nile has been the central water resource in planned schemes in deserts. The Mubarak regime approved a long-term 20 Years Plan (1997-2017), which included four large desert reclamation regions:1) the South Valley Development Project (SVDP) that includes the Toshka project in the Western desert; 2) the Al-Salam Canal Development Project (SCDP)[17]; 3) the West Delta Irrigation Improvement Project (WDIIP); 4) and the 4 Million Feddans Development Project that was reviving some areas in the previously planned regions of West Valley and Sinai (El Quosy, 2019). This reclamation policy was revamped in 2015 after El-SiSi seized power. He announced cultivating 1.5 million Feddans covering different regions in Egypt using surface and groundwater (Mada Masr, 2015).

The reclamation policy represents the core of the agriculture policies designed to spur economic liberation. However, the land reclamation projects received severe critique from the other Nile Basin countries because they perceived the irrigation of the desert as wasting scarce water (Bush, 2007). Despite the opposition from the riparian countries, Egyptian governments have been continuing to employ the development discourse of reclamations as the best alternative to mitigate effects of population growth and economic demands. Furthermore, these national megaprojects contribute to creating employment opportunities, attracting foreign investments and essentially redistributing population beyond the Nile banks (Adriansen, 2009).

The flip side of mitigating national demographic and economic challenges has been securing the upstream flow of Nile water. Therefore, it is a determinant in Egyptian foreign policy to cooperate with upstream countries which takes the form of constructing and funding hydraulic projects. Furthermore, scientific calculations rationalize this transnational policy. For instance, a scientific study published in 1998 by hydrology scholars predicted that the Egyptian water balance would

[16] Under the Sadat regime: war in 1973 and under Mubarak, Egypt participated in the second Gulf war in 1990. See for example: Samaan (2019).
[17] The Salam Canal was a prospective project by Sadat after the 1973 war to redevelop Sinai after destruction in the war based on a vision of development would prevent war from erupting again. See for example: Samaan (2019).

be adequate until 2000. After that, the country would face a water deficit. Therefore, the authors suggested the national policies should be formulated to secure the flow of the Nile by constructing water development projects in the Sudd area, which is currently in South Sudan, besides the national intervention to increase the efficiency of irrigation canals and to integrate groundwater for reclaimed lands (Elarabawy et al., 1998:315-316).

The scientific justification remains for the Egyptian water investment in the upstream resources. A recent research paper (Allam et al., 2018) was published by a group of Egyptian hydraulic engineers who are close to the decision circles of the national water policy. They assessed the significance of the water flow in the case of constructing the Jonglei canal[18] in the context of water development projects in the equatorial lake countries, by implementing different simulated calculations. The paper concluded that:

> 'It is quite clear from the results of the previous simulations that the upstream development projects will lead to significant reductions in the area of the swamp if [the] Jonglei Canal is in operation. The decrease in the swamp area could be lessened by distributing the reduced flows caused by the upstream development projects between [the] Jonglei Canal and the swamp.' (Allam et al., 2018:8)

This concluding remark reveals the contestation between the upstream and downstream countries over-utilizing the Nile water where the canal project is a critical factor. It is worth mentioning that the authors suggested a win-win situation which is based on reducing the water flow before entering the Jonglei Canal according to whether it is a wet or dry season.

The national policies are compatible with these scientifically-based scenarios. The National Water Resources Plan 2017, under the title 'Water for Future', was articulated according to the vision of integrated water resources management. In this regard, the Plan aimed to improve water productivity and quality for domestic use. For increasing the water supply, the Jonglei Canal project was framed as a feasible project to benefit from evaporated water, comparing it to the

[18] The project location is in South Sudan. It aims to channel water from Baher el Jebel to the Sobat river (360 kilometres long) instead of being blocked in swamps and evaporating.

projects of water conservation in Lake Nasser in Egypt (Ministry of Water Resources and Irrigation ([MWRI], 2005).

Egypt's recent National Water Plan (2017- 2037) securitizes water, treating it as an existential issue and as critical for supporting life, development and the environment. Therefore, the vision of this Plan is tailored to 'Achieve Water Security for All by 2037'. The National Water Plan aims to achieve water security and maximize the usage of the available water resources through four pillars: 1) improving water quality by enhancing the capability of canals and sewages; 2) rationalizing water usage to reallocate 70 percent of water resources to the agriculture sector; 3) developing water resources by adding 1.05 million cubic metres of renewable water to the water balance in 2030 and 4.45 million cubic metres in 2037; 4) applying integrated water management by enabling legislative and administrative harmonization with the other national policies and with the other state bodies in addition to legalizing WUAs (MWRI, n.d.). In conjunction with these main pillars, the MWRI emphasises that the Government has been funding bilateral water projects including technical projects, besides also having engaged in knowledge sharing (MWRI, 2020). It is worth mentioning that the majority of these projects have been implemented in the Upper Nile countries.

In respect of national and transnational strategies, it is apparent that the Nile is the central water resource around which the Egyptian peoples' livelihood, economy and the state itself revolve. However, the scarcity of water reconfigures the reclamation projects which have reshaped the river's ecological attributes. On the other hand, it reinforces trends towards regional cooperation as Egypt is only a downstream country.

4.2.2 Sudan: potentially a breadbasket?

Sudan is rich in natural resources, including water and fertile arable lands. An FAO report (2015:4) states that 'Sudan has the largest irrigated area in sub-Saharan Africa and the second largest in Africa, after Egypt'. The agriculture lands cover 60 percent of the total area of the country, but the cultivated area of crops constitutes only 11 percent of the land mass. The irrigated lands are located

along the Nile River tributaries (Blue Nile, Atbara river, Setit-Tekeze river and the Main Nile); moreover, 96 percent of the cultivated area depends on the Nile surface water (FAO, 2015). Besides these natural attributes, the Nile is a central river compared to the other rivers in Sudan (the Mareb-Gash and Baraka) because its flow does not fluctuate heavily across seasons which is appropriate for irrigated agriculture. The livelihoods of people and economic activities revolve around the Nile River (Taha, 2010; FAO, 2015).

Like in Egypt, the Nile banks are the most inhabited area. It is estimated that two-thirds of the population is settled along the banks and work in the agricultural sector. The sector is based on cultivating cash crops (cotton and grains) (Taha, 2010). The related agriculture activities, such as trade and textile products, have contributed to integration into world trade. Even more, the nomad tribes like Beja, who trade in livestock, established trade points along the Nile River (Niblock, 1987). So, the river is not only a resource to irrigate cash crops, it is also a transportation facility that links Sudan with the world, meaning that the Nile is central for both farmers and pastoralists.

To utilise this abundance of water and land in the Nile Basin, the British colonialists had established a water management system in Sudan. The empire had created large irrigation schemes (e.g. the Gezira Scheme in 1922) to cultivate cotton. These schemes contained dams on the Nile: the Sennar Dam (1926) and the Jebel Aulia Dam (1937, on the White Nile) (Taha, 2010). Furthermore, before independence in 1956, there were 1000 private schemes on the Blue Nile and White Nile and they constituted one-third of the total irrigated land at that time (Niblock, 1987:32). Generally, the expansion of irrigation schemes on the Nile, either for cotton or fodder cultivation, has been the core of agriculture development in Sudan since British colonization, passing by the British–Egyptian Condominium and after the independence gained in 1956.

Since the 1980s, the discourse of a 'breadbasket', mainly for the Gulf countries, has been articulated. The geographic proximity and political accommodation between Sudanese regimes and monarchies in the Gulf has encouraged investors to channel disbursements to the agriculture sector for exporting crops. This discourse has been iterated by subsequent governments and contributed to modernizing water resources to feed large schemes and increase grain exportation (Kaikati, 1980; Verhoeven, 2015a).

Unlike the Egyptian case where population growth is a critical variable of food shortage and induces reclamation plans, in Sudan, the political impetus of a 'breadbasket' has disrupted crop production and food surplus. El Zain (2007) explains that national development plans draw upon mechanizing rain-fed agriculture, expansion in cash crops and privatizing production processes. He demonstrates that since independence up until the 1980s, rain-fed agriculture has been the source of staple food (sorghum and millet) which have supplied domestic consumption. However, with an economic ambition to increase surplus for exportation and generating foreign currency, the traditional cultivation techniques have been abandoned at the expense of mechanization and cultivating cash crops (e.g. wheat). This modernization plan was not resilient, with a prolonged drought hitting the region in 1985, leaving communities in these areas vulnerable to famine.

Moreover, the privatization of large-scale schemes has deteriorated local production and food security. The enlarging of cultivated lands was at the expense of grazing spaces and local plots that farmers and pastoralists had previously used. As a result, these development interventions triggered conflicts on a tribal/ethnic base (El Zain, 2007:27).

An example of these conflicts in the Nile Basin can be found in the Khasm El-Girba Scheme on the Atbra River which has a transboundary dimension. The Nubian people of Wadi Halfa, North of Sudan, were resettled in this scheme following the construction of the Egyptian High Dam in the Sudanese-Egyptian border. The scheme plan was to be inhabited by the displaced Nubian people and affected pastoralists. Economically, the scheme was irrigated from Khasm El-Girba Dam storage water, and a network of canals was established to cultivate cash crops: cotton, groundnut and sugarcane for exportation, and wheat for domestic food consumption. As a result, two communities were forced to resettle together despite their main economic activities: Nubians for agriculture, pastoralists for livestock. The Government prompted the large agriculture scheme as a turning development plan that would generate greater income from crop exportation and consequently improve the living conditions of the two communities. The economic activities of the scheme required different production relations in terms of land tenure, resource distribution, pricing and infrastructure maintenance. These relations were not built upon close family or tribe relations and therefore the development plan interrupted the stable indigenous economic and societal ties. This was particularly disruptive for pastoralists, who were not allowed to integrate

their livestock into the scheme because the developers designed it for cash-only crops and ignored the need for sorghum to feed animals. A further complication was that the scheme did not allow for grazing space. In these conditions, the competition over water and land as well as over social services (e.g. health care) increased the disparities between the two communities and intensified conflict. On the other side, there were technical inefficiencies of the water canals (siltation and evaporation), poor health conditions (water diseases), lack of fertilizers and planting tools, absence of information and unfulfilled promises from the government representatives. All of these factors led to the failure of one of the large-scale schemes in Sudan (Abu Sin, 1985; Assel, 2006).

Despite the malfunctioning of the large irrigation schemes, development strategies have continued to focus on expanding irrigation schemes. Both the 20 Years Plan which had been formulated in 1979 and the Plan of 1992-2002 for Nile water development, emphasized the utilization of fertilized lands and Nile water to expand the agriculture schemes. Therefore, a group of projects was created on the river, including Kenanah, Dinder and El Rahad large-scale irrigation schemes. The purpose of these schemes was to achieve food security and importantly, to attract foreign investment. For example, the Kenana Sugar Company is financed by Kuwaiti and Saudi investments (Taha, 2010; FAO, 2015). On the other hand, to irrigate these schemes, several dams were designed and constructed, such as the Merowe Dam which engendered tense state-society contestation due to resettlement and lack of compensation (Verhoeven, 2015a). Similarly, other dams such as the Kajbar and Dal dams were resisted by communities, and still have not been completed.

In Sudan the Twenty-Five-Year National Strategy (2007-2031) was formulated by the ousted Al-Bashir regime before the December 2018 uprising. This strategy allocated the Nile under the security and defence pillar. According to the strategy, the Nile and the Red Sea are unsecured due to international threats. Nevertheless, the Nile is mentioned under the international cooperation pillar later in the strategy, through the NBI. The strategy claims that NBI is an entry point to maximize benefits from the Nile in electricity generation projects (Supreme Council for Strategy and Information, 2014).

Domestically, the Al-Bashir Government implemented the national project of 'Zero Thirst', Its duration was planned to be from 2016 to 2020. The objective was to increase water accessibility and availability for the population in rural and urban regions. The project included execution of various water infrastructures such as water harvesting, digging wells and improving the quality of water stations. The main funding came from Arab countries that afforded loans and technical assistance (Sudan News Agency, 2017). The Egyptian Government promoted this Sudanese project and announced to support it by knowledge exchange in addition to providing machines for testing water quality and removing water weeds (Salem, 2016). However, this national project was not completed because Arab donor countries suspended the funds due to Sudanese economic deterioration (Alnilin, 2018).

Yet, the current transition Government (formed in August 2019) has not released agriculture and water policies. Hitherto it is not clear how Sudan Nile water will be planned under the abundancy and security discourses of the previous regimes.

To conclude, hydrologically, the Nile waters are abundant in Sudan, but development interventions in pursuit of cash crops, combined with drought waves, led to water scarcity and food shortage. Despite that, large-scale irrigated infrastructures (schemes and dams) are prevalent in the national development strategies, although they are contested and threaten social stability.

4.2.3 Ethiopia: water tower of East Africa

Ethiopia has twelve river basins with seven of them being transboundary rivers which constitute three basins (Nile Basin; Rift Valley basin and Shebelle-Juba basin) (FAO, 2016b). Like in Sudan, the Nile water is perennial and rarely fluctuates in response to seasonal variations, compared to the rivers on Ethiopian territory. The Nile Basin includes four major tributaries: the Abbay or Blue Nile, Baro-Akobo, Setit-Tekeze/Atbara and Mereb, which together cover 33 percent of the country.

Thus, hydraulically, the narrative of 'water tower of East Africa' relies on the Nile Basin and its tributaries that collectively contribute to the main surface water in Ethiopia. Furthermore, watersheds in Ethiopia including the Nile River and other rivers, run down to the East African countries: Sudan and South Sudan, Kenya, Somalia, Djibouti and Eritrea (Arsano and Tamrat, 2005; Negm et al., 2017).

Despite plenty of freshwater resources, the water scarcity threat in Ethiopia is framed around subsequent incidences of severe droughts that have caused famine in different parts of the country. The famine cycle in the 1980s was more dreadful than in 2002/2003 (World Bank, 2006). Drought had a direct effect on rain-fed agriculture, where a large proportion of the Ethiopian population depends on the eking out of a living. A severe shortage of rain-fed crops (maize, sorghum, barley and wheat) induced food insecurity. It also ruined grazing lands, resulting in the decimation of livestock, another vital source of livelihood for rural Ethiopians. Drought also caused mass population movement and environmental refugees who often fled to Sudan. The drought cycles were country-wide, occurring both in the highlands and lowlands (Keller, 1992) and famine became a national disaster engraved in the collective memory of Ethiopians (Hafez, 2019).

Politically, droughts had political impacts as well. The failure of political regimes to secure food mainly for rural people had contributed to the collapse of regimes in 1973/4, 1984 and 1991. The Ethiopian regimes intervened to mitigate droughts and famine through resettlement programmes which in turn produced two sources of instability: first, ethnic division and conflicts, and second, disparities between rural regions and political instability. Furthermore, food aid distribution was not sufficient due to international and domestic contestation (Keller, 1992).[19]

[19] During the 1970s, the Ethiopian empire system had been dismissed by Derg, but its socialist ideology failed to manage droughts. While receiving food aid was impacted by Cold War powers calculations (Derg was pro Eastern bloc while aid providers leaned to the Western bloc), besides the lack of logistics to deliver aid on the ground (Keller, 1992).

Since the EPRDF seized power in the mid-1990s, it articulated the development plans on the agriculture sector, targeting rural people in the highlands who are vulnerable to drought and food insecurity (Kassahun and Poulton, 2014).

Due to these severe droughts and their destructive impacts, the Ethiopian Water Resources Management Policy (WRMP) states that water is a scarce resource that necessities specific interventions to develop. Furthermore, the investment in the water sector is combined with the significant national objective of poverty reduction that in the long term will contribute to Ethiopia being a middle-income country by 2025. Accordingly, the Government aims to improve and expand the small-scale agriculture that relies on rain harvesting and feeds domestic demands in addition to large-scale agriculture that will be for exportation and the agri-industry sector (Atakilte, 2018). Also, the Government established the River Basin Councils and Authorities for the major river basins, including the Nile Basin (FAO, 2016b).

The Ethiopian water development strategies are aligned with old plans designed under the British vision of the Nile Basin. Although Ethiopia was not colonized, the British in 1922 and then American consultants designed a development plan for Abby river that included the Lake Tana project in 1922. The main objective was to use the lake as a reservoir, and as part of an effort to regulate water flows for cotton irrigation in downstream populations, mainly the Gezira Scheme in Sudan. In 1964, the British developed the Blue Nile Master Plan, and proposed hydraulic infrastructure for cultivation and generating power (Tafesse, 2001).

Similar plans to utilise the Nile resources were issued by the World Bank in its Assistance Strategy for Water Resources (2006), which recommended that the Ethiopian Government should invest in developing its water infrastructures and also respond to water storage and hydropower generation. This forms part of Ethiopia's present vision for promoting and reforming water institutions, and enhancing the technical capacities of human resources in the water sector (World Bank, 2006). The Ethiopian governments adopted these international visions and recommendations into actions and started constructing hydraulic infrastructures in an effort to realise its development aspirations.

One of these significant development interventions in the Nile Basin is the Beles Sugar Development Project which is a large-scale scheme (75000 hectares) irrigated from the Beles river. Initially, the area around Lake Tana has been targeted since 1988 by the Derg regime as part of socialist policy and drought mitigation. It aimed to redistribute the population from the highlands in the Amhara region to a place with agriculture and settlement potential. At that time the Tana-Beles Project was funded by the Italian government to construct dams and irrigation canals (Tafesse, 2001; Fantini et al., 2018).

The Project has been revamped for agri-business purposes and has furthermore been integrated into the national development plans known as the Growth and Transformation Plan (GTP)I (2010/11–2014/15) and GTP II (2015/16-2019/20). The Government disseminated the proposed benefits of such a modernized agriculture national project to create jobs and to bring advanced technology and urbanization with reliable public services. However, this prospective vision contributed to social instability as it had done in Sudan. There was a displacement of farmers from their lands to expand sugar cane plantations and in the meantime, newcomers (workers in the Project) were resettled in the area by the Government. Moreover, the Project's progress has been inefficient - the sugar factories have not been completed and workers have complained about poor public service in the area (Fantini et al., 2018).

GERD is another hydraulic infrastructure which was included in the Blue Nile master plan in 1964. The Dam project was restored as a core of the national development plan. The GTP II legitimized the construction of a hydropower dam and framed it as the fighting against poverty by the green economy. The Government endeavours to mitigate climate change impacts by expanding environmental conservation and utilizing renewable energy, mainly hydropower, to feed both the agriculture and industry sectors. Specifically, in agriculture, the Government aimed to expand the irrigated lands from two to four billion hectares for crop exports by 2020. It was also meant to mitigate the fluctuation of rainfall (National Planning Commission, 2016). On the other hand, compatible with being the water tower in East Africa, GERD would generate and export power to the neighbouring countries.

To sum up, Ethiopia enjoys an abundance of rain and surface water, but famine and development ambitions have reconfigured the centrality of the Nile water, namely the hydropower infrastructure which has devastated transnational cooperation in the Nile Basin and provoked civic activism, as will be discussed later.

4.3 Water and fear of conflict in the Nile

The three countries described above have a paradox of the abundance of water and fertilized lands which are the backbone of the local economy and a way to attract foreign investment. At the same time, however, these countries have been suffering from water stress. This paradox has caused conflict in the Nile relations. This fear of conflict is based on scientific calculations that have been calculated in water indices. Nevertheless, scholars have suggested various scopes to mitigate potential confrontation in the Nile Basin.

4.3.1 Water indices

The scarcity of the Nile waters is captured in different water indices that have measured multiple dimensions of water scarcity. These indices include the Water Scarcity Index, the Social Water Stress Index and the Water Poverty Index. In these various measurements, the Nile is allocated at the tail of them depicting the stress of water availability and accessibility.

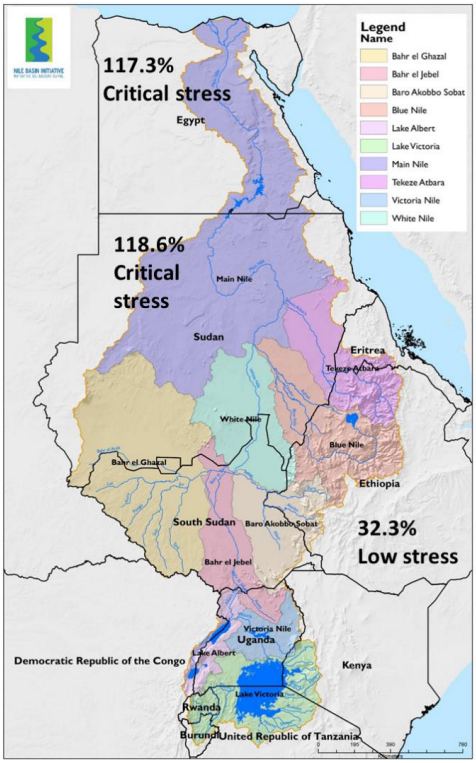
The Water Scarcity/Stress index was developed by two water scientists, Falkenmark and Lindh, as a response to severe famines in Africa in the 1980s. The measurement was created according to the linear relationship between water availability and food security. It thus measures water stress relative to population density which is a proxy variable of demands in agriculture, industry, energy and household sectors (Damkjaer and Taylor, 2017). According to this index, Egypt's record in 2014 was 700 m^3/year/capita and in 2030 it will be 500 m^3/year/capita (FAO, 2016a).

In the Ethiopian and Sudanese cases, the FAO AQUASTAT database of water resources does not provide a clear value of their rank in the Water Stress Index. However, in an Ethiopian research

study (Dowa et al., 2007) authors argue that by 2030 water stress will be 1000 m³/year/capita and it will continue increasing.

In sum, the following map depicts Sudan and Egypt are under water stress according to the value of the level of water stress. This value calculates the usage of freshwater for economic purposes (e.g. agriculture, industry, forestry) as a proportion of freshwater resources in the country. The low-stress level is between 25% and 50%; while the critical stress is above 100% (FAO,2020).

Map 4.2 Water scarcity in the Eastern Nile Basin according to the level of water stress



Source: map adapted from NBI, 2021; the level of water stress is given for the year 2017 (FAO,2020)

Because the Water Stress Index is a linear one that defines the causality between population growth and water usage, Ohlsson (2000) developed the Social Water Stress Index that aims to consider the capability of society in mitigating physical water stress by adapting their water usage. The author stresses the social ability to adopt tools to mitigate water challenges. However, the index classifies social indicators, using the Human Development Index (HDI), where countries are ranked from severely stressed to water-sufficient status based on the adaptive sociality measurement for water scarcity. As the Human Development Index is a determinant for calculating water stress, the three countries are allocated at the lower end of the world ranking.

On the other side, another index was evolved to reflect the complexity of water resources, including environmental aspects. In 2002 Sullivan developed the Water Poverty Index that counts available water resources as measured in the water stress index combined with the capability of management in different sectors and the environment. Nevertheless, this Index has been challenged for the same reason flagged by the Water Stress and Social Water Stress indices, namely that societal techniques to mitigate water challenges are difficult to measure using quantitative methods (Damkjaer and Taylor, 2017). These indices link the physically available water to its usages across human household activities and economic sectors. There is the Asian Water Security Index developed by the Asian Development Bank in 2013 on a national level, that ranks countries according to sectors' usage of water in addition to its resilience to water catastrophes (Shrestha et al., 2018). In no other African river basin has a similar water scarcity index been established.

These indices that measure the various dimensions of water scarcity are likely to end in conflictual situations. Furthermore, the conflict is not only an interstate phenomenon, but can occur within the state due to social competition to access water. The studies (Ohlsson, 2000; Brochmann and Gleditsch, 2012) classify scarcity into two 'orders' or 'screws'. The first layer of water scarcity is about the availability of water resources. In this case, the Government intervenes by constructing large water infrastructures such as dams or irrigation schemes to maximize the benefits of available water to be able to cover food shortage and development aspirations. However, the second layer of scarcity is a structured one that appears with managing these infrastructures and distributing the harvest among various sectors and communities. At this point, it is possible for social conflict to

occur as a result of different causes: mismanagement of water projects; failure of water policies and institutions in distributing crops equally; diverting water resources away from the food sector to the industrial sector because of high-profit returns; or all of these combined.

In the Nile Basin, both these layers of scarcity exist. Regarding water availability, research studies (Staddon and James, 2014; Besada and Werner, 2015; Pacini and Harper, 2016) predict contestations in the Nile Basin according to comprehensive analyses of Malthusian linear causality between population growth and the increasing demands on food, energy and other basic needs. This linear causality takes place in all riparian countries, not only in Egypt, which intensifies competition over the Nile waters and increases the likelihood of conflict. The Nile Basin countries have been deploying water development plans geared towards industrialization and urbanization.

These processes involve the reallocation of the water quota between sectors in addition to water liberalization and drive tensions inside the state; mainly amongst the riparian and multi-ethnic countries. Climate change is another factor that can convulse the planned development strategies and de facto legal arrangements, meaning that intra-state conflict is possible, as explained in the previous section.

In addition to these scarcity issues, water conflict in the Nile was also endorsed by the colonial arrangements when the British empire established treaties to allocate waters for the downstream countries. Although the conflict has never been converted to physical conflict, there have been triggers that have fuelled the contestations between the Nile countries. The last section of this chapter will illustrate these contestations.

So, the Nile riparian countries are struggling with water stress according to different indices. In causality calculations, population growth together with development implications added pressure on the water supply side. Concomitantly, inappropriate national water policies and poor human development has caused water scarcity among the poorest sectors of society

4.3.2 Governing scarcity: network scopes

To mitigate water scarcity on the river basin level, some scholars have argued for employing adaptive strategies such as virtual water and ecological considerations. One the other side, there are emerging approaches based on network thinking which suggest multilayered cooperation in the Nile Basin.

Regarding the adaptive scopes, virtual water is primarily employed for the Middle East and the Nile Basin. The British geographer Tony Allan applied this concept to investigate water vulnerability and food insecurity in these two regions. Allan's (1997) argument of virtual water assumes that exporting and importing food and livestock can relegate the possibility of conflict. For Egypt and Sudan, these are in arid zones, while the other riparian countries depend on rain-fed agriculture. Therefore, the Nile Basin countries import their food, but the food trade balance from 1998 to 2004 demonstrated that food imports from outside the Nile Basin were more significant than the trade between the riparian countries (Zeitoun et al., 2010). Yet, this idea is refuted because the food trade of the Nile Basin takes place in the North, and not in the Nile Basin, so the cooperation hypothesis is not necessarily applicable (Yang and Zehnder, 2007).

In addition to a solution for food security, ecological perspectives have penetrated the Nile security discussions in order to tackle the dreadful impacts of climate change that are mirrored in droughts and floods. There are research studies that have considered the ecological dimension as an entry point to promote cooperation in the Nile Basin. For example, a study by Sallam (2014) discusses the principle of equitable utilization through measuring the water footprint of both Egypt and Ethiopia as an indicator to show how water is utilised in the two countries. Sallam concludes, however, that statistics of water consumption are limited, and there is a need to create a scale of footprint in the Nile, which will assist countries in equitably distributing water shares.

The ecological changes are drivers in reconsidering the legal arrangements in the Nile Basin. The historical treaties that allocate the Nile water shares do not speculate on the shortage of Nile flows due to climate uncertainty. Accordingly, the Nile Basin countries should formulate flexible legal

and institutional arrangements to be able to adapt to ecological changes (Swain, 2011; Link et al., 2012).

These adaptive scopes to Nile scarcity demonstrate that water is a complex natural resource. So, governing water scarcity requires considering multiple dimensions which can be linked to agriculture policies; risk management of floods and droughts; the accessibility for households without health risks, legal distribution, water price and the equity question. However, these aspects are usually approached and tackled from technical, reductionist and operational perspectives (Cook and Bakker, 2012).

Therefore, Zeitoun (2013:16) suggests the 'web of sustainable water security' to mitigate the physical and technical perspective of water security. Implanting sustainability to water security reflects political ecology, social and economic aspects of natural resources, as well as the scales of water security from individuals and the community to the state either in transboundary interactions or inside the state. Therefore, the perspective of the 'web of sustainable water security' challenges the classic hard definition of national security because security and insecurity are mutually inclusive.

Another dimension with which to depict the complexity of water is the field of water, energy and food nexus that has prevailed recently in literature and policy papers. This nexus creates interdependency among the natural resources which makes water security like a network or a web (Verhoeven, 2015b, Zeitoun, 2013).

Mirumachi and Chan (2004) developed the Transboundary Waters Interaction Nexus Matrix (TWINS) to investigate the multifaceted aspects of water conflict and cooperation in transboundary river basins. This nexus considers the various aspects of water where different economic and political power tools are used by riparian countries to maximize their gains. Furthermore, the Matrix involves multiple scales and actors in its analysis. The river basin organisations could be a venue of negotiation and exercising power, alongside domestic politics

affecting the behaviour of riparian countries. According to this view, local NGOs as well as think tanks are involved in the transboundary dynamics.

Hence, the aforementioned approaches of network, nexus and matrix studies implicitly illustrate that water governance cannot be reduced to the causal/dual analysis. In this regard, Verhoeven (2015b) describes water complexity as:

> '(…) a high degree of plasticity to allow it to mean different things to different people, such an omnivorous conceptualization also veils that there is not one single nexus but multiple, socially constructed and politically consequential nexuses.' (Verhoeven, 2015b: 361)

He criticizes the technicality of dealing with water complexity because it tackles community and society as needs or pressures due to population growth. They are thus denoted as a challenge and we should find a solution for them rather than tackling how they interact with water resources. Additionally, the method of discussing the water-energy-food nexus depoliticises natural resources and negates the political dynamics mainly in the less represented community, whose citizens are not leading the decision-making process.

These scholarly contributions point to the movement from water conflict due to scarcity, to networking thinking where conditions and contexts are not determinants. However, the argument of the nexus still focuses on power capabilities and attributes of the actor to assume cooperative or conflicting behaviour, in the same way that traditional international relations theories define power.

In a nutshell, the water scarcity discourse embarked on the frame of linear correlation between population growth and water stress. However, interstate and intra-state interactions demonstrate multiple layers of water scarcity which propel the network thinking to the governing of water resources.

4.4 Relational politics in the Eastern Nile Basin

Egypt, Ethiopia and Sudan have been struggling with how to increase their share of the Blue Nile water to achieve their agriculture and energy plans. At the same time, they have to adapt amidst ecological uncertainty, which affects the availability of water; as well as to the complicated economic calculations to balance between equity, costs of service provision and national income. Due to these competing interests, the political relations between the three countries have been in motion over time. Furthermore, each part has been capitalizing on its capabilities, i.e. alignment with the powerful actors or acquiring technical advancement to gain the best position in Nile politics, which supposedly fulfils its development aspirations.

The network perspective in international relations assumes that actors' behaviours are changeable according to how they tackle complexities to maximize the opportunities and to adapt to constraints in the network. Therefore, power is located in the relations and is not fixed in the attributes of the state (Qin, 2016) as elaborated earlier in chapter three addressing the theoretical framework for this dissertation.

The structure of the network is shaped by the pattern of actors' behaviours, although it is also not stable, and somewhat changeable. In the Nile politics literature, many scholars (e.g. Zeitoun and Warner, 2006; Ibrahim, 2011)[20] have been analysing Egyptian behaviour as acts by a regional hegemonic power. The explanation is driven by realist power assumptions in the lens of two poles, either conflict or cooperation, where the downstream country (i.e. Egypt) opposes the upstream countries.

On the contrary, the change in the network structure entails numerous actions where the riparian countries employ their foreign policy tools besides the involvement of international actors. Additionally, the institutional arrangements have been the sphere where the riparian countries have

[20] See for example: the World Water Council special issue on Hydro-Hegemony, Volume 10, Issue S2, 1 November 2008. Available from: https://iwaponline.com/wp/issue/10/S2

contained the complexity of the Nile politics network and uncertainty (Wu et al., 2016; Hassan and Al Rasheedy, 2011).

The dynamics and the structure of the Nile network involving the three countries concerns two issues: The Nile water shares and regional arrangements. These two issues are critical because they willingly or unwillingly invite international actors to position themselves in the cooperation-conflict continuum. However, the approach simultaneously garners civil society engagement in Eastern Nile Basin hydropolitics, standing for or contesting the various governments' positions. These issues will be elaborated on in the next chapters.

4.4.1 Sharing the Nile

Many factors affect the distribution of the Nile water shares. These include colonial legacy, the independence and legacy of fighting imperialism, the Cold War alignments, in addition to the facts of population growth and increasing demands on water. The three countries have been dynamically tackling these factors in pursuit of their development aspirations.

The colonial powers had settled the rule of the Nile water shares to secure a constant flow of water to the downstream countries (Sudan and Egypt). Since the beginning of the 19th century, water was a staple resource for the Mehmed Ali Pasha empire that he had built in Egypt to compete with the Ottoman empire. However, for European powers, especially Britain, securing water flows to cotton fields in Sudan and Egypt was essential to keep the textile industries running in Lancaster (Tvedt, 2011).

In light of these colonial premises in the Nile Basin, the two powers, the Mehmed Ali Dynasty and the British, had to pursue control over the Nile waters to fulfil their imperial economic aspirations. Mehmed Ali (1805-1848) and his rulers who ruled Egypt, Sudan and South Sudan, used defensive strategies and disseminated military troops along the Nile to defend their economic empire; also the Egyptian scientific missions were sent to the Upper Nile to explore its tributaries. Thus the technical control combined the hard power of the Mehmed Ali Dynasty over the Nile Basin. The

British colonialists concluded the 1891, 1898, 1902, and 1906 Agreements based on their rivalries (French, Italian and Belgium empires) and Ethiopia. They aimed to avert the construction of any water projects on the White Nile tributaries and as a result, Britain got control over the White Nile whose flow was essential to irrigate cotton fields (Hassan and Al Rasheedy, 2011).

Despite Egypt's independence in 1922, with the British military presence in Egypt continuing, the 1929 treaty provided technical and legal supremacy to Egypt over the Nile. At this time, the political regime in Egypt believed in the idea of 'unity of the Nile valley', where Sudan was seen as part of Egypt. According to this treaty, Egypt got the right to veto water projects that could be constructed on the Upper Nile (Taha, 2010). Additionally, this treaty allocated a fixed share to Egypt and Sudan: 48 and 4 billion cubic metres respectively (Hassan and Al Rasheedy, 2011).

Subsequent regimes had espoused the inherited reign of Sudan from the Mehmed Ali Pasha Dynasty until Sudan got its independence in 1956. This long relation with Sudan is interpreted based on securing the flow of the Nile to Egypt (Saleh, 2008).

However, the Sudanese political debate at the eve of independence had tried to challenge the Egyptian hegemony and unity vision. Thus there were demands to renegotiate the 1929 treaty because it was established under British rule, but the Egyptian Government at that time opposed it. Furthermore, Egypt urged to include Sudan in the Arab League, where Egypt had exerted influence over this intergovernmental organisation (Deng, 2011; Swain, 2011).

This contested relation with Sudan had been articulated in the Egyptian foreign policy attitude, with Ghali (1982), the former Egyptian foreign minister, explaining this relation as such:

> 'Sudan shares with Egypt the blessings of the waters of the Nile and an African, as well as an Arab, identity. History and geography have woven a very special relationship between the two countries and cooperation that covers many fields' (Ghali, 1982:782)

Furthermore, this special relationship has been supported by military cooperation: the joint military defence treaty that was signed in 1976 and, additionally, on a multilateral level in the Arab League, both of Egypt and Sudan are part in the Arab Common Defence Pact, signed in 1950 (Ghali, 1982).

The scale and weight of Sudanese-Egyptian relations has been heavier compared to the Sudanese-Ethiopian side. This pattern of the relationship with Ethiopia can be interpreted due to the Ethiopian-Sudanese contestations in the 19th century. There was a religious manifestation between the Mahdist Islamic Movement in Sudan and the Orthodox Christian Government in Ethiopia. Moreover, the Ethiopian governments were highly concerned over their control over the horn of Africa, and defending Italian intervention.[21] Accordingly, sharing the Nile did not form the core of interactions between Sudan and Ethiopia and thus these dynamics constituted opportunities that were utilised by the rulers in Egypt (the British empire and the Mehmed Ali Dynasty) to distribute the Nile water to fulfil their economic aspirations (Arsano, 2007).

The establishment of the Egyptian First Republic by Gamal Abdel Nasser in 1952 had a significant influence on Nile water distribution. Responding to the domestic development plan, Nasser constructed the Aswan High Dam on the border with Sudan. As a result, Nile politics were restructured by signing the 1959 agreement that settled new fixed water shares: 55 billion cubic metres to Egypt and 18.5 billion cubic metres for Sudan. Moreover, The Permanent Joint Technical Commission (PJTC) was established to coordinate Nile related issues between the two countries.

Ethiopia and Britain challenged the bilateral agreement between Egypt and Sudan. Ethiopia sent a diplomatic mission to Cairo in 1957, which expressed its right to a share in the Nile water and the right to utilise the Blue Nile waters for constructing water projects. However, the Nasser and Abboud regimes disregarded this opposition and regulated water shares between the two countries in the framework of the 1959 agreement (Taha, 2010; Tafesse, 2011). There are different factors that affected these behaviours: one is the military background of Nasser and Abboud, which played a role in supporting a giant dam under the pretext of nation building. The other is the regional factor which was infused with liberation movements that spiked with the peak of anti-colonization

[21] Italy colonized the Horn of Africa and had contested relations with the Ethiopian kingdoms in the 19th century. However, in 1896 the Ethiopian Empire defeated the Italian forces in the Battle of Adwa.

thoughts. Nasser was one of the African leaders who acted against imperialism. In light of this, the development plans and implementation of large projects were a manifestation of becoming liberated from colonial hegemony. Also, the Cold War was an international factor that influenced the Egyptian and Ethiopian interactions in Nile politics. For Egypt, the time of planning the dam construction was threatened by the Suez crisis in 1956. The crisis was perceived by Nasser and the Non-Alignment Movement as a sphere to fight colonial powers (Saleh, 2008; Sharawy, 2019). At the same time, Ethiopia requested American support to prevent Eritrean separation (Lefebvre, 1993).

Furthermore, the confluence of alignment and non-alignment during the Cold War affected the mutual behaviours of the three countries. Nasser was financially supported by the Soviet Union to construct the High Dam; meanwhile, Emperor Haileselassie (1930-1974) received technical assistance from the US Bureau of Reclamation that designed dams on the Blue Nile to expand irrigated lands. Later on in the 1970s, when Egypt and Ethiopia switched their alignment, Sadat was backed by America while Mengistu Haile Mariam (1974-1991) was aligned to the Soviet Union. That is why the incident of diverting the Sobat river provoked Sadat to declare that Ethiopian actions on the Nile would be responded to with military actions (Warner, 2013). Again in 1977, Ethiopia demonstrated in the water conference at Mar del Plata in Argentina, proclaiming its water development plans on the Blue Nile and challenging the structure of the Nile politics, how Egypt water security was at the fore (Tafesse, 2011).

As shown earlier, the demands for freshwater resources in the Egyptian national plans rely on intervention in the Upper Nile. Therefore, Egypt initiated constructing the Jonglei Canal in 1974 at the time of close political relations between Sadat and Nimeiry. This political intimacy was combined with a triple union between Egypt, Libya and Sudan in 1971 to support the Sudanese regime against internal coups. While on the other side, Ethiopia sponsored negotiations between Sudan and South Sudan (Deng, 2011).

In the 1990s, the development dynamics became the concern of national policies to meet the population growth and demands on natural resources which were supported by the international narrative of water wars which replaced the Cold War dynamics. Warner (2012:176) argues that

this prevailing narrative of water wars emerged because of the increasing demands on natural resources generally. However, it also affected the Nile dynamics.

In this context, each country formulated its national development plans where agriculture production is a backbone to attain its economic aspirations. Therefore, the question of the Nile water shares is still at the core of relational behaviours. For example, when Egypt constructed the Toskha Canal in 1997 to irrigate reclaimed lands, Ethiopia announced its refusal to participate in this project because Egypt diverted Nile water to the desert without consulting with the other riparian countries. After expressing this to the Egyptian ministry of foreign affairs in 1997, Ethiopia raised its claims to international platforms: the Organisation of African Union (OAU), the World Bank (WB), the European Union (EU) and the Intergovernmental Authority on Development (IGAD) (Tafesse, 2011). Similarly, Kenya, Tanzania and Uganda added to their debates over Lake Victoria's management, voicing their demands to share Nile waters entirely. These countries expressed the need for an equitable distribution of the Nile waters and their disagreements with the 1929 and 1959 treaties through political statements as well as through initiating water projects without getting approval from Egypt (Kagwanja, 2007).

At the international level, the disagreement over the Nile water shares was raised during the discussion of the UN Convention on the Law of Non-Navigational Uses of International Watercourses. Egypt and Ethiopia took different stances: Ethiopia urged to consider the convention rules that have the power of international treaties to substitute the historical treaties, while Egypt urged to consider the convention as a guide to maintain the principle of historical rights (Deng, 2011).

The recent manifestation of disagreement about the Nile water shares was highlighted with respect to extensive water projects: Ethiopia inaugurated the Tekeze Dam in 2009, and in 2011 started the construction of GERD. Similarly, Uganda constructed the Karuma Dam as a mega hydropower dam in 2013. Also, the Sudanese regime propagated its land and water for foreign investments, mainly for the Gulf countries, and planned several dams to serve these large-scale irrigation schemes. These water projects challenge the principles of prior notification and no harm for the downstream countries, which Egypt had gained by the historical treaties (Tawfik, 2016).

These water projects have been constructed while the riparian countries have been discussing the CFA. The draft version of this agreement was finalized in 2001. It integrated water security by linking the right of water access to attaining the fulfilment of livelihood, health, agriculture and other needs. Despite referring to water security in a legal agreement, its definition is not clear, which means that confrontations between the riparian countries remain: each country has its own perception of water security (Paisley and Henshaw, 2013; Tawfik, 2016). According to the CFA, the principles of prior notification and of the no harm rule are removed. Additionally, it proposes to make decisions in the organisation of the Nile Basin by majority rule, not consensus. Because of this, the Egyptian hegemon role/ego in the framework of the Nile politics network has been convulsed.

The aforementioned highlighted events in the framework of interactions between the three countries elucidate that the structure of the Nile politics has not been static. The political regimes have deployed various power tools to boost their position in Nile politics. Samaan (2019) concluded that relations between the Eastern Nile Basin countries had been reconfigured due to entangled factors, including the role of international players. These included colonizers and contemporary investors (e.g. Chinese and Gulf countries), followed by the political changes that involved reshuffling ideologies and respective development priorities.

Under the forces of these factors, the historical and legal legacy confronted national development strategies, which in turn affected the interests and behaviour of each sovereign state. Therefore, sharing the Nile in terms of water allocation reflects unstable relations and predetermined absolute gains; instead, the network perspective highlights the dynamic nature of state power in this context.

