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The Oil of the 21st Century: The role of transboundary water agreements in preventing violent conflict in the Nile and Yarmouk River basins.

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The Oil of the 21st Century:

The role of transboundary water agreements in preventing violent conflict in the Nile and Yarmouk River basins.



Master thesis

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LIST OF ABBREVIATIONS

GERD	Grand Ethiopian Renaissance Dam
EU	European Union
IO's	International Organisations
IR	International Relations
NBI	Nile Basin Initiative
RBO	River Basin Organization
TECCONILE	Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile
TWA	Transboundary Water Agreement
UN	United Nations
UNCW	United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses
UNRW	United Nations Relief and Works Agency for Palestine Refugees in the Near East
UNSC	United Nations Security Council
UK	United Kingdom
US	United States
WB	World Bank
WRM	Water Resource Management

ABSTRACT

Freshwater is an essential yet scarce good, that is predicted to only become scarcer because of climate change and growing populations. In addition, freshwater in rivers is often shared between multiple countries. Despite multiple predictions by scholars and experts, states often do not go to war over freshwater. Instead, most disputes end in the signing of a treaty. However, these treaties are not always fair and do not, actually, always end conflict. In the view of this research, treaties are merely a way in which states fight, without using violence, and should thus be seen as a part of ongoing conflict, rather than the end of it. In addition, despite theoretical predictions, international organisations do not play a large role in the creation of River Basin Organisations and neither do hydrohegemons.

The Oil of the 21st Century: The role of transboundary water agreements in preventing violent conflict in the Nile and Yarmouk River basins.

1 INTRODUCTION

1.1 “The Next War Will Be About Water”

Freshwater is the world’s most important natural source, providing life to people and nature. Unfortunately, an abundant amount of freshwater is not one of nature’s iron laws. Since 1950, water supply on a global average has fallen by 60% per person, while water use has increased with 180% per person. Between 2000 and 2010, water usage in households and industries has grown twice as fast as the growth of the world’s population (NATO, 2012, 0:52-0:57). According to Myers (2004, 2), water usage has even increased three times as fast as population growth. As a result, 30 countries are predicted to be water scarce in 2025, 18 of which in the Arab region (the Middle East and North Africa) (NATO, 2012, 2:10-2:16).

At the same time, three out of four countries in the world are reliant on freshwater basins that they share with other countries (NATO, 2012, 1:52-1:58). Around 261 rivers in the world are shared, of which 37 rivers flowing through four or more different countries (Myers, 2004, 2). Other sources claim that there are 310 shared rivers in the world, shared among 150 states (McCracken & Wolf, 2019 in Kazami et al., 2020, 477). Examples of this are the Mekong River, which is the main water supply for six countries in Asia (NATO, 2012, 2:56-3:01; Myers, 2004, 3), the Yarlung-Zangbo-Brahmaputra River that runs through the two most populous countries in the world, namely China and India (NATO, 2012, 1:33-2:50), and the Nile River, that is the main water source for eleven countries.

For these reasons, multiple scholars and politicians have warned for future wars to be fought about water. For example, Ismail Serageldin, who was vice president of the World Bank (WB), predicted in 1995 that wars in the 21st century would be fought about water instead of oil. In 1999, the New York Times featured an advertisement headlining “The Next War Will Be About Water”. The advertisement was initiated by a group of international organisations and further explained the need for better water management (Dinar, 2000, 375). According to Dinar, hydro-politics had only just started to receive attention in international relations and (environmental) security literature (2000, 375). The acknowledgement of water as a source of conflict in media and international politics raised the issue to the realm of ‘high politics’¹ (Swain, 2001, 770). For example, a report by the US Intelligence Services stated that water from shared sources would increasingly be used as a weapon (by terrorists) or as leverage beyond 2022 (2012, 3).

Continuing in the 21st century, Agence French Presse warned in 2001 that freshwater demand in combination with population growth would cause conflict. Their warning was meant for many parts of the world, but the Arab region in particular. At that time, the United Nations (UN) estimated that there was potential for approximately 300 water disputes worldwide (Agence France Presse, 2001). Ten years later, then-President of Vietnam, Truong Tan Sang stated that tensions over water resources could threaten economic growth, as well as cause conflicts (NATO, 2012, 3:07-3:22). In

¹ ‘High politics, as opposed to ‘low politics’, is the realm of issues traditionally deemed most important to states (for example, national security and military strength). Low politics include welfare and the environment (Heywood, 2014, 66).

the same statement, Truong Tan Sang compared water in the 21st century to oil in the 19th and 20th centuries, dubbing fresh water “the oil of the twenty first century” (NATO, 2012, 3:07-3:22). In line with this statement, the UN Development Program stated that water had overtaken oil as being the most important resource potentially causing regional instability (Atkins, 2015, 1).

However, former UN Secretary General Ban Ki-moon stated in 2006 that the core of the problem is not water scarcity itself. Ki-moon attributes the lack of water distribution to poor political choices and weak institutions (Leb, 2009, 126). This means it is a problem with the potential to be fixed. Therefore, this thesis will focus on the prevention and resolving of conflict regarding freshwater. In the second chapter, a literature review will show the history of water as a security problem in academia and politics. Additionally, it will discuss water as a source of conflict *and* cooperation. In the third chapter, a theoretic framework will be presented, providing a theoretical lens and resulting in the research question and providing hypotheses. In the fourth chapter, the research method and case selection will be explained. Followed by the fifth and sixth chapters, in which two case studies will be analysed, respectively. These case studies will be compared in the seventh chapter, in which the research question is to be answered. This last chapter will include a final conclusion to this thesis and recommendations for further research.

2 LITERATURE

2.1 Environmental issues in the security realm

As mentioned in the introduction, water has not always been seen as a security problem. The text below will go over the history of water as a security problem as well as the current state of water security in scientific literature, starting with defining the concept of security in general. Security as a concept has always been hard to define (Baldwin, 1997), but most scholars can agree on some of its meaning in practice. The main discussion is between traditionalists and non-traditionalists (Dinar, 2000, 367). Traditionally, in politics, security is a concern of great national relevance and deals mostly with military power (Baldwin, 1997, 5). Also, historically, security is concerned with physical safety and an assurance to people's survival and well-being (Barnett, 2003, 7). The conceptualisation of security began to be challenged by non-traditionalist scholars and policy makers who started bringing environmental issues into the realm of traditional security (Dinar, 2000).

This discussion began in the 1980s when environmental issues first became relevant (Trombetta, 2008). During the Cold War, environmental security was mostly viewed in relation to nuclear contamination and the risks involved with nuclear weapons (Butts et al., 2012). After the Cold War, in the 1990s, environmental security shifted to a focus on water and air pollution and the protection of the ozone-layer (Butts et al., 2012). According to Dinar (2000, 376), the end of the Cold War left room for new debates among scholars. Since then, the main discussion in academics regarding environmental security revolves around the place of environmental security as a security issue in politics and policy. Although most scholars agree on the relevance of environmental issues and protection (Mazon & Zeitoun, 2013), there is critique on placing environmental issues in the same group as traditional security issues, such as military power and geopolitics (Trombetta, 2008, 585).

On the one hand, some scholars welcomed environmental issues on the traditional security agenda, because it would lead to more attention for environmental problems. On the other hand, opponents were afraid that putting environmental issues on the security agenda would harden the environmental debate. In line with that, Mazon and Zeitoun (2013) argued against the securitization of the environment, because it would serve as an unnecessary encouragement for military action in environmental issues. Other scholars thought national governments were inadequate to solve environmental problems. In addition, countries from the Southern hemisphere blamed Northern states for securitizing the environment for the gain of the Northern hemisphere (Trombetta, 2008).

Since the beginning of the 21st century, environmental security has gained new relevance through the importance of sustainability and the protection of natural resources to governments (Butts et al., 2012). The discourse on environmental issues has shaped the belief that the environment is detrimental to human safety and has linked the environment with conflicts (in the perception of people and their governments). Environmental security has come to include military issues as well, such as the limiting of environmental damage during conflicts, and the issues of maintaining the military in a sustainable manner (for financial as well as safety reasons) (Goodman, 2012; Butts et al., 2012). In the non-traditionalist view, security as a widened concept encompasses a range of different policies. As Dinar (2000, 376) argues, focussing exclusively on military threats would not suffice in making policy.

Therefore, over the last two decades, sustainability and the preservation of natural resources have become a core part of environmental security studies as well as security policies for multiple countries as well as international organisations (Butts et al., 2012; Trombetta, 2008, 585; Barnett, 2003, 7). The United States (US) have viewed environmental security as an issue of national and international importance since the early 1990s (US Department of State, 2012; Butts, Goodman & Nugent, 2012). For the US as a state, environmental security is relevant because environmental issues can cause political unrest or economic instability (US Department of State, 2001). Another example is Egypt, that has considered water (in particular, the Nile River) a national security issue since the 1990's (Stetter et al, 2011, 451).

Thus, environmental security is a very broad subject. It entails the protection of the environment (Stimson Institute, 2019) and it deals with the distribution of natural resources (US Department of State, 2012). In conclusion, environmental issues are being considered central to national security, despite discussion among scholars about the securitization of environmental issues. In any case, water resource management and politics are intertwined. For example, the allocation of water usage and water rights is an inherently political process, where technical, environmental, economic and social factors need to be in balance (Hussein & Grandi, 2017). This political process regarding water is often called hydro politics, which will be further explained below.

Hydro politics

As of recently, the term hydro politics is being used to describe state interaction regarding freshwater. Hydro politics is the discipline that studies conflict surrounding freshwater, as well as the development of shared water sources (Kazami et al., 2020, 478-8). In addition, hydro politics provide a lens through which freshwater interaction can be viewed. The main issue within hydro politics are riparian disputes, which Lowi (1993, 2) defines as a dispute between two or more sovereign states over the water in an international river basin, that flows through their territories. Freshwater basins are considered most prone to conflict² (Powell et al., 2017, 936/3), which is why this thesis focusses on river basins and riparian states.

Key characteristics of hydro politics include (1) issues regarding a shared resource, freshwater; (2) interaction between multiple stakeholders, often more than two³ (Kazami et al., 2020); (3) the fact that water cannot (easily) be stolen, unlike other raw materials such as diamonds; (4) the indirect value of water, meaning water itself is worth less as a raw material than the produce it helps grow (Zeitoun, 2020, 370-1); (5) geographic factors, i.e. the natural flow of a river, at the basis of the problem (Lowi, 1993); (6) regional differences regarding the abundance or scarcity of water, which causes differing concerns per riparian state (Zeitoun et al., 2020, 370).

To add to the last two key characteristics, geography plays a large role in water relations, as natural water sources do not respect states' power relations (Dinar, 2000, 380). For example, the weakest riparian state, in economical and/or military sense, could have control over the largest part of a river. In addition, the difficulties with sharing a river basin for states is that states do not have control over parts of the river that lies across its own borders. States do have full control over parts

² As opposed to salt water or other sources of freshwater, such as lakes, glaciers or aquifers.

³ In this thesis, stakeholders are states. However, stakeholders in hydro politics could include subnational levels of government or intranational organisations or unions as well as non-governmental actors (Atkins, 2015).

of the river that does lie within its own borders, causing temptation to act unilaterally (and, inefficiently). Therefore, in order to develop a river basin to its potential, states need to transfer part of their sovereign power over the river basin to other states or organisations (Lowi, 1993, p. 1-2), which is not natural to state behaviour.

2.2 Water as a source of conflict

Dinar (2000, 377) argues that hydropolitics should be considered part of the security discourse, because freshwater issues can play a role in conflict. For example, freshwater scarcity can lead to economic challenges and social unrest. Other scholars, politicians and journalists seem to agree on the relevance of hydropolitics (Lufkin, 2017; Ratner, 2018; Levy & Sidel, 2011; Farinosi et al., 2018), but there is not much up to date empirical research available on hydropolitics and conflict. Most articles about the topic date from before 2010 (OECD, 2005; Michel & Pandya, eds., 2009; Agence France Presse, 2001; Allan, 1998). Interestingly, these articles and reports make similar observations, but disagree on the empirical facts regarding water conflict.

There are multiple reports and scholarly papers that found a correlation between drought, migration and internal conflict (Sasse, 2017, 10). For example, according to an estimate by the UN, 40% of all conflicts that happened in sixty years were related to water resources (United Nations, 2018). In addition, over 450 water-related conflicts have taken place since 1950. In 37 of these conflicts, violence was used, although not necessarily on persons (rather than infrastructure) (Myers, 2004, 2). Levy and Sidel (2011, 778) also argue that conflicts regarding water sources, both internal and external conflicts, were increasing in the first decade of this century.