4.4.2 Regional approaches to govern the Nile

The second critical issue in transnational relations related to the Nile concerns regional arrangements. The riparian countries have framed their regional cooperation on a technical level. Therefore, the Nile Basin has been coordinated technically through several bilateral and multilateral arrangements. Nevertheless, these regional intergovernmental organisations have not

been sustainable and collapsed because of a lack of support from all riparian countries. Thereafter, in the 1990s, the international institutions were induced to channel Nile politics to the NBI as a river basin organisation that can mitigate transboundary conflict through the sharing of information and building of mutual understanding for a better development of the Nile Basin. Moreover, the practices of non-legal arrangements could strengthen norms that could be transferred to conventions and treaty formats (Paisley and Henshaw, 2013; Metawie, 2004; Brunnee and Toope, 2002).

Again, technical motivations behind establishing regional institutional arrangements aimed to manage the waters of the Nile. In the Eastern Nile Basin, the Permanent Joint Technical Commission (PJTC) between Sudan and Egypt was established according to the 1959 treaty. This technical commission determines the calculation of Nile flows and water shortages to implement the treaty's rules, equally reducing water deficits from the water shares of Egypt and Sudan (Taha 2010; Metawie, 2004).

However, Deng (2011) argues that the Egyptian interest in establishing technical arrangements was to observe the Nile water flow and to legitimize its presence in the other riparian countries. But the PJTC continues to be a functioning bilateral institution that covers different aspects of arrangements between two neighbouring countries, such as transportation and trade issues.

In addition to coordinating bilateral relations, the idea of this commission was to support coordination with the other riparian countries. Metawie explains:

> 'The PJTC is very active in co-operation with other riparian countries of the Nile basin. It played a major role in establishing the hydro-meteorological survey project (HYDROMET) in 1967…The PJTC seconded staff members to that project on a regular basis and contributed to its budget considerably when the finance from the UNDP was terminated.' (Metawie 2004:51)

To extend the technical cooperation to the entire Nile Basin, the Hydro-meteorological Monitoring System (HYDROMET) was institutionalized as a regional organisation in 1967. Eventually, the international response to the floods in the 1960s in the East African countries was to employ the

technology of hydro-meteorological surveillance. Egypt and Sudan were invited to join this international call. Through this framework, Egypt suggested establishing the Nile Basin Planning Commission to monitor water availability in the Equatorial Lakes and check the supply and consumption in the upstream lakes until it reached those downstream (Metawie, 2004; El Zain, 2007). However not all riparian countries welcomed this arrangement due to the leading role of Egypt technically and legally (Deng, 2011). As an example, Ethiopia joined it as an observer in 1971. Though the HYDROMET organisation was abolished, the hydro-meteorological technique is still a significant tool employed by the NBI to collect and share adequate data on the river's hydrological attributes (NBI, 2019a).

Securing the flow of the Nile to the downstream countries propelled the Egyptian regime in early 1980 to reiterate the idea of the Nile Basin organisation conducting technical functions in order to coordinate water development projects in the riparian countries. The justification of the Egyptian position was that the Nile Basin should be treated as one unit and should be planned holistically. On the other hand, the position of intergovernmental organisations complied with the African discourse of sub-regional arrangements, as promoted in the Lagos Plan of Action and adopted by the OAU (Ghali, 1982), while the national motivation was based on the national strategy of land reclamations that required securing the flow of Nile waters.

As a result of the Egyptian movements, the Undugu organisation was established in 1983 with support from the UNDP. The broad objective of the organisation was to foster multi-factor cooperation among the riparian countries. The awareness of the need to coordinate water resources is essential to attain economic development. The riparian countries joined it motivated by the Pan Africanism discourse and to entrench African interdependence for the continent's prosperity (Paisley and Henshaw, 2013; Brunnee and Toope, 2002). Despite this African cause, Ethiopia and Kenya joined as observer members only, because the mandate of the organisation did not solve the Nile water shares dilemma (Deng, 2011).

Undugu was not a sustainable intergovernmental organisation, and it was subsequently dismantled. Seemingly, the riparian countries abandoned the ambitious holistic vision of intensive regional cooperation over the Nile waters. Hence, they restored the technical endeavours for cooperation

and established the Technical Committee for Co-operation for Integrated Development and Environmental Protection of the Nile Waters (TECCONILE) in 1992. Nevertheless, the riparian countries attempted to manage the causes of the collapsed former regional experience. Thus, TECCONILE was designed to be an interim regional organisation with two objectives: to develop a legal and institutional framework accepted by all countries and to coordinate the hydraulic projects and water policies of all the riparian countries (Metawie, 2004; El Zain, 2007).

TECCONILE succeeded in compiling the national water plans and generating a master plan of Nile Basin development: the Nile River Basin Action Plan (Paisley and Henshaw, 2013). However, Burundi, Kenya, Eritrea and Ethiopia limited their participation within the organisation to an observer position. The technical mandate fed into Ethiopia's suspicion that the organisation would not discuss the distribution of water, but focus on technical issues. On its part, Egypt's attempt to depoliticise cooperation was suspected, as it could spill over to include other aspects too (Brunnee and Toope, 2002).

TECCONILE completed its mission as an interim organisation, and was succeeded by the NBI in 1999. The succession occurred after consecutive meetings and discussions to find an acceptable legal and regional institutional arrangement to manage the water resources of the Basin in equitable and sustainable ways.

The mandate of the NBI is based on a benefit-sharing idea, which means cooperation can spill over to non-water aspects. Sadoff and Grey (2005) have defended the significance of the NBI from the realist assumption that to maximize national gains, The Nile Basin countries must cooperate. The cost of cooperation is less than applying national water plans individually. Moreover, they demonstrated the benefits of cooperation based on four dimensions: the first benefit is an ecological one because the Nile Basin will be treated as one unit which will conserve the river. From this holistic management of the river, riparian countries can fulfil their food and energy needs in an effective way, which is the second beneficial aspect of cooperation. The third and fourth beneficial factors will appear as results of cooperation; mutual understanding and trust-building will be consolidated and the possibility of conflict will be decreased, and finally, cooperation will be widened to also include other aspects.

Unlike in other arrangements, Ethiopia joined as a full member and so did the other Nile Basin countries. This change in Ethiopian behaviour regarding regional arrangements from an observer position to being an active member in the NBI can be explained by economic needs and aspirations of development, and also the need to avoid any hostile behaviour from the Egyptian side, to keep the flow of the Nile (Brunnee and Toope, 2002).

Furthermore, the NBI established two Subsidiary Action Programs (SAPs) offices; one is the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) and the second is the Eastern Nile Subsidiary Action Program (ENSAP) where Ethiopia, Egypt, Sudan and South Sudan comprise the Eastern Nile Technical Regional Office (ENTRO). In this office, different energy and water projects have been planned and are under implementation.

However, despite the optimistic view of the functioning of the NBI in consolidating cooperation, Egypt and Sudan froze their membership in 2010 because they objected to the CFA,[22] fearing that it could replace the historical treaties. Moreover, with the serious confrontation over GERD that affects the flow of the Blue Nile to Egypt, negotiations resulted in the DoP in 2015 as a tripartite agreement to affirm the principles of no harm and negotiations over the filling periods in a way that does not affect flow and storage in the High Dam lake. This tripartite agreement reflects that Egypt prefers bilateral arrangements over multilateral ones. This different arrangement, however, refutes the respective analysis of scholars (Kagwanja, 2007; Deng, 2011; Brunnee and Toope, 2002) that the NBI is an opportunity to manage the Nile Basin in a collective way rather than in the unilateral manner it has been manifested in the historical treaties. It has terminated the duality of upstream versus downstream countries and the cooperation through the organisation creates commitment to a holistic vision of the Nile Basin.

To sum up, regional institutions as a driver for cooperation, as assumed by liberalism, have not secured permanent transboundary cooperation in the Nile Basin. On the contrary, the sovereign

[22] Sudan reactivated its membership in 2012

countries have been mistrustful of mutual prospective gains. This non-static frame of regional cooperation endorses the relational perspective in the analysis of Nile politics.

4.5 Preliminary conclusion

This chapter has attempted to explain the context of the Eastern Nile Basin as a preface to understanding the civic activism of social forces underlying it. The centrality of the Nile River, as well as regional interactions, have been significant factors in the configuration of Nile politics.

As explained, the Nile River has been a critical natural resource in the fulfilment of national development strategies for the three countries. It features centrally, either in a condition of scarcity (e.g. Egypt) or abundance (e.g. Sudan and Ethiopia). Hydraulic project interventions to reclaim lands and generate power, as well as large-scale schemes and other irrigation improvements, have all led to 'river transformations'. More significantly, they are legitimized by the aims and values of development and poverty alleviation, while civil society has acted under the mission of public service provision and philanthropy, as will be illustrated in the next chapter. Nevertheless, these interventions have caused social conflict, as mentioned for the case of Sudan.

The second factor that has affected interactions over the Nile concerns interstate relations. Different approaches to maintain the significance of the Nile within the state's existence and development are state-centric in nature. The colonial powers, treaties, political regimes, and actions of intergovernmental organisations are all variables that are amply covered in literature. Accordingly, the state is the driver in Nile negotiations over water shares and legal arrangements or institutions. Despite the dominance of state actors, Nile people and civil society organisations have entered this international sphere and have initiated and organised transboundary actions to govern the Nile politically and technically.

Moreover, this chapter has attempted to explain the interactions over the Nile from the relational perspective; a perspective that does not hinge on the dualism of conflict and cooperation. However, Nile politics has evolved and shown to be ever-changeable, from the colonial times until the

present. With this in mind, the next chapter explains the role of civic activism and how social forces have evolved to become pivotal actors in the hydropolitics of the Nile.

Chapter Five

Networked Nile Politics: Actors and Structure

5.1 Introduction

The actors involved in Eastern Nile politics are in constant motion and their positions across scales are regularly reconfigured as they respond to historical, political and social dynamics. Sneddon et al. (2002) elucidate that domestic interactions are connected with global dynamics; thus, the local, national and regional frameworks entail historical relations as well as social reciprocal perspectives that define each framework's boundaries.

Departing from this view, some of the actors I encountered in the course of the fieldwork conducted for this dissertation had been established in the early 2000s, while others only recently became engaged in Nile politics; additionally, some actors represent global organisations at regional or national levels.

On the other hand, the notions of participatory development, governance, and multi-stakeholders management have been entrenched in Nile policies. Hence, the riparian governments have not been the only actors in the politics of the Nile. Development organisations, international NGOs, scientific associations and local CSOs have been present in Nile politics and engaged in its affairs through various approaches and capacities. Moreover, governmental entities, either the state apparatus or intergovernmental organisations, have developed their organisations to keep contact with civil society in addition to partnering with them to conduct activities. Therefore, the scales of Nile politics are not discretely defined units; instead, they are structurally entangled.

This chapter aims to describe the entire structure of the network and the actors/nodes involved, mainly their capabilities and positions. The first part focuses on the actors by explaining the interests and capabilities of these actors that enable them to take part in the network. The second part depicts SNA maps of the network with the main features.

5.2 Actors' capabilities and positions in the Eastern Nile Basin

Civil society organisations, initiatives and groups are the key actors as illustrated in the methodology chapter of this dissertation, the collected data was produced from civic entities who have transnational connections and belong to both the civil and primordial public realms.

Nevertheless, Nile politics is in the hand of the national ministries of irrigation and water resources. These governmental bodies constitute the principal actors who establish water policies according to the Nile water shares. Furthermore, the Nile is a transboundary resource which implies that the ministries of foreign affairs are involved. Above that, the heads of state and intelligence bodies delineate interstate relations, particularly since water is a factor of national security (as discussed in chapter four). All of these governmental actors occupy overt positions in the Eastern Nile network. Although they are not the focus of this research, their inclusion is warranted in combination with civil society.

Between the two significant poles (governmental entities and civil society), other actors who have relations with international donor agencies matter at the international level, with grassroots organisations on the local level. Additionally, research entities play significant role by providing advanced water technology and capacity building trainings. For these ample relations, Nile hydropolitics resemble an open network. For analytical purposes, the geographical locations are the base from which to describe the engagement of CSOs and other initiatives in addition to main organisations they are interconnected with and how these connections define their position. Hence, this section explains the capabilities of actors at the international, regional, and national levels.

5.2.1 The international level

The international actors that I encountered in this research were diverse. They included international and regional intergovernmental organisations; bilateral donor agencies; international non-governmental organisations, and diaspora groups.

5.2.1.1 The World Bank

The central intergovernmental organisation involved in Nile politics is the World Bank (WB). Its involvement coincided with the founding of NBI and NBD to endorse regional cooperation. Founding intergovernmental and civil society organisations reflected the liberal thought that institutions are venues where sovereign states can negotiate their interests for collective governance of the Nile Basin.

For the NBI, the riparian countries believed in the WB as an international intergovernmental entity which could manage donors' disbursements allocated to establish this regional organisation (NBI). Therefore, in 2001, the Nile Council of Ministers (Nile-COM) concluded their meeting of the International Consortium for Cooperation on the Nile (ICCON) by requesting the WB to manage and supervise the foreign funds channelled for Nile cooperation. As a result, the Nile Basin Trust Fund (NBTF) was tailored in 2003 to manage US$140 million[23] allocated from ten governmental aid agencies, including those from Canada, Denmark, France, Finland, the Netherlands, Norway, Sweden, and the United Kingdom, in addition to the EU and the WB. Then, in 2014, the NBTF closed, but the WB duplicated the idea of a collective trust fund to cover water development on the entire African continent. Hence, the Cooperation in International Waters in Africa (CIWA) program was established in 2011 and the Nile water funds integrated into it (World Bank[WB], 2019; WB, 2015). The CIWA program's mission is to provide funds for projects and programs related to transboundary water challenges with the ultimate purpose of increasing economic productivity and growth. This trust fund combines contributions from Denmark, Norway, Sweden, the Netherlands, the United Kingdom, the EU and the WB itself (WB, 2017).

In other words, the mandate of CIWA is based on the global discourse of water scarcity explained in chapter four. The population growth in African countries is increasing rapidly and is combined with urbanization processes, which increases the demands on water, food and energy. CIWA interventions have been introduced to mitigate these challenges through: 1) water cooperation that focuses on institutional capacity for transboundary water organisation; 2) water management that

[23] Another number of total amount of disbursements on 2001 is US$203 million channelled to the trust fund (World Bank, 2016).

works to generate accurate data and information on the basin's attributes and to share among riparian countries; 3) water investment which endorses constructing transboundary infrastructure; and 4) stakeholder engagement that provides a space for non-state actors (civil society, private sector and academia) in the process of decision making in transboundary water organisations (WB, 2014; WB, n.d.).

The CIWA funded projects have contributed to articulate the capabilities of actors in Nile politics, mainly for the river basin organisation (NBI), researchers and civil society. In the pillar of water management, the main objective is to build, organise, and share information to enable the prediction of water and climate disasters. In addition, the collection and sharing of data and tools will allow to take appropriate and timely decisions besides formulating strategic plans for the Nile Basin. The institutional capacity focuses on improving the capabilities of the Nile organisations to be able to manage climate and water disasters effectively, besides enhancing the capacity of the NBI to mobilise financial and technical resources for its sustainability as a regional intergovernmental organisation. Under the infrastructure pillar, CIWA aims to assist the NBI and the sub-regional organisations (ENTRO and NELSAP) in generating funds for water infrastructure. In addition, CIWA provides them with tools to link the national investment plans with transboundary strategic investment (WB, 2018; Metawie, 2004).

Concerning stakeholder engagement, civil society does not have a particular focus. On the contrary, it is one actor among other private sector actors and academics. Its engagement has been designed under the frame of communication and dialogue amongst stakeholders of water projects. In other words, the riparian civil society and citizens can be informed of the Nile Basin's investments in addition to exchanging information about designed plans with decision makers and the private sector (WB, 2018). According to this vision the NBD was created, and CIWA became its leading donor. This relation will be covered under the regional level section (section 5.2.3.1).

There are other intergovernmental organisations that have been funding different projects of the NBI besides channelling disbursements to the NBTF and then to CIWA. For instance, UN agencies, mainly UNDP, UNEP and the FAO, have intervened in the framework of the Sustainable Development Goals (SDGs) and the aim of food security. Another significant donor is the African

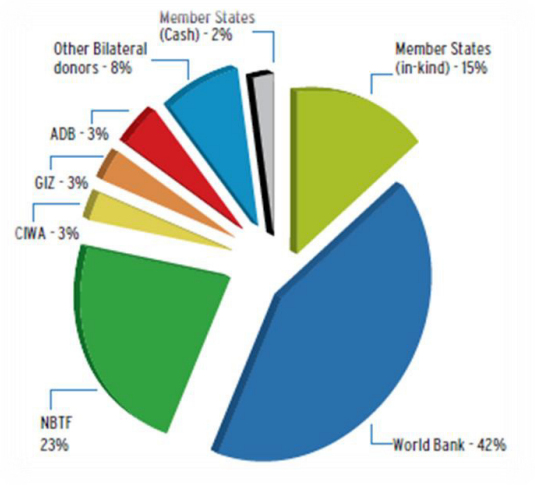
Development Bank which has been providing funds for water and energy infrastructures in the Nile Basin (WB, 2015).

5.2.1.2 Bilateral donor agencies: the German activities

Governmental donor agencies are active in Nile politics under the water development mandate. Many governmental aid agencies have channelled technical and financial assistance on a bilateral level. However, from the trust funds managed by the WB, the USA and Germany are not part of these collective arrangements. Nevertheless, they have offered bilateral assistance either with the NBI or with the riparian countries. For instance, the USA, through USAID in 2016, has funded the electricity project in the NELSAP region under the Power Africa Initiative (Sunderland, 2016). Furthermore, the Corporate Reports of NBI do not indicate that non- Western donors such as China and the Arab Gulf countries are part of the international partners (NBI, 2018, NBI, 2019, NBI, 2020). However, China and the Gulf countries have investments in water and agriculture sectors in the Eastern Nile Basin on a bilateral basis. China has been involved in constructing hydropower projects (i.e. the Merowe Dam in Sudan and the Tana Beles hydropower Dam in Ethiopia). Unlike Western donors, the Chinese investments do not put prior conditions to invest in water projects and the impacts of these hydropower projects on the basin-wide cooperation are not a concern for the Chinese actors (Swain, 2011). Similarly, the Gulf countries, mainly Saudi Arabia and the United Arab of Emirates, have land investments in Egypt and Sudan that benefit from the availability of water and a low-cost of agri-production to cultivate staple food for their consumption (Henderson, 2020). Accordingly, the involvement of non-Western actors in Nile politics aims to obtain profits and is not concerned with the global discourse of sustainability or water governance.

Among the Western donors to the NBI, Germany retains a significant interest in the Nile River. According to figure 5.1 below, the German International Cooperation (The Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ)) is the only national donor to have contributed up to 3% of the total fund to the NBI from 1999 to 2017 on a bilateral base.

Figure 5.1 Donors' financial disbursements to the NBI



Source: Adopted from NBI (2019a:32)

The intervention in the transboundary basin is derived from overarching economic and development policies overseas. The policy assumptions reiterate the discourse of water scarcity as a factor that increases the probability of conflict and therefore, the activities aim at maintaining negotiation among riparian countries and governance of transboundary institutions. As is stated in the Federal Ministry of Economic Cooperation and Development (BMZ) water strategy:

> '(…) focus particularly on supporting the establishment and harmonisation of legal and political foundations for international cooperation, for instance in the form of water agreements or water charters, dialogue and mediation processes, and basin commissions.' (Federal Ministry of Economic Cooperation and Development [BMZ], 2017:17)

Through the financial support to the NBI, GIZ has been implementing the BMZ vision of boosting cooperation by investing in the river basin organisations. Significantly, the disbursements to the

NBI have been channelled to policy and capacity building aspects. For instance, GIZ has financed dialogue meetings, capacity building programs and the building of policy analysis tools (GIZ, 2014). These activities enable NBI to attain its mandate of collecting and sharing data that in turn will mobilise investments for water projects.

The German financial contribution has been illuminated recently because the WB support has been altered as a result of contestation over GERD. Additionally, the Ethiopian Government claims that the WB is inclined towards the Egyptian position, while the European actors are more understanding of the Ethiopian position (Crisis Group, 2019). In this regard, one of the Egyptian governmental respondents contended that Germany reinvigorated the NBI after Egypt froze its membership. The absence of Egypt deteriorated the principle of riparian consensus to implement hydraulic projects and activities in the Nile Basin. Since then, NBI activities have declined due to the shortage of international disbursements. However, German support has kept the transboundary organisation alive (Interview 37).

Moreover, Germany has a special envoy for Nile Affairs who works towards attaining cooperation over the Nile Basin. The main project, entitled Transboundary Water Cooperation in the Nile Basin, falls under the auspices of the BMZ and has been running for 20 years. It started in 2002 and the projected end-date is 2021. The German activities in the Nile underpin the soft objectives, meaning that technical and financial assistance are channelled to promote trust-building among the riparian countries and to increase institutional capacity building for the NBI and its sub-regional offices to design strategic plans and policies (GIZ, n.d. (a)).

Additionally, under the German Federal Foreign Office, there is the project of Supporting Hydro Diplomacy in the Nile Basin that started in 2016 after the confrontation in the Nile Basin had been accelerated due to the disagreement on CFA and then the construction of GERD. Accordingly, this Project aimed to restore cooperation among the riparian countries through providing negotiators with crucial skills that can take negotiations forward; and through public diplomacy involving members of civil society. The official website of GIZ states that:

> 'Non-governmental and public diplomacy is strengthened to give the negotiation processes more impetus from civil society, and public opinion is formed by promoting peace-oriented, evidence-based reporting in the media.' (GIZ, n.d.(b): para.5)

Furthermore, the annual report of ENTRO (2017-2018) demonstrated that hydrodiplomacy activities, besides capacity-building trainings, were conducted as a result of the signing of an agreement with GIZ to finance these activities. Importantly, similar to the NBI case, the report demonstrated that the GIZ is the only national donor, besides the WB-CIWA, AFDB, and country contributions (ENTRO, 2018).

In 2017, the EU adopted the project of Supporting Hydro Diplomacy under the Programme for Transboundary Water Management in the Nile River Basin and allocated funds towards it alongside Germany. The European Commission's mandate of intervention in the Nile is to restore consensus among the riparian countries regarding Nile Basin management and to support the NBI. Additionally, water, food and energy security are one of the integrated objectives in the overall purpose of maintaining peace in the Nile region. Nevertheless, Germany has demonstrated leadership in organisational and implementation arrangements in the Nile Basin (European Commission, 2017).

Compatible with a vision that aims to promote cooperation in the Nile Basin, the civil society component can be traced through the special objective of creating the Nile Media component which strives for

> 'Supporting efforts to positively influence public opinion in member states to encourage cooperative water resource management. This opens up the scope for political decision-makers. The media team for the Nile Basin Secretariat is receiving support in responding more effectively to issues currently being discussed in the Nile Basin' (GIZ, n.d.(a): para.14).

The implication of this objective was demonstrated in the publishing of the first Nile Basin media outlet (The Niles) which covers various water issues across the eleven riparian countries (The

Niles, 2019). These different projects and programs have enhanced the position of GIZ in the Nile politics network.

5.2.1.3 International research centres and CSOs

Parallel to international governmental intervention in the Nile, various international NGOs have played significant roles in the Nile Basin for different purposes. However, the prevalent mission is to provide technical and financial assistance for water-related projects and programs. Many international NGOs have targeted their actions at development projects on national or local scales, not covering the whole Nile Basin. Conversely, the research-based organisations and think tanks have had a remarkable influence on the Nile as a basin; particularly through their implementation of projects on both levels: the Nile Basin and riparian countries.

The noteworthy international research centres mentioned by different civil society entities are the Global Water Partnership (GWP), the International Water Management Institute (IWMI), the Consultative Group for International Agricultural Research (CGIAR) and the Stockholm International Water Institute (SIWI). These think tanks play a significant role in shaping the discussions and policies by providing technical assistance and sponsoring conferences, offering training courses and workshops in addition to the funding of research projects. The next chapter will demonstrate their presence and engagement in the Nile.

Their significant position in the Nile network departs from the technical vision to the Nile Basin cooperation. As stated in chapter four, the regional arrangement had endeavoured to promote information sharing in order to control the Nile flows. With the NBI, although cooperation was broadened, information is still the foundation of collaboration. The research programs and projects endorse data creation and sharing which supposedly refines Nile regional policy. Therefore, the governmental entities endorse the engagement of a think tank, such as in the CIWA objectives, that defined academia as a significant stakeholder.

In the Eastern Nile Basin, these organisations have got a clear position in the SNA because they have sub-regional and national offices which empower their role; for example, the regional offices and national chapters of the GWP and IWMI in Ethiopia and Egypt.

The Egyptian GWP was established in 2012 to promote integrated water resource management (IWRM) knowledge and practices in Egypt on a national level. Additionally, it conducts activities to diffuse SDGs. Moreover, the Egyptian GWP has utilised the global discourse of water security to defend Egypt's historical rights in Nile water shares in the GWP meetings (Interview 7). On the other hand, the East Africa office of GWP is located in the same building as the NBI in Entebbe. Hence the geographical proximity has facilitated cooperation and harmonization of activities.

While the IWMI is a global research organisation that is proactive in the Nile region, the East Africa office is located in Ethiopia and conducts scientific studies and publishes policy briefs on all issues related to land, water and environment. Egypt hosts the regional office of the IWMI for the Middle East and North Africa. Incubating the regional offices intensifies the mutual relations between the national level and international organisations. Nevertheless, this regional division between East Africa and North Africa confines the harmonization across the Eastern Nile Basin, as will be explained in the next chapter.

International development NGOs such as Care International, Water Aid Federation and Caritas are found at the periphery of the network. Their interventions are on the local scale as they implement water-related development projects such as drinking water and sanitation infrastructures in rural areas, food provision at disaster times, and women's participation in water management. In doing so, some international NGOs in Ethiopia, for example, formulated community structures to manage, distribute and monitor the established water projects after providing training to farmers. Accordingly, the community is empowered and the trained community leaders become enabled to challenge the local authority in issues related to water services (Interview 21).

5.2.1.4 Diaspora groups

Besides these structured international NGOs, diaspora groups have a direct involvement in Eastern Nile politics. Their collective action embarks in the primordial sphere of civil society because their engagement relies on their close relations to their homeland and relatives and ties are based on common ethnic/religious attributes.

The fieldwork conducted in the course of this dissertation highlighted two methods of diaspora groups' direct involvement in Nile politics. One is aligned with the poverty alleviation discourse which aims to provide water accessibility to less privileged people. The second method has a political face when diaspora groups mobilise their finance and knowledge to support or resist the implementation of giant dams.

The Sadagaat and Takaful organisations in Sudan play the role of intermediate NGOs which receive money and materials from the Sudanese diaspora around the globe. These organisations include, for example, the Sudanese American, Sadagaat-USA, and Sudanese American Medical Association (SAMA). Global diaspora donations are complemented by charitable donations from locals or private companies, to support activities in four sectors: health, food, water and education. In the water sector, their intervention includes drilling wells, the extension of water pipelines, the distribution of water coolers as well as the cleaning and upgrading of water stations by providing lifting pumps (Sadagaat, 2020). Similarly, the Takaful Organisation for Development has the same mandate and implements water projects funded from alms or zakat collections.

Apart from this development vision, diaspora groups play a noteworthy role in mobilizing the international community for or against national water projects in addition to providing financial support to anti-dam movements in their home communities. For instance, the contested Kajar dam in Sudan got public support in the 1980s as a small dam to assist farmers to regulate water and expand their plantations. As a result, Sudanese diaspora groups sent remittances and shared their technical experience to construct this dam. However, when the state converted the dam into a mega-dam that required displacement, the diaspora started supporting the anti-dam movement that

formed on the local level (Interview 28; Abdelkareem, 2018). Likewise, the resistance to the Merowe dam was challenged by some local people (the Manasir, Hamdab, and Amri) who refused to be resettled and compensated. Their resistance strategies and movements had been supported by Sudanese diaspora groups who also mobilised the international community (human rights organisations and the UN Special Rapporteur on Adequate Housing). They claim to advocate for the voice of local peoples to be heard by informing about the injustice inflicted by the Sudanese Government and the negative impacts of the Dam (Dirar et al., 2015).

Similarly, in Ethiopia, diaspora groups' involvement in economic development is welcomed by communities and society at large because their donations or remittances are considered a sign of solidarity. Diaspora support in villages is based on ethnic ties. However, in cities, diaspora remittances are used to garner social solidarity (Nega and Milofsky, 2011).

In the Amhara region, the Save Lake Tana campaign exemplifies the relationship between the diaspora groups and their home area. Diaspora groups in Europe and the USA fundraised and purchased machines to remove water hyacinth from the Lake (Interview 32). Furthermore, the Global Coalition for Lake Tana Restoration was established in Washington DC to afford scientific and technical support to conserve the environment of the Lake (Global Coalition for Lake Tana Restoration, 2020).

Nevertheless, the diaspora groups' engagement reflects the relation with the political regime, whether it is a supportive or contested relation. The GERD project has demonstrated the position of Ethiopia as a nation and ethnic groups toward a giant dam, a factor that is explored in chapter seven.

5.2.2 Eastern Nile intergovernmental level

The regional level here takes account of actors that conduct activities in the Nile Basin besides general African actors that include the Nile Basin in their activities.

5.2.2.1 The Nile Basin Initiative (NBI)[24]

Regarding the Eastern Nile intergovernmental organisations, the NBI with its sub-regional offices, ENTRO and NELSAP, embody regional cooperation in the Nile Basin, as explained in chapter four. What makes NBI unique compared to previous arrangements is the scope of cooperation that has been widened to cover non-water issues. Therefore, the NBI designs studies and mobilises resources for transnational projects. Moreover, it has acknowledged the role of stakeholders in water management rather than considering only technocrats' voices on the Nile issue.

In the beginning of NBI, the stakeholder involvement was framed in the NBI governance on the project level. From 2004 to 2009, the Confidence Building and Stakeholder Involvement (CBSI) Project was under operation as part of the overarching Shared Vision Program (SVP),[25] after which the NBI developed the Communication and Stakeholder Engagement Strategy in 2013 to become a part of the NBI Strategic Plan (2012-2016).

The titles of the Project and Strategy connote how the NBI has rationalized its relations with stakeholders. The CBSI Project was an initial regional arrangement that interacted with other non-state actors in the Nile. To be consistent with the NBI's inclusive vision, the Project treated relations with stakeholders under the mandate of confidence-building as a necessary step to attain effective cooperative management among all riparian countries. However, the Strategy was formulated after the NBI had been consolidated in the Nile countries and therefore it focuses on reaching stakeholders and maintaining constant communication with them. Both the Project and the Strategy catalysed the importance of stakeholder involvement to disseminate accurate

[24] The earlier version of this section was published as policy brief by the author (Abazeed, 2018).

[25] Shared Vision Program (SVP) was a founding program of the NBI which included Nile Basin investments, projects and institutional aspects. Through implementing SVP, the policy makers and donors assumed wide-basin cooperation and trust building would be achieved. The Program consisted of 8 main projects (Applied Training Project, Water Resources Management and Planning Project, Efficient Water Use for Agricultural Production Project, Regional Power Trade Project, Socio-economic Development and Benefits-Sharing Project, Confidence-Building and Stakeholder Involvement Project, Transboundary Environmental Action Project and Shared Vision Coordination Project). The first application of the Program started in 2003 and the Program was concluded in 2009. See for example: Morbach et al. (2014); NBI (2019b); WB (2010).

information on the Nile, to provide a platform for engagement with stakeholders and to connect the NBI as a regional organisation with the public (NBI, 2009).

Under the SVP, stakeholder involvement in the CBSI Project (2004-2009) was defined by four components: 1) Regional, sub-regional and national implementation and facilitation; 2) Public information and development communication; 3) Stakeholder involvement and 4) Confidence building. The first component emphasises the structural aspect of the NBI as a regional organisation; therefore, the Project has established regional offices at the NBI headquarters in Entebbe, sub-regional offices in Addis Ababa (ENTRO) and Kigali (NELSAP), in addition to national offices in nine countries (Egypt, Ethiopia, Kenya, Sudan, Tanzania, Uganda, Burundi, D.R. Congo and Rwanda). The second component aimed to disseminate information on projects and activities conducted by the NBI programs, which would result in a better understanding of the role of the NBI. The stakeholder involvement in the third component was framed mainly in terms of building the capacity of stakeholders and channelling their concerns in project designs, particularly in the framework of investment projects. The fourth component was designed to combine the two elements of information dissemination and stakeholder involvement at a regional level. It was assumed that mutual trust and confidence would be genuinely created among the riparian countries when the information was shared and different actors involved in the NBI activities (NBI, 2009).

Apparently, the NBI considers civil society as one of the stakeholders, but without a particular emphasis on interactions with them. The circle of stakeholders has been limited at the beginning of the CBSI Project: it included decision makers, public-opinion leaders and local riparian users. These three main categories were identified as direct stakeholders of the other SVP projects. Then, after a mid-term assessment, the groups were expanded to include all potential actors of the NBI and the actors its programs or projects could interact with on all levels. Therefore, the targeted stakeholders incorporated: governmental stakeholders; private business; community and faith-based organisations; local communities; development partners and international civil society organisations. Moreover, some representatives of civil society were invited to the CBSI Project Steering Committee in 2007 (NBI, 2009).

After the SVP closure, its projects including the CBSI transferred to the NBI secretariat and the SAPs: ENTRO and NELSAP. The result report of the SVP highlighted the lack of harmonisation between the SAPs and the SVP. The SAPs achieved institutional development that enabled them to take a lead in the proposed projects (i.e. power trade studies) (WB, 2010). Additionally, the report recommended that '…the relationship with NBD was less productive than it might have been. A new relationship with NBD should be formed, linked to independent capacity building efforts for NBD.' (WB, 2010:49).

Therefore, a memorandum of understanding (MoU) with the NBD was singed in 2010 outlining the scope of relations. The interview respondent from the NBI demonstrated that there are two channels to reach citizens and attain these objectives. The first is through communication with the NBD[26] and the second is through direct contact with the community where the proposed projects will be implemented (Interview 5).

Regarding the Communication and Stakeholder Engagement Strategy, because it is part of the general strategic plan of the NBI, the main objective was articulated to inform the different stakeholders of the NBI's projects and plans (NBI, n.d.). The Strategy's main goal was contained in four objectives: the first one focused on governments and their vision of the Nile development as a shared resource, affirming the role of the NBI as a regional platform to sustain dialogues among governments on the one side and with others stakeholders on the other. The second one targeted the national level through promoting the benefit of cooperation in Nile water management. The third and fourth objectives were related to the organisation itself, by building the capacity of staff so that they could communicate with stakeholders by providing a clear message about the organisation's identity and roles in the Nile Basin (NBI, n.d.).

In a like manner, the current Strategic plan of the NBI (2017-2027) framed stakeholder involvement on the levels of dialogue and information sharing over the Nile development. These prospective interactions were planned to be achieved through 'multi-stakeholder dialogue events'

[26] The role of NBD will be demonstrated in this chapter under section 5.2.3.1 and the relation with NBI will be discussed in chapter 6 under section 6.2.2.

and the ultimate goal of this involvement is to 'build consensus among the countries public and stakeholders' regarding cooperative development in the Nile (NBI, 2017a:5, 22).

The Strategy conformed with the CBSI categories and added others, mainly media, academics and research institutions, because the focus of the Strategy was to strengthen communication and outreach. Furthermore, the Strategy demonstrated the subcategories, e.g. the opinion leaders which encompass parliamentarians, artists, sportsmen, women and diplomats (NBI, n.d.). In line with the rationale of stakeholder involvement at project level, the Strategy demonstrated that each Project should distinguish between the primary and secondary stakeholders who would be affected by the planned projects. Accordingly, the categories of the NBI's stakeholders are fluid in nature.

In the institiuational level, the NBI secretariat and its sub-regional offices incorporated the positions of Public Participation Specialist, besides two Public Information Specialists, which were then renamed to Social Development Officer and Development Communication Officer (NBI, 2009). This department is in charge of communicating with society to get their feedback regarding the projects.

This role is explained in the brochure about regional cooperation projects in the Eastern Nile Basin[27]. As is stated under the principle of 'eco-system/environmental, social and intergenerational sustainability':

> 'The preparation of ENSAP projects should involve and be owned by relevant primary and secondary stakeholders who will be the ultimate beneficiaries (if well designed and implemented) or victims (if otherwise) of ENSAP projects. Such an orientation is also deemed critical to ensure that ENSAP projects are reasons for social peace and stability at any level, and not causes of instability and 'conflict'. (Fekade, 2011:4).

[27] The mandate of ENTRO is to foster joint water projects across its countries through collecting technical data, creating planning and assessment models, preparing feasibility studies, designing water management systems, putting guidelines for projects' implementation, and mobilizing investments to the proposed projects. The main projects under ENTRO mandate are: the Baro-Akobo-Sobat Multipurpose Water Resources Study, the Eastern Nile First Joint Multipurpose Program Identification, the Eastern Nile Regional Power Trade Investment Program, The Eastern Nile Watershed Management Project, the Ethiopia Sudan Transmission Interconnection Project, the Eastern Nile Planning Model, the Eastern Nile Irrigation and Drainage, Flood Preparedness and Early Warning (ENTRO, 2016).

Obviously, the NBI's connection with civil society or citizens is a condition for water projects prepared by it instead of being an integral actor in the governing of the Basin. In effect, the NBI approaches them as receivers (beneficiaries/victims), which has reframed the CBSI vision. Moreover, the ENTRO respondent during the fieldwork for this dissertation argued that the professional CSOs which have highly educated members are the target stakeholder to be invited to the project's assessment meetings. By comparison, including grassroots organisations is not helpful for discussion in these meetings because it is difficult for their members to absorb the technical language of the project's documents, particularly hydraulic data (Interview 18). From this perspective, asymmetric power relations are constituted because the participating stakeholders represent their interests and priorities, while the grassroots associations have become disadvantaged and excluded actors (White, 1996).

Overall, civil society engagement was found to be more strongly associated with the proposed projects than with the Basin's policies. On the other side, according to CIWA's vision, there is an assumption that civil society capabilities are equal to that of the private sector and of academics.

5.2.2.2 Peripheral intergovernmental organisations

The interviewees and publications of organisations I encountered during the fieldwork for this dissertation mentioned the number of regional intergovernmental organisations. Their involvement can be divided into two groups: one includes other intergovernmental organisations in the Nile Basin which interact with civil society organisations; the second constitutes those organisations financing water projects.

The distinct intergovernmental organisation in the first group is the Lake Victoria Basin Commission (LVBC). It was established in 2003 under the East Africa Community that includes the riparian countries of the Lake: Kenya, Uganda and Tanzania in addition to Rwanda and Burundi. Unlike the NBI mandate, the LVBC is built on the development needs of the geographic area of the Lake. Therefore, its objectives cover all development prospects such as health and

education improvement, poverty reduction, and climate change mitigation, besides water challenges (Interview 4).

In its relation with the Eastern Nile Basin, LVBC is connected with the NBI and NELSAP as they are counterpart intergovernmental organisations. But LVBC has a different sphere of civil society connections under the structural arrangement. However, the NBD representative has been invited to meetings at LVBC in the context of discussing the Lake's issues.

It is worth mentioning here that the interview respondent from LVBC perceives the Eastern Nile Basin to be distinct as the interests, concerns and water development priorities are different from that of Lake Victoria. Because of that, the interactions are not constant and occur notably at the formal level (Interview 4).

The NBD respondents pointed out in interviews that their connection with the African Ministers' Council on Water (AMCOW). This is the assembly of ministers of water resources, and it is the African Union arm of water development on the continent. AMCOW performs as a sponsor of collaborative activities in the Nile, conducted by the NBI[28]. The NBD interview respondents mentioned that the organisation had been invited to their conferences, but the connection between them is not constant.

The second group entails the other African intergovernmental organisations; mainly, the Intergovernmental Authority on Development (IGAD); the Common Market for Eastern and Southern Africa (COMESA) and the New Partnership for Africa's Development (NEPAD). They are involved in the Nile Basin development projects by providing technical and financial assistance to the NBI projects within their scope of work. Yet, the presence of these intergovernmental

[28] AMCOW founded the African Water Facility in 2004, which is managed by the AfDB. The Facility conducts investments in the water and sanitation sectors. It receives funds from Western donors as well as African countries (e.g. Senegal and Nigeria) (AfDB, 2019). In the Eastern Nile Basin, the African Water Facility with NEPAD have provided funds to the proposed projects; for example, the Baro-Akobo-Sobat (BAS) Multipurpose Water Resources Development Study Project through the AfDB (AfDB, 2020). The involvement of African intergovernmental organisations shows overlapping in terms of their financial support to water projects.

organisations in the Nile Basin is in terms of their role in funding infrastructure projects through the NBI. Their interactions with civil society in the Nile Basin, by comparison, are not significant.

5.2.3 Regional civil society

The visibility of intergovernmental organisations in Nile Basin politics does not mean the absence of civil society at the regional scale. Conversely, many actors have established sound activities and networks. Besides the NBD, the first wide-basin civil society organisation, there are youth-based initiatives, public diplomacy delegations, and the African and Arab networks.

5.2.3.1 The Nile Basin Discourse (NBD)

The NBD is a regional civil society organisation operating in the whole Nile Basin and cooperating with a huge number of national NGOs through the National Discourse Forums (NDFs).

The NBD in fact is the only regional organisation in the Nile Basin. Its establishment, however, was driven by the WB and donors after the founding of the NBI. The objective was to create an organisation that could channel the voices of the Nile communities to decision makers in the NBI. In other words, the ultimate aspiration was for riparian citizens to participate in Nile Basin development.

The rationale for the involvement of the WB and other development banks, such as the African Development Bank, in founding river basin organisations is presented by Alaerts (1999) as follows:

> 'The banks have a particular interest in support to regional initiatives for basin-wide water management. In many instances, such [a] cooperation platform contributes to regional stability which in turn facilitates economic growth.' (Alaerts, 1999: 6)

Official aid agencies undoubtedly espoused this global water discourse and therefore financed the participation of stakeholders in water management with the purpose of promoting efficient economic development (Priscoli and Wolf, 2009). Accordingly, the NBD received funds first from the Canadian International Development Agency (CIDA), then from the British Department for International Development (DFID) for a long time, and currently through a WB program (CIWA).

However, establishing a regional civil society organisation led to conflict caused by its top-down creation: throughout the founding phase there was dissonance among the visions of governments, civil society activists and donors. According to the network perspective, these three distinct actors each had their own levels of authority, financial strength and representativity, and their capabilities have been entangled leading to the establishment of the NBD.

Representatives of NGOs had been invited to ICCON in 2001. Besides framing the structure of donors' disbursements to the NBI, as explained before (section 5.2.1.1), civil society attendees issued the NGO's Civil Society Discourse Statement. It affirmed the importance of civil society engagement in the Nile Basin development projects and programs that would be designed by the NBI. Moreover, the rationale of civic engagement was forged to yield confidence in the NBI mission (Foulds, 2002). Thus civil society representatives linked their transboundary activism with the NBI; the Statement stated 'the concern to develop a way to ensure that NGOs and Civil Society play their proper roles as partners in the Nile Basin Initiative has been growing as the NBI process has developed' (the NGO and Civil Society Discourse,2001:2). Nevertheless, governmental actors resisted the idea of establishing a civil society organisation at this stage. They demonstrated apathy towards the political disagreement between the riparian countries on water shares, which discouraged regional cooperation (Foulds, 2002; Kameri-Mbote, 2004).

However, a workshop was held in 2001 in Entebbe, aiming to discuss the establishment process. The result was the formation of the Nile Basin Discourse Desk Project in November 2002, which was hosted by the office of the International Union for Conservation of Nature (IUCN) in Uganda. The involvement of IUCN was generated by its sponsorship of the ICCON meeting in Switzerland and subsequent provision of financial and logistical coverage to the new entity. Additionally,

selecting Entebbe to be the host country of the Desk, and later the NBD, was to interlink it with the NBI (Foulds, 2002; Kameri-Mbote, 2004).

The Canadian donor (CIDA), however, was the primary funder of the Nile Basin Discourse Desk until 2004. Its support was caused by the lack of a civil society component in NBI prospective activities. CIDA thus aimed to establish the Desk to be a conduit between the NBI and respective communities, and international CSOs (Pearmain Partners, 2004).

The environmental activist Nabil El-Khodari was based in Canada and founded the Nile Basin Society organisation. Its main goal was aligned with the global discourse of integrating people's voices in water management. Accordingly, the organisation defined its objectives to facilitate accessibility to Nile Basin information which was under government control, and to promote dialogue and connections with CSOs across the Nile Basin (Nile Basin Society, n.d.).

Actually, the organisation's activities relied on virtual connections. So, the website included the details of interactions between members, in addition to the minutes of board meetings. Importantly, the founder utilised the Access Information Act in Canada[29] to publish a couple of documents about CIDA funds to the Nile Basin Discourse Desk.

The founder, Nabil El-Khodari, had a dyadic connection at international and regional levels with peer Nile-based activists. His presence in international platforms and his publications enabled him to raise awareness of the Nile Basin Society among donor agencies. On the other hand, the organisation included members from Ethiopia, Uganda, Kenya and Egypt, whose names appear in the online documents of the organisation (Nile Basin Society, n.d.).

This representation power of El-Khodari, however, was challenged by counter civil society activists from the Nile Basin at the 3rd World Water Forum in 2003. The Nile Basin Society delivered a presentation about civil society engagement in the NBI that discussed the challenges

[29] Access to the Information Act enables Canadian citizens to access documents and records issued bygovernmental federal institutions, after filing a formal request.

of relations between NGOs and riparian countries (Barinda, 2003). The report of the session mentioned that the Ugandan minister of water resources had promised to discuss the methods of civil society involvement in the NBI with the Nile Basin Society. Furthermore, the final report of the Forum underlined the role of the Nile Basin Discourse Desk as one of the commitments that the participants had raised in the Forum and would work to achieve (World Water Council, 2003).

At the same venue, however, another civil society activist (Dr. Emad Adly)[30] attended the Forum for the same purpose. Similarly, he had connections with international donors and he mobilised these to uphold the newly established entity of the Nile Basin Discourse Desk. Thus, donors and international actors in the Forum encountered two different civil society groups who claimed representation of the Nile civil society.

After the Forum, CIDA funding was terminated in 2004. The evaluation report stated that the fund was planned for the course of one year (April 2002 – March 2003) but that other donors such as the WB and DFID should join and channel their disbursements to strengthen the new entity. As a result of a lack of funds from the other donors, CIDA extended the Project for one more year, ending in April 2004.

The disinclination and limit of international funds to the NBD, compared to the constant and vigorous support to the NBI, demonstrates the power of governmental actors in Nile politics and the boundaries to civil society engagement.

The donors' actions toward the Nile Basin Discourse Desk had been framed differently by the civil society activists in a way to demonstrate their capabilities and presence in Nile politics. In the documents of the Nile Basin Society, El-Khodari framed the end of CIDA funding as a result of the concerns he raised about the effectiveness of the Desk (Nile Basin Society, n.d.). To justify his position, he published CIDA evaluation and audit reports. The evaluation report highlighted that

[30] Dr. Emad Adly is active in civil society mainly in the field of environment and sustainability. He occupies leading positions in civil society organisations and networks including: general coordinator of the Arab Network for Environment and Development (RAED); co-founder and chairperson of the Arab Office of Youth and Environment (AOYE) and chairperson of the Egyptian Sustainable Development Forum (ESDF).

the main challenges were financial expenditures and internal governance matters. For instance, the report contended that the participation of the Desk coordinator in the 3rd World Water Forum in 2003 was a misallocation of CIDA funds. In response, the IUCN, the incubator of the Desk, stated that 'This organisation [Nile Basin Society] is hardly "a rival to IUCN". Perhaps a competitor with the NBD for networking with Nile Basin riparians.' (Project Services International and Microde Consult, 2004: 36).

The conflict on the civil society level over who could claim representation of the Nile Basin civil society demonstrated the power that is held by donors. Civil society's involvement was framed under the discourse of development, mainly the NBI proposed projects. The civil society participants in the ICCON meeting accepted this role and capitalised on their activities accordingly. Therefore, donors tended to boost civil society activists working in the field of development and poverty reduction, which aligned with NBI mandates. Furthermore, the donor agencies preferred channelling funds to established and structured CSOs. These donors' requirements did not apply, however, to the Nile Basin Society: the organisation was based on online communication and located in Canada, away from the Nile. The founder clearly documented how the organisation's General Assembly had not been completed because of poor internet connection and the ineffectiveness of virtual discussions. Importantly, the founder had critical insights into the relationship between civil society and governments. In one of his papers, he criticized the NBI and the role of the WB because the environmental and food organisations were not invited to be part of the NBI. Additionally, he had a sceptical view of the WB and donors' commitments to develop the Nile Basin. Over and above this, he condemned the independence of civil society activists who were involved in the Nile Basin Discourse Desk. He claimed

> 'The rest are members (or rather heads) of what can be termed as GONGOs (Governmental NGOs) that only act as 'contractors' to the governments in projects that the donors insist to be handled by NGOs. They never oppose the Government and never act on behalf of the people.' (El-Khodari,2004:150)

Seemingly, his position against the governmental actors and CSOs caused donors and the NBI to reject the Nile Basin Society as a representative of the Nile CSOs. A former consultant in the NBI pointed out in the interview that the WB did not want to build connections with El-Khodari and

the respondent attempted to manage his criticism of the NBI by explaining activities transparently, besides inviting him to these activities (Interview 23). Ultimately, the founder and his organisation were not aligned with the vision and requirements of donors and governments and therefore, the Nile Basin Society disappeared from current Nile politics.

After the ending of the CIDA funds, the DFID intervened in 2004 with an emphasis on accelerating the transition from an incubating project by IUCN to an independent organisation. The British funds covered designing governance issues, financial arrangements and the relation with NBI projects (Department for International Development [DFID], 2013). It was the principal funder to the NBD until 2013, and its ample funding caused NBD respondents to remember its support as the golden age of the NBD.

The NBD has national representatives named the National Discourse Forums (NDFs). There is a CSO in each riparian country that plays a connecting role between the regional level (NBD) and local communities.

The Egyptian national discourse forum was one of the founders of the regional NBI. Dr. Adly attended the ICCON in 2001 and in 2002, he hosted one of the preparatory meetings of the Nile Basin Discourse Desk in Cairo. Furthermore, he was able to communicate with donors in the World Water Forum in 2003 while the Ethiopian and Sudanese national forums were launched later, in 2005 and 2007, respectively.

The Ethiopian civil society activists participated in the discussion workshops organised by DFID in 2004. The national Forum was founded in 2005 under the supervision of a Consortium of Christian Relief and Development Associations (CCRDA), and yet it has not been legally registered. The Forum includes 77 NGOs and ten individuals as members (NBD, 2015a).

By comparison, the Sudanese NDF is incubated by the Sudanese Environment Conservation Society (SECS) which was established in 1975 with the mandate of sustainable development and environmental conservation in Sudan through awareness and natural resource management. The

Sudanese NBD contains 83 NGOs and 166 individuals. Additionally, 6 civil society networks are affiliated to the Forum (NBD, 2015a; Sudanese Environment Conservation Society [SECS], n.d.).

The national forums are professional CSOs, or hosted by a well-established organisation in the case of Ethiopia. Embodying the required organisational attributes, this appealed to donors' support. It enhanced the position of these national forums in the Eastern Nile Basin network, as is analysed in chapter seven of this dissertation, with a discussion of the Egyptian National Discourse Forum.

5.2.3.2 Youth-based initiatives

In addition to the NBD and its professional NGOs, there are examples of organisations initiated by independent founders. The political contestation over the GERD has galvanized the interest of young independent activists advocating for transboundary cooperation.

The Nile Project is one such example of youth activism. The founder is Egyptian and is based in the USA. He studied ethnomusicology, a factor that shaped his approach to the Nile. The 25 January 2011 revolution, when the public sphere was open, facilitated the development of his idea which he then implemented as a structured initiative in Egypt. His main idea is music as a tool to start a conversation and to foster communication among the Nile peoples. The continuing interactions through underlining cultural bonds will be evolving into mutual understanding, empathy and trust among the 'engaged Nile citizens' (Interview 1; The Nile Project). In this view, the Nile is perceived as a cultural unit rather than a political one. Thus, the Nile consists of three main sub-regions representing the musical traditions across the Nile: Ethiopia and Eretria; Egypt and Sudan; then the other Nile Basin countries, including South Sudan, because its culture is closer to that of the Equatorial Lakes countries (Interview 1).

The Nile Forum is another initiative that started in 2016 and attempts to remove non-political obstacles to cooperation in the Nile Basin. It aims to facilitate collaborative interactions among civil society activists in the riparian countries. To attain this vision, the Nile Forum held a

preliminary camp in Egypt where activists from different fields across the Nile Basin countries discussed the root causes of latent conflict. During the camp, the participants had the opportunity to initiate alternative ways to boost cooperation in their Nile communities (The Nile Forum, 2016).

Another form of youth engagement in the Nile is found in the World Youth Parliament for Water (WYPW). This global organisation was founded in 2002 with the mission of endorsing youth voices in water decision making processes through building their capacity for dialogue on water issues and advocacy. The International Secretariat for Water (ISW) and Solidarity Water Europe (SWE) support it (World Youth Parliament for Water [WYPW], 2020). The organisation has focal points in different countries. Creating a national chapter does not require a fixed place and structure because the relation is to provide technical support and to proliferate the mission through ad-hoc activities. The national chapter relies on the commitment and activism of the head of the branch to mobilise fellows and to conduct activities on a regular basis. Sudan and Egypt have chapters, while Ethiopia does not, although their activities are infrequent. This will be explained by referring to the case of the Sudanese Youth Parliament for Water (SYPW) in chapter seven.

Egypt's Youth Parliament for Water (EYPW) was officially launched in November 2018 with Government support during the World Youth Forum. This Forum is one of the political tools of the Egyptian regime to interact with young people. In the second version of the Forum, the political regime included the aspect of water to illustrate Egypt’s suffering from water stress to the world. In this context, the EYPW was announced with support from the MWRI. This Egyptian chapter has an indefinite objective which is 'to boost water awareness through diverse projects and awareness campaigns.' (Egypt's Youth Parliament for Water [EYPW], 2018).

Still these youth-based initiatives are clustered around their participants' affiliations and funding agencies. They might exchange ideas and participants, such as in the case of the two Egyptian examples (Nile Project and Nile Forum). While the global organisation of WYPW associates the Egyptian and Sudanese chapters vertically, the regional interaction between Egyptian and Sudanese chapters is absent.

5.2.3.3 Public diplomacy

Public diplomacy is a manifestation of collective action that has entered the Nile politics network. During fieldwork, I encountered two illustrations of public diplomacy: one is based on official and structured deployment, and the second consists of an intuitive reaction to the GERD issue.

The first example is the Friendship Organisations and respective delegations on a bilateral level among the Eastern Nile Basin countries. In Sudan, there is the umbrella organisation of the Sudanese Peoples' Friendship that was established in 1990 under the mandate of promoting transnational communications, which could play the role of mediator with traditional leaders. Its objectives align with the policies of the Ministry of Foreign Affairs. The organisation contains 70 member organisations that have a geographic distribution covering Arabic, African and European countries (Faqeeri, 2014). The Sudanese-Egyptian Friendship Organisation is one of these member organisations: It arranges mutual visits of delegations which consist of artists, sports people, musicians and public figures who are exchanged from a delegation to another. The mandate of these visits is to promote cultural bonds that will lead to trust-building (Interview 26).

The second example is the Egyptian independent public diplomacy delegation that formed after the Ethiopian announcement of GERD. The delegation utilised the momentum of the revolution in 2011 and the openness of the public sphere. The members of the delegation established strong relations and bonds during their struggle together in Tahrir Square. At the same time, the media depicted the negative impacts of the dam on the Egyptian water share (Interview 9). A group of the political elite and intelligentsia in Egypt constituted an informal delegation to convince the Ethiopian Prime Minister (Meles Zenawi) to halt the dam construction until the Egyptian election had been conducted and the political system was restored (Interviews 9 and 13). The initiator of the delegation urged that the role of civil society is to pressure governments or to remedy failed policies (Interview 13). Thus, he coordinated the delegation to undertake and resolve the drastic results of the Mubarak regime in Africa that led to a lack of sympathy for the Egyptian water needs. Through this he deliberately conveyed the message that the Nile is 'life right' for all riparian peoples and they have to share its benefits (Interview 13).

This Egyptian delegation was followed by the Ethiopian delegation to Cairo in December 2014 and this was reiterated in December 2015. By comparison, the Sudanese–Ethiopian public diplomacy delegation in May 2015 and 2016 was framed under a general collaboration and not underpinned by the GERD issue as was the case for the Egyptian delegation in 2011 (Egyptian Ministry of Foreign Affairs, 2019; Sudan Tribune, 2015; Sudan Tribune, 2016).

Except for the Egyptian delegation in 2011, in general, the public diplomacy and friendship mutual delegations consisted of political and public figures who were closely associated with decision makers, and their messages did not diverge from official national claims. Thus, governments capitalised on these delegations as a manifestation of civil society interaction across the Nile countries.

5.2.3.4 African and Arab water networks

Beyond the direct dynamics of Eastern Nile politics, there are other examples of civil society networks which have connections with the aforementioned CSOs, but on a meetings and information exchange level. Therefore, their position in the network is that of being an outlier. Nevertheless, these civil society networks reflect the difference between the Arab and African regions.

African networks that are endorsed by AMCOW are the Africa Civil Society Network for Water (ANEW) and the African Water Association (AfWA). Both organisations approach water as a public service and thus their activities focus on improving the water and sanitation sector. ANEW programs aim to strengthen the capacity of the CSOs in its network to advocate for people's engagement in the process of formulating water and sanitation policy (Africa Civil Society Network for Water [ANEW], n.d.). AFWA activities focus on knowledge dissemination and capacity building of actors in the water sector.

Regarding Nile politics, the position of AFWA can be detected from the speech of the president at the 16th Congress of the organisation in 2012, where she stated:

> 'we also need to recognise the historical imbalances in the allocation of water in Africa, such as the division of the waters of the Nile by the British in 1929 and 1959, which completely ignored the rights of the people in the Upper Nile countries.' (Myeni, 2017: para. 13)

Such a claim reveals how this African organisation understands the conflict between Egypt and the upstream countries. The African vision challenges the Nile treaties in pursuit of goals related to decolonization and development.

Opposite to the vision of these African networks, there are also the Arab-based organisations. They have connection with the Egyptian Office of the GWP and the Egyptian Nile Discourse Forum (Eg-NDF).

For example, the Centre for Environment and Development for the Arab Region and Europe (CEDARE) is funded by the UNDP and the Arab Fund for Economic and Social Development (Centre for Environment and Development for the Arab Region and Europe [Cedare], 2020). Its membership consists of ministers, civil society, scholars and members from the private sector and has the aim to influence environmental policies in the region, including water resource development. Moreover, the Centre incubates the Egyptian chapter of the Global Water Partnership (Interview 7).

Additionally, the Arab Water Council is a regional organisation aiming to tackle water challenges in the Arab regions based on the IWRM vision, which is compatible with that of the global discourse. Therefore, the Council's activities are driven by 'a multi-disciplinary, non-political, professional and scientific approach'. The council was founded and chaired by Mahmoud Abu-Zeid, the former Egyptian Minister of Irrigation and Water Resources, who had pushed to establish the NBI and the World Water Council (Arab Water Council, 2018).

Unlike the African vision to Nile politics, as represented by the AFWA president, the Arab vision affirms the necessity of treaties to regulate transboundary rivers. The Arab argument is established on two main dimensions: the severe water scarcity in the Arab countries because they are arid or

semi-arid countries, and the fact that sources of transboundary water are located outside the Arab region (The Arab Water Ministerial Council and ACSAD, n.d.).

Accordingly, the dominant narrative among Arab policy makers is that the non-Arab countries could threaten regional stability by controlling the sources of transboundary rivers. Accordingly, the Arab organisations urge to abide by the rules of international law and treaties to maintain the water rights for Arab countries (President of the Arab Parliament, 2020).

In compatibility with the Arab vision, the Arab Water Council has the scientific and financial capabilities to support various water activities in Egypt and work towards creating awareness of Egyptian water share claims and water stress in the respective Mediterranean and Arab platforms.

5.2.4 The national level

Many water-sector CSOs perform their activities across the riparian countries, addressing the Nile as water resource for household and economic activities besides advocating environmental conservation. However, the nationally confined scope does not fall within the focus of this research. Nevertheless, some cases demonstrate a variety of activities that transcend the local and national levels, in addition to exemplifying a kind of networked state. This is displayed in the activities of governmental actors and the formulation of water users' associations (WUAs).

5.2.4.1 Governmental partners

On the side of the government apparatus, the centrality of the Nile water in national policies - as explained in chapter four - authorizes the ministries of water resources, with their affiliated research centres and municipalities, to focus on grassroots organisations. They conduct activities comparable to that of civil society organisations, such as awareness campaigns or capacity building workshops, in addition to liaising with NGOs.

A prominent example is that of the Office of the National Council for the Coordination of Popular Participation on the Construction of GERD. This Office was established in 2011 as a response to the evasion of international financial organisations to fund the dam. Therefore, the Ethiopian Prime Minister Meles Zenawi mobilised the public and envisioned the dam as a national dam.

As a result of this mobilization from the top, the interview respondent in the Office claimed:

> 'everybody needs to support the dam, even opposition political parties, religious leaders, every citizen and elders, everybody unless who is in his mother's womb or the ground tomb support the dam' (Interview 19).

To coordinate this public enthusiasm, the Office was founded to organise the dam's bonds and to collect money from locals and diaspora groups, along with facilitating public diplomacy visits to the other Nile countries. The Office consists of around 75 members of which about 40 members representing civil society organisations from different fields, such as artists, musicians, athletic federations, the media, cinema associations, professional associations, merchants, students' unions and celebrities (Interviews 19 and 20).

Accordingly, the GERD is framed as an Ethiopian national mega project supported by public fundraising, with 'national' being crucial. Therefore, the council is affiliated with the cabinet to make it look independent from the dominance of the ruling party or other influential entities such as the church (Interviews 19 and 20). The GERD office addresses the conduit from the national to the international level via communicating with diaspora groups and the public in the other riparian countries. The involvement of the diaspora will be illustrated in chapter seven.

In Egypt, the Regional Centre for Studies and Research on Water Ethics inside the Ministry of Water Resources and Irrigation connotes a recursive interaction between the international and national levels. The Centre was founded under the frame of 'UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology' (COMEST), mainly under the coordination of the Sub-Commission on Water Ethics. The Centre represents Egypt and the Nile Basin in the

Research and Ethical Network Embracing Water (RENEW), which encompasses two other Centres. These Centres endorse the principles of sustainability, equity, solidarity and inclusiveness in water usage as well as in disaster cases (Hefny, 2009). Despite these overarching objectives around water governance, the Centre is employed to communicate with and train African students who are based in Egypt, instead of discussing water issues. The Centre delivers workshops to the African students on topics of life skills, such as presentation, communication and time management. The reason behind conducting activities that are irrelevant to water governance is to build bonds and trust with the Nile countries via students who study in Egypt (Interview 36; Regional Centre for Water Ethics, 2018). The Egyptian MWRI, however, is not only an executive governmental body; it also plays a role in mobilizing civil society, like its support to Egypt's Youth Parliament for Water to deliberate the Egyptian position in Nile politics.

5.2.4.2 Water users' associations

Next to CSOs, there are 'self-benefiting' organisations that represent and defend the interests of its members (Yaziji and Doh, 2009). These include farmers' unions, agriculture cooperatives and water users' associations. Being an agriculture-based economy, societies in the three countries developed their community organisations a long time ago and have entrenched traditional norms. Nevertheless, these community organisations were reshaped by governments after independence in Egypt and Sudan, or were disrupted by changing political regimes in Ethiopia. The WB then endorsed the creation of distinct 'self-benefiting' organisations (WUAs) and donor agencies, and international NGOs channelled their disbursements to them.

In Egypt, agriculture cooperatives have been restructured due to the Agrarian Reform Program and its amendments in the 1950s by Gamal Abdel Nasser. Under the applied social policies, the state intervened in distributing seeds, fertilizers and controlled the process of agriculture. Therefore, cooperatives became para-governmental organisations and were not fully independent. Then, in 1986, in the process of liberating agriculture policies, the number of cooperatives supposedly increased, as they were no longer obliged to link their operations with the state. However, state intervention is still extensive, and these organisations cannot restore their autonomy (Ghonem, 2019). The revolution in 2011 contributed to giving space for farmers to

organise themselves independently and to establish several farmers' organisations. El-Nour (2014) counted four of these organisations that were formulated on the central level with connection to villages which had protested because of the dysfunction of irrigation canals besides their disagreement with the land tenure system and fertilizer shortage. However, these organisations were at the central level and not well-organised, dissolved consequently.[31]

In Sudan, the Gezira Farmers' Union played a considerable role in shaping the agriculture cooperatives in Sudan because the Gezira scheme was the most prominent irrigation-based system, not a rain-fed one. Furthermore, since its establishment in 1948, it has been playing a negotiator role with the authorities of the Gezira scheme regarding the land tenure system, credits and irrigation plans.[32]

In Ethiopia, under the imperial regime (1930-1974), the state encouraged the establishment of cooperatives in different sectors, but they were ineffective in practice. While under the Derg regime (1974-1987), when socialist central plans were implemented like in Egypt under Nasser, many cooperatives were founded, and farmers had to join these or else they could not get seeds and fertilizers or market their crops. In such a top-down state foundation, cooperatives have been a political tool to control communities. Nevertheless, the Government under EPRDF, that seized power in 1991, set the Co-operatives Societies Proclamation 147 in 1998 to regulate the formation and operation of cooperatives in different sectors. While the Government's emphasis was on rural development and agricultural sectors in the national economy, the Government since 2005 had set up frameworks for agriculture cooperatives in different services such as planting, exporting and marketing, and expanded it in order to include farmers of smallholdings (Tefera et al., 2017).

What is crucially important is that the WUAs were formed based on the support of the WB as part of a global strategy to liberate the agriculture sector. Establishing WUAs as distinct from the established organisations, mainly the agriculture cooperatives, has been defended by neoliberal

[31] For more information on the history of agriculture cooperatives, see for example: Ghonem (2019); El Nour (2014); Nawar (2006).
[32] For more information on the role of Gezira farmers' union, see for example: Niblock (1987); Ertsen (2016).

policy considerations. The significance of creating these associations is the realization that irrigation systems are interlocked with the productivity of agricultural schemes (Anderson, 2008).

WUAs are defined as

> 'A user-based organisation that aims to manage the irrigation system for its members mostly on a nonprofit basis. Its main tasks include the allocation of water within the irrigation system, operation and maintenance (O&M) of the system and the cost recovery of O&M through the collection of irrigation fees from its members.' (Aarnoudse et al., 2018:3)

These associations have been introduced and supported by influential and powerful actors such as banks and governmental enterprises who operate large-scale schemes as models of an agricultural economy. Due to inefficiency and pitfalls in managing the large-scale schemes, however, the reforming vision in the 1970s was to decentralize the management system. Accordingly, farmers or agricultural workers and tenants could participate in managing the scheme, including the irrigation system. Then, by the 1980s, WUAs became the mainstream model that has been espoused and implemented by companies and donor organisations, particularly in the context of neoliberal policies where the state abdicates public service provisions. Meanwhile, the WB has proliferated this model into developing countries, founding the International Network on Participatory Irrigation Management to provide support and encourage governments and companies to endorse WUAs (Aarnoudse et al., 2018).

In the Nile Basin countries, the creation of WUAs was framed as water sector reform that includes founding river basin organisations such as the Abbay Basin Organisation in Ethiopia and decentralization of water services in terms of provision and maintenance. Accordingly, the governments had to facilitate establishing and setting the regulations of these organisations. Given that, WUAs are structured top-down, and thus are not voluntary associations because of the necessity to manage the scheme in an inclusive vision instead of as separate plots (Anderson, 2008).

In Egypt, WUAs have been developed as part of the USAID-funded Project the Egyptian Water Use and Management and one of its objectives was to involve farmers in water management. Since then, WUAs have been endorsed by the WB and other donors and grew to different scales mainly in the Delta area and newly proclaimed lands because of the shortage of water. With the pursuit of decentralizing water management, the MWRI in 1994, under law 12/1984, gave the legal framework to WUAs as 'private organisations for the members who use it', meaning that associations were formulated on the irrigation level (Messqa, branch, governorate). Another cause of the proliferating of WUAs was to manage water scarcity by incorporating farmers in establishing and maintaining irrigation infrastructures (Gouda, 2016; Abdel-Gawad, 2007).

In Sudan, WUAs were introduced through the improvement of the Gezira Scheme in order to develop and mitigate various problems that impeded its productivity. Therefore, in 2005, the Government issued a new law for the scheme aiming to liberate the production relations in terms of land tenure, crop selection and marketing (Salman, 2011). In this regard, WUAs were proposed to empower farmers to regulate and modernize the irrigation systems. The Abd Al-Hakam Block of the Gezira Scheme (which included around 700 farmers) was selected as a WUA pilot. It was formulated in 2002 by an official decree from the Minister of Agriculture and with support from the WB and FAO. Farmers accepted this model because they expected it could be responsive to challenges, compared with inaction from the Government or the scheme board (Abdelhadi et al., 2004; Salman, 2010).

Notwithstanding, the WUAs have not been effective, despite various endorsements from donors and governments. Anderson (2008) attributes the ineffectiveness of WUAs to the irrigation officials and leaders of WUAs who had been poorly prepared for such institutional changes. Another cause was the lack of sustainability to maintain the irrigation systems, as the government or donors were the providers of funds and technical support to improve irrigation; this meant that WUAs were not fully independent in operating their canals.

In Ethiopia, water distribution has been associated with land distribution and utilization, particularly under the socialist regime during the 1970s and 1980s. During this time, all lands were under state ownership. However, in the arid areas, rain harvesting communities were active

(Arsano, 2007). Yami (2013) explains how the community-based associations consolidated in Ethiopia, explaining an incompetence of WUAs. The traditional organisations, with donations from NGOs, have been able to maintain irrigation such as lifting water and preparing and cleaning canals. Furthermore, they have their community norms to distribute water under the supervision of 'water fathers' from the village. But, with the fatal threat of droughts, small land holders accepted the formulation of WUAs with the promises of modernizing irrigation systems that would show in better productivity and food security. However, the author found in her study that WUAs conduct the tasks of traditional irrigation committee 'water fathers'.[33]

The formulation of WUAs replacing the traditional local organisations constitutes another face of interaction between the global and local levels. Mainly, the global mainstream of liberalizing the agriculture sector with redesigning water management on the field gave space to international actors on the local level, but at the expense of communities' activism.

5.3 A clustered network

The first part of this chapter demonstrated the capabilities of different involved actors (nodes) in the Eastern Nile politics across international, regional, and national levels. This part illustrates actors' positions in their relationship to each other.

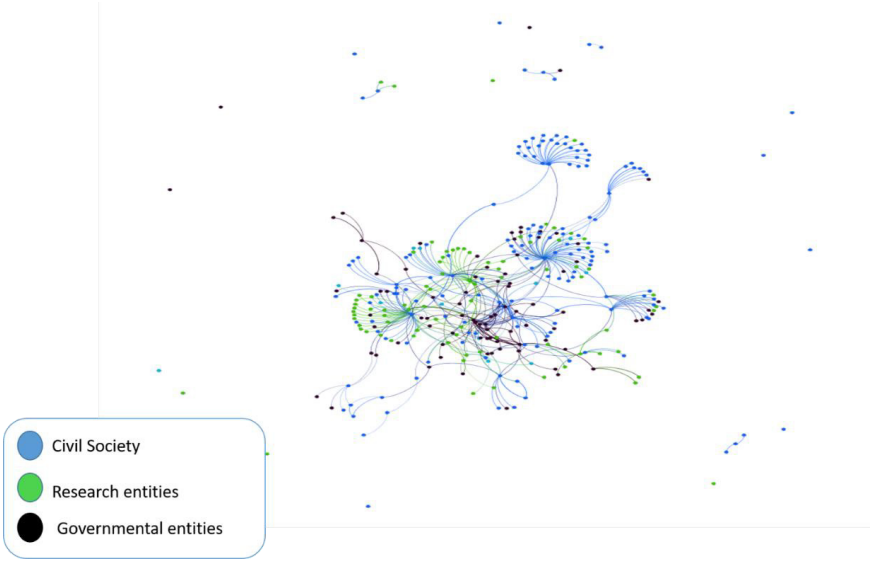
To demonstrate the Eastern Nile Basin network, the Gephi software program was used to produce illustrative maps showing actors' positions across levels and ties among them. As explained in chapter two (section 2.3.4.1), the Gephi program performs statistical calculations (i.e. gravity, repulsion, auto-stabilisation, ordering, and clustering) that demonstrates the magnitude of connections among nodes and the centrality of nodes' positions in the network (Bastian et al., 2009). These calculations help to visualise which node is powerful according to its position and connections; additionally, the bandwidth of power (resources and ideas) interchange among actors

[33] Water Fathers represent a community based committee which is in charge of managing the irrigation process, including resolving conflicts among farmers that erupted due to water distribution. The community elects the Fathers according to their social reputation and their experience in farming. See for example: Belay and Bewket (2013); Dessalegn and Merrey (2014).

and across levels. To assess the structure of the Eastern Nile Basin network, I focus on the degree of cohesiveness and centrality measurements.

The following SNA analysis was built on the basis of 379 nodes representing the interviewed actors and the connected nodes they mentioned during the interviews (or as cited on their websites and publications), ultimately creating 462 ties. The number of nodes and ties composed a graph which represented the structure of interactions in the Eastern Nile Basin between the actors mapped throughout this study.

Figure 5.2 Actors by type



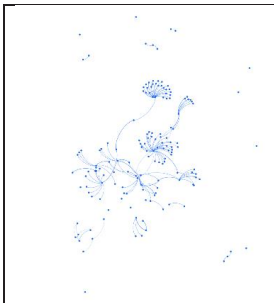
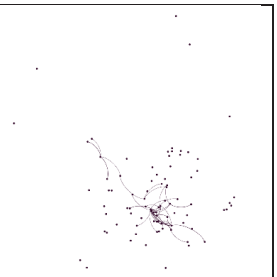
Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

The Gephi software program has filter and partition options that enable to depict attributes of nodes according to selected criteria. The following maps highlight the position of actors according to their types and affiliated countries as well as the regional and global entities. Figure 5.2 below

shows the position of the main categories of actors: civil society, research organisations and governmental entities.

Figure 5.2 shows the interlinkages between different categories. The research (green) and governmental (black) entities are located in the middle of the plot where civil society actors (blue) conduct activities together with research organisations and governmental entities. Figure 5.3 explains the composition of each category in the entire network: civil society is the main actor and constitutes 52% of the network. The number of research organisations (84 nodes) is close to the governmental entities (85 nodes) number.[34]

Figure 5.3 The network composition

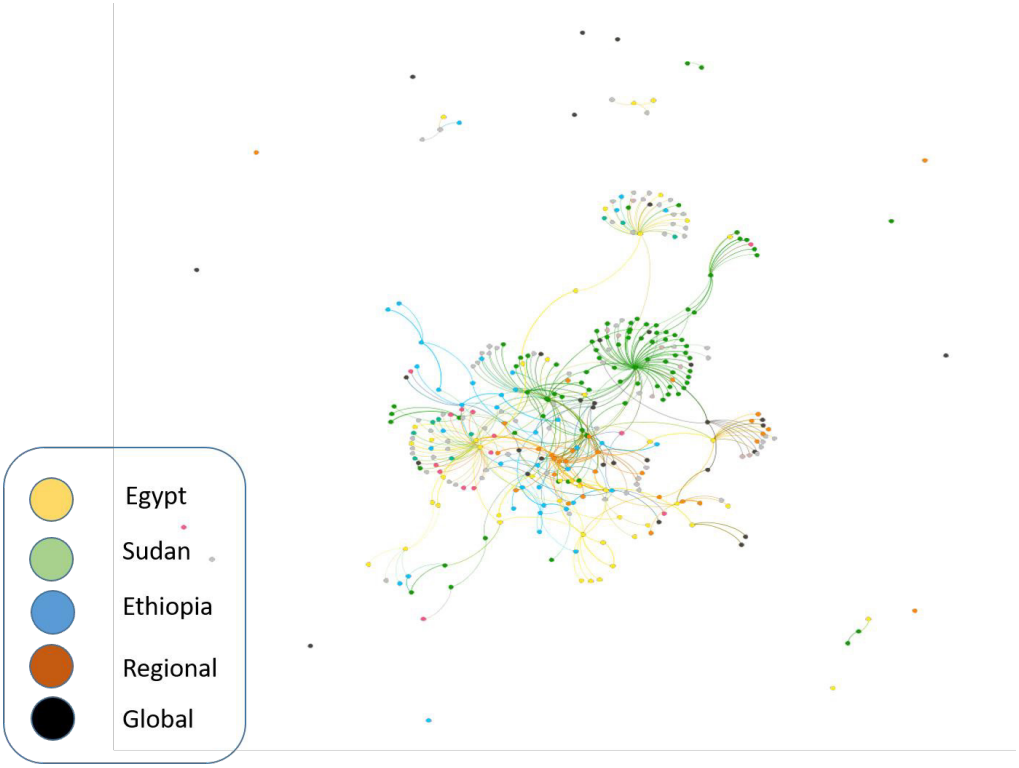
		
Civil society nodes 198 nodes 183 edges constituted 52 % of the network	Research nodes 84 nodes 50 edges constituted 23% of the network	Governmental nodes 85 nodes 44 edges constituted 23% of the network

Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

[34] The remaining number of nodes (12 nodes) represent private sector actors: some NGOs collaborated with companies to fund awareness campaigns or to donate for humanitarian relief activities and water service provision. However, the involvement of the private sector in the Nile Basin, i.e. investment in the large-scale irrigated agriculture, is significant. But private sector actors are outside the scope of this research. For information on water-related investment in the Nile Basin, see for instance, Sandstrom, et al. (2016).

The transnational interactions can be seen in figure 5.4. The national-based node has ties with other actors in the Eastern Nile Basin as well as with global entities.

Figure 5.4 Nodes by country

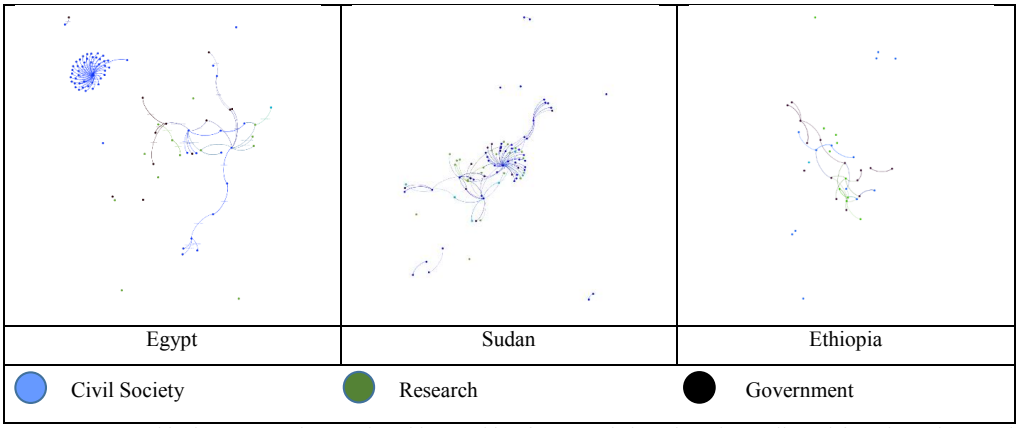


Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

Figure 5.5 shows the composition of actors within each country. The plots display both the connected nodes and the scattered nodes located in the network's periphery. Given the research limitations, particularly the subjective definition of the network boundaries of civil society in this research by transboundary engagement (section 2.4 in chapter two), the nodes however do not

represent all connected entities. Moreover, among of the interviewed civil society actors, some entities provided a list of their partners; therefore, their clusters are visible in the network.

Figure 5.5 Type of actors in the three countries



Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

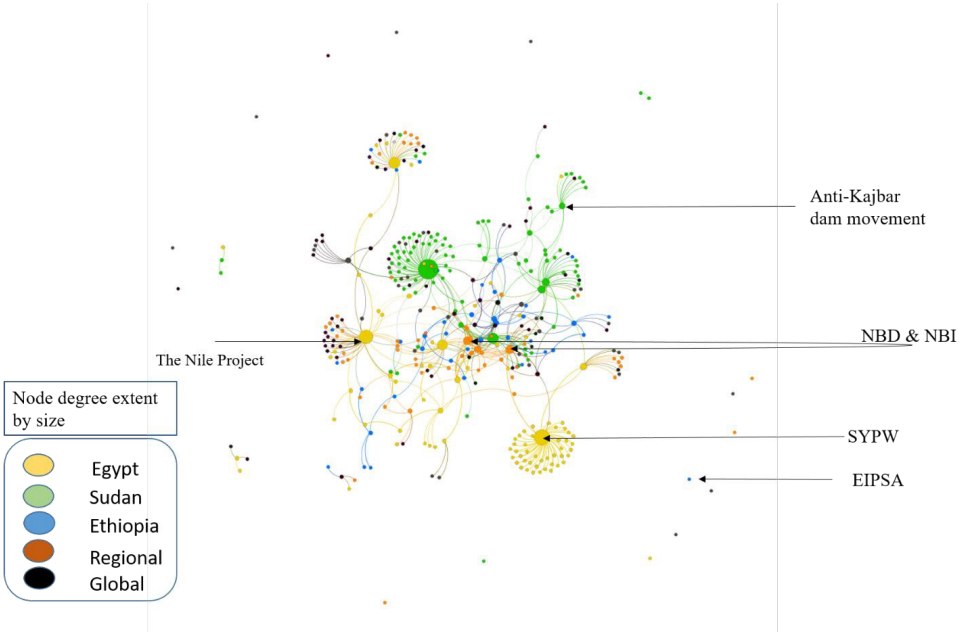
The aforementioned figures have demonstrated the attributes of nodes according to their types in the entire network and on the national level. However, the connections among actors are substantial indictors to understand the entire structure of the network, because actors' behaviours are interdependent. The general attributes of the network display that the structure is aggregated in clusters, and this indicates the network is less integrated. Gephi software performs different statistical calculations that interpret the structure's features (see chapter two, section 2.3.4.1). In other words, the network structure explains actors' behaviours in terms of their scope of activities, the norms they adopt, and visions of Nile cooperation. I will focus on the main calculated numbers to understand the features of the structure.

The first feature of the network is its cohesiveness, in order to show reciprocal interactions among actors analysed in this dissertation. This feature helps to understand whether actors recognise each other, conduct joint activities, share compatible interests and objectives in the area of governance of the Nile waters. To assess cohesiveness, Gephi computes the network degree which represents

how many ties the node has with the other nodes. The average number of connections in the network is explained by the average degree. It equals 2.438 in this analysis, which means each node on average is connected with two other nodes. The size of nodes in figure 5.6 reflects the degree of connections. Around this average number, the Nile Project and SYPW get a strong degree of connection, because they are the central nodes in their cluster. However, this high degree does not reflect a high density of transnational relations. For example, SYPW has a large node size, but the majority of its connections are with Sudan based entities (this feature will be explained in chapter seven, section 7.3.4). At the regional level, the NBI and the NBD are well connected with different other entities.

Similarly, Figure 5.6 shows that there are outliers that do not have frequent connections with civil society actors in the Eastern Nile Basin, such as the Ethiopian International Professional Support for Abay (EIPSA), the African Water Association (AWA) and the anti-Kajbar dam movement. Additionally, some national governmental entities (e.g. Abbay Basin Authority) and regional development institutions (NEPAD, IGAD) are outliers in the generated network.

Figure 5.6 Network average degree



Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

The value of the Gephi network average node degree (2.438) reflects that this network is not well connected, which is compatible with another calculated feature, graph density, that equals 0.006. This number measures the ratio between how many ties the network could have and how many are existing. The ratio of the complete network is 1, according to Gephi statistical calculation; however, it is an unrealistic condition that all nodes interact with all nodes to form a complete network. Considering that, the small ratio (0.006) in the graph generated shows that the connections in the entire network are weak.

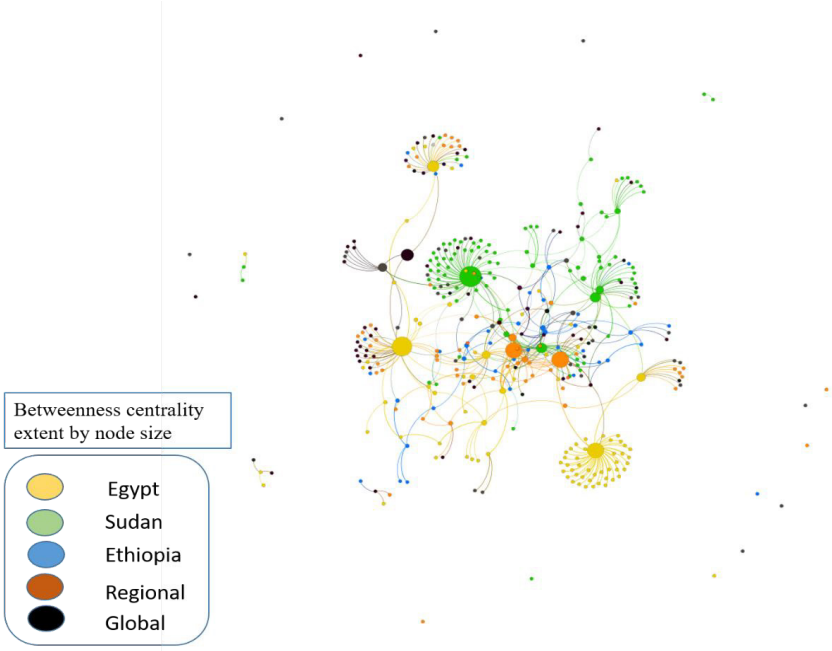
The second feature of the network structure is the centrality measurements that explain the motion of resources and information across the network through nodes' positions. The different measurements of centrality help to understand the flow of ideas, strategies as well as funds within

the network. The graph generated reveals that the network is scattered into clusters. The diameter number is 10. This number calculates the longest of the distances between all pairs of nodes. In other words, the node needs to pass by ten nodes to connect with the outlier nodes in the network. This also indicates the loose connection of the civil society network in the Eastern Nile Basin.