However, they also state that these conflicts rarely lead to actual violence. For example, Allan (1998) does agree that it is undisputable that shared water resources are prone to cause conflict, because of the hydropolitical characteristics explained above. However, there have been little to none violent conflicts over water in the latter part of the 20th century and Allan did not foresee a different development for the 21st century. In line with this, in 2005 the OECD acknowledged the risk of hydropolitics turning into conflict, but they do agree with Allen (1998) that violent conflicts over water are not historically common. Swain (2001, 769) agrees, arguing that interstate conflict regarding rivers is apparent, but not violent. More recently, in 2017, Powell et al. concluded no violent conflict had occurred in all studied basins. However, it is important to note that, whenever a conflict turns violent this is most often on the subnational level involving non-state actors (such as terrorist groups) (Powell et al., 2017, 936/3).

Looking at water related conflict in a different light, some scholars argue violent conflicts related to water have different causes. According to Levy and Sidel, water-related conflicts, especially when violent, are often not directly caused by water scarcity. Other factors play a large role as well, including a history of conflict between countries or groups, poor hydro planning, and rapid growth and development within a country (2013, 778). Stetter et al. conclude that no conflict solely caused by water issues has ever occurred, although part of the reason for this lack has to do with the difficulty in proving the exact cause of a conflict. Water issues could play a role in future conflict, when climate change will cause water to be scarcer (Stetter et al., 2011, 442). Farinosi et al. (2018) agree, stating that water-related issues have not been the sole cause of conflict in the past, but could be in the future.

Dinar (2000, 379) agrees in part, arguing that water scarcity is not the main cause of conflict, but rather one of the variables. In her opinion, water issues exacerbate existing conflict between states and are sometimes caused by political conflict. Environmental damage and shared freshwater sources lead to conflict occasionally, but will often lead to economic decline or political troubles rather than violence (Mathews, 1997 and Waever & de Wilde, 1990, 80 in Dinar, 2000, 377). Shared water sources do not always lead to violent conflict but may cause regional instability, especially if states claim freshwater sources in an unfair manner (Dinar, 2000, 377). Therefore, water management is key in reaching regional stability.

After reviewing the literature on water-related conflicts, two conclusions follow. Firstly, the idea that shared water sources can cause conflict is a disputed concept. Secondly, from an empirical standpoint, there is not much proof for violence in water related conflicts. It is important to note that water sharing or droughts as a factor in conflict is hard to distinguish. However, without overwhelming proof, the premise that water sharing causes violent conflict will be rejected for the remainder of this thesis. In the following chapter, this lack of violent conflict will be explored further.

2.3 Water as a catalyst for peace

Contrary to the viewpoints discussed above, research has shown that drought can lead to cooperation, rather than violence. The conflict that arises around shared water sources can force states to come to an agreement (Sasse, 2017, 11). Even more, Zeitoun et al. (2020, 376) argue that conflict is necessary to reach a place of cooperation. Conflict acts as a starting point for open discussion if communication between states is constructive. In this view, shared water sources can act as a catalyst for peace (Leb, 2009, 113). Qualitative research shows that water scarcity forces countries to negotiate with each other, bringing parties together that would otherwise not cooperate (including non-state actors) (Sasse, 2017, 20). In addition, quantitative research shows far more water sharing agreements than violent conflict (Leb, 2009, 114), indicating peaceful conflict resolution is empirically more common (Stetter et al, 2011, 444; Powell et al., 2017; 936/3; Sasse, 2017, 18).

A general term for this type of peaceful cooperation is water diplomacy. Water diplomacy is a concept that has different definitions, as laid out by Sasse (2017, 19). Firstly, the broad definition defines water diplomacy as any intervention to prevent or resolve conflict between states when the conflict is regarding fresh water. The second definition is narrower, aimed at formal negotiation between states, when regarding shared freshwater sources. In the case of the second, narrow, definition, formal negotiations are of diplomatic, political or legal nature and aimed at forming an agreement between riparian states. Often, these negotiations are facilitated by a neutral third party. In this definition, third parties refer to embassies or international organisations (such as the United Nations or the World Bank). In limited cases, the third party is another state (Sasse, 2017, 19). In the remainder of this thesis, the concepts of water diplomacy and hydropolitics will both be referred to as hydropolitics, because in the context of this research, hydropolitics encompasses water diplomacy concepts have a similar meaning.

In practice, a common way of handling conflict peacefully is through transboundary water arrangements (TWA's). Zeitoun et al. (2020, 366) define the concept of transboundary water agreements as encompassing all treaties, protocols and institutional structures between states, that

shape policy about the use of water in river basins. In the 1990's, international attention started to be given to water issues and multiple recurring international summits on water came to life⁴. This period also marks increasing attention to the legal side of water sharing, in the form of international treaties (Leb, 2009, 114). Sasse (2017, 18) argues that treaties are the best way to end water related conflict, especially if negotiated with the help of strong institutions.

International treaties often bind the states to the agreement, in contrast to a political arrangement between current governments. As a result, international treaties are more stable over the long run (Leb, 2009, 122). In addition, these negotiations and treaties seem resilient when tensions arise (Atkins, 2015, 1). Cosgrove (in Sasse, 2017, 10) argues that changes or development in a river basin can lead to conflict, but only if strong institutions and agreements are absent. For example, India and Pakistan have signed a treaty in 1960 that is still active, despite periods of high tension throughout the course of the cooperation (Atkins, 2015, 2). In addition, Malaysia and Singapore have struck multiple deals over the last one hundred years on fresh water from the Johor River, that runs through Malaysia. The current agreement is valid until the year 2061 and by that time Singapore plans to be self-sufficient (Chew, 2019).

In general, most disputes between riparian states are negotiated into (bilateral) treaties (Swain, 2001, 769). For example, out of a dataset containing all inter-state interactions throughout the 20th century, research found only seven cases of minor military encounters between states, while finding 145 conflicts where treaties were signed (Atkins, 2015, 1). In 2001, more than three hundred transboundary water agreements were active, all regarding the sharing of rivers. Only one-third of those are in Africa and Asia, while the other two-thirds are signed in Europe or North America. Relatively, Europe has the most treaties per river basin (shared between four or more countries) (Swain, 2001, 770). As mentioned earlier, underlying tension and other conflict between states can make hydropolitics harder, which would explain the majority of treaties being located in North America and Europe.

One possible explanation for the often peaceful interaction between water sharing states is the importance of water as a resource. Water has been of major relevance in international negotiations throughout history because all states need access to water to survive and thrive (Dinar, 2000, 375 & 379). Freshwater is essential as drinking water, to health care and to develop an economy (Lowe, 1993, p. xv). Especially when states have invested in infrastructure, such as dams or desalination plants, military conflict becomes too expensive (Atkins, 2015, 2). As stated by Atkins (2015, 2): "Water is simply a resource that is too vital to be put at risk". Although this statement could also be used to explain violent conflict regarding a water source.

A similar argument has to do with the non-political nature of water. Sasse argues that negotiations can be successful when stakeholders focus on technical aspects, instead of political discussions (2017, 20). A neutral third party, such as an international organisation, can steer negotiations in a non-political direction by including technical specialists. Conflict escalation often only occurs in a

⁴ For example, the Global Consultation on the International Drinking Water Supply and Sanitation Decade in New Delhi, India in 1990, the International Conference on Water and the Environment in Dublin, Ireland in 1992; the Earth Summit in Rio de Janeiro, Brazil in 1992; the World Summit on Sustainable Development in Johannesburg, South Africa in 2002 (Leb, 2009, 114).

political context (Sasse, 2017, 20). Therefore, conflict over the distribution of water is a key indication for international cooperation (Leb, 2009, 124). The next part will discuss the role of international organisations (IO's) in hydropolitics further.

International organisations

In 1960, India and Pakistan signed a treaty, which they had negotiated for nine years. About 80% of the water running through the Indus River was running into the Arabian Sea, without being used by India or Pakistan (Swain, 2001, 770). The treaty was initiated by the World Bank, whose president led negotiations. The result was the allocation of the Indus' three eastern rivers to India and the three western rivers to Pakistan. Both countries had their own domain, rather than sharing the available rivers. The World Bank created the Indus Basin Development Fund to help develop water infrastructure (Swain, 2001, 770). In doing so, the WB created a stimulus for both parties to agree to the treaty.

Another example of an international organisation mediating a transboundary water agreement is the following. In 1995, the United Nations Development Program helped negotiate the Mekong Commission, signed by Thailand, Laos, Cambodia and Vietnam (Swain, 2001, 774). In the same year, the South African Development Community created the Protocol on Shared Water Course Systems for the sharing of the Zambezi River among its members (at the time: Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe). This protocol was based on the Zambezi Action Plan from 1987, supported by the United Nations Environment Program (Swain, 2001, 775).

As seen in these examples, international organisations help states achieve their goals peacefully. They do so by organizing negotiations and providing technical knowledge and funding (Dinar, 2000, 397). International organisations are well-funded and highly bureaucratic, highly visible on the international level and have a broad network globally (Mukhtarov & Gerlak, 2013, 310). Especially international financial institutions, such as the World Bank, can provide incentives for states to negotiate a deal (Swain, 2001, 777). International organisations also provide institutional frameworks. For example, in 1997, the UN codified international fresh water law in the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (UNWC/UN Watercourses Convention).

Furthermore, international organisations provide communication between states. This prevents a so-called prisoner's dilemma situation, in which a lack of communication pushes actors to act in their own self-interest on the short-term. Instead, international organisations provide a transparent negotiation arena, where states can optimize their shared interests on the long-term. As a result, states find it easier to cooperate and form agreements, which in turn prevents conflict (Leb, 2009, 121). Another result of a public negotiation arena is that states will be inclined to act properly, as to protect their reputation from other states.

River Basin Organisations

Zooming in to the regional level there is a specific type of international organisation focussing on hydropolitics, namely River Basin Organisations (RBO's). River Basin Organisations are based on the basin level and link different levels of government as well as non-governmental actors to each other. RBO's can function domestically or internationally, based on the geography of the river

basin. RBO's act as a forum where water management issues, including potential conflict, can be discussed (Mukhtarov & Gerlak, 2013, 307). Basing an organisation on the geography of the river makes sense, considering a river basin is a unitary geographical actor and any action within the basin affects all riparian states (Lowi, 2009, 1)⁵.

The establishment of RBO's is often pushed and supported by global and large regional international organisations (Mukhtarov & Gerlak, 2013, 307-10). For example, in Latin America, RBO's are promoted by the World Bank, the UN, the Organisation of American States and the Inter-American Development Bank, among others. In the former Soviet states, the WB, the UN Economic Commission for Europe, the Asian Development Bank and the Global Environment Facility are actively pushing the use of RBO's in water management (Mukhtarov & Gerlak, 2013, 310). Other organisations, such as Green Cross International and the International Union for Conservation of Nature are also advocates of the RBO concept (Mukhtarov & Gerlak, 2013, 310).

However, “[t]he absence of war does not mean the absence of conflict or the presence or ‘peace’” (Warner and Zeitoun, 2008, 807). Water conflicts exist on a spectrum, ranging from (military) violence to non-violent disagreements (Stetter, 2011, 444). In this view, non-violent conflict is still conflict and states need another (non-violent) manner to resolve their issues. There is a risk of states using an institutional arena to pursue an unequal status quo or to restrict other states in developing their resources, rather than as a platform for cooperation (Zeitoun et al., 2020, 368).

As mentioned, conflict can lead to a fruitful discussion, but not all cooperation is fruitful. In general, interaction between states within a context of power asymmetry will yield different results than in the context of a level playing field (Warner & Zeitoun, 2008, 805). Cooperation can be problematic if it is fought out on an unequal playing field or by states that are not equally powerful (Zeitoun, 2020, 376). The result might be a transboundary agreement, but the agreement would not be fair. In the long run and with changing circumstances, these skewed agreements can lead to new conflict (Zeitoun, 2020, 376). The next part will discuss this issue further.

⁵ Lowi's book *Water and Power* was originally published in 1993.

3 THEORY

3.1 Hydropolitics and international relations theory

The research question for this thesis focusses on the Nile and Yarmouk River basins, where states are the main actors. Therefore, it makes sense to use state-centred theories that view states as the most important actors in world politics (Leb, 2009, 120). For this reason, the main theoretical framework used in the analysis part of the case studies, is international relations (IR) theory. In addition, water management and international politics are strongly related (Warner and Zeitoun, 2008). For example, the traditionalist view on security is based on the realist view on international relations (Dinar, 2000, 376). In general, international relations theory is a suitable tool to help make sense of hydropolitics (Dinar, 2000, 380).