The dominance of clusters in the network challenges how to envision the central or broker actor relations that control the flow of resources within the network. Apparently, the sphere of power is clustered, bounded in a small group and not covering the whole network. Gephi calculates the number of small groups in the network by dividing it into tringles that indicate clusters. It has identified 31 clusters in the whole network. Comparably, the average clustering coefficient for the network ranges from 1 for a connected network to 0 for a disconnected network. In the Eastern Nile Basin graph, the score is 0.121. That means the network of the Eastern Basin is a sparse one.

The betweenness centrality demonstrates the significance of a node's position in the shortest path between nodes. The size of nodes in figure 5.7 shows the betweenness centrality of nodes.

Figure 5.7 Betweenness centrality

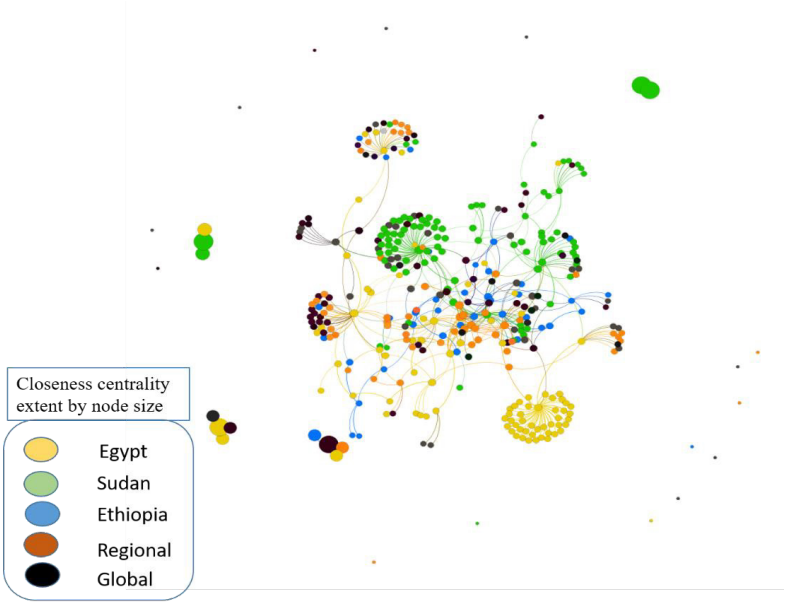


Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

A node with high degree of betweenness centrality means its exclusion will disturb the motion of connections in the network. However, in the Eastern Nile Basin clustered network, this risk can only occur at the cluster level, not for the entire network. The reason behind this is that the connections among nodes have been built based on patterns of ad-hoc collaboration, as will be discussed in the next chapter.

The closeness centrality demonstrates a node's position in terms of the length of the tie between nodes. As figure 5.8 shows, almost all nodes have close ties with the other nodes; namely, the central node in the cluster. Accordingly, information and resources could move quickly inside the cluster.

Figure 5.8 Closeness centrality



Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

In sum, based on the data panel of this research, the overall structure of the Eastern Nile Basin network elucidates a fragmented network, as entities tend to build their narrow network instead of cover the entire Eastern Nile Basin. Accordingly, there is no dominant one actor in the entire network, instead, there are many actors that affect the motion of resources and ideas. Moreover, the influence occurs inside small clusters.

5.4 Preliminary conclusion

The objective of this chapter was to illustrate the network structure of the Eastern Nile Basin and describe the capabilities and positions of engaged actors.

As the SNA diagrams displayed, the types of entities, including civil society, research centres, donors and governmental apparatus, are entangled. Thus, clustering is the main feature of the network. The entities are not disconnected; the majority of actors interact on multi-scales bases.

There are various and changeable interactions between CSOs, state agencies and international and regional intergovernmental organisations. As Qin (2016:36) argues, from a relational theory perspective, 'actors are related to each other and also to the context, or the totality of their relational circles'. Therefore, behaviours and actions are fluid and adaptable as per the context(s) in which they participate. Importantly, the actor employs its tangible and intangible resources and capabilities in these interactions. Conversely, it pursues financial/technical gains or social/personal advantages which can empower its position in the network or strengthen and establish more interactions with the other actors (Qin, 2016).

The intergovernmental organisations, namely the WB and donor agencies, mobilised their funds and technical capabilities to create and empower civil society entities either on a regional level, like the case of the NBD, or on the local level, by imposing WUAs.

Nevertheless, the relations in the network are undirected. They are not always top-down as when the international-based actors enforce their perceptions of civil society's role in Nile politics. The confrontation between the two civil society activist organisations in the process of NBD establishment reflected such unidirectional relations. Importantly, there are examples of genuinely regional activism such as the Nile Project or the diaspora groups in supporting GERD or actors resisting the construction of dams in Sudan. These actors constitute reverse relations with a global reach.

The CSOs in the Nile network reveal multiple and complex interactions with other actors. Clark (2003) demonstrates that CSOs consider open communication channels with different actors, including policy makers, on the national governmental and global levels. Furthermore, CSOs tend to plan establishing joint activities with their peers in the same areas of work, particularly if they are like-minded and adopt the same tools for action. Thus, the network cluster is constituted by entities that approach Nile politics from the same angle, such as the clusters of research centres.

Another cause that propels CSOs to operate through the network(s) is the scarcity of financial resources and of influential support. They thus take part in a network or networks to fulfil their interests or attain their values. Additionally, being part of a highly connected network enables CSOs to be flexible in a move from a cluster format to another, according to their interests (Yaziji and Doh, 2009). The NBD provides financial resources and opens opportunities to connect with various international and regional partners of its national forums.

Despite the engagement of multiple actors on different levels in Nile politics, the whole network of the Eastern Nile Basin indicates a disintegrated structure. In reality, the actors perform in small groups and therefore, clustering is a palpable feature of the network. The next chapter will explain this feature by analysing the network's ties and modes of connection.

Chapter Six

Networked Nile Politics: The Connections

6.1 Introduction

In the three Eastern Basin countries, civil society actors perform in network(s) where joint activities are implemented with the donor agencies, research centres, governmental bodies as well as peer CSOs. In the same vein, the multiple connections include material and immaterial components with varying degrees of strength.

As explained in chapter two (section 2.2.1), the Nile is an example of a public sphere issue that has provoked civil society activism. Moreover, the purpose of collaborative actions is to attain Nile development either as anticipated by the state or the community. On the other side, being part of a network provides opportunities for civil society actors to maximize their resources and positions besides achieving their objectives. However, the diversity of connected actors in the Nile sphere raises questions about how the relationship is established as well as about the power dynamics among actors.

To reveal the power dynamics in the network, this chapter demonstrates the base of ties and their strength, and then the modes of joint activities. The power of actors is revealed by showing how tangible and intangible capabilities are channeled and aggregated.

6.2 The scope of connections

Some actors' organisational characteristics include urban-based CSOs that are formulated by a group of activists in a particular field and legally registered. Additionally, other cases are still in the initial phase and are incubated by registered organisations. By comparison, many civic groups operate scattered water-related activities as a response to the context (e.g. flood or drought humanitarian relief).

Despite this difference, the ties could constitute formal representations (focal points) or could be a partner or be engaged as a volunteer. The dynamics of the ties reveal political aspects such as the Nile division between Arab and African sub-regions, the divergence of national priorities and the meaningfulness of partnership and community solidarity. The following section elucidates the three categories of established connections: the focal point, partnership, and volunteerism; then it visualises the strength of these connections.

6.2.1 Focal point organisation

The national offices or focal points epitomize the interactions between different levels: the global or regional levels at the national/local level. These offices are tools to employ global visions into national contexts and therefore, the offices contribute to the spread of global ideas and policies.

At the regional level, the national forums of the NBD represent regional organisation in the Nile Basin countries. These NDFs receive technical and financial support from the NBD to run the national offices (e.g. rent an office and contribute to paying staff salaries). The NBD headquarter in Entebbe plays the role of mediator (broker) between the national forums and the decision makers in the NBI.

The regional director of the NBD explained in an interview that this role is played in three ways: 1) the top-down channel when attending the technical meetings of the NBI and transmitting the planned projects of the NBI to the NDFs in order to get their feedback; 2) bottom-up communication, when the NDFs share their activities which are then disseminated by the regional office of the NBD; 3) the horizontal communication when national and local civil society are involved in the transboundary projects (Interview 6).

Thus, the NDFs implement activities that are prioritized and agreed at the regional level. For instance, the NBD channelled money to national offices to conduct activities that were ongoing at the time of considerable funding from DFID. Moreover, the NBD sends the proposed NBI water project to the NDFs in order to evaluate them, after which the NBD informs the NBI. On the other

hand, the NDFs report to the NBD about their activities on national and local levels. The dynamic of relations between the NBD and its national forums is clustered into three groups: the first one consists of the Eastern Nile Basin countries (Egypt, Sudan, Ethiopia and South Sudan); the second cluster is for the Lake Victoria riparian countries (Kenya, Uganda and Tanzania); and the last cluster includes the Equatorial Lakes countries (Rwanda, Burundi and DR Congo) (NBD, 2015a). Accordingly, clustering is not only a main feature of the Eastern Nile Basin network as shown in the previous chapter, but it is also a technique with which to manage activities in the NBD.

The broker role of the NBD is played in a reverse way when the NDFs articulate their positions concerning NBI projects collectively. The NBD has developed the tool of 'position statement' in which national offices voice their concerns or opposition to NBI proposed projects. For instance, in 2011, the NDFs of the Eastern Nile released a position document criticizing three programs/projects of the NBI (Regional Integrated Watershed Management Programme; Ethiopia-Sudan Power Interconnection Project; Regional Cooperation and the Institutional Strengthening Programme (ISP)) because of the lack of civil society involvement in terms of shared information, participation in the project cycle and the benefits of these projects to local communities (NBD, 2011). This concern was consistent with the results of a survey conducted by the NBD and the IUCN regarding Nile governance after the CFA confrontation. Although the sample size was small, the main finding of the survey was that civil society had not been integrated into the decision-making process concerning the Nile (Sanchez and Joshi, 2013).

On the global level, the GWP, IWMI and WYPW are organisations engaging in Nile hydropolitics through their sub-regional offices/chapters that aim to implement the global mandate at regional and national levels. However, this hierarchical structure of global active organisations in the water issue is not compatible with the Nile geography that runs from Sub-Saharan Africa to the North of Africa. For example, the Nile Basin in both the GWP and the IWMI is divided between two sub-regional offices.

In the GWP, the regions in Africa are divided into Central, East, Southern and West Africa in addition to the Mediterranean region where Egypt takes part together with European countries. This sub-regional structure presents a challenge to the Egyptian national office because the Egypt-

GWP strived to be registered as part of the East Africa network and not only part of the Mediterranean network. The founder of the Egyptian-GWP insisted on being close to the Ethiopian and Sudanese network and it took time to convince the East Africa network to include Egypt (Interview 7). The East Africa GWP includes all the Nile Basin countries, i.e. Burundi, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan and Uganda, besides Somalia. This indicates how the global geographical categories split the Nile, which is reflected in policy priorities and harmonization efforts

Similar divisions are found in the IWMI sub-regional offices between West, Southern, East Africa and the Middle East and North African office. Egypt is affiliated to the sub-regional office of the Middle East and hosts the regional office for the Middle East and North African region. While Ethiopia hosts the regional office for East Africa, the office also includes the Nile Basin as a dimension of its scope of work.

In these examples of transnational organisation, items for the agenda are determined on the higher level, at the headquarters; while the role of the national focal points is to channel information and implement the agenda (Clark, 2003). However, the ranking of priority areas differs between the IWMI's sub-regions. In the case of Egypt, the priority areas are agricultural water productivity, water management and governance and the water-energy-food nexus (Russell, 2018), while for East Africa where the Nile Basin is involved, the priorities are water availability, landscapes and ecosystems, modernizing food production through value chain development, technological innovation, climate change and capacity building (IWMI, 2014).

For international organisations such as Care International or for governmental donor agencies, scopes and priorities are compatible with those on the national level. This is reflected in the lack of coordination in water and agriculture projects they implement in each country. The reason for this variation is that the governmental donor agencies abide by national policies. In this regard, they assist the national government to attain the national development strategies rather than looking for harmonization of policies across countries, even if this concerns the Nile water (Interview 14).

The Care International example also reveals the differences in approaching the water issue across the riparian countries. In Egypt, which is located under the Middle East and Eastern Europe sub-region, water is treated under the objective of 'more effective and equitable natural resource management to enhance rural livelihoods' besides projects that aim to empower women in the agriculture sector. In Ethiopia, however, water-related projects are framed under the scope of 'livelihoods and food security' as well as 'water and sanitation'. For Sudan, Care International focuses on the Darfur and Kordofan areas which are situated away from the Nile tributaries, but their projects include water and sanitation (Care International, n.d.).

Thus, the engagement of transnational organisations is fragmented in the Nile Basin because of the division of the continent between the North and Sub-Saharan parts of Africa, which results in differences in areas and scopes of work. Furthermore, interviewees from some of the transnational organisations claimed that there are no administrative arrangements through which they can share their experiences or harmonize projects with their counterparts' offices in the Nile Basin countries. Even though GIZ has a special envoy for the Nile Basin and deploys different programs to the Nile Basin as a whole entity, there is no coordination between its national offices in the riparian countries. The interviewees explained that their organisations' offices at the national level are aligned with national development priorities and scopes. Moreover, the regional meetings are usually held on technical and administrative levels and foreign employees in the organisations participate in such meetings (Interviews 12 and 15).

Nevertheless, in research organisations such as the IWMI, it is possible to transcend the national division when the scope of a research project requires this. Therefore, the Egyptian research organisations, for example, can join research projects managed by the East Africa regional office of the IWMI (Interview 17).

6.2.2 Partnership

The term partnership became a key word and strategy which replaced the recipient and giver terms in the development discourse. The notion of partnership was developed to regulate the relation

between donors and recipients on the base of reciprocity. Holden (2005:20) defines partnership as 'a co-operative relationship based on the principles of mutuality and equality'. According to this definition, foreign aid transactions from donors to recipients depend on mutual credibility, support and consensus on decision making and accountability. Furthermore, this notion is adopted by CSOs and the term partnership generally prevails in their strategies, websites and brochures to demonstrate the relations with donors who provide technical and financial assistance besides the joint activities with peer organisations in the region or nationally.

However, partnership is changeable because it is a project and/or program-based relation and is not a sustainable one such as the focal point relation. Clark (2003) demonstrates that partnership between CSOs and transnational networks can be an opportunity for national-based CSOs to demonstrate activities, methods, information and techniques from the transnational level that support their cause at a national level. Therefore, CSOs can engage in various partnerships as long as they draw benefits from this.

In the Eastern Nile Basin network, the partnership takes different forms subject to the nature of activities. For instance, in the Nile Project, the partners are diverse and include organisations that host music performances (e.g. PAYIMPA in Uganda), fund agencies (e.g. Hivos East Africa, Drosos Foundation), media platforms that grant coverage to activities (e.g. NPR, the guardians) and universities with which the participating students or scholars are affiliated (e.g. Addis Ababa University, Makerere University) (Nile Project, n.d.).

In the same way of building a partnership based on an activity, the Environmental Initiative for Sustainable Development in Sudan engages with different partners that include the corporate social responsibility of the private sector (e.g. Zein, Switich company) or being a member in global and regional networks that are active in the water sector, such as the Butterfly Effect (a Canadian based organisation) and ANEW (Interview 24).

In Ethiopia, for instance, the Organisation for Rehabilitation and Development in Amhara (ORDA) in the Amhara region emphasises food security through conducting projects in irrigation, water,

sanitation and agriculture.[35] In the context of these objectives, the organisation receives funds and technical assistance from different donors according to the scope of the project that includes governmental aid agencies (e.g. USAID), intergovernmental organisations (e.g. FAO, IFAD), and North-based CSOs such as American organisations like Water.org and Conservation International (Interview 33; Organisation for Rehabilitation and Development in Amhara [ORDA], 2018).

In Egypt, the NGO Forum Egypt and Sudan for Population and Development was established under the mandate of South-South cooperation and the international conference of population and development held in Cairo in 1994. This conference was the driver of supporting CSOs in the field of development, mainly in the health sector. From this mandate, the NGO Forum had a partnership with the National Committee for Population and Development (NCPD) and the International Council on the Management of Population Programs and Population Concerns (a British organisation). The main objective of these actors was to foster cooperation between NGOs in the South through networking, information sharing and partnering in implementing the action plan which resulted from the Conference of Population (Hussein, 2003). Therefore, reproductive health was the core focus of the programs and projects adopted by the NGO Forum in addition to networking with peer NGOs to share successful national strategies in the field of population and health, and compiling a database of experts to share expertise and knowledge. Through the perspective of South-South cooperation, the NGO Forum in 2002 employed these objectives to partner with Sudanese NGOs and gatherings that were based in Egypt, besides establishing branches of the Forum in Sudanese regions, namely Darfur, Juba and Port Sudan. Furthermore, the documents of the NGO Forum also reveal the objective of establishing the 'Habitat NGOs network' which aimed to connect NGOs in the 'Nile Valley' in the field of urbanization to adopt the skills necessary to be productive regions (Interview 38). Although the mandate of this organisation departed from South-South cooperation in contrast to the other cases, it is not currently active and is situated on the periphery of the network.

[35] The organisation was founded as a response to the severe droughts in 1984, under the name of 'Ethiopian Relief Organization (ERO)'. During the Derg regime, it was a link between donor agencies and local communities, it provided suffering communities with cash to be able to purchase food from close market (ORDA, 2020).

International research centres promote partnership with the national-based research entities across the Eastern Nile Basin by funding joint activities. For example, the IWMI as a global research organisation has been coordinating and funding transnational research projects in the Eastern Nile Basin. These projects have established partnerships with the government-affiliated research centres across the riparian countries (e.g. Hydraulics Research Centre 'HRC-Sudan'; Ethiopian Institute of Water Resources and the Hydraulic Research Institute in Egypt) (Interview 22).

At the same time, global organisations have built partnerships with intergovernmental organisations. The case of the IWMI in East Africa reveals close relations with the NBI and particularly ENTRO, where it is located in Addis Ababa and the same neighbourhood. This closeness facilitates joint activities. The two entities are used to inviting each other to consultation meetings (e.g. the Strategic dialogue of the NBI in 2011), workshops and they also share ideas and the results of information-gathering efforts. Moreover, the NBI sometimes sub-contracts IWMI East Africa to conduct research projects (Interview 17). Similarly, the IWMI has close relations with the Ethiopian research centres that are affiliated to the Ministry of Water. As a result, the Ethiopian decision makers have pointed to the IWMI's 'influence reputation' in the process of water policy making or implementation (Luzi, 2007:176).

The relation between the NBD and the NBI is framed in official documents as a 'partnership' rather than in the form of the NBD being a monitoring organisation that observes the projects conducted by the NBI. This relation is institutionalized in the Memorandum of Understanding (MoU) between the NBD and the NBI. The first MoU was signed in 2010 and it is meant to be renewed every three years. The MoU of 2014 stated that

> 'The parties shall cooperate in all fields related to developments in the River Nile basin in order to enhance equitable and mutual benefits of the peoples of the river basin from its 'resources.' (NBD, 2014:4)

It is apparent from the narrative of the MoU that development discourse is prevalent in shaping the relationship between the two organisations, with words such as 'observation', 'assessment' or 'evaluation' not being mentioned in the MoU.

In other words, the NBD partnership with the NBI endeavours to bolster participatory development and stakeholder engagements. The renewed MoU of 2014 affirms that

> 'Recognizing that for the shared vision of the NBI to be achieved, it is essential that coherent, regional civil society perspectives are sought, heard and incorporated, to add value to the Nile cooperation and development processes in an open and structured manner'. (NBD, 2014:3)

A comparable scope of the partnership is documented in the MoU between the NBD and ENTRO, signed in 2015. The orientation of the relationship is

> 'to establish a strategic partnership between ENTRO and NBD on existing and potential projects, programmes and policies that improve community livelihoods and promote sustainable development in the Eastern Nile'. (NBD, 2015b:2)

Furthermore, these MoUs demonstrate areas of cooperation that include sharing data and information transparently, particularly after the closing of the Shared Vision Program (SVP). Therefore, it is intended that both organisations will share in the benefits of all their prospective projects and other activities in the Nile Basin.

On the other side, the MoUs emphasize the sharing of feedback about projects, wherever they are executed in the Nile Basin. In this regard, the MoU with NBI highlights harmonizing the institutional and governance processes in each organisation in order to coordinate activities and to receive feedback. For example, it is stated that the NBI shall give the NBD from one to three months' notice regarding activities, because the NBD takes time to reach, discuss and get feedback from its network at national and community levels (NBD, 2014).

Moreover, the interviewee from the NBI perceived the ideal relationship with NBD to be a two-way relation: one is to reach people in order to publicize the NBI projects, and the other is to bring people to the NBI by voicing their concerns about prospective projects. However, the respondent from NBI stated that this partnership is not very effective:

> 'In reality, [NBD] conducts their own activities, of course, related to NBI programs and projects, but I have not been seeing this kind of interaction where it is really engaging them to disseminate or receive their views whatever projects. I think that has not been really formalized, though we have the MoU. I think it is a matter of understanding' (Interview 5).

The interview respondent from the NBD interpreted the ineffectiveness of relations by referring to two factors: one is related to communication and organisational arrangements. Generally, the NBI needs the feedback of NDFs regarding the planning of projects on short notice. However, the NBD cannot guarantee a prompt response from NDFs who primarily communicate via email. Furthermore, the time of the general assembly, where NDFs can discuss the NBI documents intensely, does not coincide with the time of the NBI meetings. The second factor concerns the endeavour of both organisations. The NBI aims to construct the planned projects and it applies for funds before consulting the directly affected communities, so when the community representatives contest the project, this disturbs the project cycle and challenges the optimum relation aspired in the MoU (Interview 16).

Likewise, the relation between the NBD and ENTRO is structured in the framework of a MoU. However, the Eastern NDFs have not been critical to the ENTRO planned projects when compared to the those concerning the Equatorial Lakes. Evidently, the NBD endorsed political statements raised by the NDFs in the Equatorial Lakes clusters more than the Eastern Basin cluster. For instance, the project for 'the Interconnection of Electric Grids on Nile Equatorial Lakes Countries' was implemented in Uganda, Rwanda, Burundi, Kenya and the DRC by NELSAP. Some local people lost their lands and were displaced for the construction of the transmission lines of this project. Therefore, in 2011, the NBD supported the Uganda Nile Discourse Forum (UNDF) to invite the project's stakeholders for a one-day meeting to exchange their concerns. The UNDF explained how the local community had suffered from the implementation, which was a different outcome to what had been envisaged from the agreement with the locals: they invited a farmer whose land had been divided by the construction of transmission lines. The report ended by saying that although NELSAP had promised the farmer that they would compensate him, no action had been taken after eight months of raising the issue (NBD, 2012).

Recently, in 2018, the BWERA Declaration was released by the Ugandan NDF and the DRC NDF. It constituted a complaint by local peoples that they had not been involved in the steering committee of the project for Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II). Additionally, they requested the project coordination office and the NELSAP and NBI to share information and update the community on the progress of the project besides consulting local communities in advance when conducting the required studies for the project (NBD, 2018). Ironically, the logo of the WB is on the declaration, although this may also be seen as evidence of implementing participatory development.

Such positions and political statements indicate closely contended interactions with the NBI; the Eastern Nile cluster has loose connections with the NBI, although there is an MoU containing an article on accountable relations, i.e. 'collaborate to promote public participation both at upstream project identification/preparation and downstream at project implementation phases' (NBD, 2015b:3). For example, the NBD website hitherto does not include position statements regarding the controversial Sudanese dams or GERD.[36]

In a nutshell, employing the notion of partnership has rationalised the asymmetric relations between civil society actors on the one side and governmental entities and donors on the other side. The availability of funds by global research centres enables national water centres to connect and to share knowledge. This in turn fosters the role of these global research centres in Nile politics. Moreover, the partnership notion circumscribes the accountability role of the NBD concerning the NBI water projects. The emphasis on partnership renders the NBD and national civil society one of the stakeholders that includes investors and governmental entities.

[36] The Sudan National Discourse Forum with the participation of the NBI, the private sector, and government representatives released the 'Khartoum Statement on Future Dams and Development on the Nile' in January 2008. The statement affirms the importance of social and environmental assessments of constructing big dams on the Nile River. Additionally, the statement stresses the necessity to consult local communities and civil society in the process of planning dams; therefore, the statement suggests creating 'basin-wide consultation guidelines' considering the unity of the Nile Basin, climate change impacts, and sustainable development. The statement was released in the time of complementation of the Merowe Dam in Sudan (operated in 2009); the Dam was resisted by local communities. The Nile Basin Society organisation referred to this statement in its documents with a citation from theSudan Vision Daily news website: http://www.sudanvisiondaily.com/modules.php?name=News&file=print&sid=31227. Similarly, Leturcq (2009) mentioned the statement in his blog.

6.2.3 Philanthropy and volunteerism

Faith-based relations are significant in the Nile because of the nature of water as an indispensable biological human need; therefore, ethical and religious virtue is to provide water to anyone who needs it. Similarly, humanitarian relief responses to natural disasters that are caused by water (droughts and floods) are socially valued actions.

From the religious perspective, namely the Islamic one, the interviewee from the Sadagaat organisation in Sudan explained that the donations they have received are cases of faith-based giving, which is Sadagaat in Arabic, hence the name of this organisation (Interview 30). In other words, Sadagaat is the act of voluntary giving and is not obligatory, like *Zakat*, because this form of donation seeks divine reward. Additionally, it implies a sense of responsibility to society, especially because water takes top priority among other human needs (e.g. food or shelter). The interviewee mentioned that donors, either individuals or diaspora groups or companies, are motivated by the belief that 'providing of drinking water is the best charity ever' (Interview 30, own translation). Therefore, donors prefer to allocate their donations to the establishment of watering places, to provide fresh water to the poor or thirsty people in the street (Interview 30). Furthermore, water provision is considered a sustainable form of giving '*sadaqah jariyah'* by Muslims because it continues after one has passed away and is a way to be remembered (Daly, 2012).

Alongside the religious standpoint, philanthropy is embedded in the African culture that entails

> '(…) reciprocity and interdependence, disintermediation (absence of institutional intermediaries to filter giving), and the connectedness of individuals and groups to their places of origin, their kin, and ethnic groups.' (Atibil, 2014: 459)

In this African school of thought, community self-help is a value to be aspired to, particularly when combined with water, which is an indispensable human need. The philanthropy activities provide humanitarian aid either in the forms of in-kind assistance or direct disbursements to affected

people. Facing frequent Nile floods in Khartoum has amplified community actions and philanthropic relations.

Though Sudan is rich in water resources, as demonstrated in chapter four (section 4.2.2), floods have been causing severe damages to communities. The frequent floods in Khartoum are not a recent natural phenomenon: flood damage to the city is reported as far back as the nineteenth century. Floods could be caused by the rise of the Nile River level between July and September (the flooding season), or by rain storms that create ephemeral rivers and submerged streets (Walsh et al., 1994). The severe floods cause loss of humans, livestock, and crops in addition to the spread of disease and damage to infrastructure.[37]

Regionally, the ENTRO designed the 'Flood Preparedness and Early Warning (FPEW)' Project to mitigate the disastrous impacts of floods in the Eastern Nile Basin (WB, 2015). Despite the frequency and damage generated by floods in Khartoum, however, some governmental mismanagement as well as dysfunctional infrastructure has failed to mitigate the consequences of this predictable natural phenomenon on the Nile (Davies and Walsh, 1997).

Therefore, community philanthropy in Khartoum has been significant to respond to and mitigate the severe impacts of floods. The following two examples demonstrate how voluntary engagement has been an effective response to the phenomenon of Nile floods.

The first example is from the Tuti island which is located in Khartoum and surrounded by the two Niles, the White and Blue. The island faced severe floods in 1946, 1988 and 1998, and many parts of the island are flooded every year. The community resilience in these three years of severe flooding was highly responsive and did not rely on government intervention. The island community was self-organised into groups with different functions: monitoring water levels, preparing sand barricades to stop the flow of water into homes, a group for medical assistance and

[37] Khartoum and many cities in Sudan have faced massive floods and heavy rains from July to September 2020. Homes and farms were destroyed and people were displaced. The unprecedented floods happened along with the peak of confrontation over filling the GERD reservoir, after the Ethiopian Government did the first filling (July 2020) without reaching agreement with Egypt and Sudan. Accordingly, a debate has been raised among supporters and opponents from the three countries on the feasible benefits of GERD to prevent future floods in Sudan.

a group for staple and food distribution. All community members were volunteers and engaged in the humanitarian responses to the Nile floods. Because of the high level of community solidarity at these moments, the island interviewees reported believing that the floods are not a crisis but instead a blessing for the community, because they renew their social integration and bonds. This community vision reverses to a certain extent the global discourse of flooding as an environmental challenge. For this community resilience, the UN Disaster Risk Reduction (UNDRR) in 2015 announced the island to be the champions of best practice in natural disaster reduction (Interview 27; UN Office for Disaster Risk Reduction, 2015).

The second example is Nafeer which is a humanitarian youth initiative based in Khartoum. It has been formulated during times of flooding to provide quick assistance to people who have been affected in areas surrounding Khartoum. To conduct humanitarian interventions, Nafeer established three different relationships: 1) with young people who volunteer to channel assistance and provide management coordination during the time of respective work; 2) with donors who are Sudanese people either based in Sudan or constitute diaspora groups, and Sudanese companies[38]; and 3) with a registered CSO that hosts the initiative and provides them with administrative support. The working method of this initiative reflects the principle of instant help in Sudanese culture, because it is active at the time of floods and after that it gets dissolved (Interview 29). Nevertheless, for the duration of the activism, levels of conflict with the Government (Al-Bashir regime) increased, despite the fact that this work was not a political activity in nature. The initiative's ability to mobilise resources alerted the Government and the initiative's members were accused of receiving foreign funds without official approval, particularly since the initiative was not legally registered (Interview 29, Albahari and Schultz, 2017). Therefore, the executive committee of the initiative published the financial documents so that the Government could not manipulate their activities. In fact, the volunteer members were not apolitical actors. Conversely, they engaged in the political uprisings so that the Government impeached them for concealing

[38] The initiative shared on its social media pages the total amount of received donations and expenses. Additionally, to encourage people to donate, there are some posters on its social media pages that announce having received generous donations from Sudanese benefactors.

their political activism through the initiative. Due to the Government autocracy, the members decided to end the campaign (Interview 29).[39]

In effect, the two examples demonstrate how forces constituted networks based on philanthropical motives to manage the ecological attributes of the Nile River. At the same time, they reveal the relation between the Government and society, i.e. the activities of communities aimed at mitigating what the Nile regional and national policies and arrangements (e.g. flood forecasting) failed to do on a community scale.

The donations and disbursements of migrants to their home towns constitute another manifestation of philanthropy, particularly for the African people, because they are connected to their relatives, and even more so, to the places they come from (Atibil, 2014). This diaspora philanthropy illustrates why the Ethiopian diaspora responded to the campaign of 'Save Lake Tana' and contributed financially to purchasing machines and sending them to the Amhara region to remove water hyacinth from the Lake, as demonstrated in diaspora groups' engagement in the previous chapter (section 5.2.1.4)[40].

Besides community philanthropy and volunteerism, there are formal volunteer relations that are formulated between CSOs and their members and supporters. In this regard, the global discourse through UN organisations and CSOs endorse volunteerism, targeting young people for many reasons: to integrate youth in development strategies, so they can be active citizens who strive to attain democracy; to invest the capabilities of young people while they are jobless; and to substitute public servants in affording and distributing public goods and services in remote and marginalized areas where the state is absent (Perold and Graham, 2014).

[39] Nafeer has played a significant humanitarian role in the recent Sudan floods (July-September 2020). Particularly after the toppling of the Al-Bashir regime, Nafeer has been a well-trusted and a focal youth initiative that has received donations from outside Sudan. Moreover, its efforts have been documented in international media outlets.

[40]The financial report of the Global Coalition for Lake Tana Restoration from September 2017 to April 2019 shows the fundraising items (e.g. selling tickets and Church cash donations) and the total amount of donations and expenses. The partner section on the website indicates that donors are Ethiopian diaspora in the USA, Europe, Israel, and Australia, whereas donor agencies are not mentioned on the website. Furthermore, many announcements of campaigns are in the Amharic language which indicates that the target partners are Ethiopians (Global Coalition for Lake Tana Restoration, 2019).

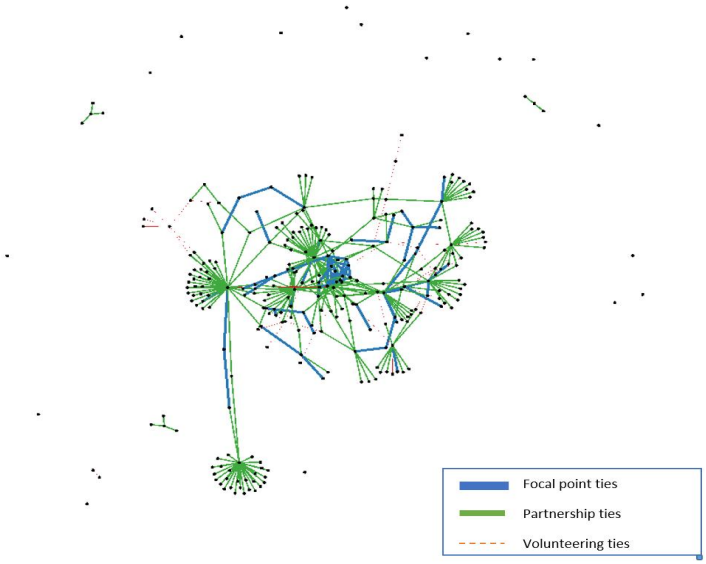
In the vein of these mandates, many CSOs in the Eastern Nile Basin engage young people in their activities as volunteers. For instance, the Environmental Initiative for Sustainable Development in Sudan asks university students in the departments of hydrology or ecology to volunteer in organizing relevant activities. The interview respondent of this organisation argued that students can prepare themselves for their prospective careers in water and environment sectors through this early engagement before graduation (Interview 24).

In sum, the organisational connections entail relatively tangible ties: national offices, resources, time and effort. However, activism is not static. Civil society and initiatives are in motion, and their behaviours become reconfigured within their contexts, like the relation of the NBD and NDFs with the NBI; the social value system (in time of floods) and the donors' opportunities (joint projects by research centres).

6.2.4 Weight of ties

The three categories of ties reflect the strength and stability of relations. As explained in chapter two (section 2.3.4), to give weight of ties, the relations between the focal point organisation and its offices get the higher degree of the scale (scale 3), then the partnership ties get scale 2 and the lowest score for the volunteer relationships (scale 1). Figure 6.1 below depicts the types and weight of ties among the actors in the Eastern Nile network. Apparently, the partnership-based ties (green lines) dominate the interactions in comparison to the focal point (blue/thick lines) and volunteering ties (red/dotted lines).

Figure 6.1 The types and weight of ties



Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities.

The dominance of partnership relations provides another explanation of fragmentation in the Eastern Nile Basin network. The actors connect with the other entities when there is an opportunity to conduct a project, meaning that the connections are based on the project's period. On the other hand, projects' objectives and scopes define the other actors in the clusters, hence transboundary interactions are not sustainable with the same actors. On the contrary, the relationship that is based on affiliation to a global or regional office created a stable sort of connection that enabled national and local offices to propagate policies aside from being merely project implementers, as is explained later on. The fact that philanthropy and volunteering ties are extremely changeable because they rely on individual capabilities and availability to conduct the activities means that it is difficult to trace individual engagement in the Eastern Nile Basin network.

6.3 Four civic engagement trajectories

The basic focus of this work is the mode of ties between relevant actors. The investigated research centres and think tanks have intensive connections with their peers across the main levels, besides those to policymakers; by comparison, CSOs providing water services rely on donations from diaspora groups or aid agencies. Simultaneously, capacity building and advocacy activities are significant in civil society interactions either on domestic or regional levels. Thus, civil society actors employ various activities that keep them active in the network.

6.3.1 Scientific/knowledge interactions

Scientists and experts are agents assessing the applied ideas and norms and producing new knowledge to replace or modify dominant policies. Haas (1992:3) defined an epistemic community as 'a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue area'. Accordingly, a core characteristic of the epistemic community is based on the principle of sharing: members of the epistemic community share normative and causal beliefs that frame their analysis of the problem and design of the proposed actions and they share the validity of the knowledge they produced. This common belief leads to common policies that aim to mitigate problems (Haas, 1992). It is worth noting that although environmental problems are described and analysed on the basis of the natural sciences, Haas (1992) proposed that the scientist community consists of 'networks of knowledge-based experts'. As a community, the knowledge network is established on the basis of a shared belief or 'faith in the verity and applicability of particular forms of knowledge or specific truth' (Haas, 1992:3).

The primary purpose of any epistemic community is to enhance its power by injecting it with knowledge. Therefore, information and ideas that are generated by the epistemic community have a significant contribution to make in defining and articulating the state's power in the international arena. The shared causal beliefs in the community are considered a substantial input to the policy formation process and the bureaucratic institutions, implying that they can change the state's

behaviours and priorities (Haas, 1992). Furthermore, because the epistemic community builds its results on evidence-based processes and transparent methodologies, the policy suggestions easily gain recognition from decision makers and accordingly, policies are convergent (Thomas, 1997). Conversely, decision makers regularly look for insights and interpretations from the epistemic community due to the complexity and uncertainty of global problems, which systematic policy processes cannot handle efficiently (Meijerink, 2005).

The technical scope of such communities is engrained in the ways of approaching and evaluating the Nile hydropolitics, as explained in chapter four. This is why scientific activities are significant in the network; they shape the interactions between governmental agencies, international/regional research centres and individual scientists and scholars.

The '2002 Nile conferences' were recalled by some interviewees as an indication of scholars' communication with policymakers, to share ideas and concerns. Importantly, scholars discussed the Nile issues from the perspective of a transboundary mandate, and in a spirit of cooperation, not based on national determinants. Furthermore, these conferences offered a venue where the scholars could network with their peers (Interview 23).

The same assessment of the positive role of the Nile conferences was affirmed by Brunnee and Toope (2002). They described these conferences as a place where the epistemic community can

> '(…) promote the kind of interaction, trust-building, and mutual learning that are crucial to the emergence of shared understandings, which in turn must underlie any effective normative evolution.' (Brunnee and Toope, 2002:154)

Accordingly, the participating scholars shared their field observations and project results at these conferences, thus contributing to a better understanding of Nile water management. On the other hand, the authors (Brunnee and Toope, 2002) demonstrate that the majority of scholars are affiliated to governmental research centres, besides the related ministries focusing on the Nile. Therefore, the conferences constituted 'intergovernmental issue networks' to facilitate introducing

new knowledge and norms which in turn can endorse establishing formal structures built on a shared vision of the Nile, such as is seen in the context of TECCONILE and the NBI.

The '2002 Nile conferences' started in 1993 when TECCONILE was the institutional format of cooperation in the Nile Basin. Then, when the NBI was established, these conferences were continued, but under the title of the Nile Basin Development Forum (NBDF) which is held every two years (Paisley and Henshaw, 2013).

The international donor agencies adopted this scientific format for Nile cooperation and accordingly, CIDA, the UNDP and the World Meteorological Organisation were the sponsors of the 2002 Nile Conferences (Paisley and Henshaw, 2013); the WB and GIZ were the main partners for the NBDFs.

These Nile conferences were designed by governmental institutions, but invited non-state actors to participate. There have been diverse coordination formats where scholars from hydraulic sciences and technical practices also participated. The principal objective of these formats is to create dialogue as an alternative approach to attain common understanding beyond the national governmental visions and calculations (Interview 23). It is assumed that building consensus via these scientific meetings is essential for Nile management in order to prevent water conflict. Importantly, the conferences were utilised by the international actors as a tool to mitigate conflict over CFA. Zaerpoor (2019) explains that when the negotiations had started in 1997, there was 'heterogeneity in capacities, beliefs, and identities' among the riparian countries. Therefore, the negotiators were encouraged to participate in these conferences where they could exchange their 'beliefs and identities' regarding Nile cooperation.

Similarly, the Environment and Cooperation in the Nile Basin (ECONILE) Project was one of the projects funded by the Swiss National Science Foundation (SNSF) and the Swiss Agency for Development and Cooperation (SDC) in 1999. The project entailed a series of dialogue workshops among hydraulic scientists in the Nile Basin and also included representatives of civil society. The organisers of these series affirmed that national determinants did not drive participants' discussions; participants who attended as independent scientists rather than through their

governmental affiliations to governmental research centres. The engagement of civil society was intended to include the vision of grassroots individuals or organisations who were normally excluded from such discussions (Mason, 2005).

CSOs also include the conducting of scientific research and publication of policy papers on their activities. For example, The Global Coalition for Lake Tana Restoration aims to create a 'research-proven environmental management system', using GIS data. The research results are to be used to monitor hyacinth in the Lake and, based on the findings, research papers about the ecology of the Lake can be produced and shared with decision makers. Accordingly, they have an MoU with the Amhara Regional State Environment, Forest and Wildlife Protection and the Development Authority (Global Coalition for Lake Tana Restoration, 2020).

Furthermore, the power of science in framing the relations in the Nile Basin constitutes the core focus of negotiations regarding the GERD and has been an inducement for relatively independent researchers and scientists who work on water-related issues from different disciplines to formulate initiatives. The examples I encountered came from Egypt, as reactions to the potential harm of the GERD inflicted on the downstream countries.

The Water Institute for the Nile (WIN) is formed by young people who are affiliated with different institutions. They sought to endorse a win-win cooperation arrangement among the riparian countries. The main activities of WIN are to conduct research and hold seminars at which the outputs are disseminated to decision makers on the national level (mainly in Egypt) and the regional level if possible (Water Institute for the Nile, 2011).

A group of professors from the Department of Irrigation and Hydraulics at the Faculty of Engineering (Cairo University) established the Group of the Nile Basin (GNB). The GNB was joined by a group of social scientists interested in Nile politics. They aimed to use scientific models to study how the GERD could comprise a 'threat' to the Nile flow to Egypt. Their ultimate goal is to advise the decision makers, particularly as some of the scholars were seasoned members of the GERD national negotiation committee (Zeinobia, 2013).

In 2013, the GNB warned the Government of GERD's impending destructive impact, mainly because of the height and the capacity of the reservoir of the dam (Zeinobia, 2013). Later in 2015 the GNB released a position statement published on the newspaper website. The Group members affirmed that:

> 'The objective of constructing GERD is political not for development purposes. It aims to control the Nile waters which affect negatively on economic, political, social and security affairs in Egypt. Moreover, it constrains Egypt's comprehensive capabilities and regional role. Controlling the Nile water is increasing with the Ethiopian implantations of the other planned dams on the Blue Nile and Sobat-Atbarah river' (Salem, 2015: para 2, own translation).