However, international relations scholars have not integrated water politics into their field, according to Warner and Zeitoun (2008, 803). The few scholars that have used IR theory in their work, have limited themselves to the two mainstream theories, namely (Neo)Realism and (Neo)Liberalism (2008, 803), and Warner and Zeitoun argue critical IR theories⁶ should be taken into consideration. However, the scope of this thesis makes it impossible to focus on more than the two mainstream international relations theories. By only taking these two theories into account, this thesis will still study a gap in literature, as stated above. Importantly, multiple scholars⁷ argue that hydropolitics can best be analysed using the two mainstream IR-theories, Neo-Realism and Neo-Liberalism,

Still, it is important to keep in mind that these theories are not all encompassing when it comes to hydropolitics. There are a few flaws regarding the two main IR theories, Realism and Liberalism, in looking at hydropolitics (Dinar, 2000). Firstly, these theories do not traditionally consider the geographic aspect of riparian states' relations. Another flaw is the lack of incorporation of the role international organisations play in freshwater negotiations. Lastly, both Realism and Liberalism do not consider domestic factors, even though domestic factors influence a states behaviour on the international level. The first two flaws are, however, accounted for in this thesis.

For this thesis, the geopolitical and regional aspect of hydropolitics will be discussed. Both Realism and Liberalism will be adapted to include geographic factors in the analysis. In addition, the two main IR theories will be applied to the role of international organisations (if they play a relevant role in hydropolitical negotiations). Both theories, but especially Neo-Liberalism, are suitable lenses through which to view international organisations. In short, the first two flaws are not applicable in this research. However, the influence of the domestic level is not emphasised on, because the focus of this thesis lies on the international level.

Regarding Realism and Liberalism, both share similar views on the world, especially when viewed in a broader scope and compared to critical IR-theories (Heywood, 2014, 14). The main concern of both theories is to explain conflict and cooperation as a matter of state relations. In this broad discussion, Realists tend to focus more on conflict, while Liberalists tend to focus more on

⁶ Critical IR-theories would include constructivist theory, Critical Theory (purposely capitalized), feminist approaches, postcolonial perspectives, poststructuralism and international political sociology (Peoples & Vaughan-Williams, 2015).

⁷ Scholars including Lowi (1993) and Dinar (2000).

cooperation (Heywood, 2014, 14). Furthermore, both theories agree that states are rational actors acting rationally. In the context of water, this is called hydro-rationality (Leb, 2009, 126). Nevertheless, there are some vital differences between these two classic theories. The next subchapters will give an overview on both theories, with an emphasis on Neo-Realism and Neo-Liberalism.

3.2 Realism

Classical Realist theory is rooted in the idea that people, and therefore states, are selfish in essence and will act in their own self-interest in order to survive. With the focus on survival within the international state system, states must prioritize their own (military) security. This creates the tendency to distrust other states and, without a world government, makes it close to impossible to create fruitful cooperation (Heywood, 2014, 56). However, looking at the individual level or state level alone is not sufficient in understanding conflict, according to Waltz (in Dinar, 2000, 380). It is important to acknowledge that states are part of an international system and that systemic variables play a role in deciding states' behaviour.

This structural view on international relations forms the base of the Neo-Realist theory⁸. These structural factors include (in order of importance) (1) the anarchic nature of the international system (without a global military or central government); (2) the number of major power states and their distribution of economic and military power; (3) and military alliances and economic ties. All these factors create a system shaped by its structure, where individual states do not have full autonomy (Dinar, 2000, 381). This reliance on other states creates insecurity, which causes states to focus on short-term issues, such as military threats (high politics), instead of long-term issues, such as economics or the climate (low politics, in this view) (Dinar, 2000, 381).

Regarding state interaction, Neo-Realists argue that the focus of states in negotiation is strategic interaction. Displayed behaviour is decided by a states' own capabilities, rather than their interests (let alone other states' interests) (Lowi, 1993, 3). Therefore, the structure of the international system is shaped by a difference between states in power. When powerful states keep each other in check, a balance of power emerges in the system. Other states will choose to benefit from this balance of power, since the alternative is conflict. In that case, weaker states will try to keep the equilibrium rather than maximise their own stake in an agreement (Leb, 2009, 124). Meanwhile, strong states will use their power against weaker states, so the outcome of the negotiation will most likely benefit the stronger state (Dinar, 2000, 387).

In addition, in Neo-Realist theory, states focus on attaining relative gains during negotiation. Relative gains refer to benefitting more than other states, rather than benefitting relative to the states' own current situation (which would be an absolute gain). States will thus cooperate if they predict the outcome to maximise their own power position (Leb, 2009, 124). States could decide to stop cooperation if other states gain too much from a collective deal (Dinar, 2000, 383). In the context of shared freshwater sources, the fear of other states benefitting from a water source creates an incentive to exploit the resource without cooperation (Dinar, 2000, 383). In this view, asymmetric gains are a significant obstacle for riparian cooperation (Furlong, 2006, 444).

⁸ Sometimes called Structural Realism.

Within the context of a river basin, riparian states form their own small, international arena in which geographic factors play an important part. The dominant riparian state, or hegemon, will take the lead to establish a regional regime in which states cooperate to develop the basin (Lowi, 1993, 10). Some scholars argue that riparian cooperation is possible only when the hegemon accepts the new dynamic. According to Lowi (1993, 10), in arid regions, treaties are only successfully negotiated in river basins where cooperation was promoted or imposed by a hegemon or where states have a strong need for water from the basin. Meanwhile, a hegemon often has a stake in keeping the system intact, because the system acts in line with the hegemon's interests (Heywood, 2014, 236).

In fact, Zeitoun et al. (2020, 371) argue that riparian conflicts are often shaped by unequal power relations between the states involved. Many water sharing arrangements are inequitable and hegemonic, which Zeitoun et al. define as being "maintained both by the use (or threat) of force by the more powerful actor, and the consent of the less powerful actor" (Zeitoun et al., 2020, p. 371). This inequality can be hard to detect, partly because the power used by the hegemon is not necessarily the use of violence, or hard power. Soft power, which can be subtle and strategic, is used as well. Hegemonic acceptance can be enforced by an external power, such as (member states of) an international organisation (Furlong, 2006, 442).

As mentioned, the less powerful actor will often 'play along', which can conceal the unequal relation (Zeitoun et al., 2020, 371). The tendency of states to accept a hegemon for the sake of stability over fairness is called the hegemonic stability theory (Heywood, 2014, 236)⁹. Research found that negotiations in international organisations were shaped in large by the interests of the most powerful members. These members could make use of existing power structures within the organisation to solely maintain the status quo that benefitted them. In worse scenarios, the more powerful member states used their position to push the status quo, bettering their own position and, in turn, organisational inequalities (Powell et al., 2017, 938/5). In this view, hydropolitical cooperation does not necessarily equal fair water rights.

Because of its focus on states' survival and relative gains, Neo-Realism has trouble explaining international law and long-term treaties. Realists would argue that states would form short-term alliances if needed but would not take on long-term responsibilities to another state (Leb, 2009, 121). Interestingly, empirical research shows long-term cooperation in hydropolitical context to be common. Firstly, because freshwater as a resource is becoming scarcer in the future and states are rational actors with a fittingly rational response. Secondly, because states benefit from a balance of power, even if a state itself is not the most powerful. A long-term agreement can be a stabilising factor in the survival of a weaker state. And thirdly, because states need stability in order to make long-term investments in developments such as water infrastructure.

3.3 Liberalism

As mentioned, Classical Liberalist theory focusses on international cooperation. Despite competition between states, Liberal theory assumes states' interests will harmonize eventually, just as a capitalist economy would, and will make peaceful cooperation possible (Heywood, 2014, 65). Neo-Liberal Institutionalists argue that there is another mechanism keeping states in check, namely

⁹ The hegemonic stability theory is not exclusively Neo-Realist, as it stems from Classical Realism and is accepted by many Neo-Liberals as well (Heywood, 2014, 236).

international organisations. The main idea behind this is the domestic analogy: if the rule of law can be imposed on the citizens of a country, international organisations can impose a rule of law onto states (Heywood, 2014, 68). Neo-Liberal Institutionalism is often regarded as the main sub-theory of (Classical) Liberalism, and therefore synonymous with Neo-Liberalism (Heywood, 2014, 65-70; Dinar, 2000, 382; Leb, 2009).

In the Neo-Liberal view, states are considered rational actors, that will not wage war to achieve their goals. Whenever military conflict does arise, it would be caused by misunderstanding or lack of communication between states (Dinar, 2000, 382). In line with this, Neo-Liberalist Institutionalism argues that the greatest hurdles for international cooperation are unequal access to information, uncertainty and transaction costs (Lowi, 1993, 3). International organisations offer solutions to all three of these hurdles. For example, international organisations use their platform to establish expectations and rules. In addition, IO's sanction states for misbehaviour (Lowi, 1993, 7) and reduce transaction costs by providing an institutional structure. In doing this, IO's reduce uncertainty and promote trust and cooperation between states.

In contrast to the Realists' focus on relative gains, Neo-Liberalists focus on absolute gains. States are not as concerned with the relative gains of other states, if they gain something for themselves (Dinar, 2000, 383). State action reflects the states' preferences, rather than a reflection of the states' power. Despite a focus on their own preferences, states also consider the preferences of other states (Lowi, 1993, 3). Therefore, Neo-Liberal Institutionalists argue that whenever an issue is non-zero-sum¹⁰, states can cooperate with the help of international organisations (Lowi, 1993, 6). Because of the geographical factors, water is not a zero-sum game. Meaning that riparian states all benefit from clean and abundant water (Atkins, 2015, 2).

A more modern version of Neo-Liberal Institutionalism focusses not only on formal international organisations, such as the UN, but also on informal institutions such as regimes (Heywood, 2014, 70). An international regime is defined as "patterned norm- and rule-governed behaviour among states in a particular issue area" (Lowi, 1993, 6-7). (International) regimes are a set of formal and informal rules about the behaviour of states. Regimes shape expectations and activity by providing a framework for states to act in (Leb, 2009, 120) and are often promoted and maintained by international organisations. Although regime theory is not necessarily a strain of (Neo-)Liberalism, there is a significant connection between the theories (Heywood, 2014, 70).

Another important part of Neo-Liberalism is interdependency theory. Interdependency stems from an economical idea about free trade, where countries should focus on producing goods that are best suited for a country (in terms of geography, climate and skills of workers). In order to have access to all other products, states have to trade goods with each other, which creates economic ties. This, in time, will create cultural ties and a common understanding between states (Heywood, 2014, 66). In a broader context, interdependency can be defined as a system of general reciprocity between states (Furlong, 2006, 444). This system of interdependence, according to Neo-Liberals, will maintain peace because states cannot afford losing trade partners (and the products they need to import).

¹⁰ Zero-sum, in a conflict, means that there can only be one winner and the prize cannot be divided. Non-zero-sum is the opposite, meaning multiple actors can win and divide the prize (Heywood, 2014).

In the context of water, interdependency between states may influence states' behaviour in deciding to cooperate (Dinar, 2000, 380). After all, sharing a freshwater source creates a network of interdependence between riparian states, in terms of economy, politics and security. Environmentally as well, states are dependent on keeping the sources' quality and quantity on par (Dinar, 2000, 380). In addition, developing a river's potential ideally happens on a basin level. In order to work together, states must start viewing a river as one economic unit, regardless of state borders (Swain, 2001, 777). For this reason, the concept of River Basin Organisations fit well within the theoretical tradition of Neo-Liberalist Institutionalism.

In short, Neo-Liberal Institutionalism emphasises economic interdependence as a motivation to cooperate. Cooperation is established through international organisations and regional regimes (Dinar, 2000, 387). However, not all states play an equal part in establishing regimes. And not all states are equally economically dependent on others. So, do all states consider themselves part of a fair regime when it comes to sharing water? Or do some states feel forced into a regime of which they do not share norms and values? In the last part of this chapter, a few hypotheses are discussed, based on the theoretical framework.

3.4 Research question and hypotheses

Considering the fact that there are not as much violent hydropolitical conflicts as were predicted at the beginning of this century (and before), and considering the idea that conflict and cooperation are not mutually exclusive, and considering the fact that most hydropolitical conflict ends in transboundary water agreements, the research question for this thesis is: What is the role of transboundary water agreements in water related conflict in the Nile and Yarmouk River basins?¹¹

The relevance of this research question lies in its academical and, more importantly, societal importance. Water is extremely important for the development and stability of a country, but it must be managed well in order to be used sufficiently, which is not currently the case in many regions (Gorbachev, 2002, 7). Millions of people have insufficient access to clean water and billions of people cannot use water for proper sanitation (Gorbachev, 2002, 7). And even though freshwater sharing does not solely cause conflict, research shows water scarcity can increase regional uncertainty and economic problems (the Stimson Institute, 2019). Which, in turn, are factors in creating mass migration (Sasse, 2017; Powell et al., 2017), along with general human suffering.

As Sasse (2017, 9) writes, water management is an underresearched subject. Therefore, it is important for academics to keep thinking about ways to improve water management. Meanwhile, the issue is getting more urgent every year. In 2016, the World Economic Forum (WEF) identified water crises as the largest concern for the following ten years. Additionally, in 2017, the WEF identified water related issues as having the third biggest impact compared to other crises (directly under nuclear war) (Sasse, 2017, 8). Transboundary water agreements have the potential to help states negotiate and come to peaceful and fair agreements. That is why the role of TWAs in water management is an important part of research.