The GNB demonstrated the impacts of GERD on the reservoir of the High Aswan Dam as it can only be refilled at times of high flooding. Additionally, the groundwater cannot be replenished as a result of water shortage; and the salinity of the delta will increase due to the declining river discharge in the sea. However, the GNB suspected that there might be insufficient competence to substitute the loss of the Nile water through the rationing of use and desalination of the seawater. Furthermore, the GNB's members argued that accepting the Ethiopian dam means accepting the construction of other dams on the river and then 'selling water to Egypt'. Also, South Sudan could be encouraged to join the CFA which could challenge the national Egyptian water plans to capitalise water losses in Sudd. As discussed in chapter four (section 4.2.1), the Egyptian water resources policy emphasises the possibility of increasing its water resources through the construction of the Jonglei Canal. So, if South Sudan joined the CFA that would involve two countries, Egypt and South Sudan, who are opponents regarding the Nile water shares as settled in the 1929 and 1959 agreements. In other words, South Sudan could construct water projects without consensus from Egypt (Salman, 2011).

With the continuity of construction, the GNB expressed its disagreement with the Declaration of Principles (DoP) because it acknowledges the Ethiopian right to construct the dam without guaranteeing Egypt's historical and legal rights. Moreover, there is no compliance mechanism to arrange the filling period and operation. Accordingly, the GNB has demanded that the Government should halt the construction until the negotiations are concluded and if not, they do not exclude

the possibility of calling on international actors to mediate or raise complaints about Ethiopian behaviour on the international level (Abu Elsoud, 2013; Salem, 2015).

The engagement of researchers on the regional scale has been driven by the strong support they received from Nile decision makers and donors. Nevertheless, strong relations alone do not guarantee trust-building and regional cooperation. The next chapter explains the NBCBN case, which addresses the relations between scientists and politics of the Nile Basin cooperation.

6.3.2 Capacity building activities

The objective of providing training courses and sessions is to develop the capabilities and skills of institutions and individuals. This objective has evolved and integrated into development strategies and national policies at the time of employing Structural Adjustment Programs (SAPs) in the 1990s. The rationale behind this was that the state apparatus and civil servants need to improve administrative systems and to develop their managerial skills, besides possessing technical and personal skills to be able to implement development policies effectively. To attain this objective, the donor agencies have employed CSOs in the provision of training for capacity building, mainly for local institutions, so they can sufficiently deliver public goods and services. On the other side, CSOs also provide this kind of training at grassroots level, to be able to articulate and channel their demands to policymakers (Brass, 2016; Dicklitch, 1998).

Therefore, capacity building activities are incorporated in the work of many CSOs working on water issues. I classify these into three categories: one is to build the scientific and research capabilities of hydraulic scholars; another category emphasises upgrading the practical skills of farmers and workers in the water and sanitation sector; and the third addresses the governance of CSOs as organisations.

Building capacity in hydrology science and research is a significant activity, because Nile management is based on hydraulic engineering and technical interventions. Additionally, the transnational vision of cooperation in the Nile has been articulated from hydraulic management

perspectives through HYDROMET, TECHONILE and many activities by the NBI, such as the Eastern Nile Flood Preparedness and Early Warning (FPEW) project.

Transnational research organisations like the IWMI and GWP entail capacity building in their vision and strategies as a way to attain better water management, especially in countries and societies that face water scarcity. From this perspective, the GWP mentions that 'building capacity is integral to GWP's mission to achieve water security' (GWP, 2017). Accordingly, the organisation implements capacity building activities for institutions and employees in water governance in addition to tailored training relevant to the context (GWP, 2017). The IWMI's main mission is to find 'evidence-based solutions' for water-related challenges through research. Therefore, building scholars' capacity in the area of water management is the core target, besides providing scientific assistance to post-graduate students (IWMI, 2020).

Another function of capacity building is related to practical skills at grassroots level, such as the implementation of programs for farmers on best irrigation practices by CARE International, the FAO and governmental organisations.

For instance, WUAs in Egypt were mobilised by the MWRI in 2018 through a national campaign: 'Save It to Get It'. It is funded by the EU and aims to encourage farmers who are applying advanced technology and practices to save water in agriculture. The campaign is based on a competition to select a 'distinguished farmer' who uses advanced methods and water-saving practices, thus achieving feasible results reflected in yield increases. Furthermore, the farmer has to convince other farmers to also adopt the practice (El-Said, 2018).

The Nile Project University Program targets students at six universities in the Nile Basin. In this program, the students receive training on sustainability and water management and subsequently, they form a university club to be hubs where they can discuss, share and produce collaborative projects tackling Nile issues from the perspective of food-water dimensions (The Nile Project, n.d.).

The third function is capacity building for the governance of CSOs that work in the area of water and the environment, allowing them to develop their structures. This category of NGOs is commonly endorsed by donor agencies. Blumstein (2017) discusses how donors' influence on river basin policies defines the cooperation priorities and when the donors change, their priorities, simultaneously, are modified as well. This dynamic with donors was significant, for example, in the relation between the DFID and the NBD. The British aid emphasized governance challenges in the national forums of the NBD, such as those related to organisation election, financial auditing or accountability. Therefore, the interview respondent stated the priority of an organisation's governance took time and effort that could be allocated to enlarge the NBD network (Interview 16).

Following the termination of DFID funds in 2013, the NBD Report (2015a) entitled 'The Nile Basin Countries Stakeholder Mapping of CSOs Network Members and their Partners' highlighted several challenges in the governance of the national NBD forums (NBD, 2015a). These encompassed in one dimension the NDFs' connections, which were featured by a lack of coordination either with the national peer forums across the Nile Basin or with individuals and local CSOs that NDFs represent on the regional level. Regarding relations among NDFs, the Report mentions that 'on horizontal linkages, NDFs from different countries interact very little with one another, and in most cases, they have to be coordinated by [the] NBD Secretariat to have joint activities' (NBD, 2015a:10).

Generally, the Report suggested that to attain effective relations with different stakeholders, an employee in each NDF should be appointed to ensure a structured stakeholders engagement. Such a structural position is deemed to be essential for building the capacity of organisations in technical water issues and to get feedback and appraisal of the activities from stakeholders.

Another dimension of the challenges involves organisational and administrative issues in NDFs. The Report addressed the lack of funds due to the independency of NDFs. The host organisation employed its priorities and activities over those of the NDF. Accordingly, the Nile-related activities could be relegated (NBD, 2015a). For instance, the Egyptian NDF (Eg-NDF) is incubated by the Arab Network for Environment and Development (RAED) and the NDF's

activities have been reduced due to a lack of funds. This case will be explained in more detail in the next chapter.

Relevant to that, the process of decision making was affected by the management style of the host organisation. Furthermore, the rotation of the NBF's board members was not frequent enough and their positions became diffused with the one of the host organisation. Also, the Report highlighted the issue of a lack of women and youth representation on the board (NBD, 2015a). Additionally, there was no consistency in the membership rules for being part of NBFs because of different types of organisations and individuals, some of whom were affiliated to governmental entities or media organisations and network associations. Therefore, the Report emphasized the need for the 'establishment of NDFs as pure conglomerates of CSOs' and to attain that, NBD would prepare a membership guideline to identify the rules of being a national forum of NBD (NBD, 2015a).

Seemingly, the three types of capacity building activities constitute an essential component of ties between diverse actors in the Eastern Nile Basin network. Additionally, providing training, despite their duration and specialization, retains dynamics and motion in the network.

6.3.3 Service provision activities

The engagement of CSOs in providing water services is significant on a national scale. There are different types of interventions, such as physical intervention to construct water pipelines or to drill wells in villages or slums areas; to set up water-filtering equipment; to do technical tests for water quality; and offering sanitation services for dwellings. For rural areas where agriculture is the main economic activity, service provision involves technical training and rain harvesting.

Neoliberal economic policies and minimising the role of the state in providing public goods and services are the main drivers behind the significant engagement of CSOs and the financial and technical support they get from donor agencies. Therefore, Dicklitch (1998:6-7) frames these CSOs as the 'gap-fillers' to the role of the state in terms of providing public service. Furthermore, contrary to the expected result of neoliberal policies implemented through structural adjustment

programs, the private sector has not been successful in public service provision. The reality illustrates that citizens cannot pay for the public services that are delivered or maintained by profit oriented enterprises. Therefore, CSOs with family and faith-based organisations have become an alternative to both the state and private sector in public service provision (Kushner and MacLean, 2015).

In addition to this, CSOs, compared to the state, can respond quickly to grassroots demands and articulate their complaints of dysfunction of public services. Thus foreign donors channel their disbursements to CSOs to achieve goals such as poverty alleviation and to simultaneously promote civic engagement (Obiyan, 2005). This explains why the state does not challenge the engagement of CSOs in service provision, because services are delivered to the public as a tangible product without debates about the economic and political power asymmetry behind government malfunction. As a result, CSOs depoliticise their activities to maintain a partnership with governmental agencies and donors' disbursements (Dicklitch, 1998).

In the three countries under investigation in this study, the engagement of CSOs in providing water services is evident, with clear support from intergovernmental organisations such as the FAO or donors agencies and definitely, governmental support. For instance, in Ethiopia, ORDA was established as a response to the 1984 famine, and since that time works on natural resources conservation, agriculture and water supply. Regarding water issues, the organisation helps communities and WUAs in the Amhara region to construct water facilities and sanitation, including wells, irrigation canals, rain harvesting and the generating of drinking water for households. These water projects are funded by donor agencies, including bilateral ones such as USAID, Foundation Green Ethiopia, Switzerland (GET) or multilateral agencies such as the WB and IFAD (ORDA, 2018).

In Egypt, improving irrigation canals is an example of CSOs' engagement in water services because of their ability to reach the grassroots level (farmers), and the alignment with national policy. For example, the Father Jesuits Centre received funds from a Swiss agency to assist some WUAs in Nubian villages to clean and improve the capacity of the irrigation canals, in efforts to enhance the farmers' economic wellbeing (Interview 8).

The state's malfunction in securing water services has provoked members of the diaspora to engage in water services by donating to their relatives or to CSOs that are active in their home towns, as explained earlier. There are many charity organisations in Egypt (e.g. the Life from Water Foundation) and in Sudan (e.g. Sadagaat) that have received money from diaspora groups to establish public water services.

This service provision is implemented on the local level, not on the Nile Basin level, but such interventions are a reflection of national visions of water scarcity and how to manage it. Additionally, the CSOs have relations with both powerful actors, governments and donors, which illuminates the role of CSOs within the network.

6.3.4 Advocacy activities

Advocacy is deemed essential for CSO activities concerned with water issues. Nevertheless, advocacy in Nile politics takes two discrete endeavours: one proceeds from a problem-solving approach to address water scarcity; while the second is sought to change or resist - in many cases - the national water policies.

Advocacy for water conservation is inextricably entangled with other activities conducted to attain the resolution of water scarcity and sustainability after completion of a project. This endeavour takes various forms, as Hudson (2001:333) demonstrates:

> 'NGO advocacy is based upon policy analysis, research, and the channelling of information. On these bases, they engage in a range of activities from awareness-raising, through development education, capacity-building, lobbying and campaigning, to, in some cases, direct action.'

Therefore, CSOs design public campaigns for water-saving purposes, in addition to holding seminars for the public. The GWP-Egypt, the Environmental Initiative for Sustainable Development and SYPW in Sudan conduct visits for school students and villages to raise awareness of SDG 6. They also exchange information on water-related diseases, and use the

materials provided by multilateral organisations, mainly the UNDP and WHO, to increase knowledge on the issue

Another example of raising awareness about the Nile as a transnational river is the Nile day, which is held every year on the 22nd of February. This is the date in 1999 when the Nile Basin countries announced, at their meeting in Tanzania, that the NBI would be established.

In February 2018, I was able to participate in the NBI-led Nile Day that took place in Addis Ababa; the NBD contribution to this event was marginal. Different representatives and actors gathered in Meskel Square, a large and historical square in Addis Ababa and then started walking together for two kilometres to the event venue at the premises of the United Nations Economic Commission for Africa (UNECA). The walk included some ministers of water resources of the Nile countries, national officials, and representatives of donors and international organisations, journalists and the media. The trail was led by school children wearing white T-shirts with the NBI logo and carrying the flags of riparian countries as well as a banner of the 'Nile Day', all led by martial music.

During our walk, people lined up along the street and construction workers stopped working so they could watch the walk. Employees and officers working for companies surrounding the terraces watched the trail and took photographs. This disturbance of daily routine in Addis Ababa contributed to raising the awareness of ordinary people and encouraged them to think about challenges related to water and the Nile. Nonetheless, the rest of the Day program (official speeches and scientific presentations) was conducted in closed venues at the building of the United Nations Economic Commission for Africa (UNECA).

The media is an important tool through which to interact with stakeholders of regional Nile organisations. The current Strategic Plan of the NBI (2017-2027) addresses the role of different media outlets, besides encouraging radio and television programs to host technical specialists and officers speaking on the Nile issue. Furthermore, the NBI has sponsored the establishment of the Nile Media Network to channel the Nile issue into the public sphere (NBI, 2009). In this regard, the NBI, in collaboration with the GWP and the German government sponsored the 'Nile Media

Awards' that are given to outstanding journalists and presenters covering aspects related to Nile cooperation (NBI, 2017b).

Likewise, the NBD uses the media as a source of communication and outreach and hence, the NDFs have Nile issues covered in their national media, together with the NBD, to publicize on the website and through social media. As a result, the NBD can foster communication between NDFs on the one hand and on the other, between the regional and local or citizen levels (WB, 2018).

In Sudan, the SECS, which represents the NBD, have established a virtual network called the 'Environmental News Network', where volunteers share newsworthy stories as well as expose negative environmental practices in their community, via mobile phones. Furthermore, to communicate with locals, SECS have run two-weekly radio programs: 'Us and the Environment' and 'Environmental Media Forums' (SECS, 2018).

The second advocacy endeavour accentuates resistance to Nile policies either on the transnational level or locally. The pursuit of advocacy for change is to transform the contestation among the riparian peoples into new forms of cooperation. In light of that, espousing cultural connections is the entry point for CSOs advocating for dialogue and cooperation over the Nile. Music performances by the Nile Project and public diplomacy delegations are a way to change the politics, by highlighting the similarities and produce reciprocal dialogues. In the same vein, the NBD organised visits to national forums of Ethiopia and Egypt in 2011 and 2012 to visit water projects in each country, focusing on several cities so that the delegations observed the reality of water conditions. This in turn created mutual understanding to attain cooperation across the Eastern Nile Basin. These exchange visits influenced the cognitive perception of the visiting members. One of the Egyptian participants to Bahir Dar city mentioned that it was his first visit to the city and to witness the poor economic conditions. He explained how he suffered from frequent electricity blackouts which had affected his business. After this visit, he understood the reality by experiencing the poor situation of Ethiopian development (Interview 11).

Contrary to the soft cultural tools with which to change policies, the Eastern Nile Basin has witnessed resistance to national water projects, mainly dams. The cases illustrate that social

movements rather than structured CSOs lead the resistance. Such resistance movements involve citizens, activists and CSOs who have experienced the same grievances and consequently, articulate common objectives for 'societal and policy change' (Clark, 2003:4).

In Sudan, the anti-Kajbar dam movement is one example of many anti-dam movements there. Abdelkareem (2018)[41] explains the resistance to the dam and the risk of resettlement by referring to three phases: 1) Mobilization phase - based on mutual understanding and consensus against the dam project and its destructive impacts on Nubian values and social bonds. The tools of mobilization were songs, stories and even rumours. All these forms created narratives that constituted a local counter-knowledge of the modernist vision adopted by the Government and the developers; 2) Confrontation phase - this occurred when the Government abruptly established the construction machines in the area without the approval of the community. The reaction to this invasion was through severe actions against the Government such as through demonstrations and petitions; and 3) De-escalation phase - this was after the peak of violence in 2007 where the government's strategy was to diffuse violent confrontation and manoeuvre the community by using religious discourse and the power of the community's elites. Despite the Government's brutality, the mobilization process kept going by reviving the memory of people who had been killed by the Government. The Nubian (Mahas) people established communication channels with political parties and CSOs to convey their stance against the dam[42]. Additionally, they published a newsletter to update the broader public on developments regarding the situation. The resistance of the Mahas people constitutes a successful case of anti-dam movements in Nile politics, as the dam has not been completed until now.

Resisting dams in the Nile also engages the organisation 'International Rivers' in Nile politics. This is an American-based organisation established in 1985 to help network activists around the globe to maintain the rivers' ecologies and people's right to rivers. The organisation opposes mega-dams because of their destructive impacts (International Rivers, n.d.). The organisation is well-known

[41] The following paragraph has been adapted from a published book review article by the author (Abazeed, 2020).
[42]The Nubian labour migrants in the Gulf countries supported the anti-Kajbar activists. The Nubians' engagement was fuelled not only by the risk of resettlement but also by the contempt the Al-Bashir regime had for Nubian labour in domestic work (i.e. cookers and drivers) in the Gulf countries. Therefore, Nubian migrants provided financial support and advocacy to anti-dam activism (Abdelkareem, 2018).

as an anti-dam network and therefore, anti-Kajbar dam activists have communicated with the organisation to gain experience of resisting resettlement, in addition to gaining exposure through them (Interview 28). For example, the organisation has supported the anti-Kajbar dam committee by sending an opposition letter to the Chinese embassy in Khartoum because of the involvement of a Chinese company in the dam's construction (Bosshard, 2011).

Concerning GERD, International Rivers in 2017 published a report entitled '5 Myths Surrounding the Grand Ethiopian Renaissance Dam (GERD)'. It urged that the Ethiopian Government should maximise the use of other natural resources such as wind and solar energy to generate electricity. Renewable sources of energy are better than constructing a mega hydropower dam that will affect the flow of water to downstream countries (International Rivers, 2017). The statements and published pieces by the International Rivers were refused, however, by the Ethiopian Government, accusing the organisation of supporting the Egyptian interests and position (Berhane, 2014).

The anti-dam movements are an example of 'insurgent' activism that challenge water development policies and projects that can cause displacement. It is difficult for this kind of activism to build a solid global alliance defending their cause, because of the dominance of policies driven by neoliberal thought in powerful global organisations and within national entities (Swyngedouw, 2014). Therefore, the anti-dam movement and the International Rivers organisation are outliers in the context of the Eastern Nile Basin network.

In a nutshell, the advocacy activities in the Eastern Nile Basin reveal two distinct approaches to tackling Nile issues: transboundary politics and national water policies. Furthermore, these two approaches are not intertwined and consequently, appear in analytical clusters. Added to that, the anti-dam movements are outliers within the Eastern Nile Basin network. In contrast, civil society actors that implement problem-solving advocacy and promote cultural activities, and who do not resist the riparians' policies, occupy visible positions within the Eastern Nile network.

6.4 Preliminary conclusion

The interactions among the various civic networks in the Eastern Nile Basin are always in motion because the differences in interests and the context in which they operate shape the structure of these relations.

The composition of ties can be simultaneously tangible and intangible, because each organisation or initiative I encountered conducts its activities in order to be visible on the Eastern Nile map. Importantly, it is obvious that there is no activity that is implemented by an organisation by itself, since all activities also involve other partner organisations from different levels.

The tangible components are framed in various ways, with some being based on organisational ties (e.g. the focal point) and others based on the provision of training and awareness campaigns, in addition to water service provision and to remittances.

The intangible components are visible among nodes who share similar causes or approaches towards the tackling of the Nile water issues. Global think tanks, such as the IWMI and GWP, by comparison, have contributed to creating regional and national focal points that endorse scholars to approach Nile issues from the paradigms presented by the IWRM and water security. Additionally, CSOs take part in relevant network platforms (e.g. ANEW and the Butterfly Effect), to share news and present calls of opportunities, without assuming clear or frequent responsibilities.

However, the frequency of interactions fluctuates, except in the cases of organisational relations when the national office represents a regional or global organisation (e.g., the NDFs). Beyond this established tie, the interactions seemingly rely on the implementation of joint projects or programs and in many cases, are merely invitations to help attend general meetings or workshops. Many interviewees claimed they have a connection with another organisation because they have attended a conference with them.

By comparison, the partnership scope of relations establishes undirected ties, where both actors contribute to the activity and avail each other. In the framework of conferences and workshops, the interactions involve mutual understanding of national needs and development aspirations, and to build trust, by bringing scholars and policy makers more closely together (NBI conferences). Nevertheless, the approaches and techniques used to articulate the substance of these activities are composed by the organiser/sponsor who designs the content and selects participants of the activity/performance; hence, it still is a top-down approach.

By contrast, the actors that are independently funded have one-directional ties to the target community. For example, charity organisations and diaspora groups send their scientific researchers or remittances to their communities or to policy makers without receiving gains, thus constituting directed ties.

Therefore, the ties are not symmetric; sponsorship of participation or establishments of a regional or national office, or advocating for global ideas are activities causing asymmetric ties. Clark (2003) argues that networks of environmental protection and sustainability, where CSOs from the North and the South are involved together, contain inequalities, because each partner deals differently with the causes and solutions for environmental challenges. Furthermore, in the case of the global organisations' national focal points, the offices act as supporters rather than members, because the decisions are taken in headquarters that are based in the North.

The perspective of partnership, which prevails in the network, supposedly denotes cooperation between actors, but the competitive ties are noteworthy. The lack of resources to conduct transnational activities makes the involvement of foreign donors necessary and therefore, there are competitive relations between actors who are involved in the same set of activities. I found this notably being the case with the research and scientific organisations that compete with their peers to get funds enabling them to implement training workshops or joint research projects. Another example shows the erratic nature of partnership on the regional level when two organisations, one from Sudan and another from Egypt, have conducted a joint program funded by a foreign donor. After completing the activities, however, they got into conflict over a financial arrangement and then decided not to collaborate again (Interview 24).

Furthermore, networking relations should be for sharing data, information, up-to-date research studies and activities, and not for alliance purposes. Accordingly, many interviewed organisations and initiatives perceive networks as a source for benefits and for funding opportunities. Yet, the case of anti-dam movements shows attempts to create ties with other actors supporting their cause to resistance and to adopt the same position. However, these resistance ties are not visible in the network analysis.

The four trajectories of civic engagement have addressed the Nile as a river at risk because of the increasing population and related demands on water, food and energy. As a result, non-political interventions are required to conserve and develop the Nile. Above that, the dominance of technical and service activities is compatible with the apolitical role of civil society as coined by global discourse and donors' policies. International organisations support the involvement of civil society under the roof of development and poverty reduction mandates, while playing political roles in assessing or opposing governmental policies is discouraged (Fowler and Biekart, 2011). Nevertheless, the contestations over the Nile water shares, as well as the relation with donors, have revealed political dynamics in civic engagement, as will be discussed in the next chapter.

Chapter Seven

Network Dynamics: Four Modalities of Relations in the Eastern Nile Basin

7.1 Introduction

The civil society actors in the Eastern Nile Basin network occupy different relations that reflect the actors' objectives and capabilities as well as their identity and how they position themselves across various scales. These attributes and relationships of the civil society actor - as an individual node - delineate its position in the network.

In the previous chapters I have described the Eastern Nile Basin networks' structure, including the nodes and ties connecting them. This chapter investigates the engagement of four sample modalities from the three countries to explore the dynamics of joining a network or establishing a new one and how it became visible in Nile politics.

7.2 Partnership capability: the Egyptian Nile Discourse Forum (Eg-NDF)

The civic engagement of the Egyptian Nile Discourse Forum (Eg-NDF) in Eastern Nile politics is built on a partnership arrangement as a principle strategy. At the outset, the founders engaged in global environment conferences which gave them a space through which to interact with global civil society. Therefore, they have evolved reasonable connections with donor agencies to fundraise for their activities across regional as well as local levels. Hence, the activities of the Eg-NDF demonstrate the partnership practices in the Eastern Nile Basin across the levels, and through that, it has reconfigured the Nile issue in accordance with the partnership relations.

7.2.1 The access: global environmental activism

The UN Conference on the Human Environment in Stockholm in 1972 embarked on civil society engagement in the sphere of environmental policies. Through this initial conference and the subsequent Earth Summits,[43] the role of civil society was framed to implement and evaluate environmental policies; in addition to communicating grassroots-level needs and interests to decision makers (Bernauer and Betzold, 2012). In this global articulation of civic engagement, the founders of the Eg-NDF engaged in the environmental sphere. In the 1970s, the founders were interested in science and the environment, so they had been part of the Egyptian Science Clubs that were incubated by the Al-Ahram institution in Cairo. After participation in the Earth Summit in 1972, they formulated their activities by establishing the Arab Office for Youth and Environment (AOYE) in 1978, and legally registered it as an NGO in 1990 (Interview 4).

AOYE became the establishing organisation in which the founders retained their global and regional engagement with civil society and donor agencies. In 1990, the same year of AOYE registration, the founders established the Arab Network for Environment and Development (RAED) as a regional network of CSOs in the field of environment and sustainable development. AOYE incubates this Arab Network as well. Moreover, Eg-NDF is stated as one of AOYE's projects and forms part of the RAED network (Arab Network for Environment and Development [RAED], n.d.; Anna Linda Foundation, n.d.).

In this case they have employed the notion of partnership to conflate the functions of CSOs headed by the same founders. When I visited the office of Eg-NDF, six plaques depicting different organisations were mounted at the entrance. These are the Arab Office of Youth and Environment (AOYE), the Egyptian Sustainable Development Forum (ESDF), the Arab Network for Environment and Development (RAED), the Egyptian Organisation of Consumers and Energy, the Global Environmental Facility - Small Grants Programme (GEF/SGP), and the Egypt National

[43] Earth summits are the United Nations Conference on Environment and Development (UNCED) to discuss environmental challenges, population and development. They started in Stockholm (Sweden) in 1972; then in Rio de Janeiro (Brazil) in 1992; this was a remarkable summit as it was held after the end of the Cold War and the uprising of the sustainable development discourse; therefore, it became a reference for the subsequent summits e.g. Rio+5 (in 1997); Rio+10 (in 2002).

Discourse Forum (Eg-NDF). The interview respondent explained that these organisations share the office and the staff for administration work. In addition, the founders occupy the head positions in the boards of all of these organisations.

These CSOs were formed for different reasons, most commonly because there was similarity of scope (environment and sustainable development). They were often founded in response to looming environmental challenges, to engage the global discourse which has undeniably been integrated into the national policies and donors' agendas. The interviewee demonstrated that the activities had been reoriented in the vein of the pressing global and national issues. For instance, the Sustainable Development Forum was established in July 2012 after a month of participating in the Earth Summit 2012 (Rio+20). The organisation's mandate is to provoke ideas and practices of sustainable development in the national strategies. Therefore, through this Forum they participated in the national and regional (the Arab League) discussions of implementing the Sustainable Development goals (SDGs) (Interview 3; Egyptian Sustainable Development Forum [ESDF], n.d.).

The activism of the Eg-NDF founders depicts how they have conveyed the global discourse of environmental challenges and sustainability into the national and regional levels. In addition to this, this activism has been endorsed by donors' disbursements. Accordingly, the websites of these organisations explicitly indicate their partnerships with UN agencies (e.g. UNDP, UNEP) and donors' agencies (e.g. the EU and DFID).

Transferring the global cause to the national level has been an attribute of environmental activism in Egypt in general. The globally engaged activists have been 'bilateral activists' who have the capability of understating the national dynamics. At the same time, they have been aware of global interests and various resources available (Sowers, 2007:379). The founders of Eg-NDF, for example, have been 'bilateral activists' who have utilised their global networks for national and regional purposes.

7.2.2 NBD: leading the initiation

Dr. Emad Adly was the leading founder of the aforementioned organisations. His engagement was a product of his participation in the Earth Summits and his connections with the donor organisations. Notably, he founded and coordinated the national office of the UNDP (GEF/SGP) (Interview 3; Global Environmental Facility - Small Grants Programme [GEF], 2012).

Regarding Dr. Adly's engagement in water issues, he has contended that there was only a small number of CSOs working in water-related affairs. He explained that this limitation of civic engagement is due to a shortage of funds. Furthermore, the required scientific data to design the activities is not available to assist donors and CSOs to engage in water issues on an ongoing basis. Therefore, Dr. Adly identified the role of CSOs in the water field to disseminate scientific research results and promote the use of advanced technology to improve water productivity either for irrigation or for household use. Additionally, CSOs can organise advocacy campaigns on water saving (Adly and Ahmed, 2009). Importantly, Dr. Adly adopted the global assumption of the role of CSOs in channelling the grassroots-level voices with respect to their complaints and concerns of water problems to decision makers

In view of that, Dr. Adly argues that the NBD and GWP in Egypt have filled the gap, i.e. the lack of active CSOs in the water field, through their networking with relevant actors in the field, including collaboration with governments and private sectors, besides providing scientific and knowledge capacity to CSOs. Accordingly, these two CSOs were able to contribute to Nile governance and development of the Nile River (Adly and Ahmed, 2009).

To some extent, two networks' activities have endorsed Dr. Adly's engagement in the Nile Basin region. The first network was his global network of civil society and donor organisations in the field of sustainable development. The second network consisted of the WB, donors, and the Nile riparian countries. As a consequence of the activities of these two networks, in 2001, Dr. Adly was invited alongside the other eight representatives of CSOs in the Nile Basin countries to participate in the ICCON meeting, where the idea of the NBD was generated, as explained in chapter five of

this dissertation (Interview 3; Nile Voices, 2010b). Following the meeting, Dr. Adly was active in preparing meetings of the NBD and mobilised DFID in the global platforms, as discussed in chapter five. As a result of convening capability and global connections, Dr. Adly occupied a leading position as the chairman of the NBD (Nile Voices, 2010b). For connecting with NBD, the founder used similar strategies to integrate the global discourse at the national level through establishing a distinct CSO. For example, the Eg-NDF was founded to be a national focal point of the regional NBD, and it is a legally independent NGO.

On this Nile Basin level, the Eg-NDF engagement reflects the ecological and hydraulic position of Egypt as a downstream country that has to advocate for cooperation without negating the national discourse of historical rights to the Nile water. These frames have been elaborated in two modes of contestation in Eastern Nile politics due to CFA and the GERD.

Regarding the CFA, which was signed in 2010, the general position of the NDFs is to 'not take sides in this debate'. However, as NDFs represent civil society, they have strived to attain cooperation in the Nile Basin through accentuating the principles of reciprocity and consensus. Nevertheless, the general position statement by NDFs have pointed out that the public had not been informed about the content of negotiations over CFA, and they were not included in this agreement (Nile Voices, 2010a:2).

Therefore, the NBD as a regional organisation induced the NDFs to address the status of CFA negotiations in their activities. The NBD monthly newsletters covered public discussions over the CFA by the NDFs. However, the positions of NDFs did not diverge from their governments. The Ethiopian position (in a multi-stakeholder meeting organised by EtNDF) affirmed the benefits of CFA to reconstruct Nile cooperation on the basis of 'equitable water usage', which consequently would reflect securing food and development for the Ethiopian people (Tesera, 2010:6). The Ugandan NDF put forward a similar position by referencing their 'Understanding of the justification and implications of positions of Egypt and Sudan' (Nile Voices, 2010c:4). These Ethiopian and Ugandan stances are contradictory to the Egyptian position, however, that has not signed the CFA.

Similarly, the Eg-NDF has released a position statement in 2010 that revealed the general Egyptian narrative of the necessity of cooperation to secure the flow of the river. The statement built its argument on the slogan of the NBD, namely 'one Nile, one family'. Additionally, it reiterated the discourse of trust-building and scientific studies to invest in Nile resources and to attain cooperation (Nile Voices, 2010c). The statement, however, did not mention CFA as a cause of dispute. Unlike the Ugandan and Ethiopian NDFs, the Eg-NDF avoided discussing their position against the CFA explicitly. Contrarily, it was framed under the cooperation narrative. However, later in 2012, the articulation of cooperation changed to defend the Egyptian national position. In a Report of the Third Multi-Stakeholder Forum on January 12, 2012, the Eg-NDF urged for 'the Egyptian rights in the Nile water' with a pursuit of Nile Basin cooperation. Furthermore, the suggested strategy to attain this cooperation was 'public diplomacy' to induce the building of mutual understanding of countries' water needs on 'the public level', and the Eg-NDF presumed that would be sufficient for retaining the historical rights (Nile Voices, 2012b:4).

The second mode of contestation relates to the GERD. The tool of public diplomacy was employed in the GERD confrontation in 2011. The Eg-NDF was part of the Egyptian public diplomacy delegation to Uganda and Ethiopia, whose activism was explained in chapter five of this dissertation. The Eg-NDF participated in this delegation, although the Eg-NDF was not the organiser of this public diplomacy mission. The Eg-NDF representative underlined that his role in the delegation was to inform the delegation members about the status of the Nile cooperation and to articulate their points of view in accordance with the Nile cooperation. Furthermore, he explained the objective of the NBD and its relation with the NBI to the other members (Nada, 2011). This practice of engagement demonstrates the diverse activities of the Eg-NDF networks. Despite this, the other three members in the delegation I interviewed did not mention this significant role of the Eg-NDF, but instead capitalised on their delegation as a self-motivated action.

With the ongoing GERD confrontation, the Eastern Nile Basin group in the NBD organised two visits for civil society activists and academics, besides the NBD members, to the Egyptian and Ethiopian cities. The purpose was to stimulate public interactions by creating a space for conversation and sharing information on the real needs and challenges of the two countries. The

first visit was in the Minia governorate in Upper Egypt in October 2011, followed by a visit to Bahir Dar city, the source of the Blue Nile in Ethiopia in January 2012 (Nile Voices, 2011; Nile Voices, 2012a) . These exchange visits contributed to raising awareness of livelihood conditions. One of the Egyptian participants in the visit to Bahir Dar revealed that this visit had enabled him to see the extent of the people's suffering due to lack of basic human needs in the villages. Besides that, it was an opportunity to visit the source of the Nile for the first time (Interview 11).

The aforementioned examples of the Eg-NDF's civic engagement in Nile politics were partly possible because of the availability of funds to cover the expenses of exchange visits, for example. The NBD interviewees at the regional and national levels remembered the period of DFID funding as a glorious time because they were able to conduct regional meetings, workshops and arrange exchange visits. They could thus discuss their interests and positions. After this funding cycle had ended, transnational activities became limited, although the WB intervened and supported the organisation to continue.

However, this civic activism has not been echoed in Eastern Nile politics in general because of two major reasons: The first is the weak ties with the NBI. Even though the purpose of the NBD is to voice the concerns of the local peoples regarding water projects, the involvement of CSOs is not paramount in the decision-making mechanisms. The Eg-NDF's respondent revealed that the discussion of the proposed projects by the NBI was conducted by the high-level executives at the headquarters. However, the board members of the NBD who represent the national forums have not been invited to the meetings with the NBI. Therefore, much information has been shared and decisions taken without proper discussions with the national forums (Interview 3). Furthermore, at ENTRO level, the NDFs of the Eastern Basin released a position statement in 2011 on Nile cooperation. They claimed that the interests of local communities had not been integrated into the transboundary projects designed by ENTRO, as discussed before in chapter six (section 6.2.1).

The second reason concerns the interwoven relations between the state and civil society. The prolonged GERD contestation reflects how national interests dominate the regional collaboration. For example, the ENTRO representatives were part of a group who visited the GERD construction site in 2016. The group included journalists from the Eastern Nile Basin, representatives from NBI,

and NBD, including a member from Eg-NBD who represented Egypt in the NBD's General Assembly. This visit was organised by the Stockholm International Water Institute (SIWI), aiming to create a dialogue over a contested issue (NBD, 2016). In this endeavour, a global water think tank, i.e. SIWI and not ENTRO, led this transboundary conversation; though hydropower projects in Ethiopia were part of ENTRO founding of regional projects[44]. Moreover, in 2020 with the escalation of contestation over the first filling of the GERD reservoir, before reaching an agreement, the Executive Director of ENTRO (Mr. Fekahmed Negash) spoke to the media explaining that the Dam is a national project that has been constructed inside Ethiopian sovereign territory and financed by Ethiopians (Ethiopian News Agency, 2020). The involvement of ENTRO in a contested regional issue shows it has not had network-making power. It has not initiated a networking activity to connect the contested actors or reformulate the network it has (based on its technical activities) to attain the regional collaboration mandate. In contrast, the GERD issue has been tackled as a national project.

Similarly, the Eg-NDF has not been part of the Egyptian negotiation team, although a representative of the Eg-NDF was part of the public diplomacy delegation in 2011. In contrast to this state behaviour concerning CSO engagement in the negotiations, the Eg-NDF embodied the Egyptian Government's stance towards the GERD. I encountered this during my participation in the NBD symposium in 2017. Although the participants and attendees were from CSOs or were scholars from universities and research centres, the Eg-NDF delegation disagreed with an Ethiopian presentation about the GERD benefits for the Ethiopian people. At the same time, there was no presentation to demonstrate the Egyptian position. What's more, the Eg-NDF group expressed their disagreement by withdrawing from the session to demonstrate that the presentation had no value for this occasion where civil society had to find common ground for cooperation. After their withdrawal, the Sudanese member of the NDF, who had been elected recently to be the chairperson of the NBD Board, tried to convince the Egyptian group to return to the room. This incident was captured in the Ugandan media, addressing how the Egyptians had become 'politicised' despite the fact that the summit was meant to emphasise cooperation (Mayemba,

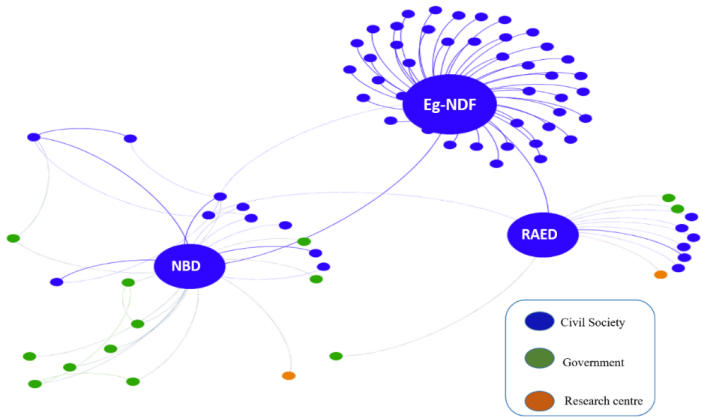
[44] The potential of generating hydropower in Ethiopia was part of technical studies prepared by ENTRO. The project 'Joint Multipurpose Program' aimed to conduct studies that addressed transboundary water investments, including hydropower construction and power transmission. However, coinciding with the disagreement over the CFA, Egypt did not approve the studies. See for example Cascão and Nicol (2016).

2017). This action of withdrawal is similar to the governments' tool to express their controversy in formal settings. Still, this behaviour depicts how the Eg-NDF abandoned the cooperation discourse they had formulated in 2011 and 2012 in the aforementioned Report, and through exchange visits and the public diplomacy delegation. On the other hand, the behaviour of the Eg-NBD coincided with the intensifying conflict between the two Governments and the negotiation was stalled in November 2017, a few weeks before the NBD summit. Given that, the Eg-NBD behaviour is a reflection of the governments' tensions.

7.2.3 The broker position and weak ties

The partnership strategy enables Eg-NDF to be in a broker position among three civil society networks: the affiliated national/local CSOs, the Arab region and the Nile Basin. To demonstrate that, I applied the 'ego network setting' in the Gephi program which extracted the close connections of the selected node (the Eg-NDF). Figure 7.1 illustrates the Eg-NDF position between the NBD network and the RAED network as well as its central position for the local CSOs. The connection with the NBD is based on the organisational relation as the Eg-NDF is the national focal point of the regional organisation. Through the NBD network, the Eg-NDF can connect with the intergovernmental organisations in the Nile Basin (e.g. NBI- ENTRO) and the other NDFs. At the same time, it represents the local CSOs in the NBD at the regional level. By comparison, the Eg-NDF connects with the Arab based organisations through RAED which is managed by the same founders and staff of Eg-NDF.

Figure 7.1 The Eg-NDF networks



Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities The node size of Eg-NDF, NBD and RAED has been changed for illustrative purposes.

The Eg-NDF, represented by its founders, seems to find itself in a broker position between the two regions. The strategy of establishing legal and structured CSOs in response to global and regional opportunities empowered the founders in environment and water fields in the two regions. The mingling of organisational and managerial arrangements of the Eg-NDF and RAED enabled the two CSOs to join their international and regional programs and projects. In the Arab region, the founders are active under RAED representation and the connections are built on implementing joint activities. For instance, they were members of the working group founded by the Arab Ministerial Water Council to formulate the water development module of the Arab Vision of SDG 2030 (FAO, 2018). Furthermore, they conducted the background surveys and studies for the water and sanitation reports issued by the Arab League (League of Arab States, UN ESCWA, ACWUA, 2016). Similarly, RAED was exemplified as an active Arab network in advocacy for mitigating water challenges and climate change through networking with other organisations in the region (Verner, 2012; UN-Habitat, 2010). In the Nile region, the founders act under the Eg-NDF according to the NBD agenda and controversial issues (CFA and GERD), as already discussed.

Moreover, the interactions with the NBI or ENTRO occur through the NBD, while in the Arab network, the founders have direct interactions with the Arab League and the Council of Arab Water Ministers.

Accordingly, as discussed by Castells (2016) in chapter three, Eg-NDF plays a 'switcher' role by creating relations with the Nile and Arab networks. These connections increase funding opportunities as well as representation among the other actors. Despite the visible position among the Nile and Arab regions, the impetus of activism is to seize upon global and regional discourses and funding opportunities. The documents of the Eg-NDF and RAED depict the functional/implementation activities instead of transferring the resources or political positions between the two regions and the playing of a broker role.

Furthermore, figure 7.1 shows the types of organisations in the close networks of Eg-NDF: civil society (blue nodes) and governmental entities (green nodes) are more frequent than the research centres (orange nodes). This composition of nodes reflects that actors build a partnership with comparable actors that have similar objectives. The few connections with research centres can be explained by the educational capabilities of the founders: they are highly educated and specialised in the environmental field; therefore, they have been able to conduct scientifically-based research.

Regarding its connections with local CSOs, the Eg-NDF, as the national representative of the NBD, decided which local CSOs can join the NBD network. The founders set two identifiers: one was the location and the second was a subjective assessment. In terms of location, the Eg-NDF designated 17 governorates besides Cairo, which are located on the watershed of the Nile. After that, the founders chose well-known CSOs subjectively (Interview 4). The Eg-NDF built up the list of local Discourse Forums (LDFs), which is evidence of the link between the NBD at the regional and local levels.

However, besides CSOs, this list of LDFs includes individuals and members who are affiliated to the local government apparatus.[45] This combination of membership reflects the notion of partnership as envisioned by the Eg-NDF founders. The interview respondent affirmed that the lesson learnt from their activities constitutes the collaboration between the three sectors: government, the private sector and civil society (Interview 3). Alternatively, the strategy of partnership endorses the network state when the government joins civil society to consolidate its legitimacy. As shown before, Dr. Adly believes in cooperating with the governmental bodies to solve water challenges. However, this relation has not reached significant levels of cooperation with the MWRI although Dr. Adly's organisations, i.e. AOYE, are visible to decision makers as a structured CSO in the water sector (Luzi, 2007).

The CSOs in the LDFs design their annual activity plans and share these with the Eg-NBF that accordingly attempts to fund these activities. The respondent described that their relations with LDFs was strong at the beginning because the Eg-NDF could channel funds to implement local activities, but the shortage of funds turned the strong connections into weak ties. The respective respondent explained that 'this bad relation doesn't come from us or the secretariat [NBD]; it comes from donors' (Interview 3). Moreover, the interviewee pointed out that the conditionality of donors is another reason that constrains the local activities. The donors allocated disbursements for the regional activities in the fields of awareness and capacity building rather than financing the tailored national demands. In view of that, the interviewee demanded at the NBD regional meetings to allocate donors´ disbursements to the national base (Interview 3).

To confront the lack of funds, the Eg-NBF appeals to the local CSOs to include the Nile River in their strategies by conducting low-cost activities such as cleaning up campaigns and advocacy activities in schools (Interview 3). At this point, it is worth mentioning an example of local activities implemented by a CSO in the LDFs in the Beni Suif governorate. The head of this CSO presented these activities at the occasion of the Nile Day (2017) celebrations in Egypt, and the Eg-

[45] The available full list of Eg-NDF members on the NBD website shows the composition of affiliated CSOs. Some of them are faith-based associations (e.g. Ragaa Coptic Charity Association, Deshna and Islamic Charity Association in Farshout); other members are federations of NGOs (e.g. NGOs Federation Union, Nile Basin Media network, and Environmental Union Federation); additionally, the corporate social responsibility (Farid Khamis Association) appears in the list. Accordingly, the scope of operations is broad and includes community development, women, youth, environment, urban, agriculture and media.

NDF respective respondent shared this presentation with me to indicate their relations with the local CSOs. In the presentation, the Nile was framed as a national river, and that Egypt is under threat of losing its Nile share, which is compatible with the global and national discourse of water scarcity. Among the other implemented development activities, the Nile-related actions included awareness campaigns on hygiene and clean water in addition to providing poor houses with water pipelines and cleaning irrigation canals (Abdel Hamid, 2017). So, at the local level, the Nile is framed as a national river due to the shortage of foreign aid to fund exchange visits or other projects as well as the role of the Eg-NDF (broker position) in identifying local activities concerning the Nile.

To conclude, the Eg-NDF has been able to maintain its engagement in the Nile networks due to its long-term expertise in the field of environment and sustainability, which dates back to the 1970s. Accordingly, the founders have been establishing partner relationships with global, regional and national organisations. Moreover, the founders paid attention to structuring these forms of partnership in order to have a legal format which in turn enabled them to move across geographical levels and conduct different activities.

7.3 Youth volunteerism: the Sudanese Youth Parliament for Water (SYPW)

The youth engagement in the SYPW demonstrates how the global discourse of youth participation in decision making has been reconfigured as a response to the political context and Nile politics. The activism of the SYPW is highlighted to reflect professional capacity building and the raising of awareness about SDG 6.

7.3.1 Global thrive: youth engagement in water decision making

Youth involvement in water governance has been advocated by the UN agencies as well as international research organisations. The emphasis on youth resonates with multiple mandates. The foremost one is the population focus as the growth of the youth population in developing countries causes a reflection on their struggle to fetch water for their households; because they

have physical capabilities, their communities ask them to fetch water. Additionally, with urbanization, young people are vulnerable to get adequate public services, including water. Therefore, the UNICEF Chart, for example, emphasises the right of the youth, with children to have safe and accessible clean water (Burleson, 2008; Owen and Goldin, 2015).

Interwoven with this demographic consideration, the development focus also endorses youth engagement to attain participatory and inclusive development. On the other hand, empirical studies capitalise on the agency of youth as an educated cohort who have potentially strong roles to play in conserving the environment and managing water resources (Garcia and Brown, 2009; Ballard et al., 2017).

The global discourse on youth engagement in water governance has been constituted in an increasing number of youth-based organisations and networks. Furthermore, research centres and think tanks have created specialised programs for youth and water. The Geneva Water Hub has a platform that encourages young people to develop ideas about water and peace.[46] Similarly, the International Water Association formulated the Young Water Professionals organisation that aims to provide skills and opportunities for highly educated youth in the water sector[47]. Also, the Water Youth Network is an online platform that works on linking young professionals in the water sector across the world and updating them with research and project opportunities[48].

The WYPW, as explained in chapters five and six, is one among these youth-based entities which targets highly educated young calibres. It promotes youth engagement in decision making and therefore, has sturdy ties with the World Water Forum where the young people can present their ideas to private sectors and ultimately, to decision makers.

In this global dynamic, the founder of the SYPW demonstrated how the global space was the access point to give thrust to civil society at the national level. The founder was introduced to the WYPW during graduate study, which facilitated participation in the World Water Forum in South

[46] See Geneva Water Hub: https://www.genevawaterhub.org/platforms/youth-water-and-peace
[47] See International Water Association: https://iwa-network.org/young-water-professionals/
[48] See Water Youth Network: https://www.wateryouthnetwork.org/

Korea in 2015. On this global scale, the founder delivered a presentation as a young Sudanese person about water challenges in Sudan, focusing on women and the youth (Interview 34).

The founder established the national parliament of WYPW in Khartoum. The establishment did not require a legal and structured foundation. The WYPW is based on volunteerism where the reward for participation is found in the exposure, the experience and the connections that the youth gain due to participation in global events and through interacting with officials, donors and their peers. On the other side, the global youth networks rely heavily on the internet to connect with their nationally based groups and to grow their activities.

7.3.2 SDG 6 as an approach to the Nile

The declaration of the WYPW (2018) identified the role of young people in the water sector by referring to two spheres: nationally, through initiating and conducting tangible interventions in communities; and globally, by advocating ideas to high-level decision makers in international forums.

In Sudan, this activism is constrained to the provision of technical services and the organisation of campaigns at the community level, whereas integration with the water decision-making process has not yet been reached. The SYPW frames the Nile water problem through the lens of SDGs, and not as a transboundary resource challenge.

The team members resonated with this portrayal of their objectives according to SDG 6, and in accordance with general Water, Sanitation and Hygiene (WASH) purposes. Accordingly, they focus their activities on water for household usage (drinking water and sanitation), ultimately aiming to improve the livelihood of those at the grassroots level. However, the Nile question of water shares and dams is politically debated, and it is a sensitive topic not only because of the Nile negotiations but mainly because the natural resources in Sudan have caused conflict. What is more,

senior officials have monopolised the discussions over the Nile, and the opportunity of young people's engagement is therefore confined (Interview 25).[49]

Accommodating these reasons, the SYPW team designed their areas of work into education, awareness, field monitoring, communication and advocacy. For instance, they capitalised on their skills and knowledge to provide technical training for staff members who manage water stations, or philanthropic organisations that drill water wells. Additionally, they organise workshops for their peers in hydraulic engineering. Besides capacity building activities, they interact with grassroots organisations through arranging advocacy and awareness campaigns on water-related diseases, hygiene and sanitation (Interview 25).

Apparently, the SYPW activities employ the global discourse of investing youth capabilities and skills in development. Added to that, the members are volunteers and philanthropic values empower them with the feeling of being active citizens. Nevertheless, the pitfall of volunteerism is that young people are those who are seeking permanent jobs and wish to build a career, meaning that the turnover in the SYPW team has been high. Some team members have had to travel abroad to study, and others got full-time jobs, which reduced their time for voluntary work. Therefore, the SYPW struggles to conduct its activities on a continuous basis (Interview 25).

7.3.3 Linking to research centre, not the Government

As the Nile issues has been reconfigured as a local water resource challenge in the SYPW objective, the founder intentionally sought to link the new initiative to a research centre and not to the Ministry of Irrigation and Water Resources (MIWR), in pursuit of neutrality and independence. However, the revolution in 2018 has re-established a collaborative relationship between the SYPW and the Government.

Since the beginning, the founder situated the SYPW under the auspices of the Water Research Centre at Khartoum University. Becoming hosted by the research centre offered an appropriate

[49] This interview was conducted in April 2018, that is, before the December Revolution in 2018.

space to interlink the activities of a newly established youth initiative, mainly because prominent professors in hydrology, including the director of the Centre, were staunch supporters of the idea of youth engagement; additionally, the founder was working in the Centre (Interview 34). Importantly, she wanted to start the initiative as an independent entity and wished for it not to be affiliated to the Government or other research centres, although some of the officials attempted to include this youth activity under the Ministry. The founder instead promoted being affiliated to the well-known research centre (Interview 34). This clear intention of the founder was different from that of the Eg-YPW, which is attached to the Government, as explained in chapter five above.

Accordingly, the research setting enabled the founder to have an office and to send out a call for volunteers among the young researchers who were connected to the Water Research Centre. In reality, the team members volunteered in organising the events of the Centre. As a reward, the Centre could vouch for their activities and recommended them to the potential partners. For example, the SYPW team assisted in organising one of the Centre's conferences in which the Sudanese MIWR took part. As a reward for their organisational efforts in the conference, the MIWR agreed to supporting them with vehicles and granted permission for them to conduct fieldwork (testing water quality) in a remote area (Interview 25).

Despite such logistical interaction with the Government, the founder deliberately neutralized the relation with the Government or, more precisely, with the Al-Bashir regime. In the beginning, the founder sent an official letter and met with an official in the Ministry as to inform them about this new entity, because she did not want the Government to obstruct the activities and to question them. Particularly 'the initiative faced some problems from the previous government [Al-Bashir government] where they stopped some of their activities and refused to give them permission' (Interview 34). There was a strong possibility the Government accused this young team of getting foreign support, which violated the law.

After the revolution, when the civic activism had been illuminated, some of the team members participated in public discussions led by the political entity 'Forces of Freedom and Change (FCC)'. The discussion was about assessing water resources and needs in the transitional period (Sudan Youth Parliament for Water [SYPW], 2019). The SYPW participation reveals the shift in the

relationship with political entities from impartiality to active engagement. This revolutionary spirit is addressed in the following words by the SYPW founder:

> 'In general, we think that the revolution affected us in a positive way, we have been officially recognized as an important key stakeholder in the water sector in Sudan, this gives the hope for youth in Sudan that they can do a lot.' (Interview 34)

In this quote the founder demonstrates the positive impacts of the revolution on their activities. The number of active members rapidly increased from 300 to 1700 members, spread across villages and cities, while previously they were a small group associated with the university in the field of hydrology. Furthermore, the team is planning to have focal points on the state level and to create a partnership with different stakeholders, unlike before when they were still a low-profile organisation (Interview 34).

Importantly, the relation with the Ministry has been palpably re-established. A group of the SYPW held a meeting with the Minister, introducing the objectives, activities and challenges they have been facing as volunteering youngsters in the water sector. As a response, they got promising support from the Minister (SYPW, 2020). Promisingly, this interaction with the Government was emphasised at the Nile Day celebration in February 2020. The founder explained: 'we [have] been invited to organise the Nile Day in Sudan which is the first time in the history of the Ministry to invite youth initiative to organise this kind of event' (Interview 34). Indeed, after the revolution, the founder capitalised on the participation of Government rather than reconfiguring the Nile as a transboundary resource challenge. Building ties with the top decision makers in the water sector facilitates their movement across states and villages, conducting SDG 6 and WASH activities.

7.3.4 Disconnected in the Nile and connected locally

The WYPW addresses the transboundary water challenge under the articulation of peace and conflict, where youth engagement contributes to attaining 'sustainable peace'. This purpose relies on knowledge and a scientific mode of activism, as well as investing in the youth's educational capabilities (WYPW, 2018).

However, the Nile River issue is not visible as a basin region challenge in the activity of the WYPW. The map of national parliaments on the WYPW website shows only the Egyptian and Sudanese parliaments in the Nile region. The premise of WYPW activities can explain this small number in terms of youth volunteerism; it does not constitute a structured global youth movement.

Despite the low representation of WYPW in the Eastern Nile Basin, which experiences a significant contestation over water, there is no interaction between the Egyptian and Sudanese parliaments. This reflects how the WYPW underpins vertical connections: from the global to the national level rather than boosting regional ties. For instance, the session of Eg-YPW at the World Youth Forum in Egypt, covered in chapter five, was attended by the global board members who delivered speeches addressing the value of 'blue peace' (Whitebrookn, 2019) although peers from the region were not involved. Moreover, the Sudanese interviewee stated there has been a proposal to formulate the 'Nile edition' of the WYPW, but it has not been decided yet to set this up (Interview 34). This mode of ties settles the global board of WYPW as a broker node that national parliaments have to communicate with first.

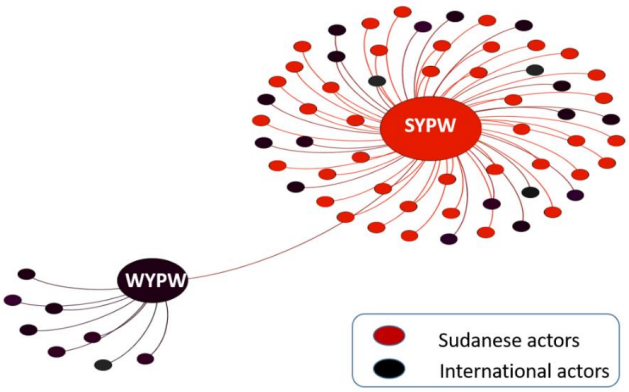
In contrast to the regional disconnection, the building of connections with donors has been striving to consolidate the new youth entity without depending on governmental funds. On the national scale, acquiring financial support from donors implies gaining of independence from the political regime. The founder stated that when she introduced the SWYP to the other national entities, especially the governmental one, by sending a brief of the entity, she deliberately did not ask them for funds; it was crucial for her to promote the mandate of youth engagement in the water sector. She argued that if she had asked for funds, that would have meant a termination of the entity before it had even started, because donors could perceive this as young people seeking personal gains. Therefore, she took one year promoting the idea among the interested organisations, before conducting the first activity (Interview 34).

To be compatible with the scope of youth engagement at the local level and to overcome the shortage of funding, the founder of the SYPW co-established another organisation, 'Young Water Solution', with 16 other international young people in 2015, to be based in Brussels. It aims at

building the capacity of young people to write funding proposals and to network them with donor agencies (Interview 34). So, the foreign fund is an adequate alternative to maintain independency and to finance activities.

Practically, the SYPW has been deploying its activities at the local level in different federal states; particularly after the revolution in 2018. Employing the 'ego network setting' in the Gephi program, I filtered the SYPW network out from the entire network. Figure 7.2 below depicts the ties with local and international entities inside Sudan, and the linkages with WYPW.

Figure 7.2 The SYPW network



Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities The node size of SYPW and WYPW has been changed for illustrative purposes.

The majority of entities are inside Sudan (red nodes), including local/grassroots CSOs, student clubs in universities, and research centres in universities. The SYPW has been collaborating with them to conduct awareness sessions and workshops, and building on these small activities, the SYPW can maintain access to the organisation or local community.

Moreover, inside Sudan, the SYPW has been interacting with the national offices of international organisations (black nodes) including UN agencies (e.g. UNDP, WHO) and donor agencies (e.g.

USAID, Drought Mitigation Program of IGAD). The interactions have been based on participation in consultation meetings and co-organising workshops that target young people. In other words, the youth factor in SYPW has enhanced its position as a representative youth entity in the field of water management; therefore, international agencies have approached them for collaboration.

Besides the connections with international actors inside Sudan, the WYPW is a gate to interact with other global entities. The connections with these global organisations have facilitated the flow of knowledge and innovation. For instance, the SYPW members have participated in global competitions of innovating water solutions

To conclude, although SYPW epitomizes a global organisation, a wide-basin vision is not demonstrated in their activities, the relationships with peer Nile-based organisations are absent. Therefore, the Nile is reconfigured as a public water service issue where highly educated youth can improve it by investing their knowledge, capabilities and volunteerism.

7.4 Contested national politics: Ethiopian diaspora groups

The Ethiopian diaspora groups have been playing a significant role in Eastern Nile politics due to the GERD contestation. Their engagement has not taken a permanent position but instead, their behaviour has become entangled with the contextual national politics. Thus, their transnational network is distinct from the other explained cases in this chapter.

7.4.1 Opposing political regimes

Diaspora groups' capability is found in them sharing their knowledge and the skills they gained outside the country for their home needs. Politically, they can play an advocacy role from two different opposite directions: they can promote the policies of their regime or they can invest their capacities in the countries to take a position against the regime of their original country (Brinkerhoff, 2012).

The voice of opposition Ethiopian diaspora groups started rising after 2005. Lyons (2007) explained that the consequences of the 2005 election[50] have reignited the engagement of the diaspora in politics. Closing the public sphere in Ethiopia gave space for diaspora activism, and some opposition leaders fled out of the country and then were able to lead the opposition from abroad. They employed different strategies for lobbying and communicating with American members of Congress and European institutions against human rights violations by the regime. They utilised internet facilities and established their websites, blogs, radio stations and mailing lists to harmonize their activism and convey their stance against the political regime.

The GERD was evoked in the political contestation, and diaspora groups mobilised it for their political interests. Opposition ethnic groups contested the development claims of the Zenawi regime (1995-2012), that he was able to attain national development by his leadership of the EBRDF coalition and to maintain consensus among political leaders and society. In the development vision, the agricultural sector was the backbone of the economy, but this vision stimulated action by the opposition groups, because it was not built on equal distribution of resources. Moreover, the Tigray region benefited more from the outcomes of developmental projects compared to other regions. Additionally, land distribution was in favour of investors' interests which however deteriorated the conditions of small farmers (Plaut, 2012).

The GERD has not been the first hydraulic project to cause conflict with the regime. Diaspora groups have engaged in resisting the construction of the Gibe III dam[51], and they utilised their capabilities in advocacy and lobbying, besides communication facilities, to challenge the regime's national project (Abbink, 2012).

However, the GERD has given rise to historical, economic and social grievances. At the Nile Basin level, the historical Nile treaties and the Egyptian opposition to the CFA disguised the Ethiopian

[50] The 2005 election included significant participation of opposition parties unlike in the framework of the previous elections (1995 and 2000). The results were contested and ended with arresting opposition and wide violence, detention and human rights violations. On this see: Abbink (2006).

[51] It is a big dam located in the Omo River. It operated in 2015 to generate electricity. However, it deteriorated the livelihood of farmers, surrounding ecology of Lake Turkana that is shared with Kenya. The Government used violence against local people who opposed the Dam. On this see: Carr (2017) and Hailu (2018).

rights to the Nile waters. Economically, food insecurity due to famine cycles and high poverty rates has driven the Government to invest in the agricultural sector. In addition, generating hydropower is essential to overcome electricity blackouts. These layers of grievances fed the social one as the Nile is perceived as a 'source of national shame': the people have not benefited from the river resources and the GERD would redeem this prolonged suffering (Hafez, 2019). Therefore, the GERD has been framed and endorsed by Zenawi and the succeeding political regimes as a symbol of national unity. Despite that, however, it still has been ethnicised in the framework of diaspora groups' activism.

7.4.2 Divergent capabilities

In Nile politics, the Ethiopian diaspora groups have employed the capabilities and facilities they have in their international contexts to endorse their opposing or supportive positions towards the political regime.

An example of a confrontational relationship between the opposition and the Ethiopian regime can be discerned through the activism of some Oromo groups based in Cairo. In 2014 and 2016, these groups held 'Oromia Celebration Day' in Cairo and three obscure Egyptian activists participated in this day. They founded the 'African Parliament Initiative' that aimed to support peoples' rights across the African nations. These Egyptian activists appeared in a video showing the Oromo flag and chanting with words supporting Oromo rights in Ethiopia. Furthermore, the GERD was mentioned in the celebration by referring to Oromia support of the Egyptian historical rights in the Nile waters. The 2016 celebration was under the spotlight, unlike the 2014 one, because it took place while Oromia and Amhara were engaging in uprisings in Ethiopia against the ruling regime. That is why the Ethiopian Government used this incident to accuse Egypt of intervention in its internal affairs (ElShahawy, 2016; Amer, 2014).

While in Europe, the informant demonstrated that the construction of dams by the Tigray Government had not been for all interested Ethiopian people. The informant said that 'the purpose of these dams is manipulation, they told people, if we built this dam, Ethiopia would be number

one in development, but the money is going in their pockets' (Interview 2). Furthermore, the respondent distrusted the Government's argument of the regional benefits of the GERD:

> 'what the Government actually did instead of giving electricity for all Ethiopians, they are exporting it to Djibouti. How that is possible to export electricity while your people are dying!' (Interview 2)

Besides these opposition groups, there were diaspora support groups of the GERD and the Government policies. These groups have built their advocacy to the GERD on the basis of their higher education and professional capabilities. This knowledge capability is framed in the title of an online platform known as the 'Ethiopian International Professional Support for Abay (EIPSA)'. It is a network of scientists in the diaspora who are well-educated and prominent scholars in different fields. Their rationale is based on the Ethiopian rights in the Nile and developing water resources, including the GERD construction. One of the formerly engaged scholars in this network explained why they constituted this group:

> 'This is civil society, by Ethiopians who are supportive of the Dam and they were worried about news reports especially the Egyptian news … in a negative way according to them. But these guys [members of EIPSA] are reading everything between the lines, trying to support as much as protecting the project construction.' (Interview 35)

In respect of this purpose, the network aimed to produce and share accurate information about the Dam in the downstream countries and simultaneously to produce technical studies and share with the Government (EIPSA, n.d.).[52]

These two examples of supporting or opposing the dam revealed the civic public when educated diaspora groups organised themselves to convey information about the dam in order to counter the position of the Egyptian media. In contrast, the Oromo groups capitalised on their primordial

[52] The Nile Club is another example of the intellectual- based organisation. It was established as a response to the increasing contestation over GERD in February 2020. The Organisation has similar aim to the EIPSA which is to 'dispel misinformation' about the impacts of Dam on Egypt. On this see its website: http://thenileclub.com/

connections and organised ethnic-based gatherings and festivals with an attempt to lobby with the Egyptian activists to oppose the political regime, namely the Tigray dominance of the government.

7.4.3 Government mobilisation

The Ethiopian Government considered the financial capability (remittances) of the diaspora in the framework of depending on national funds, not the international donor countries and institutions, to construct the dam. Therefore, the Zenawi Government established the Office of National Council for the Coordination of Popular Participation on the Construction of the GERD to mobilise peoples locally and abroad, as explained in chapter five.

Additionally, the Ministry of Foreign Affairs provided facilities to encourage the diaspora to transform their contributions. For instance, the Ministry of Foreign Affairs released a document containing basic information for diaspora groups and it included a special section for the GERD. It demonstrated how to purchase bonds with all details of bond rates, ways of money transformation and the role of embassies overseas. It is worth mentioning here that the document affirmed that only those of Ethiopian origin have the right to purchase, and it is not open for foreigners (Diaspora Engagement Affairs General Directorate, 2011). This emphasis indicates how the political regime advocates the GERD as an essential component of Ethiopian nationalism.

The result of government mobilization is depicted in table 7.1 below, which demonstrates official numbers of diaspora contributions to the GERD construction in 2016.

Table 7.1 Ethiopian diaspora contribution to the GERD (Purchase of Bonds)

Rank	Global Regions	Bond Purchase (US$)	Diaspora Population (estimated)
1	Middle East	13,310,145	850,000
2	North America	6,896,284	650,000
3	Africa	6,488,622	450,000
4	Europe	6,107,087	550,000
5	Asia	884,004	100,000

Source: adapted from Makonnen (2016:3)

This table reveals higher contributions from the diaspora in the Middle East, the neighbouring region to the Nile Basin, compared to Europe and North America. One explanation is that, for example, the fundraising campaign in the United States of America was challenged by selling bonds without a legal claim from the American authorities. Additionally, some opposition diaspora groups disturbed the campaigns, questioning the rationale of constructing a dam compared to other development needs (Abtew and Dessu, 2019).

Comparable to this explanation, a European-based interviewee demonstrated the absence of participation in the governmental campaigns concerning the dam:

> 'I do not believe in this Department [the Diaspora Engagement Affairs Directorate General] in the Government, they only need diaspora money, and to buy lands to make foreign currency, they do not want soft capital like knowledge. Nowadays, the contribution of the diaspora is more than Government exporting ... So we pay for the country but we do not have a voice, they do not want our political opinion… If you need diaspora you should engage them in all aspects of the country… Me I have the nationality of another country, but still I have the identity of my country and have a strong feeling.' (Interview 31)

By comparison, one respondent who is a scholar explained the motivation of the Middle East diaspora, unlike that of the West:

> 'They [diaspora] were very much longing for the country and many of them are in the Arab countries and the Middle East in temporary bases and then they want to always to go back to Ethiopia… It is not only contributing for the Dam, but they are investing in Ethiopian relatives and small business, they are active to send back more money compared to those in Europe…Then it is easy for diaspora community members in the Middle East to mobilise people that the Dam is your interest in the place you can go back to, the places where poverty reigns, so it is much better to respect your country.' (Interview 35)

The differences between these two understandings provided another layer of how the position of diaspora groups varied due to their relation with the political regime and the strength of connections to home countries.

7.4.4 Continuity of confrontation after 2018

The example of Oromo group activism in Cairo was targeted against Tigray Government autocracy, but in 2018, the Oromo politician Abiy Ahmed seized the top of the EPRDF coalition. Nevertheless, the shift of power led to raising of the Amhara opposition. During the fieldwork in Bahir Dar, the capital of the Amhara region, I encountered this ongoing sentiment from different informants, while discussing their activism in the 'Save Lake Tana Campaign'. They affirmed that Lake Tana is the source of the Nile, not the GERD, and that the Government is applying its efforts towards Dam construction and negating the water hyacinth problem in the Lake. So, the Dam has been ethnicized in the framework of the political confrontation.

Opposite to this voice, there is a narrative that refutes this confrontation in pursuit of national development and underestimates the role of ethnic disagreement on the GERD issue. The respective interviewee stated:

> 'The dam within Ethiopia is widely supported. Only a few people, not very vocally, went against the Dam, stating it is politically not developmentally oriented ... Those people who did not like the Government of the time to put up such a project and to convince the people made political capital out of it, so they formed an opposite pact. But they did not put it openly because the public would not accept it… Mostly their position was similar or close to the position of to the Government of Egypt and opposition segments in Sudan… Putting them in a

> very delicate [position] about with whom you are working, against the country or a political party? … So really, there is no NGO or public association that can work forward to network against the Dam.' (Interview 35)

In line with the articulation of nationalism, diaspora groups in the USA demonstrated to support the Government position in the 2020 negotiations[53] that were sponsored by the American Government. Diaspora groups accused the American Government of not being a neutral international observer, but rather supporting the Egyptian side against the Ethiopian one. During the negotiation sessions in Washington, some of the Ethiopians protested against the American role and position on the GERD issue (Capital Ethiopia, 2020). Additionally, Ethiopian professionals created an online petition arguing that Egypt should decline the reallocation of water shares as Ethiopia and upstream countries have demanded (Negash, 2019). Both actions of demonstrations and petitions are readily available activism tools for Western countries.

To conclude, ethnic contestation has overshadowed the national development of a giant Dam. Both the supporting and the opposition groups have benefited from the capabilities and facilities provided by their diaspora groups. However, because it departs from internal politics, the network is based on ethnicity or nationality. In other words, the driver of diaspora engagement is grievance either against Egypt or against the ruling ethnicity, which is why they did not build ties with other Nile peoples or establish any format of civic initiative that transcended Ethiopian internal politics.

7.5 Knowledge cooperation: the Nile Basin Capacity Building Network (NBCBN)

The Nile Basin Capacity Building Network (NBCBN) is a research-based organisation established in 2000 aiming to build research networks of researchers and universities across the Nile Basin countries. The underlying assumption is that trust building can be attained by networking researchers and the sharing of information.

[53] The Egyptian Government asked the Trump administration and the WB to observe the negotiations on filling and operating the Dam after they had stalled several times. The round started in November 2019, but was suspended again in February 2020 due to the Ethiopian refusal to sign the initial agreement.

Despite the regional vision of Nile cooperation, the NBCBN has been struggling to balance independence and sustaining joint knowledge cooperation among researchers. In that respect, the objectives and activities of its network have been reconfigured to maintain the network's operation.

7.5.1 Creating epistemic community

The Nile is configured as a natural resource that requires science to regulate its flow, exploit its benefits and to manage uncertain environmental impacts affecting it. Given that, scientists play a prevalent role in Nile politics. Therefore, connecting scientists across the Nile Basin was presumed to be a potentially suitable approach to obtain regional cooperation, as explained in chapter six.

Departing from this anticipation, the NBCBN was formulated to create an epistemic community in the Nile Basin where scientists can share their methodologies and knowledge, and collectively provide decision makers with adequate measures regarding Nile policies.

To build up the network, the NBCBN started with Nile Basin researchers who participated in technical hydraulic courses provided by the Hydraulics Research Institute affiliated to the Egyptian MWRI. The respective informant stated that:

> 'We decided to continue as a network because we have a role in the basin, we contributed to building capacity of researchers in research and training and the countries need capacity building all the time, it is not a process to end up.' (Interview 10)

The NBCBN aimed to invest in the relationships that were built up among researchers during training courses through the establishment of joint scientific projects. The membership of the network mainly comprised individual researchers who have a hydraulic-related education, in spite of their affiliation to government, think tanks, the private sector or CSOs. The respective informant mentioned that they have around 500 individuals who have completed the membership form, although not all of them are active members (Interview 10).

This large number of researchers are organised in focal nodes hosted by universities or research centres in the riparian countries. According to the NBCBN website (2020), there are nine official nodes in Burundi, D.R. Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, and Uganda. Being a focal point of the NBCBN allows a research centre or university to join research projects and facilitate interactions on the national level, for example, through assisting researchers from the other universities in the network to access scientific resources or to come into contact with targeted communities (Interview 10).

After launching the NBCBN, the affiliated researchers identified six water challenges in the Nile Basin which became the foundation of respective research clusters. The national focal node that has scientific excellence in the topic became the leading actor in the cluster. For instance, the Ethiopian group led the research on river structures including dams, while the Egyptian research group focused on the geographic information system (GIS) and modelling tool in water resources (Interview 10).

The respective interviewee claimed that the network had a positive impact on the career advancement of researchers who took part in research projects or training courses conducted by the network. The influence is revealed when the researchers occupy executive positions, e.g. a member of the network who was appointed as Minister of the environment in a riparian country, or members who gained positions in NBI projects.

Ultimately, the NBCBN connects specialized researchers and scientists through conducting joint projects where they share their knowledge, and through co-learning. Furthermore, the NBCBN is connected with decision makers, either through the focal points in the riparian countries or at a regional level with the NBI.

7.5.2 Seeking funds and Nile Basin ownership

The underlying assumption of endorsing scientists' engagement is to provide non-biased knowledge for developing the Nile Basin. However, the independence of the NBCBN has been

challenged in the framework of Nile politics. The confrontation over the Nile water shares between Egypt and the upstream countries was highlighted when the NBCBN outlined its independence, with politics stating that Egypt is the host country of the NBCBN which can provoke an Egyptian hydro-hegemony. However, the respective informant has sought to confer ownership of the network to the entire Nile Basin. Despite the emphasis on independence compared to national entitlement, the NBCBN's operation and activities rely on donors' disbursements. In other words, national independence has been a persistent concern rather than donor dependence.

The hydraulic training that formed the basis of the network was funded by the Dutch Government through a UNESCO-IHE project under the objective of capacity building and knowledge exchange for Nile Basin cooperation. The Dutch donor, accordingly, has retained logistical and financial support of the newly established NBCBN in 2000. The fund has contributed to boosting network activities: creating focal points and mobilizing researchers for joint projects (NBCBN, 2020).

Although the Dutch fund continued,[54] its disbursements have decreased. The interviewee attributed this reduction to two factors: one was related to the global economic crisis that led to shrinking financial aid and the second factor was institutional restructuring inside the Dutch Foreign Affairs Ministry, as the water department changed to environment and energy, implying that water became just one component of a broader departmental range. Lack of funds affected regional cooperation, as the respective informant explained:

> 'As long as I [NBCBN] do not have funds, I cannot gather people. I used to do 5-10 trainings before or conduct 35 projects at the same time. For two years now, I did not have research projects because of the lack of funds.' (Interview 10, own translation)

Due to the limited funds, the Nile Basin vision of the network was reconfigured to engage in national/local research projects. The respective informant explained that the network was open and

[54] The Dutch Government, through the UNESCO-IHE, is the main international donor to the NBCBN. The support has been provided since the initial phase, from 2000 to 2005; then from 2006 to 2010 under the project of 'Knowledge Networks for the Nile Basin'. The Dutch fund continues to support the transitional phase of the NBCBN to be an independent entity under the project 'Institutional Strengthening', from January 2016 to December 2020(NBCBN,2020; Technopolis Group, 2018:102-103).

supports national-based research projects, which can be proposed by a member in the network to investigate a local water problem and has acquired funding from the national government. For example, researchers in Sudan applied for funding for a water quality project in Khartoum and obtained it from the Government and FAO at the national and not the Nile Basin level. Similarly, through individual researchers at a national level, connections were created with the Lake Victoria Basin: They jointly applied for funding to cover the second phase of research that used to be supported through the NBCBN (Interview 10). In the meantime, at the regional level, the activities were not of a significantly high level for long-term research projects; instead, training courses became the main activity of the network (Interview 10).

Like in the case of DFID funding of the NBD, generous donor funding is crucial to the success of joint activities, in order to cover costs of transboundary activities. It is evident that the NBCBN has been operating based on donor funding. To compensate for the loss of Dutch funding, the network has applied for research grants and built connections with other research centres, as is shown in the next section.

In comparison to this dependency relation with regard to external funds, the seeking of regional ownership of the network has been a critical issue. The respective informant stressed the dilemma of independence from the riparian governments:

> 'It is impossible that a country owns the network. When we worked in Egypt, we worked equally with all countries with openness and transparency. Accordingly, it is impossible to say Egypt or Uganda owns the network. The ownership is for all countries, and it is crucial that the hosting country, its regulation, allows to work in equality not only regarding water equity but also equality to learn, to conduct research to gain knowledge. It is impossible that one country owns the network.' (Interview 10, own translation)

This sentiment reveals how the burden of Egyptian hegemony lies underneath regional cooperation, and consequently the NBCBN informant averted this vision assertively. According to the hydro-hegemony discourse, Egypt entails 'expert power' besides other materialistic power dimensions. The Egyptian scientists and experts possess the technical capabilities that enable them

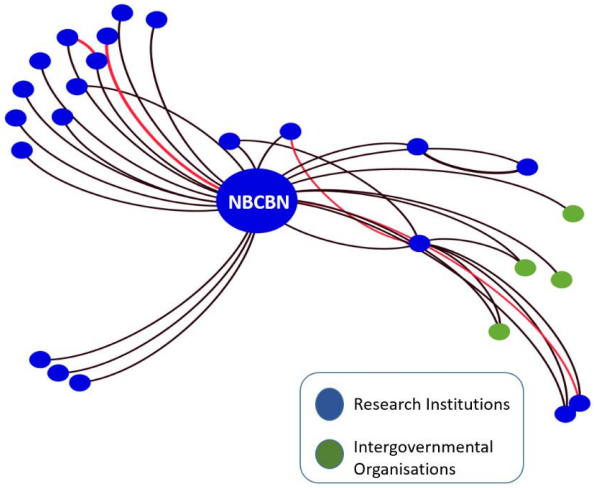
to criticize hydraulic projects in the other riparian countries, such as the GERD, utilizing scientific evidence (Khennache et al., 2017:140). The NBCBN, however, aims to refute the assumption of hegemony by awarding ownership of the network to the whole basin.

In fact, the NBCBN initiated research activities that were coordinated by the Hydraulics Research Institute of Egypt since 1996 and it then became the regional hub of joint research projects. Therefore, it was expected that the steering committee of the NBCBN would decide to keep Egypt being the host country of the network (Interview 10). However, it has disassociated from the Hydraulics Research Institute and became a legally independent organisation in 2018 (NBCBN, 2020). Hence, the optimal objective of the NBCBN is to maintain its credibility by producing non-biased knowledge.

7.5.3 The Basin-wide network

As mentioned before, the essence of the network is to connect researchers across the Nile Basin. Therefore, Nile-based universities are depicted in the SNA produced by network analysis below. However, to conduct joint projects, global research centres and think tanks also occupy significant positions in the network. As shown in figure 7.3, the NBCBN plays the role of network-making within the Nile Basin, by building ties with research entities in the Nile Basin and connecting them with international research funds. By filtering the NBCBN network from the entire network of the Eastern Nile Basin, it is shown that research institutions (blue nodes) are the prevailing actors. Additionally, intergovernmental organizations, namely the NBI, ENTRO, NELSAP, and the Nile Technical Advisory Committee (Nile-TAC), have direct connections with the NBCBN. The interactions with research institutions (black lines), either the universities in the Nile Basin countries or hydraulic research centres outside the Nile Basin region, are based on knowledge sharing by conducting joint research projects. However, some of these connections entailed funding and organisational ties (red lines): the UNESCO-IHE has been providing financial and research support, with the Hydraulics Research Institute in Egypt having been the host organisation.

Figure 7.3 The NBCBN network



Source: own graphical representation produced by Gephi software. It is based on data collected from interviews and internet resources of civil society organisations, initiatives and research entities The node size of NBCBN has been changed for illustrative purposes.

Besides networking, the role of focal point institutions in the Nile Basin countries is to facilitate communication and the work of researchers who can communicate with governmental organisations to acquire data; however, the NBCBN does not function to communicate directly with governments to get data like the NBI does which has legal foundations to do so. The network, by comparison, can support efforts with letters and through acknowledgements only. This division of roles between the country nodes and the regional one (i.e. the NBCBN) reveals the concern of independence from national governments. The respective informant framed it in the sense that the objective of the NBCBN is to 'generate knowledge, not to collect knowledge' (Interview 10).

Joining an international network is another tool to keep informed of new research grants and to build up connections with peer research centres in the water sector. The NBCBN is part of Cap-Net UNDP, a global network that has a regional network focused on the Nile called the IWRM

Capacity Building Network for the Nile Basin (Nile IWRM Net), hosted by Sudan (NBCBN, 2020).

The NBCBN approaches the Nile interaction from the hydraulic science lens, which takes the ecological uncertainty of the Nile into consideration. However, the network has slightly broadened its spectrum of activities and started engaging in non-technical research projects and programs. This has happened mainly through a project on capacity building of scientists for public communication, in addition to the hosting of a workshop about youth capacity building in water diplomacy (Goubert et al., 2019). Still, these activities underline capacity building, which is within the scope of NBCBN activism in the Nile.

7.5.4 The challenge of Nile cooperation

The ultimate objective of the NBCBN is to be a regional entity within the epistemic community of the Nile Basin and to produce impartial scientific knowledge. However, Nile politics, mainly the relationship with the NBI and GERD contestation, have affected the regional orientation.

Regarding the relation with the NBI, both the NBCBN and the NBI employ scientific-based activities. Therefore, there is a competitive relationship in terms of getting funds and conducting transnational research projects or courses. However, the NBI has the advantage of being an intergovernmental organisation, hence its appeal to scientists and researchers. Therefore, the respective informant described the NBCBN as a 'tiny network' compared to the NBI and other regional organisations in the Nile Basin, such as the LVBC (Interview 10).

Nevertheless, the history and mandate of the NBCBN encourages cooperation with the NBI as both are working in the same region and the Nile researchers interact with both organisations. Accordingly, the NBCBN has an MoU with the NBI for sharing data and research activities, as was particularly the case during the implementation of the SVP (2003-2009). However, the outcome has been a 'very neutral' cooperation, according to the informant, because the two entities collaborated at a minimum level, such as sharing the costs of trainees, but not developing a basin-

wide research project (Interview 10). Despite that, the NBCBN has included in its transnational aims the objective of 'strengthen[ing] linkage with the NBI and other relevant regional/international/national institutions (Partnership)' (NBCBN, 2020).

Apart from hurdles to organisational relations, another challenge emerged after Egypt revoked its full participation in the NBI's activities in 2010. As a result, individual researchers cannot take part in research projects sponsored by the NBI because of the political position of the state. Egypt's suspension of its membership in the regional level disconnects researchers from the regional technical and knowledge exchange. Driven by the epistemic mission, the informant asserted that Egyptians also have 'technical rights'. The political position has negatively affected the Egyptian researchers in the experience and knowledge that they could gain if they were involved in the NBI regional projects (Interview 10).

The second challenge for the regional scope that the NBCBN has encountered concerns the dilemma of the GERD. Mainly, the giant dam contests the objective of non-biased knowledge as urged by the NBCBN. The informant observed that the GERD has negatively influenced cooperation with Ethiopian researchers and entities, e.g. data sharing became problematic. Additionally, the researchers adopted the state's vision in scientific debates. Before the GERD, there was joint research between the Ethiopian and Egyptian researchers on the impact of climate change on water infrastructures. After the GERD, however, the Ethiopian researchers 'politicised' Nile cooperation and that contradicts the mission of the NBCBN (Interview 10). Concerning the politicisation of scientific cooperation, the respondent affirmed that the NBCBN cannot engage in a research project about the GERD as long as there is no validated scientific data. Any research conducted would be interpreted as biased because of the absence of data, and this would lead to a situation where regional cooperation is thwarted (Interview 10).

To sum up, the NBCBN epitomised the global discourse and the regional vision that science is the impetus of regional cooperation. However, generating impartial knowledge without national considerations has impeded the building of a regional epistemic community.

7.6 Preliminary conclusion

The cases discussed reveal how the Nile issue is approached from different angles, including aspects such as the environment, sustainability, service provision, science and national development. According to these approaches, the actors have configured the Nile River relationships either as focused on one basin (NBCBN and Eg-NDF) or as a watercourse that runs within a sovereign territory (Ethiopian Diaspora and SYPW).

Therefore, the focus across levels is not comparable in these cases. Both the NBCBN and the Eg-NDF emphasise the regional scale in their mission and activities; furthermore, they frame the issues as intertwined with the global scale, by adopting a global discourse and receiving funding on the global level. By comparison, the national/local level is the sphere of the Ethiopian diaspora and the SYPW, and they are less connected with the global level.

Except for the Ethiopian case, the three organisations were founded on the basis of external support from donors, and they have linked their activism through the availability of financial resources. Therefore, they have built their networks with global actors and strengthened it by contextualizing global discourses of sustainability (i.e. focused on the SDGs) or scientific knowledge. Thus, their networks are not autonomous, but are formulated mostly around a single issue, either 'development' or 'the environment'. In contrast to this, the engagement of the Ethiopian diaspora is autonomous, because it is built on primordial connections and has evolved around one event rather than a specific issue.