¹¹ The choice for the Nile and Yarmouk River basins will be explained further on, in chapter 4.

To help shape this research, the following hypothesis are formulated to keep in mind during the case studies and main comparison in chapter seven, as well as to structure the analysis part at the end of each case chapter. The hypotheses were formulated based on the theoretical framework above, both the two IR-theories and the general conceptualisation and empirical research discussed in chapters two and three. The next chapter will further explain the research method, case selection and research structure, based in part on these hypotheses.

Hypothesis 1: states will not use violence in order to gain water rights or access to water.

Hypothesis 2: conflict over water rights will motivate cooperation through the negotiation of transboundary water agreements.

Hypothesis 3: transboundary water agreements will be supported by the riparian hegemon.

Hypothesis 4: international organisations will play a role in initiating and/or enforcing transboundary water agreements.

Hypothesis 5: non-violent cooperation is not always fair.

4. METHOD

4.1 Comparative Case Design

The theoretical ‘puzzle’ or problem at the start of this thesis is the observation that, despite numerous warnings and predictions, water sharing does not overwhelmingly lead to violent conflict between riparian states. Although multiple possible explanations have been put forward by social scientists, there is currently no final theory to answer this puzzle. Therefore, an inductive research method is best suited for this research (Bleijenbergh, 2012, 3). This method allows for an open-ended and exploratory approach, fitting with the exploratory research question for this thesis. In order to successfully conduct inductive research, however, one needs not only an observation, but also a pattern of observations. In the case of hydro politics and conflict, it is hard to establish this pattern, it is difficult to decide at which point in time states have successfully avoided conflict (since some scholars would argue said conflict could still happen). However, as discussed earlier in this thesis, research has shown an underwhelming amount of violent conflict in areas identified as potential conflict zones.

At the same time, this research has a clear hypothesis when it comes to answering the mentioned ‘puzzle’, which has to do with the role of transboundary water agreements. In this view, the following two cases studies will function as test cases for this hypothesis, and corresponding theories about hydro politics. In this deductive style research method, cases will be used to analyse the theories and hypotheses that are outlined in the theoretical framework. It is typical for explanatory case studies to test multiple theories on a case to see which theory is best to understand the situation (Bleijenbergh, 2012, 3). In part, the aim of this study is to develop an explanation for the ‘puzzle’ and at the same time to apply the theoretical framework to empirical research. Because of the explanatory nature of this research, it is not expected to conclude this thesis with a new theory on transboundary water agreements. It will, however, help point future research in the right direction by applying different theories on a relatively new area of study.

To answer the research question for this thesis, a comparative case study will be conducted between two cases. Comparative case studies are quite rare in the context of water related conflict (Stetter et al., 2011, 449), which adds to the academic relevance of this research. The main reason to do a comparative case study is to provide some context to each case. By comparing cases, the reader will get a sense of how unique certain characteristics are in the realm of hydro politics. Of course, following this logic, it would be better to analyse and compare more than two cases. However, that would not fit within the scope of this research and would, therefore, lower the quality of both case analyses. In terms of the cases, it makes sense to select cases that fit with the research question and share characteristics that are important to the research (Bleijenbergh, 2012, 2). This is the reason that neither a most different case nor most similar case study is chosen, but rather two cases that are typical cases in hydro politics (in the sense that in both cases some type of TWA is in place). Because of the non-random case selection and the small number of cases, the results will thus have the quality of an in-depth analysis, but cannot be generalized.

The two cases will be researched in four basic steps, based on factors from research designs by Lowi (1993) and Dinar (2000, 379). These are factors that are deemed relevant to riparian interaction in general, and to the case of the Jordan River in particular (in the case of Lowi’s research). The factors that will be used in this thesis are resource need; relative power among states; and history of conflict resolution. The fourth factor, the role of transboundary water agreements, is

added specifically in relation to the research question of this thesis. All four factors are matched with a part of the analysis, namely the introduction, reconstruction and understanding of each case and a comparison between the two cases. The main structure of the following two case studies will thus look as follows.

- (1) Introduction: resource need and relative power among states. This part will provide some background information and context about the case in question, as well as the main actors. It includes the scarcity of water and the degree to which riparian states have a need for the water from the relevant river basin. In addition, it will show the state relations of the main actors and the relative power among states. This will be viewed through the lens of the theoretical framework, discussed in chapter 3.
- (2) Reconstructing the case: history of conflict resolution. This part will start with a timeline of relevant events, providing background information about transboundary water arrangements already in place. The main discussion is meant to show how current state relations have formed and what the role of transboundary water agreements has been through (recent) history. This will also be viewed through the lens of the theoretical framework, discussed in chapter 3.
- (3) Understanding the case: analysis. This part will analyse the role of transboundary water agreements in current riparian interactions. To structure this part, the analysis will be done according to the five hypotheses, as formulated in chapter 3. Lastly, the research question will be repeated and answered for each specific case, to form a partial conclusion.
- (4) Comparison: the role of transboundary water relations. The comparison between the two case studies will follow in a new chapter (chapter 7), after both cases have been discussed. The focus in the comparison will be on the manner in which both cases answer the research question. The answers to each specific case study in the understanding parts of the chapters are the basis of the comparison.

4.2 Case Selection

Because the research question focusses on how certain transboundary water agreements have developed, and not which arrangements have developed, the cases need to have some type of TWA in place. Therefore, the cases that will be researched and analysed, are river basins where a transboundary water arrangement has already been negotiated or where negotiations have started. This means that the cases are not comprised of just one state, but rather a riparian group of states, tied together through some type of TWA. To prevent both case studies from being too broad, the focus in each case study will lie on one state (and its interactions with other riparian states).

In selecting the two cases, the factors above should be taken into consideration. Additionally, the cases must not be overstudied (to prevent doing irrelevant research) nor understudied (to prevent a lack of data). The cases chosen for this thesis are somewhat overstudied, because both cases are interesting and typical cases regarding hydropolitics. However, existing literature on these cases does not often focus specifically on transboundary water agreements, or do not include a comparison, or includes a comparison to different cases than the combination in this thesis.

Another important factor is the availability of data, which is why the chosen cases have negotiated transboundary water agreements somewhat recently or where negotiations or other relevant events are current. The data used in this research will be consisting of scientific articles (for example, other case studies and analyses), reports from international organisations, and media articles (for example, newspaper articles for factual information or opinion pieces for context). With the exception of Heywood's textbook on global politics, all sources were found online, mainly via the Leiden University digital library or using the original websites (in the cases of news articles and reports by international organisations). Regarding scholarly articles, all are peer reviewed and published in established scientific journals.