The relationship with government has deliberately been considered in the spectrum of partnership with governmental entities (Eg-NDF and SYPW after the revolution), to support their local activities. In the case of the NBCBN, Nile Basin ownership was flagged. Accordingly, the activism of these three cases does not contest state policy in Nile politics. While the Ethiopian diaspora case defines the relationship with the government according to ethnic politics, it is hence situated between contestation and advocacy to the regime's policy.

Establishing transnational ties with regional entities is significant in both cases - the Eg-NDF and the NBCBN - because the regional connection is an asset of their power within the Nile network. Therefore, they have invested in joining or applying for funds that connect them with other actors. In contrast to this, the SYPW and Ethiopian diaspora activism is bounded by national or locally based actors with almost no ties within the Nile Basin. This difference is because of variation in the Nile configuration. Additionally, the organisational structure of the Eg-NDF and the NBCBN facilitates their movement within the entire Nile Basin network, while the Sudanese case is still in the initiation phase, and the Ethiopian case does not represent a permanently inclusive group.

The divergence and convergence between the cases in this chapter elucidate why the overall structure of the Eastern Nile Basin is clustered. Moreover, the positions of different types of donor agencies in the Eastern Nile Basin network vary significantly.

Chapter Eight

Synthesis, Conclusions and Future Research

ونيلاً ما نضب نبعو
The Nile, whose source is never depleted
على مر القرون منساب
He flows through the centuries
حبابو العشنا خيراتو
We welcome him; we've enjoyed his blessings
تدفق لا فتر لا شاب
He flows, never wearing out, never aging
-Sudanese song [55]

8.1 Synthesis

This research argues that civil society has a role to play in transnational engagement in the Eastern Nile Basin, despite the dominance of the interstate arguments in Nile politics. Since the establishment of the NBD in 2003, there has been constant civic engagement across the entire Nile Basin. Different civil society actors have evolved and become involved in various transnational activities in the Eastern Nile Basin.

The global discourse of the necessity of involving civil society in water governance as captured in water studies discussions has been a significant driver behind transnational civic engagement in the Eastern Nile Basin. Nevertheless, the national determinants and dynamics of regional relations between the riparian countries have contributed to shaping the narrative of civic engagement amidst contested issues. Therefore, the Nile River has been reconfigured across national, regional and global scales in civil society activities.

[55] Halat Baladi (My Beautiful Country) is a Sudanese song. The songwriter name is not validated; some resources refer to Mustafa ar-Rakkaabi. These phrases were translated by Hatim Eujayl (2020).

8.1.1 Global catalyst and national determinants

The majority of civil society cases in this research have demonstrated the influence of global discourse regarding the role of civil society as a bridge between the grassroots level and decision makers on one hand and as a distributor of water concepts and policies from the global level to the regional and national levels. Complementing this global framing of civic engagement, the patterns of financial and logistical support have contributed to the rising prominence of civil society's involvement in the field of water development.

The global doctrines of sustainability, development and protection of the environment have shaped the mission and strategies of different nationally based CSOs and this alignment with the global vision has contributed to them gaining a position in the Eastern Nile network. The cases of the Eg-NDF and the SYPW (chapter seven) have amplified this scalar configuration. In the same vein, the mainstream water ideas such as those articulated by the IWRM have been imposed from the global research centres such as the GWP and the IWMI on regional and national levels. Through their offices in the Nile Basin (chapter six), they diffuse certain concepts and policies of water governance. As a result, CSOs configure the Nile and its challenges according to these top-down global doctrines particularly based on the availability of respective funds.

The development endeavour to water governance has devalued the political role of civil society. The global actors, including donor agencies and global research centres, play the role of 'networking making'; therefore, they have defined the objective of the network according to their capabilities and priorities and maintained the power of the network by funding projects either in the whole basin or on national and local levels.

The relationship between the NBI and the NBD, as river basin organizations, is a manifestation of depoliticized development. As explained in chapters five and six, the objective of creating the NBD was to legitimize water development projects designed by the NBI. However, the technical process of engaging the NBD has been criticized by NDFs, underlining time shortages and limited discussion (see for example the case of the Eg-NDF in chapter seven). Evidently, the NBI has been

dealing with civil society as a project stakeholder rather than as citizens who can contend with the River's development policies. Therefore, the professional CSOs (e.g. the NBCBN) have the opportunity to interact with the NBI and ENTRO more than grassroots organisations do. The calibre and organizational capacity of CSOs have promoted their engagement in discussing the technical hydraulic data of designed projects.

However, although the NBD is the regional platform and its representatives participate in general forums, they do not constitute a critical mass that can influence decision makers on political issues such as water shares. As demonstrated in chapter seven, the NBD and national civil society actors have been excluded from the negotiations over CFA and the GERD. Instead, the NBD's role is confined to sharing information and plans of water development projects, as stated in its MoUs with the NBI and ENTRO, respectively (chapter six). Accordingly, the global discourse drives CSOs to practical involvement in Nile governance in order to mainstream certain water doctrines.

On the national level, the political regimes in the three countries support civil society that provides public service. The political context of civil society actors is restrictive and they are not able to contest or at least criticize their governments. Therefore, the governmental bodies join or facilitate depoliticized activities such as improving water quality or irrigation canals, besides awareness campaigns. Therefore, in the Eastern Nile network, the civil society actors that have aligned their vision with development and have indulged neoliberal practices, have an opportunity to perform in a wide range of regional and international organisations when compared to more radical civic activism, such as anti-dam movements.

Despite adopting the development role of civil society, the geopolitical circumstances in the Eastern Nile Basin reveal the political dimensions of transnational civic engagement. Although Waterbury (2002) cited the lack of domestic interests in Nile politics because of state dominance, civil society actors have demonstrated palpable engagement, as was discussed throughout the chapters of this dissertation. Yet, his argument could partly explain the influence of national determinants instead of the existence of a 'basin-wide regime'. On the highly contested issues in the Eastern Nile, namely the CFA and the GERD, civil society actors have defended national interests while participating in transnational activities.

The statements of NDFs on CFA (chapter seven) have demonstrated the opposite positions between Egypt as downstream (focused on historical rights) and Ethiopia and Uganda as upstream countries (focused on equitable water shares). Although the NDFs collaborate under the auspices of NBD activities, the national determinants have been highlighted in the framework of this contested issue.

Furthermore, the engagement of scientists and experts has not secured a depoliticized discussion of Nile affairs, as has been widely assumed; instead, the examples of the GNB in Egypt (chapter six) and EIPSA in Ethiopia (chapter seven) have revealed how technical debates over a contested water issue were unable to renounce the national interests.

In sum, the global thrive to gain governmental consensus have framed civil society's role in depoliticised activities for development purposes away from the more contested politics of the Nile River. In spite of this, national interests have been entrenched in the position of civil society actors regarding the geopolitics of the Eastern Nile Basin. Accordingly, in the Eastern Nile Basin, there has been no one network – or network power according to Castells (2016) - created collectively by civil society actors that could establish a common discourse about Nile development and politics. However, civil society actors are not 'inseparable from transactional contexts' (Emirbayer, 1997:287); therefore, they have reconfigured their scope of work and connections along with the changes in the political regimes (see the SYPW and the Ethiopian diaspora groups) or according to the availability of funds and governmental positions (e.g. the NBCBN and the Eg-NDF).

8.1.2 Reconfiguration of the Eastern Nile Basin's geopolitics

The global and regional doctrines have advocated the narrative of unity and collectiveness in governing transboundary rivers and water flows. From an ecological perspective, global environmental challenges have motivated collective actions to mitigate destructive impacts or to work towards achieving human justice and prosperity. Compatible with this collective take, the international law of water endorses the principles of 'no harm' and 'equitable use' in governing shared watercourses. Building on that, a river basin organisation has been established to employ

cooperation among the riparian countries, to develop the shared river. Moreover, both the NBI and the NBD advocate for 'One' in their slogans. For the NBI, it is 'One River, One People, One Vision' and for the NBD it is 'One Nile, One Family'.

Despite the prevalence of collective thought, civil society activism in the Eastern Nile Basin has challenged the grand notion of unity. In reality, actors have been moving driven by their own interests, benefits and strategies.

There are cases which have departed from local contested interests, such as the Ethiopian diaspora group (chapter seven) and the anti-Kajbar dam movement (chapter five). In these cases, the Nile has been reconfigured as an ethnic river, because the national development had been planned against the ethnic groups' interests and benefits. Furthermore, the cases of the Egyptian public diplomacy delegation in 2011, the Nile Project and the Nile Forum have configured the Nile River as a basin due to the GERD factor (chapter five). The examples that have projected local or national interests to regional scales, are not prevalent in the Eastern Nile politics when looking at the global conceptualisations. In parallel, the hydraulic attributes linked to Nile issues have significantly reconfigured the vision of activism on the river, seeing it as a sovereign water resource or a basin.

The different cases of civic activism in Egypt are entrenched in the fact of being a downstream country. Therefore, their activism portrayed the Nile as one basin, because it is a comprehensive vision of the river securing the flow of water. The Egyptian public diplomacy delegation in 2011 urged that cooperation is inevitable to benefit from the Nile's resources. The Nile Project has emphasised the cultural bonds along the river, for example based on musical performances. Even the contestation during the phase of the establishment of the NBD (chapter five) was one between two Egyptian activists and ended with a leading role by the founder of the Eg-NDF (chapter seven). Evidently, Egyptian civic engagement in Nile politics has carefully conceptualised the Nile as a basin, notably because of its location at the end of the river.

Conversely, in Ethiopia, engagement has enunciated a national conception of the Nile. The layers of grievance have shaped ethnic and national activism. The GERD has led to the unfolding of historical, economic and social grievances. The divergence of diaspora groups' positions towards

the GERD have illustrated national grievance against the downstream countries as well as political grievance against the dominant political ethnicity, as discussed in chapter seven. Accordingly, the Nile was largely conceptualised as a national resource.

In Sudan, however, the abundance of water resources, combined with a dysfunction of infrastructures to mitigate floods, along with displaced communities, has conceptualised the Nile as a local river. The cases investigated have demonstrated how CSOs and initiatives have come about to help communities by providing water (e.g. the Sadagaat organisation) or alleviating water disasters (e.g. the Nafeer initiative). Therefore, charity and humanitarian interventions have been employed at the local level. Opposite to that, the consequences of dam constructions have endorsed anti-dam movements. Moreover, because the displacement was deployed for certain communities or ethnicities (e.g. Nubian), activism has been created along ethnic lines and then networks were established with the groups affected by other dams (an example being the connection between the anti-Kajbar dam movement with the Halfa people, who were displaced in the 1960s due to the High Aswan Dam). These examples of Sudanese activism have reconceptualised the Nile from their local scope and from ethnic concerns.

Accordingly, the empirical findings of this research, based on case studies, interviews and network analysis, have demonstrated that the global discourse of sustainability and development has created a common cause for South-South collaboration among CSOs in the water field, also in the Nile basin. Yet, the preliminary visions or positions of civil society actors, partially driven by local concerns, have countered a potential broad collaboration between respective actors.

8.2 Conclusions

This research has explored civic engagement in Eastern Nile politics and the activities and linkages between respective actors by applying a network approach delineating the myriad connections and interdependent motions of civil society actors. The networking approach allowed to demonstrate civil society engagement from an international relations perspective, unlike in the majority of cases of water studies where the domestic domain of civic engagement has been emphasized.

From an international relations theoretical perspective, the network approach corresponds with relational thinking. The complexity and uncertainty of global challenges, including governance of transboundary water resources, transcends the dualist paradigm of classical international relations theories. Nile politics has been characterized by a complexity of variables (water scarcity, ecological threats, historical treaties, regional institutions) that has delineated the course of interactions as simultaneously conflictual and cooperative. Accordingly, Eastern Nile politics has constituted 'inter-actions', where the riparian countries' behaviours have drawn from relations and not only from absolute capabilities. The riparian countries have defended their interests in water shares by constituting relationships with other actors, including international intergovernmental organisations, non-Western investors, the North-based conventional actors, in addition to the lobbying of upstream countries.

The Nile waters have been a central natural resource in the national development strategies for the three countries analysed in this dissertation. It is apparent that water policies such as reclamation or dams or the use of hydropower have been introduced for people including civil society as a technical strategy to mitigate water scarcity and enhance the economic benefits of the River's resources. Therefore, many civil society organisations and initiatives have conducted non-political activities (e.g. awareness campaigns and water provision) to govern and improve the scarcity of water. Despite the mainstreaming of the development discourse, the main premise of contestation in the Eastern Nile Basin is the reallocation of water shares. As a result, civil society actors carry their national political positions regarding water shares into their transnational activities and employ the development targets to convene political stands. Hence, the context of civic engagement in the Eastern Nile Basin has been shaped by development purposes as well as national positions toward Nile politics.

The patterns of civic engagement in Eastern Nile politics has demonstrated the presence of civil society actors from two different civil society realms. Particularly, this research has capitalized on the action of engagement of different civil society actors (represented as nodes) rather than circumscribing the activities by investigating structured interaction and registered CSOs only. The centrality of the Nile River in livelihoods of the riparian peoples has displayed endured civic activism in different formats: NGOs, youth initiatives, and loose collective action such as by

diaspora groups and public diplomacy delegations. All of these formats have demonstrated that both primordial and civic publics have engaged in Nile politics. Nevertheless, exploring the transnational interactions across the Eastern Nile Basin has demonstrated that the majority of investigated cases occupy an intermediate space between the grassroots level and the international one, compatible with the global discourse on the role of civil society.

In conjunction with global support, Nile politics is underpinned by the role of donors. The different types of foreign actors (such as research centres, bilateral aid agencies, and global intergovernmental organisations) have contributed to creating CSOs (e.g. the NBD), providing disbursements to conduct transnational activities (e.g. the NBCBN) or framing the mandate of activism (e.g. the SYPW). Actors belonging to the primordial public have relied on diaspora or community support and have a different vision compared to the national one. Consequently, they do not occupy a position of closeness to the state or donor actors and they are located at the periphery of the Eastern Nile network.

Civil society actors in the Eastern Nile Basin have developed transnational relations around patterns of knowledge exchange, technical capacity building, the provision of public water services and advocacy. Apparently, environmental challenges and uncertainty have implicitly constituted the rationale for activities. Donor agencies, research centres, and governments support and facilitate such apolitical activity types. Accordingly, a component of respective ties are tangible materials, namely funds, as well as intangible resources, when actors share knowledge and experience across levels and scales of governance. Thus, the ties in the Eastern Nile network, in a network analytical perspective, are undirected ties.

The majority of linkages between the actors in the Eastern Nile network has been structured under the frame of partnership arrangements. Furthermore, many of the conducted activities have been in project or program format. Therefore, the strength of ties is generally weak and unsteady, because it relies fully on the availability of funds.

The empirical data collected for this research have demonstrated that the Eastern Nile civil society actors, in general, do not invest in the tools of building coalitions and conducting lobbying

activities across the riparian countries even though the causes of their interests to engage in Nile affairs are comparable to each other.

Given the pattern of nodes and the modest strength of ties, clustering is a significant feature characterizing the Eastern Nile network. Civil society actors have significantly rescaled national activism to a regional one when the NBD was established. In addition, allocation of financial disbursements to Nile development has caused the range of activism to be closely interwoven. Accordingly, external actors possess the power of 'network-making', which delineates the main features and functions of the Eastern Nile network.

Civic engagement in Eastern Nile politics is muted, because the majority of civic engagement activities have evolved around non-political development approaches. Importantly, civil society has not been involved in political negotiations over the contested issues in the Nile (most notably, the CFA and GERD), although the majority of investigated civil society actors in this research aligned with the respective national positions.

Hence, the findings of this research contribute to shift the discussion about the prospective role of civil society in Nile Basin studies, to a goal of investigating their existing positions, power dynamics and interlinkages with conventional actors (the state, donors, and intergovernmental river organisations). The complexity of these patterns have been captured by network analysis and by information derived from interviews and fieldwork, as conducted in the framework of this dissertation.

8.3 Future research

Nile Basin affairs involve issues of low and of high importance, with civil society being allocated the low/depoliticized issues. However, the Nile is a shared river and its transnational politics are entangled with general state-society dynamics. Thus, transnational civic engagement should be politicized (not nationalized), because of the centrality of the Nile to the riparian peoples; Nile Basin contestation is political and not only about development of its resources. Further research is

required to enrich Nile studies with the potential roles to be played by civil society. There are two areas to investigate:

1- The role of anti-dam movements. The Nile River has been transformed by the construction of many and different types of dams. Recently the GERD has created tense contestation between upstream and downstream countries. However, it can be an opportunity to explore civic engagement in the GERD and compare this pattern with engagement related to other dams in the Nile Basin. This could contribute to establishing a strand of studies on anti-dam movements in the Nile.
2- This research has focused on the Eastern Nile Basin, but civil society in the other sub-basins is also active, notably in the Lake Victoria basin. Accordingly, comparative studies between these Nile sub-basins could illuminate the divergence and convergence of factors and respective patterns of civic engagement.

In addition to these examples of possible future research, a policy recommendation can be offered to promote connections among civil society actors and organisations in the Eastern Nile Basin. The respective network is clustered, as has been shown in this research. However, social network analysis provides a distinct perspective on such poorly connected networks. Granovetter (1973) argues that strong ties are not the only indicator of a comprehensive network. By comparison, weak ties can uphold the network if 'more people can be reached through weak ties' (Granovetter, 1973:1369). In view of that, global and regional donors can adapt their influence on network-creation and rather invest in organising activities bridging multiple clusters in the Eastern Nile network. That might help civil society entities to develop a consensus on Nile affairs in the long run.

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Annex (1) List of interviewees (Selection)*

Number	Affiliation	Country	Date of interview
1	The Nile Project	Egypt	1 November 2017
2	Ethiopian diaspora	Europe	1 November 2017 *Interview was conducted in Egypt
3	The Egyptian Nile Discourse Forum (Eg-NDF)	Egypt	5 November 2017 *Interview was conducted with another PhD researcher who I met in the field and we planned to interview the same informant.
4	Lake Victoria Basin Commission Secretariat, East African Community	Kenya	4 December 2017 *Interview was conducted in Entebbe - Uganda
5	The Nile Basin Initiative (NBI), Secretariat	Uganda	5 December 2017
6	Nile Basin Discourse (NBD)	Uganda	8 December 2017
7	Global Water Partnership- Egypt office	Egypt	17 December 2017
8	The Fathers Jesuits Centre in El Minya	Egypt	20 December 2017
9	Egyptian public diplomacy delegation to Ethiopia in 2011	Egypt	21 December 2017
10	Nile Basin Capacity Building Network (NBCBN)	Egypt	24 December 2017
11	Egyptian public diplomacy delegation to Ethiopia in 2011	Egypt	26 December 2017
12	Advisor at GIZ	Egypt	27 December 2017
13	Egyptian public diplomacy delegation to Ethiopia in 2011	Egypt	27 December 2017 *By telephone
14	Care International – Egypt office	Egypt	31 December 2017
15	Advisor at GIZ	Egypt	2 January 2018
16	Former official in the Nile Basin Discourse (NBD)	Uganda	30 January 2018 *Interview was conducted in the Netherlands
17	International Water Management Institute (IWMI)- East Africa and Nile Basin office.	Ethiopia	23 February 2018
18	The Social Development and Communication Unit at the Eastern Nile Technical Regional Office (ENTRO)	Ethiopia	24 February 2018 27 February 2018

* In the fieldwork, 60 interviews were conducted in total (see annex 2); however, only 38 interviews were deemed appropriate due to the quality of answers provided; therefore, they were included into the actual analysis.

19	The Office of National Council for the Coordination of Popular Participation on the Construction of GERD	Ethiopia	26 February 2018
20	The Office of National Council for the Coordination of Popular Participation on the Construction of GERD	Ethiopia	26 February 2018
21	Technical Assistance Unit for Civil society fund II, EU- Addis Ababa	Ethiopia	28 February 2018
22	The Hydraulics Research Centre, HRC-Sudan	Sudan	12 March 2018 *Interview was conducted in the Netherlands.
23	Former consultant to the Confidence Building and Stakeholders Involvement in the Nile Basin Initiative	Sudan	18 April 2018
24	The Environmental Initiative for Sustainable Development	Sudan	21 April 2018
25	Team members of the Sudanese Youth Parliament of Water (SYPW)	Sudan	23 April 2018
26	The Sudanese-Egyptian Friendship Organisation	Sudan	24 April 2018
27	Local community members in Tuti Island	Sudan	24 April 2018
28	Youth committee of anti-Kajbar dam movement	Sudan	25 April2018 *By telephone
29	Members in Nafeer	Sudan	25 April 2018
30	Former member in Sadagaat	Sudan	23 April 2018
31	Ethiopian diaspora	Europe	15 August 2018
32	Amhara Regional Environmental Authority	Ethiopia	9 October 2018
33	Organization for Rehabilitation and Development in Amhara (ORDA)	Ethiopia	10 October 2018
34	Founder in The Sudanese World Youth Parliament of Water	Sudan	*Interview on 11 October 2018 *Email- correspondences on: 25 February 2020 7 May 2020 23 July 2020
35	A scholar who was a former member in Ethiopian International Professional Support for Abay (EIPSA)	Ethiopia	17 October 2018 *Interview was conducted in Egypt
36	The Regional Centre for Water Ethics- MWRI	Egypt	14 October2018
37	Nile Water Sector- MWRI	Egypt	22 October 2018
38	The NGO Forum - Egypt and Sudan for Population and Development	Egypt	7 November 2018

Annex (2) Types of interviewed actors

Gov. Entity	Intergovernmental organization	Donor Org.	Global Think Tank	Local CS	Regional CS	Int. CS	Individual activists	Individual consultant/researcher
The office of national council for the coordination of popular participation on the construction of GERD (Eth)-(2 persons)	The Nile Basin Initiative (NBI) Secretariat (Ug)-(3 persons)	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Egypt (Eg)-(2 Persons)	Global water Partnership – East Africa / Egypt national office (Eg)-(1 Person)	Egyptian Association for Collective Rights (EACR) (Eg)-(1 Person)	The Nile Project (EG)-(1 Person)	Agriculture and natural resources management program, Care international-Egypt (Eg)-(1 Person)	Politicians – participants in the public diplomacy delegation to Uganda and Ethiopia in 2011 (Eg)-(3 persons)	The Hydraulics Research Centre, HRC-Sudan (Su)-(1 Person)
Transboundary resource affairs directorate, Ministry of Foreign Affairs (Eth)-(1 person)	The Eastern Nile Technical Regional Office (ENTRO) (Eth)-(1 Person)	The Technical Assistance Unit for Civil society fund II by the EU (Eth)-(1 Person)	Office for East Africa and Nile Basin in The International Water Management Institute (IWMI) (Eth) (2 Persons)	The Fathers Jesuits center in El Minya (Eg)-(1 Person)	Nile Basin Discourse Secretariat (Ug)-(3 persons)		The youth committee in anti-Kajbar dam movement (Su)-(1 Person)	Advocacy/ independent senior consultant on water for the NBD (NL)-(1 Person)
Egyptian Ambassador in Khartoum (Eg)-(1 person)	The East African Community Lake Victoria Basin Commission Secretariat (Ky)-(1 Person)			Nafeer Team (Su)-(2 persons)	Egypt National Forum of the Nile Basin Discourse (EG)-(2 Persons)		Diaspora activists (Eth)(2 Persons)	Africa - Water and Society – Institutional Capacity Building in Water management and Climate Change adaptation (Ug)-(1 Person)
Amhara Regional Environmental Authority (Eth) (1 person)				The Environmental Initiative for Sustainable Development (Su)-(1 Person)	the Federation of Friendship Organizations (Su)-(1 Persons)			The chair of the Environment and Climate Change Committee at the National Academy of Sciences (SNAS) (Su)-(1 Person)
Abbay Basin Authority (Eth) (1 Person)				The El Gezira and El Managil Farmers Alliance (Su)-(2 Persons)	The Nile Basin Student Union in Cairo (EG)-(1 Person)			Professors of sociology and Political Science at Khartoum University (Su)-(2 Persons)

Tana Sub Basin Organization (Eth)-(1 Person)				Malam Darfur for Peace & Development (Su)-(1 Person)	Nile Basin Capacity Building Network (NBCBN) (Eg)-(1 Person)			Professors at the Blue Nile Institute, Bahir Dar University (Eth) (3 Persons)
The Regional Center for Water Ethics (Eg)-(1 person)				Tuti Island community activists (Su) (2 persons)	The National Chapter of World Youth Parliament for Water (Su)-(6 Persons)			Political Scientist at Addis Ababa University (Eth)-(1 Person)
The Nile water Sector in The Ministry of Irrigation and Water Resources (Eg) (1 person)				The office of Ethiopian catholic church social development commission - coordination office in Bahir Dar (Eth)-(1 Person)	The NGO Forum - Egypt and Sudan for Population and Development (Eg)-(1 Person)			
				Organization for Rehabilitation & Development in Amhara (ORDA) (Eth)-(1 Person)				
				Activists in the campaign of save lake Tana (Eth)(3 Persons)				

Annex (3) List of nodes and ties of SNA

A: List of nodes

ID	Entity	Country	Type
1	Abbay Basin Authority	Ethiopia	Government
2	Addis Ababa University	Ethiopia	Research
3	Amhara Regional Environmental Authority	Ethiopia	Government
4	Global Coalition for Lake Tana Restoration	Ethiopia	Civil society
5	Blue Nile Institute - Bahir Dar University	Ethiopia	Research
6	Beles Sub-Basin Organization	Ethiopia	Government
7	Bahir Dar University	Ethiopia	Research
8	Development Bank of Ethiopia (DBE)	Ethiopia	Government
9	Ethiopia - Yisakal Entertainment	Ethiopia	Company
10	Ethiopian catholic church social development commission coordination office Bahir dar	Ethiopia	Civil society
11	Ethiopian Diaspora Trust Fund	Ethiopia	Government
12	Ethiopian Forum for Social Studies (FSS).	Ethiopia	Research
13	Ethiopian Institute of Water Resources	Ethiopia	Research
14	Ethiopian Orthodox Church	Ethiopia	Civil society
15	Ethiopian-NDF	Ethiopia	Civil society
16	GERD National Council	Ethiopia	Government
17	University of Gondar	Ethiopia	Research
18	Government of Ethiopia - Ministry of Environment, Forest and Climate Change	Ethiopia	Government
19	Government of Ethiopia-Kebeles	Ethiopia	Government
20	Government of Ethiopia-Ministry of Culture and Tourism	Ethiopia	Government
21	Government of Ethiopia-Ministry of Water, Irrigation and Electricity	Ethiopia	Government
22	Government of Ethiopia-The Ministry of Foreign Affairs	Ethiopia	Government
23	Government of Ethiopia-Warda	Ethiopia	Government
24	IWMI-East Africa	Ethiopia	Research

25	Office of National Council for the Coordination of Popular Participation on the Construction of GERD	Ethiopia	Government
26	Pan Nileism Movement	Ethiopia	Civil society
27	TANA basin integrated development organization	Ethiopia	Government
28	Tana Sub Basin Organization(TaSBO)	Ethiopia	Government
29	Ethiopian International Professional Support for Abay (EIPSA)	Ethiopia	Civil society
30	Organization for Rehabilitation and Development in Amhara (ORDA)	Ethiopia	Civil society
31	Save Lake Tana campaign	Ethiopia	Research
32	Consortium of Christian Relief and Development Association (CCRDA)	Ethiopia	Civil society
33	World Vision Ethiopia	Ethiopia	Civil society
34	Ethiopian Public Diplomacy group	Ethiopia	Civil society
35	Anti- Kajbar dam movement - Khartoum Chapter	Sudan	Civil society
36	Anti-displacement in Kordofan movement	Sudan	Civil society
37	Anti-Kajbar dam movement	Sudan	Civil society
38	Anti-Marwoe Dam movemenet	Sudan	Civil society
39	Islamic Organization of ElKetab wel Sunnah	Sudan	Civil society
40	Council of the Arab Peoples Friendship Association	Sudan	Civil society
41	Dettol Company	Sudan	Company
42	Egyptian- Sudanese Freindship Association	Sudan	Civil society
43	University of Gadarif	Sudan	Research
44	Environmental Initative for Sustainble development	Sudan	Civil society
45	Ethiopian - Sudanes Freindship Association - Sudanese Part	Sudan	Civil society
46	Faculties of Environmental Studies	Sudan	Research
47	Supreme Commission for Emergency in Tuti Island	Sudan	Civil society

48	Farmers union of El Gezira and El Managil Agricultural Scheme	Sudan	Civil society
49	Gisr Organization	Sudan	Civil society
50	Government of Sudan - Ministy of Health - Directorate General of pharmachy and pison	Sudan	Government
51	Government of Sudan - MWRE- Dam Implementation Unit	Sudan	Government
52	Government of Sudan- National Population Council	Sudan	Government
53	Government of Sudan-The Council for Environment Affairs	Sudan	Government
54	Hydraulics Research Centre, HRC-Sudan	Sudan	Research
55	International Charity Organization For Water (ICOW)	Sudan	Civil society
56	Khartoum State Water Corporation, KSWC	Sudan	Government
57	Sadagaat Charity Organization	Sudan	Civil society
58	Khartoum university / water Research center	Sudan	Research
59	Malam Darfur Peace and Development (MDPD)	Sudan	Civil society
60	Munciplities in Dal and Kajbar	Sudan	Government
61	Nafeer	Sudan	Civil society
62	Government of Sudan- Ministry of Irrigation and Water Resources	Sudan	Civil society
63	Nile IWRM Net	Sudan	Research
64	Nubian Unions of Students and Gradutes	Sudan	Civil society
65	Port Sudan Myters Association	Sudan	Civil society
66	Agriculture research center (ARC)	Sudan	Research
67	Sudanese diaspora	Sudan	Civil society
68	Sudanese Environment Conservation Soceity (SECS)	Sudan	Civil society
69	Sudanese Red Crescent Society	Sudan	Civil society
70	Sudanile	Sudan	Company
71	Sudan-NDF	Sudan	Civil society
72	Sudan's Humanitarian Aid Commission	Sudan	Government

73	Switch Group	Sudan	Company
74	SYPW	Sudan	Civil society
75	Takafol organization	Sudan	Civil society
76	Technical Centre for Agricultural and Rural Cooperation CTA	Sudan	Research
77	Flood-based Livelihoods Network- Sudan	Sudan	Research
78	Munciplities	Sudan	Government
79	The Sudanese Development Initiative (SUDIA)	Sudan	Research
80	The University of Gezira / Water Management and Irrigation Institute	Sudan	Research
81	UNESCO Chair in Water Resources Omdurman Islamic University	Sudan	Research
82	Zein Telecome company	Sudan	Company
83	Sudanese Public Diplomacy group	Sudan	Civil society
84	Ain Shams University	Egypt	Research
85	Arab Academy for Science Technology & Maritime Transport (AASTMT) - Aswan	Egypt	Research
86	Bibliotheca Alexandrina	Egypt	Research
87	Cairo University	Egypt	Research
88	GWP - Egypt	Egypt	Research
89	Egyptian Council for Foregn Affairs	Egypt	Research
90	Egyptian Nubian Groups	Egypt	Civil society
91	Egypt-NDF	Egypt	Civil society
92	Goverment of Egypt-Minsity of Water resources and Irrgation	Egypt	Government
93	Government of Egypt - African Youth Bureau-ministy of Sport and Youth	Egypt	Government
94	Government of Egypt - Embassy in Entebbee	Egypt	Government
95	Government of Egypt – Ministry of Foreign Affairs	Egypt	Government
96	Government of Egypt - The Ministry of Culture	Egypt	Government
97	Government of Egypt-directorate of agrilcutre	Egypt	Government
98	Government of Egypt-Egyptian Embassy in Ethiopia	Egypt	Government
99	Government of Egypt-Ministry of Agriculture and Land Reclamation	Egypt	Government

100	Government of Egypt- Nile Water Sector - MWRI	Egypt	Government
101	Group of the Nile Basin (GNB)	Egypt	Civil society
102	Holding Company for Water and Waste Water in Cairo Governorate	Egypt	Government
103	Hydraulic research institute	Egypt	Research
104	Luxor African Film Festival	Egypt	Civil society
105	Agriculture research center (ARC)	Egypt	Research
106	Misr El-Samara Initative	Egypt	Civil society
107	Nahdet El Mahrousa	Egypt	Civil society
108	National Committee for Population and Development (NCPD)	Egypt	Government
109	Nile Basin Capacity Building Network (NBCBN)	Egypt	Research
110	Egyptian public diplomacy Group	Egypt	Civil society
111	African Society in Egypt	Egypt	Civil society
112	American University in Cairo	Egypt	Research
113	The Arab Contractor	Egypt	Company
114	Arab Network for Environment and Development (RAED)	Egypt	Civil society
115	Misriyati	Egypt	Civil society
116	The General Union for African Students in Egypt	Egypt	Civil society
117	The NGO Forum - Egypt and Sudan for Population and Development	Egypt	Civil society
118	The Nile Forum	Egypt	Civil society
119	The Nile Project	Egypt	Civil society
120	The Nile Valley Family	Egypt	Civil society
121	Regional Center for Studies and Research on Water Ethics	Egypt	Government
122	Union of Foregin students from the Nile Basin Countries in Egypt	Egypt	Civil society
123	The Water Institute for the Nile (WIN)	Egypt	Civil society
124	Fekra cultural center, Aswan	Egypt	Civil society
125	Hydraulics Research Institute in Egypt	Egypt	Research
126	CGIAR Research Program on Water, Land and Ecosystems (WLE)	Sri Lanka	Research

127	Nile Basin Initative (NBI)	Regional	Government
128	Eastern Nile Technical Regional Office (ENTRO)	Regional	Government
129	Nile Equatorial Lakes Subsidiary Action Program (NEL-SAP)	Regional	Government
130	Lake Victoria Basin Commission (LVBC)	Regional	Government
131	African Development Bank (AFDB)	Regional	Government
132	Africa SAN (Africa of Sanitation)	Regional	Civil society
133	African Parliament	Regional	Government
134	African Union	Regional	Government
135	Afro-Arab Youth Council (The Arab League)	Regional	Government
136	Arab League	Regional	Government
137	Arab Network of NGOs	Regional	Civil society
138	Arab Water Council	Regional	Civil society
139	Center for Environment and Development for the Arab Region and Europe (CEDARE)	Regional	Research
140	COMESA	Regional	Government
141	EU	Regional	Government
142	IGAD	Regional	Government
143	Mediterranean Information Office for Environment, Culture, and Sustainable Development MIO/ECSDE	Regional	Civil society
144	Nile Basin Discourse (NBD)	Regional	Civil society
145	Nile Discourse Fourms (NDF)	National	Civil society
146	NEPAD	Regional	Government
147	Nile Technical Advisory Committee (Nile-TAC)	Regional	Government
148	Nile Council of Ministers (Nile- Com)	Regional	Government
149	Technical General Secretariat of the Council of Arab Ministers of environment	Regional	Government
150	The Africa Civil Society Network for Water (ANEW)	Regional	Civil society
151	The African Ministers' Council on Water (AMCOW)	Regional	Government
152	African Network of Basin Organizations (ANBO)	Regional	Government
153	African Water Association (AfWA)	Regional	Civil society

154	Arab Countries Water Utilities Association (ACWUA)	Regional	Civil society
155	Council of Arab Water Ministers	Regional	Government
156	The Niles	Regional	Civil society
157	The Permanent Joint Sudanese-Egyptian Technical Commission for Nile Water	Regional	Government
158	Butterfly Effect	Global	Civil society
159	Cap-Net - UNDP	Global	Research
160	Care International	Global	Civil society
161	Caritas	Global	Civil society
162	Climate is Water Network	Global	Civil society
163	Consortium of Christian Relief & Development Associations (CCRDA)	Global	Civil society
164	Council of the Global People's Friendship Association	Global	Civil society
165	Eye Earth summit	Global	Civil society
166	FAO	Global	Government
167	Global water partnership (GWP)	Global	Research
168	International Fund for Agricultural Development (IFAD)	Global	Research
169	Flood-based Livelihoods Network/ Spate Irrigation Network Foundation/	Global	Research
170	Global Environment Facility for Civil Society Organizations Network (GEF-CSOs Network)	Global	Civil society
171	Global Network of Civil Society Organizations for Disaster Risk Reduction (GNDR)	Global	Civil society
172	International Network of Basin Organizations (INBO)	Global	Government
173	International Strategy for Disaster Reduction (ISDR)	Global	Research
174	Research and Ethical Network Embracing Water (RENEW)	Global	Research
175	World Youth Water Parliament (YWP)	Global	Civil society
176	UN- IOM	Global	Government
177	UNDP	Global	Government
178	UNECA	Global	Government
179	UNEP	Global	Government

180	UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology (COMEST)	Global	Research
181	WB	Global	Government
182	WHO	Global	Government
183	World commission on dams	Global	Civil society
184	World Water Forum	Global	Research
185	WorldFish	Global	Research
186	Sanitation for All	Global	Government
187	Young Water Solutions	Global	Civil society
188	End Water Poverty Campaign	UK	Civil society
189	Hydraulic Research (HR Ltd) – Wallingford	UK	Research
190	DFID	UK	Government
191	Swiss Agency for Development and Cooperation (SDC)	Switzerland	Government
192	Swiss National Science Foundation (SNSF)	Switzerland	Research
193	Drosos Foundation	Switzerland	Civil society
194	Hivos East Africa	Netherlands	Civil society
195	TU Delft	Netherlands	Research
196	UNESCO-IHE	Netherlands	Research
197	Deltares	Netherlands	Research
198	Global Women Partnership	Netherlands	Civil society
199	The Faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente	Netherlands	Research
200	Nile Basin Society	Canada	Civil society
201	Government of the Netherlands - Ministry of Foreign Affairs	Netherlands	Government
202	The German Water Partnership e.V. (GWP)	Germay	Civil society
203	GIZ	Germay	Government
204	Sadagaat- USA	American	Civil society
205	Zambaleta World Musi school	American	Civil society
206	Cargill	American	Company
207	U.S. Department of Arts and Culture	American	Government
208	Association of Performing Arts Presenters (APAP)	American	Civil society
209	The United States Embassy in Egypt	American	Government
210	US Department of State - Public Affairs	American	Government

211	The Germanacos Foundation	American	Civil society
212	US. Department of State Bureau of Oceans and International Environmental and Scientific Affairs	American	Government
213	Panta Rhea Foundation	American	Civil society
214	Rational Games, Inc.	American	Research
215	International Rivers	American	Civil society
216	Hilton foundation	American	Civil society
217	Canadian International Development Agency (CIDA)	Canada	Government
218	Foundation Help	Tanzania	Civil society
219	WaterAid Federation	UK	Civil society
220	Population Concerns (British organization)	UK	Civil society
221	Scot- Welson company	UK	Company
222	Stockholm International Water Institute (SIWI)	Sweeden	Research
223	Szent István University	Hungary	Research
224	Qatar Red Crescent Society	Qatar	Civil society
225	The Emirates Red Crescent	UAE	Civil society
226	the International Council on Management of Population Programs	Malaysia	Civil society
227	South Sudan-NDF	South Sudan	Civil society
228	Kenya- The Kuona Trust Arts Centre	Kenya	Civil society
229	Wangari Maathai Institute for Peace & Environmental Studies - University of Nairobi	Kenya	Research
230	WaterCap- Kenya	Kenya	Research
231	Kenya- United States International University	Kenya	Research
232	University of Nairobi	Kenya	Research
233	Egerton University	Kenya	Research
234	Tanzania - Busara Promotions	Tanzania	Civil society
235	Centre de Recherches Géologiques et Minières	DRC	Research
236	Université du Burundi	Burundi	Research
237	University of Rwanda	Rwanda	Research
238	Dar Es Salaam University	Tanzania	Research
239	Uganda - International University of East Africa	Uganda	Research
240	Uganda - Kyambogo University	Uganda	Research
241	Uganda- Bayimba Foundation	Uganda	Civil society

242	Uganda- Ndere centre	Uganda	Civil society
243	Global water partnership (GWP)- East Africa	Uganda	Research
244	Makerere University	Uganda	Research
245	USAID	American	Government
246	IWMI	Sri Lanka	Research
247	Water.org	American	Civil society
248	IWMI - Egypt office	Egypt	Research
249	Horn of Africa Regional Environment Center & Network-Addis Ababa University	Ethiopia	Research
250	Dal Group	Sudan	Company
251	Haggar Group	Sudan	Company
252	Sudanese Air Scout	Sudan	Civil society
253	La community italiana della cooperazione internazionale (COOPI)	Italy	Civil society
254	UN Information Centers - Sudan	Sudan	Government
255	The Friedrich-Ebert-Stiftung (FES)	Germay	Civil society
256	The Art of Hosting	Global	Civil society
257	The Global Ecovillage Network (GEN) - International	Scotland	Civil society
258	GAIA Education	Scotland	Civil society
259	Permaculture Institute (PRI)	Kenya	Civil society
260	Rusinga IslandOrganic Farmers Association (RIOFA)	Kenya	Civil society
261	Sarah Waiswa Documentation	Uganda	Civil society
262	Andariya	Sudan	Civil society
263	Living Wholeness Institute	Greece	Civil society
264	Institute for Conflict Resolution and Peacebuilding (ICP)	Switzerland	Research
265	Green Club	Ethiopia	Civil society
266	Social Innovation for Resilience Community (SIRCLe)	EU	Civil society
267	Ray Of Hope Africa (RAHA)	Uganda	Civil society
268	Terra Nova	Ethiopia	Civil society
269	Kahuzi Biega National Park, Eastern Congo	DRC	Civil society
270	Mama Na Bana	DRC	Civil society
271	Rural Resource Center	Tanzania	Civil society

272	Lake Victoria Civil soeicty and water science network (OSIENALA)	Kenya	Civil society
273	Sandele Eco retreat	The Gambia	Civil society
274	People's coast Ecovillage Network PECEN, Senegal/ The Gambia/ Guinea Bissau	The Gambia	Civil society
275	Kartong Ecovillage Network (KEN)	The Gambia	Civil society
276	Amaken	Egypt	Civil society
277	Peace Revolution	Global	Civil society
278	Girifna peaceful non-violent movement	Sudan	Civil society
279	Caux Initiatives of Change Sudan	Ethiopia	Civil society
280	Photographers Network	Sudan	Civil society
281	Sawiris Foundation for Social Development	Egypt	Civil society
282	The Prince Sultan Institute for Environmental, Water and Desert Research	KSA	Research
283	the Egyptian Water Resources Association (EWRA)	Egypt	Research
284	International Livestock Research Institute (ILRI)	Ethiopia	Research
285	Dimensions Foundation Development	Iraq	Civil society
286	Japan International Cooperation Agency	Japan	Government
287	UNICEF	Global	Governmental
288	Sudanese Forum of Environment	Sudan	Civil society
289	The Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD)	Regional	Research
290	Water Youth Network	global	Civil society
291	Forces of Freedom and Change	Sudan	Government
292	UN Water	Global	Governmental
293	UNESCO	Global	interGovernmental
294	Geneva Water Hub	Switzerland	Research
295	Blue Peace	Switzerland	Civil society
296	Montreal International	Canada	Research
297	L'Agence de l'Eau Artois-Picardie	France	Government
298	Government of Sudan - Ministry of Health	Sudan	Government

299	Government of Sudan-Ministry of Youth and Sport	Sudan	Government
300	Agency of drinking water and Sanitation	Sudan	Government
301	Regional center for water harvesting	Sudan	Research
302	Practical Action	Global	Civil society
303	REDR UK	UK	Civil society
304	Environmental Studies institute (Khartoum University)	Sudan	Research
305	Sudanese Youth for Climate Change	Sudan	Civil society
306	The Public Health organization (Ahfad University)	Sudan	Research
307	The consulting committee of Khartoum University	Sudan	Research
308	Union of Sudanese contractors	Sudan	Company
309	NewTech Company	Sudan	Company
310	Hydraulic Research Center in Wad Madni	Sudan	Research
311	EL-Emam ElMahdy University (Health Faculty)	Sudan	Research
312	Idafa Organization	Sudan	Civil society
313	Gismar Organization	Sudan	Civil society
314	AID/HIV Friends	Sudan	Civil society
315	Doctors without Borders	Global	Civil society
316	IRW	Global	Civil society
317	Eddra Organization	Sudan	Civil society
318	Sennar Reservoir Department	Sudan	Government
319	Sudanas Organization for Development	Sudan	Civil society
320	Sudanese Ro'wia Organization	Sudan	Civil society
321	El Tawaki Charity Organization	Sudan	Civil society
322	ZOA organization	Netherlands	Civil society
323	German Agor Action	Germany	Civil society
324	Mosandoon Organization	Sudan	Civil society
325	Health Science Academy	Sudan	Research
326	Red Sea University	Sudan	Research
327	Bash'eir El Salam Organization	Sudan	Civil society
328	Merowe University	Sudan	Research
329	Dar Es Salam Organization	Sudan	Civil society
330	Zalingy University	Sudan	Research
331	Dorra Organization for Development	Sudan	Civil society
332	Afkar Organization	Sudan	Civil society

333	Emaar Organization for Development	Sudan	Civil society
334	ElMannar Organization	Sudan	Civil society
335	AlObid Organization	Sudan	Civil society
336	Kordfan University	Sudan	Research
337	Kafa Organization	Sudan	Civil society
338	Community Development Ass. In Ebshwai	Egypt	Civil society
339	Qena NGOs Federation	Egypt	Civil society
340	Agriculture Association in kafr Ameen	Egypt	Civil society
341	Agriculture Wealth association	Egypt	Civil society
342	Al-Thanaa for Development & Environment	Egypt	Civil society
343	Arab Center for Urban Studies	Egypt	Civil society
344	Association of Childhood and Development (ACD)	Egypt	Civil society
345	Better Life Association	Egypt	Civil society
346	Central Association for Developing environmental Technologies	Egypt	Civil society
347	Community development Association	Egypt	Civil society
348	Community Development association in Banadf	Egypt	Civil society
349	Community Development association in Daweda Village	Egypt	Civil society
350	Community Development association in Kafer el Hamam	Egypt	Civil society
351	Community Development association in Meet Abu Arabi	Egypt	Civil society
352	Community Development association in Tayeba	Egypt	Civil society
353	Egyptian Association for Development	Egypt	Civil society
354	Environment & Development Association	Egypt	Civil society
355	Environment Protection Association	Egypt	Civil society
356	Environmental Union Federation	Egypt	Civil society
357	Family and Environment association (FEDA)	Egypt	Civil society
358	Farid Khamis association	Egypt	Civil society
359	Future Protection Association	Egypt	Civil society
360	General NGOs Federation	Egypt	Civil society

361	General Scouts and Girl Guides Union	Egypt	Civil society
362	Islamic Charity Association – Farshout	Egypt	Civil society
363	Islamic Cultural Center – Abo Diab, Deshna	Egypt	Civil society
364	Kafr Sakr Association	Egypt	Civil society
365	Local community development in Meet Ghorab village	Egypt	Civil society
366	National association for Environment	Egypt	Civil society
367	NGOs Federation Union	Egypt	Civil society
368	Nile Basin Media network	Egypt	Civil society
369	Nour El Eslam Charity Association, Abo Hommos	Egypt	Civil society
370	Our Children association	Egypt	Civil society
371	Pioneers of Environment	Egypt	Civil society
372	Protection the Environment and Nature Association.	Egypt	Civil society
373	Ragaa Coptic Charity Association, Deshna	Egypt	Civil society
374	Saint Mari Morkous Association	Egypt	Civil society
375	Shabaat Moslemat	Egypt	Civil society
376	Together association for development	Egypt	Civil society
377	Young Women's Muslim Association – Naqada	Egypt	Civil society
378	Youth Association for Community Development	Egypt	Civil society
379	Women's Association for Health Improvement, Naga Hammadi	Egypt	Civil society

B: List of ties

ID	source	ID	target	Activities mode
1	Abbay Basin Authority	128	ENTRO	knowledge / partner
1	Abbay Basin Authority	127	NBI	knowledge / partner
1	Abbay Basin Authority	181	WB	knowledge / service
1	Abbay Basin Authority	203	GIZ	knowledge /service
1	Abbay Basin Authority	219	Water Aid Federation	service
1	Abbay Basin Authority	245	USAID	service
1	Abbay Basin Authority	151	The African Ministers' Council on Water (AMCOW)	partner
1	Abbay Basin Authority	21	Government of Ethiopia- Ministry of Water, Irrigation and Electricity	organizational
2	Addis Ababa University	54	Hydraulics Research Centre, HRC-Sudan	knowledge
2	Addis Ababa University	109	Nile Basin Capacity Building Network (NBCBN)	knowledge / capacity building
3	Amhara Regional Environmental Authority	4	Global Coalition for Lake Tana Restoration	service
3	Amhara Regional Environmental Authority	179	UNEP	capacity building /knowledge
3	Amhara Regional Environmental Authority	177	UNDP	capacity building /knowledge
3	Amhara Regional Environmental Authority	11	Ethiopian Diaspora Trust Fund	service
4	Global Coalition for Lake Tana Restoration	31	Save Lake Tana campaign	service
5	Blue Nile Institute - Bahir Dar University	7	Bahir Dar University	organizational
5	Blue Nile Institute - Bahir Dar University	26	Pan Nileism Movement	organizational
5	Blue Nile Institute - Bahir Dar University	128	ENTRO	knowledge
6	Beles Sub-Basin Organization	28	Tana Sub Basin Organization(TaSBO)	organizational
7	Bahir Dar University	119	The Nile Project	capacity building / partner
7	Bahir Dar University	3	Amhara Regional Environmental Authority	capacity building / knowledge
7	Bahir Dar University	31	Save Lake Tana campaign	capacity building / knowledge
7	Bahir Dar University	27	TANA basin integrated development organization	capacity building / knowledge

8	Development Bank of Ethiopia (DBE)	25	office of national council for the coordination of popular participation on the construction of GERD	service
9	Ethiopia - Yisakal Entertainment	119	The Nile Project	service
10	Ethiopian catholic church social development commission coordination office Bahir Dar	32	consortium of Christian relief and development association (CCRDA)	organizational
10	Ethiopian catholic church social development commission coordination office Bahir dar	33	World Vision Ethiopia	service
10	Ethiopian catholic church social development commission coordination office Bahir dar	216	Hilton foundation	service
10	Ethiopian catholic church social development commission coordination office Bahir dar	219	Water Aid Federation	service
10	Ethiopian catholic church social development commission coordination office Bahir dar	160	Care International	service
10	Ethiopian catholic church social development commission coordination office Bahir dar	161	Caritas	service
12	Ethiopian Forum for Social Studies (FSS)	54	Hydraulics Research Centre, HRC-Sudan	knowledge/ partner
13	Ethiopian Institute of Water Resources	54	Hydraulics Research Centre, HRC-Sudan	knowledge / partner
14	Ethiopian Orthodox Church	110	Egyptian public diplomacy Group	advocacy
15	Ethiopian-NDF	32	consortium of Christian relief and development association (CCRDA)	organizational
15	Ethiopian-NDF	144	NBD	organizational / capacity building
16	GERD National Council	25	office of national council for the coordination of popular participation on the construction of GERD	organizational
17	University of Gondar	31	Save Lake Tana campaign	knowledge/ capacity building
18	Government of Ethiopia- Ministry of Environment, Forest and Climate Change	24	IWMI-East Africa	knowledge/ partner
19	Government of Ethiopia- Kebeles	24	IWMI-East Africa	service/capacity building
19	Government of Ethiopia- Kebeles	31	Save Lake Tana campaign	advocacy / service
19	Government of Ethiopia- Kebeles	30	The Organization for Rehabilitation and Development in Amhara (ORDA)	service

20	Government of Ethiopia- Ministry of Culture and Tourism	119	The Nile Project	service
21	Government of Ethiopia- Ministry of Water, Irrigation and Electricity	24	IWMI-East Africa	knowledge / capacity building
21	Government of Ethiopia- Ministry of Water, Irrigation and Electricity	127	NBI	organizational
21	Government of Ethiopia- Ministry of Water, Irrigation and Electricity	128	ENTRO	organizational
21	Government of Ethiopia- Ministry of Water, Irrigation and Electricity	147	Nile Technical Advisory Committee (Nile-TAC)	organizational
21	Government of Ethiopia- Ministry of Water, Irrigation and Electricity	148	the Nile Council of Ministers (Nile- Com)	organizational
21	Government of Ethiopia- Ministry of Water, Irrigation and Electricity	151	The African Ministers' Council on Water (AMCOW)	organizational
22	Government of Ethiopia- The Ministry of Foreign Affairs	119	The Nile Project	service
23	Government of Ethiopia- Warda	24	IWMI-East Africa	service / capacity building
23	Government of Ethiopia- Warda	31	Save Lake Tana campaign	advocacy / service
23	Government of Ethiopia- Warda	10	Ethiopian catholic church social development commission coordination office Bahir dar	service
24	IWMI-East Africa	128	ENTRO	knowledge / partner
24	IWMI-East Africa	127	NBI	knowledge / partner
24	IWMI-East Africa	246	IWMI	organizational
25	office of national council for the coordination of popular participation on the construction of GERD	22	Government of Ethiopia- The Ministry of Foreign Affairs	partner
25	office of national council for the coordination of popular participation on the construction of GERD	11	Ethiopian Diaspora Trust Fund	service /partner
26	Pan Nileism Movement	142	IGAD	service
26	Pan Nileism Movement	43	University of Gadarif	knowledge / partner
27	TANA basin integrated development organization	31	Save Lake Tana campaign	service / advocacy

28	Tana Sub Basin Organization(TaSBO)	181	WB	knowledge / service
28	Tana Sub Basin Organization(TaSBO)	127	NBI	knowledge / service
28	Tana Sub Basin Organization(TaSBO)	128	ENTRO	knowledge/service
30	The Organization for Rehabilitation and Development in Amhara (ORDA)	203	GIZ	service / knowledge
30	The Organization for Rehabilitation and Development in Amhara (ORDA)	245	USAID	service/ knowledge
30	The Organization for Rehabilitation and Development in Amhara (ORDA)	166	FAO	service/knowledge
30	The Organization for Rehabilitation and Development in Amhara (ORDA)	168	IFAD	service / knowledge
30	The Organization for Rehabilitation and Development in Amhara (ORDA)	247	water.org	service / knowledge
34	Ethiopian Public Diplomacy group	110	Egyptian public diplomacy Group	advocacy
34	Ethiopian Public Diplomacy group	83	Sudanese Public Diplomacy group	advocacy
35	Anti- Kajbar dam movement - Khartoum Chapter	51	Government of Sudan - MWRE- Dam Implementation Unit	advocacy
35	Anti- Kajbar dam movement - Khartoum Chapter	36	Anti-displacement in Kordofan movement	advocacy / knowledge
35	Anti- Kajbar dam movement - Khartoum Chapter	37	Anti-Kajbar dam movement	organizational
35	Anti- Kajbar dam movement - Khartoum Chapter	38	Anti-Merowe Dam movement	advocacy / knowledge
35	Anti- Kajbar dam movement - Khartoum Chapter	64	Nubian Unions of Students and Graduates (Sudan)	advocacy / knowledge
35	Anti- Kajbar dam movement - Khartoum Chapter	48	Farmers union of El Gezira and El Managil Agricultural Scheme	advocacy / knowledge
35	Anti- Kajbar dam movement - Khartoum Chapter	65	Port Sudan Martyrs Association	advocacy / knowledge
35	Anti- Kajbar dam movement - Khartoum Chapter	60	Municipalities in Dal and Kajbar	advocacy
35	Anti- Kajbar dam movement - Khartoum Chapter	215	International Rivers	advocacy
35	Anti- Kajbar dam movement - Khartoum Chapter	67	Sudanese diaspora	advocacy / service

35	Anti- Kajbar dam movement - Khartoum Chapter	90	Egyptian Nubian groups	advocacy
36	The Islamic Organization of ElKetab wel Sunnah	59	Malam Darfur Peace and Development (MDPD)	service
40	Council of the Arab Peoples Friendship Association	42	Egyptian- Sudanese Friendship Association	organizational
41	Dettol Company	44	Environmental Initiative for Sustainable development	service
44	Environmental Initiative for Sustainable development	114	the Arab Network for Environment and Development (RAED)	partner
44	Environmental Initiative for Sustainable development	150	The Africa Civil Society Network for Water (ANEW)	partner
44	Environmental Initiative for Sustainable development	72	Sudan's Humanitarian Aid Commission	partner / advocacy
44	Environmental Initiative for Sustainable development	68	Sudanese Environment Conservation Society (SECS)	partner
44	Environmental Initiative for Sustainable development	53	Government of Sudan-The Council for Environment Affairs	capacity building / advocacy
44	Environmental Initiative for Sustainable development	46	Faculties of Environmental Studies	capacity building / volunteer
44	Environmental Initiative for Sustainable development	82	Zein Telecom company	service
44	Environmental Initiative for Sustainable development	78	Municipalities and Community committees	advocacy / capacity building
44	Environmental Initiative for Sustainable development	73	Switch Group	service
44	Environmental Initiative for Sustainable development	52	Government of Sudan- National Population Council	advocacy
44	Environmental Initiative for Sustainable development	165	eye Earth summit	partner
44	Environmental Initiative for Sustainable development	188	End Water Poverty Campaign	partner

44	Environmental Initiative for Sustainable development	186	sanitation for all	partner
44	Environmental Initiative for Sustainable development	158	butterfly effect	partner
45	Ethiopian - Sudanese Friendship Association - Sudanese Part	83	Sudanese Public Diplomacy group	advocacy
45	Ethiopian - Sudanese Friendship Association - Sudanese Part	34	Ethiopian Public Diplomacy group	advocacy
47	the supreme commission for Emergency in Tuti Island	69	Sudanese Red Crescent Society	capacity building
48	Farmers union of El Gezira and El Managil Agricultural Scheme	181	WB	advocacy
49	Gisr Organization (Sudan)	61	Nafeer	organizational
50	Government of Sudan - Ministry of Health - Directorate General of pharmacy and poison	61	Nafeer	service
62	Government of Sudan- Ministry of Irrigation and Water Resources	74	SYPW	volunteer / capacity building
62	Government of Sudan- Ministry of Irrigation and Water Resources	127	NBI	organizational
62	Government of Sudan- Ministry of Irrigation and Water Resources	128	ENTRO	organizational
62	Government of Sudan- Ministry of Irrigation and Water Resources	147	Nile Technical Advisory Committee (Nile-TAC)	organizational
62	Government of Sudan- Ministry of Irrigation and Water Resources	148	the Nile Council of Ministers (Nile- Com)	organizational
62	Government of Sudan- Ministry of Irrigation and Water Resources	151	The African Ministers' Council on Water (AMCOW)	organizational
63	Nile IWRM Net	159	Cap-Net - UNDP	organizational
54	Hydraulics Research Centre, HRC-Sudan	62	Government of Sudan- Ministry of Irrigation and Water Resources	organizational
54	Hydraulics Research Centre, HRC-Sudan	56	Khartoum State Water Corporation, KSWC	capacity building
54	Hydraulics Research Centre, HRC-Sudan	76	Technical Centre for Agricultural and Rural Cooperation CTA	knowledge / partner

54	Hydraulics Research Centre, HRC-Sudan	177	UNDP	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	51	Government of Sudan - MWRE- Dam Implementation Unit	capacity building
54	Hydraulics Research Centre, HRC-Sudan	81	UNESCO Chair in Water Resources Omdurman Islamic University	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	80	The University of Gezira / Water Management and Irrigation Institute	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	77	the flood-based livelihoods network- Sudan	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	157	The Permanent Joint Sudanese-Egyptian Technical Commission for Nile Water	capacity building
54	Hydraulics Research Centre, HRC-Sudan	142	IGAD	capacity building / partner
54	Hydraulics Research Centre, HRC-Sudan	127	NBI	knowledge /partner
54	Hydraulics Research Centre, HRC-Sudan	128	ENTRO	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	109	Nile Basin Capacity Building Network (NBCBN)	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	24	IWMI-East Africa	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	248	IWMI - Egypt office	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	87	Cairo University	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	169	the flood-based livelihoods network/ Spate irrigation network foundation/	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	103	Hydraulic research institute	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	196	IHE- Delft	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	222	Stockholm International Water Institute (SIWI)	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	189	the Hydraulic Research (HR Ltd) – Wallingford	knowledge / partner
54	Hydraulics Research Centre, HRC-Sudan	66	Agriculture research center (ARC)	knowledge / capacity building
54	Hydraulics Research Centre, HRC-Sudan	58	Khartoum university / water Research center	knowledge
54	Hydraulics Research Centre, HRC-Sudan	195	TU Delft	knowledge
54	Hydraulics Research Centre, HRC-Sudan	197	Deltares	capacity building / service
55	International Charity Organization For Water (ICOW)	166	FAO	service
55	International Charity Organization For Water (ICOW)	57	Sadagaat Charity Organization	service
57	Sadagaat Charity Organization	204	Sadagaat- USA	service

58	Khartoum university / water Research center	74	SYPW	organizational / volunteer
59	Malam Darfur Peace and Development (MDPD)	78	Municipalities and Community committees	service
59	Malam Darfur Peace and Development (MDPD)	67	Sudanese diaspora	service
59	Malam Darfur Peace and Development (MDPD)	224	Qatar Red Crescent Society	service
59	Malam Darfur Peace and Development (MDPD)	225	The Emirates Red Crescent	service
59	Malam Darfur Peace and Development (MDPD)	73	Switch Group	service
59	Malam Darfur Peace and Development (MDPD)	72	Sudan's Humanitarian Aid Commission	service
59	Malam Darfur Peace and Development (MDPD)	75	Takafol organization	partner
61	Nafeer	78	Municipalities and Community committees	service / volunteer
61	Nafeer	82	Zein Telecom company	service
61	Nafeer	134	African Union	knowledge
61	Nafeer	141	EU	knowledge
61	Nafeer	70	Sudanile	service
68	Sudanese Environment Conservation Society (SECS)	144	NBD	knowledge / partner
68	Sudanese Environment Conservation Society (SECS)	71	Sudan-NDF	organizational / capacity building
68	Sudanese Environment Conservation Society (SECS)	72	Sudan's Humanitarian Aid Commission	knowledge / partner
68	Sudanese Environment Conservation Society (SECS)	249	Horn of Africa Regional Environment Center & Network-Addis Ababa University	knowledge /partner
68	Sudanese Environment Conservation Society (SECS)	53	Government of Sudan-The Council for Environment Affairs	advocacy / capacity building
68	Sudanese Environment Conservation Society (SECS)	250	Dal group	capacity building / service
68	Sudanese Environment Conservation Society (SECS)	251	Haggar Group	capacity building / service
68	Sudanese Environment Conservation Society (SECS)	252	Sudanese Air Scout	capacity building / volunteer
68	Sudanese Environment Conservation Society (SECS)	79	The Sudanese Development Initiative (SUDIA)	partner
68	Sudanese Environment Conservation Society (SECS)	166	FAO	knowledge / partner

68	Sudanese Environment Conservation Society (SECS)	181	WB	service/knowledge
68	Sudanese Environment Conservation Society (SECS)	253	La community italiana della cooperazione internazionale (COOPI)	service /knowledge
68	Sudanese Environment Conservation Society (SECS)	78	Municipalities and Community committees	advocacy
68	Sudanese Environment Conservation Society (SECS)	254	UN Information Centers - Sudan	knowledge / partner
68	Sudanese Environment Conservation Society (SECS)	141	EU	knowledge / partner
68	Sudanese Environment Conservation Society (SECS)	255	The Friedrich-Ebert-Stiftung (FES)	knowledge / partner
74	SYPW	44	Environmental Initiative for Sustainable development	volunteer / advocacy
74	SYPW	81	UNESCO Chair in Water Resources Omdurman Islamic University	capacity building
74	SYPW	175	World Youth Water Parliament (YWP)	organizational
74	SYPW	75	Takafol organization	partner
74	SYPW	187	Young Water Solutions	partner
84	Ain Shams University	109	Nile Basin Capacity Building Network (NBCBN)	partner / knowledge
85	Arab Academy for Science Technology & Maritime Transport (AASTMT) -Aswan	119	The Nile Project	capacity building / partner
86	Bibliotheca Alexandrina	119	The Nile Project	service
87	Cairo University	119	The Nile Project	capacity building / partner
87	Cairo University	122	the Union of Foreign students from the Nile basin countries in Egypt	capacity building / advocacy
88	GWP- Egypt	167	Global water partnership (GWP)	organizational
88	GWP- Egypt	243	Global water partnership (GWP)- East Africa	organizational
88	GWP- Egypt	139	Center for Environment and Development for the Arab Region and Europe (CEDARE)	organizational
91	Egypt-NDF	144	NBD	organizational

91	Egypt-NDF	114	the Arab Network for Environment and Development (RAED)	organizational
92	Government of Egypt- Ministry of Water resources and Irrigation	122	the Union of Foreign students from the Nile basin countries in Egypt	advocacy / capacity building
92	Government of Egypt- Ministry of Water resources and Irrigation	121	the Regional Center for Studies and Research on Water Ethics	organizational
92	Government of Egypt- Ministry of Water resources and Irrigation	127	NBI	organizational
92	Government of Egypt- Ministry of Water resources and Irrigation	128	ENTRO	organizational
92	Government of Egypt- Ministry of Water resources and Irrigation	147	Nile Technical Advisory Committee (Nile-TAC)	organizational
92	Government of Egypt- Ministry of Water resources and Irrigation	148	the Nile Council of Ministers (Nile- Com)	organizational
92	Government of Egypt- Ministry of Water resources and Irrigation	151	The African Ministers' Council on Water (AMCOW)	organizational
93	Government of Egypt - African Youth Bureau- ministry of Sport and Youth	122	the Union of Foreign students from the Nile basin countries in Egypt	capacity building / advocacy
94	Government of Egypt - Embassy in Entebbe	110	Egyptian public diplomacy Group	advocacy
95	Government of Egypt – Ministry of Foreign Affairs	110	Egyptian public diplomacy Group	service
95	Government of Egypt – Ministry of Foreign Affairs	119	The Nile Project	service
96	Government of Egypt - The Ministry of Culture	119	The Nile Project	service
96	Government of Egypt - The Ministry of Culture	83	Sudanese Public Diplomacy group	advocacy
96	Government of Egypt - The Ministry of Culture	122	the Union of Foreign students from the Nile basin countries in Egypt	advocacy
97	government of Egypt- directorate of agriculture	160	Care International	service
97	government of Egypt- directorate of agriculture	203	GIZ	service
98	Government of Egypt- Egyptian Embassy in Ethiopia	110	Egyptian public diplomacy Group	advocacy
98	Government of Egypt- Egyptian Embassy in Ethiopia	119	The Nile Project	service

99	Government of Egypt- Ministry of Agriculture and Land Reclamation	203	GIZ	service
99	Government of Egypt- Ministry of Agriculture and Land Reclamation	160	Care International	service
99	Government of Egypt- Ministry of Agriculture and Land Reclamation	92	Government of Egypt- Ministry of Water resources and Irrigation	organizational
100	Government of Egypt- Nile Water Sector - MWRI	92	Government of Egypt- Ministry of Water resources and Irrigation	organizational
100	Government of Egypt- Nile Water Sector - MWRI	127	NBI	organizational
100	Government of Egypt- Nile Water Sector - MWRI	128	ENTRO	organizational
101	Group of the Nile Basin (GNB)	87	Cairo University	organizational
102	Holding Company for Water and Waste Water in Cairo Governorate	203	GIZ	service / capacity building
104	Luxor African Film Festival	122	the Union of Foreign students from the Nile basin countries in Egypt	advocacy
105	Agriculture research center (ARC)	203	GIZ	knowledge / service
106	Misr El-Samara Initiative	122	the Union of Foreign students from the Nile basin countries in Egypt	advocacy
107	Nahdet El Mahrousa	119	The Nile Project	organizational
107	Nahdet El Mahrousa	123	The Water Institute for the Nile (WIN)	organizational
108	National Committee for Population and Development (NCPD)	117	The NGO Forum - Egypt and Sudan for Population and Development	knowledge
109	Nile Basin Capacity Building Network (NBCBN)	196	UNESCO-IHE	service / partner
109	Nile Basin Capacity Building Network (NBCBN)	125	Water research center in Egypt	organizational
109	Nile Basin Capacity Building Network (NBCBN)	81	UNESCO Chair in Water Resources Omdurman Islamic University	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	235	Centre de Recherches Géologiques et Minières	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	238	Dar Es Salaam University	knowledge / partner

109	Nile Basin Capacity Building Network (NBCBN)	232	University of Nairobi	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	147	Nile Technical Advisory Committee (Nile-TAC)	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	246	IWMI	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	127	NBI	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	128	ENTRO	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	159	Cap-Net - UNDP	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	63	Nile IWRM Net	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	230	WaterCap- Kenya	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	129	NEL-SAP	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	244	Makerere University	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	237	University of Rwanda	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	236	Université du Burundi	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	233	Egerton University	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	199	The Faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	223	Szent István University	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	197	Deltares	knowledge / partner
109	Nile Basin Capacity Building Network (NBCBN)	126	CGIAR	knowledge / partner
111	the African Society in Egypt	122	the Union of Foreign students from the Nile basin countries in Egypt	organizational

112	the American University in Cairo	119	The Nile Project	capacity building / partner
113	The Arab Contractor	112	the Union of Foreign students from the Nile basin countries in Egypt	advocacy / service
114	the Arab Network for Environment and Development (RAED)	135	Arab Water Council	knowledge / partner
114	the Arab Network for Environment and Development (RAED)	154	The Arab Countries Water Utilities Association (ACWUA)	knowledge / partner
114	the Arab Network for Environment and Development (RAED)	202	The German Water Partnership e.V. (GWP)	service / knowledge
114	the Arab Network for Environment and Development (RAED)	137	Arab Network of NGOs	knowledge / partner
114	the Arab Network for Environment and Development (RAED)	173	the International Strategy for Disaster Reduction (ISDR)	knowledge / partner
114	the Arab Network for Environment and Development (RAED)	143	Mediterranean Information Office for Environment, Culture, and Sustainable Development MIO/ECSDE	knowledge / partner
114	the Arab Network for Environment and Development (RAED)	171	the Global Network of Civil Society Organizations for Disaster Risk Reduction (GNDR)	knowledge / partner
114	the Arab Network for Environment and Development (RAED)	170	the Global Environment Facility for Civil Society Organizations Network (GEF-CSOs Network)	knowledge / partner
114	the Arab Network for Environment and Development (RAED)	149	Technical General Secretariat of the Council of Arab Ministers of environment	knowledge
114	the Arab Network for Environment and Development (RAED)	155	the Council of Arab Water Ministers	knowledge
116	The General Union for African Students in Egypt	112	the Union of Foreign students from the Nile basin countries in Egypt	organizational
116	The General Union for African Students in Egypt	111	the African Society in Egypt	organizational
117	The NGO Forum - Egypt and Sudan for Population and Development	226	the International Council on Management of Population Programs	knowledge/partner

117	The NGO Forum - Egypt and Sudan for Population and Development	220	Population Concerns (British organization)	knowledge / partner
118	The Nile Forum	191	the Swiss Agency for Development and Cooperation (SDC)	knowledge / partner
118	The Nile Forum	115	Misriyati	knowledge / partner
118	The Nile Forum	256	The Art of Hosting	knowledge / partner
118	The Nile Forum	257	The Global Ecovillage Network (GEN) - International	knowledge / partner
118	The Nile Forum	258	GAIA Education	knowledge / partner
118	The Nile Forum	124	Fekra cultural center, Aswan	knowledge / partner
118	The Nile Forum	259	Permaculture Institute (PRI)	knowledge / partner
118	The Nile Forum	260	Rusinga IslandOrganic Farmers Association (RIOFA)	knowledge / partner
118	The Nile Forum	261	Sarah Waiswa Documentation	knowledge / partner
118	The Nile Forum	262	Andariya	knowledge / partner
118	The Nile Forum	263	Living Wholeness Institute	knowledge / partner
118	The Nile Forum	264	Institute for Conflict Resolution and Peacebuilding (ICP)	knowledge / partner
118	The Nile Forum	265	Green Club	knowledge / partner
118	The Nile Forum	266	Social Innovation for Resilience Community (SIRCLe)	knowledge / partner
118	The Nile Forum	267	Ray Of Hope Africa (RAHA)	knowledge / partner
118	The Nile Forum	268	Terra Nova	knowledge / partner
118	The Nile Forum	269	Kahuzi Biega National Park, Eastern Congo	knowledge / partner
118	The Nile Forum	270	Mama Na Bana	knowledge / partner
118	The Nile Forum	271	Rural Resource Center	knowledge / partner
118	The Nile Forum	272	Lake Victoria civil society and water science network (OSIENALA)	knowledge / partner
118	The Nile Forum	273	Sandele Eco retreat	knowledge / partner
118	The Nile Forum	274	People's coast Ecovillage Network PECEN, Senegal/ The Gambia/ Guinea Bissau	knowledge / partner
118	The Nile Forum	275	Kartong Ecovillage Network (KEN)	knowledge / partner
118	The Nile Forum	276	Amaken	knowledge / partner

118	The Nile Forum	277	Peace Revolution	knowledge / partner
118	The Nile Forum	278	Girifna peaceful non-violent movement	knowledge / partner
118	The Nile Forum	279	Caux Initiatives of Change	knowledge / partner
118	The Nile Forum	280	Sudan Photographers Network	knowledge / partner
118	The Nile Forum	123	The Water Institute for the Nile (WIN)	knowledge / partner
119	The Nile Project	205	Zambaleta World Music school	organizational
119	The Nile Project	213	Panta Rhea Foundation	partner
119	The Nile Project	207	The U.S. Department of Arts and Culture	service
119	The Nile Project	210	US Department of State - Public Affairs	service
119	The Nile Project	212	US. Department of State Bureau of Oceans and International Environmental and Scientific Affairs	service
119	The Nile Project	209	The United States Embassy in Egypt	service
119	The Nile Project	214	Rational Games, Inc.	partner
119	The Nile Project	211	The Germanacos Foundation	partner
119	The Nile Project	208	the Association of Performing Arts Presenters (APAP)	partner
119	The Nile Project	201	Government of the Netherlands - Ministry of Foreign Affairs	service
119	The Nile Project	191	the Swiss Agency for Development and Cooperation (SDC)	service
119	The Nile Project	194	Hivos East Africa	service
119	The Nile Project	193	Drosos Foundation	service
119	The Nile Project	127	NBI	advocacy
119	The Nile Project	134	African Union	advocacy
119	The Nile Project	241	Uganda- Bayimba Foundation	partner
119	The Nile Project	242	Uganda- Ndere Centre	partner
119	The Nile Project	244	Makerere University	capacity building / partner
119	The Nile Project	229	Wangari Maathai Institute for Peace & Environmental Studies - University of Nairobi	capacity building / partner
119	The Nile Project	238	Dar Es Salaam University	capacity building / partner
119	The Nile Project	232	University of Nairobi	capacity building / partner
119	The Nile Project	239	Uganda - International University of East Africa	capacity building / partner

119	The Nile Project	240	Uganda - Kyambogo University	capacity building / partner
119	The Nile Project	231	Kenya- United States International University	capacity building / partner
119	The Nile Project	228	Kenya- The Kuona Trust Arts Centre	partner
119	The Nile Project	234	Tanzania - Busara Promotions	partner
120	The Nile Valley Family - Sudan	42	Egyptian- Sudanese Friendship Association	advocacy / partner
121	the Regional Center for Studies and Research on Water Ethics	180	UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology (COMEST)	organizational
121	the Regional Center for Studies and Research on Water Ethics	174	The Research and Ethical Network Embracing Water (RENEW)	organizational
126	CGIAR Research Program on Water, Land and Ecosystems (WLE)	246	IWMI	organizational
126	CGIAR Research Program on Water, Land and Ecosystems (WLE)	166	FAO	partner
129	NEL-SAP	130	LVBC	knowledge / partner
130	LVBC	127	NBI	partner
131	AFDB	127	NBI	service / partner
132	Africa SAN (Africa of sanitation)	144	NBD	knowledge / partner
133	African Parliament	110	Egyptian public diplomacy Group	advocacy
134	African Union	151	The African Ministers' Council on Water (AMCOW)	organizational
122	the Union of Foreign students from the Nile basin countries in Egypt	135	Afro-Arab Youth Council (The Arab League)	advocacy
136	Arab League	88	GWP- Egypt	knowledge
138	Arab Water Council	88	GWP- Egypt	knowledge
138	Arab Water Council	92	Government of Egypt- Ministry of Water resources and Irrigation	organizational
138	Arab Water Council	139	Center for Environment and Development for the Arab Region and Europe (CEDARE)	knowledge / partner
138	Arab Water Council	281	Sawiris Foundation for Social Development	service
138	Arab Water Council	282	The Prince Sultan Institute for Environmental, Water and Desert Research	knowledge
127	NBI	140	COMESA	partner/ service

127	NBI	146	NEPAD	partner / service
127	NBI	141	EU	partner / service
127	NBI	142	IGAD	partner / service
144	NBD	142	IGAD	advocacy / knowledge
144	NBD	145	NDFs	organizational
145	NDFs	15	Ethiopian-NDF	knowledge / partner
145	NDFs	71	Sudan-NDF	knowledge / partner
145	NDFs	91	Egypt-NDF	knowledge / partner
144	NBD	217	The Canadian International Development Agency (CIDA)	service / knowledge
144	NBD	127	NBI	knowledge / partner
144	NBD	128	ENTRO	knowledge / partner
144	NBD	129	NEL-SAP	knowledge / partner
144	NBD	227	South Sudan-NDF	knowledge / partner
144	NBD	181	WB	service
144	NBD	147	Nile Technical Advisory Committee (Nile-TAC)	knowledge / advocacy
144	NBD	151	The African Ministers' Council on Water (AMCOW)	knowledge / advocacy
144	NBD	198	Global Women Partnership	knowledge / partner
144	NBD	158	Butterfly Effect	knowledge / partner
144	NBD	162	Climate is Water Network	knowledge / partner
144	NBD	190	DFID	service
144	NBD	243	Global water partnership (GWP)- East Africa	capacity building / partner
145	NDFs	130	LVBC	knowledge / advocacy
222	Stockholm International Water Institute (SIWI)	127	NBI	knowledge / partner
222	Stockholm International Water Institute (SIWI)	181	WB	knowledge
222	Stockholm International Water Institute (SIWI)	246	IWMI	knowledge
221	Scot- Welson company	128	ENTRO	service
200	Nile Basin Society	218	Foundation Help	knowledge / partner
200	Nile Basin Society	283	the Egyptian Water Resources Association (EWRA)	knowledge / partner
200	Nile Basin Society	284	International Livestock Research Institute (ILRI)	knowledge / partner
74	SYPW	285	Dimensions Foundation Development	knowledge / partner

74	SYPW	286	Japan International Cooperation Agency	partner
74	SYPW	287	UNICEF	partner / advocacy
74	SYPW	288	Sudanese Forum of Environment	partner
74	SYPW	289	The Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD)	knowledge
74	SYPW	290	The Water Youth Network	knowledge / partner
74	SYPW	291	Forces of Freedom and Change	advocacy
175	World Youth Water Parliament (YWP)	292	UN Water	partner
175	World Youth Water Parliament (YWP)	293	UNESCO	partner
175	World Youth Water Parliament (YWP)	294	Geneva Water Hub	partner
175	World Youth Water Parliament (YWP)	295	Blue Peace	partner
175	World Youth Water Parliament (YWP)	296	Montreal International	partner
175	World Youth Water Parliament (YWP)	297	L'Agence de l'Eau Artois-Picardie	partner
74	SYPW	298	Government of Sudan - Ministry of Health	partner
74	SYPW	299	Government of Sudan- Ministry of Youth and Sport	partner
74	SYPW	300	Agency of drinking water and Sanitation	partner
74	SYPW	301	Regional center for water harvesting	partner
74	SYPW	302	Practical Action	partner
74	SYPW	303	REDR UK	partner
74	SYPW	304	Environmental Studies institute (Khartoum University)	partner
74	SYPW	305	Sudanese Youth for Climate Change	partner
74	SYPW	306	The Public Health organization (Ahfad University)	partner
74	SYPW	307	The consulting committee of Khartoum University	partner
74	SYPW	308	Union of Sudanese contractors	partner
74	SYPW	309	NewTech Company	partner
74	SYPW	310	Hydraulic Research Center in Wad Madni	partner
74	SYPW	311	EL-Emam ElMahdy University (Health Faculty)	partner
74	SYPW	312	Idafa Organization	partner
74	SYPW	313	Gismar Organization	partner

74	SYPW	314	AID/HIV Friends	partner
74	SYPW	315	Doctors without Borders	partner
74	SYPW	316	IRW	partner
74	SYPW	317	Eddra Organization	partner
74	SYPW	318	Sennar Reservoir Department	partner
74	SYPW	319	Sudanas Organization for Development	partner
74	SYPW	320	Sudanese Ro'wia Organization	partner
74	SYPW	321	El Tawaki Charity Organization	partner
74	SYPW	322	ZOA organization	partner
74	SYPW	323	German Agor Action	partner
74	SYPW	324	Mosandoon Organization	partner
74	SYPW	325	Health Science Academy	partner
74	SYPW	326	Red Sea University	partner
74	SYPW	327	Bash'eir El Salam Organization	partner
74	SYPW	328	Merowe University	partner
74	SYPW	329	Dar Es Salam Organization	partner
74	SYPW	330	Zalingy University	partner
74	SYPW	331	Dorra Organization for Development	partner
74	SYPW	332	Afkar Organization	partner
74	SYPW	333	Emaar Organization for Development	partner
74	SYPW	334	ElMannar Organization	partner
74	SYPW	335	AlObid Organization	partner
74	SYPW	336	Kordfan University	partner
74	SYPW	337	Kafa Organization	partner
74	SYPW	177	UNDP	partner
74	SYPW	196	IHE- Delft	partner
175	World Youth Water Parliament (YWP)	191	the Swiss Agency for Development and Cooperation (SDC)	partner
175	World Youth Water Parliament (YWP)	167	Global water partnership (GWP)	partner
74	SYPW	179	UNEP	partner
74	SYPW	182	WHO	partner
74	SYPW	245	USAID	partner
74	SYPW	142	IGAD	partner

74	SYPW	176	UN- IOM	partner
91	Egypt-NDF	338	Community Development Ass. In Ebshwai	organizational
91	Egypt-NDF	339	Qena NGOs Federation	organizational
91	Egypt-NDF	340	Agriculture Association in kafr Ameen	organizational
91	Egypt-NDF	341	Agriculture Wealth association	organizational
91	Egypt-NDF	342	Al-Thanaa for Development & Environment	organizational
91	Egypt-NDF	343	Arab Center for Urban Studies	organizational
91	Egypt-NDF	344	Association of Childhood and Development (ACD)	organizational
91	Egypt-NDF	345	Better Life Association	organizational
91	Egypt-NDF	346	Central Association for Developing environmental Technologies	organizational
91	Egypt-NDF	347	Community development Association	organizational
91	Egypt-NDF	348	Community Development association in Banadf	organizational
91	Egypt-NDF	349	Community Development association in Daweda Village	organizational
91	Egypt-NDF	350	Community Development association in Kafer el Hamam	organizational
91	Egypt-NDF	351	Community Development association in Meet Abu Arabi	organizational
91	Egypt-NDF	352	Community Development association in Tayeba	organizational
91	Egypt-NDF	353	Egyptian Association for Development	organizational
91	Egypt-NDF	354	Environment & Development Association	organizational
91	Egypt-NDF	355	Environment Protection Association	organizational
91	Egypt-NDF	356	Environmental Union Federation	organizational
91	Egypt-NDF	357	Family and Environment association (FEDA)	organizational
91	Egypt-NDF	358	Farid Khamis association	organizational
91	Egypt-NDF	359	Future Protection Association	organizational
91	Egypt-NDF	360	General NGOs Federation	organizational
91	Egypt-NDF	361	General Scouts and Girl Guides Union	organizational
91	Egypt-NDF	362	Islamic Charity Association – Farshout	organizational
91	Egypt-NDF	363	Islamic Cultural Center – Abo Diab, Deshna	organizational
91	Egypt-NDF	364	Kafr Sakr Association	organizational

91	Egypt-NDF	365	Local community development in Meet Ghorab village	organizational
91	Egypt-NDF	366	National association for Environment	organizational
91	Egypt-NDF	367	NGOs Federation Union	organizational
91	Egypt-NDF	368	Nile Basin Media network	organizational
91	Egypt-NDF	369	Nour El Eslam Charity Association, Abo Hommos	organizational
91	Egypt-NDF	370	Our Children association	organizational
91	Egypt-NDF	371	Pioneers of Environment	organizational
91	Egypt-NDF	372	Protection the Environment and Nature Association.	organizational
91	Egypt-NDF	373	Ragaa Coptic Charity Association, Deshna	organizational
91	Egypt-NDF	374	Saint Mari Morkous Association	organizational
91	Egypt-NDF	375	Shabaat Moslemat	organizational
91	Egypt-NDF	376	Together association for development	organizational
91	Egypt-NDF	377	Young Women's Muslim Association – Naqada	organizational
91	Egypt-NDF	378	Youth Association for Community Development	organizational
91	Egypt-NDF	379	Women's Association for Health Improvement, Naga Hammadi	organizational

Curriculum vitae

Abeer Rabei Youness Abazeed holds a BSc of Political Science from Cairo University. She earned her M.A degree from the American University in Cairo (AUC) on the topic 'Aid Harmonization: U.K and Denmark Aid Policies toward Ghana and Tanzania (2005-2010)'. Moreover, she obtained a diploma in Public Policy and Administration from the School of Global Affairs and Public Policy (GAPP) at AUC.

In Egypt, Abeer is working as an assistant lecturer of Political Science at the Faculty of Economics and Political Science at Cairo University. Her primary research interests are African studies and international relations. She has published articles and blogs in Arabic and English in these areas. Civic engagement is a main focus of her current research interests; it derived from her engagement within Egyptian civil society organisations.