In the first case, the Jordan River basin, multiple scholarly articles and reports from IO's are used to paint an accurate and objective picture of the politically charged events in the region. For the Nile River basin case, scholarly articles are the most important source of information as well, in addition to the original text of the CFA, which is currently the most important transboundary water agreement in the area. The use of secondary sources has the obvious limitation that the primary data is analysed by other scholars (for example, an interview with former Sudanese president al-Bashir in an article by Hussein & Grandi). However, this limitation is compensated by the use of different sources, a critical reading of said sources and focussing on using factual information from said sources and doing an original analysis in this thesis.

The two cases that will be researched in this thesis are the Jordan River Basin¹² in the Middle East, with an emphasis on Jordan, and the Nile River Basin, with an emphasis on Egypt, in East Africa. Both areas face similar problems, namely population growth and migration, water and food scarcity and insecurity (caused partly by droughts), climate change and environmental pollution and, lastly, hydraulic exploitation and general historical grievances between states in an already unstable region (Hussein & Grandi, 2017, 801). Following Lowi (1993, 2) in his case selection, the cases for this thesis are located in arid or semi-arid regions. This type of climate leads to an explicit dependence on the rivers in question. Therefore, water is seen as an issue of national importance by riparian states in both cases (El-Sayed & Mansour, 2017, 231).

In both regions, state interaction is mostly shaped by bilateral negotiations while non-state actors struggle to play a role (Hussein & Grandi, 2017, 800). The main approach to water management in this region has been a technical one, aimed at finding politically neutral solutions. In this technical approach, water management is ideally considered objectively as a technical issue, both at the national and international level (Hussein & Grandi, 2017). This way of negotiating shows potential for cooperation, but at the same time, state negotiations over water are, in these two cases, charged with political conflict (El-Sayed & Mansour, 2017, 231). Both cases are marked as 'moderate' on the conflict intensity scale by the Climate Diplomacy Organisation¹³ (Climate Diplomacy, undated a; Climate Diplomacy, undated b).

¹² With a focus on the Yarmouk River, which is part of the Jordan River basin.

¹³ In the case of the Jordan River basin, especially the situation between Jordan and Syria is marked as moderate on the intensity scale, while the situation between Jordan and Israel is marked as non-existing (Climate Diplomacy, undated b; Climate Diplomacy, undated c).

In the Middle East, over two-thirds of water sources are transboundary and, therefore, shared (Hussein & Grandi, 2017). Most studies regarding freshwater conflict focus on states and river basins in the Middle East, for example the Jordan, Euphrates and Indus basins (Powell et al., 2017, 936/3). However, that research is not focussed on the influence of international relations in transboundary water agreements, as this thesis is. Additionally, most research focusses solely on Israel and Palestine, while this thesis takes the basin as the base and focusses on the Yarmouk River and its riparian states (Jordan, Syria and Israel). The choice for the Yarmouk River is based on its important role in the Jordan River basin conflict and the fact that the Yarmouk River is underresearched compared to the Jordan River (World Water Week, 2021).

Sub-Saharan Africa, including Egypt, faces some particular challenges, including population growth, urbanisation, noticeable effects of climate change, violent conflict and mass migration and contagious diseases. All these issues are connected to water scarcity and water management (Gorbachev, 2002, 8). As Gorbachev argues, many issues that face Africa can be traced back to external (colonial) roots. Additionally, conflict [in this region] often arises when states feel their water supply is cut short by other states, by developments such as dams (Sasse, 2017, 11). Based on African history of oil related (violent) conflict, scholars predicted ten years ago that water would create similar conflict in the Nile basin (Rahman, 2012, 42). However, violent conflict has not occurred. To the contrary, in the next chapter, it is shown that riparian states in the Nile basin are more cooperative than ever.

5 CASE I: The Nile River basin

5.1 Introduction

This chapter will show the role of transboundary water agreements in the Nile River basin, starting with a short introduction about the basin and its main actors. The Nile is generally considered the longest river on earth, whose branches flow through eleven countries in East Africa. As can be seen on the map in figure 1, these countries are Burundi, Democratic Republic of the Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda. With only Egypt and Kenya as exceptions, all riparian countries are among the 50 poorest states globally (Kameri-Mbote, 2007, 1).

The Nile has two main branches, namely the White Nile River and the Blue Nile River, that join in Khartoum, Sudan, before continuing its flow to Egypt. The White Nile originates in Lake Victoria, on the border of Tanzania, Kenya and Uganda (where a small part of the river is called Victoria Nile River), and flows through South Sudan, Sudan and Egypt and on the border of the Democratic Republic of the

Congo. The Blue Nile starts in the mountains of Ethiopia and flows through Ethiopia, Sudan and Egypt, as well as to Lake Victoria through South Sudan, Kenya, Uganda and Tanzania. The latter branch constitutes for 86% of the total volume of the Nile (Hussein & Grandi, 2017, 801).

Resource need

Combined, all ten riparian states inhabit around 300 million people, of which around 160 million rely on the Nile (Kameri-Mbote, 2007, 1). In most of these countries, the Nile is the main source of water for agriculture (through irrigation) and a major source of energy (through hydropower) (Hussein & Grandi, 2017, 801). The importance of the Nile has grown further in the last two decades, due to an increased population and climate change. At this time, there is an urgent water need for drinking and sanitation in Africa (Rahman, 2012, 35). For example, Ethiopian water demand has doubled in the first decade of this century (Rahman, 2012, 37). In addition, some of the downstream countries are increasing water-consumptive agricultural activity and therefore have a growing need for Nile water (Abseno, 2013, 193).

Downstream countries Egypt, Sudan and Ethiopia are the Nile basin's main stakeholders, the rest of the states in the basin are considered upstream countries (and will be referred to as a group in this manner below). Egypt is the downstream country in the basin, meaning Egypt is the last country the Nile reaches before streaming into the Mediterranean Sea. At the same time, Egypt relies heavily on water from the Nile, since it comprises 94% of the total Egyptian water use (Hussein &



Figure 1: The Nile River basin (indicated with the red line) and the Nile River. Credits: Hussein & Grandi, 2017, 802.

Grandi, 2017, 801). Additionally, Egypt is the only riparian state with no alternative water sources, which puts the country in an unfortunate position of being heavily dependent on a source that is largely in the hands of neighbouring states (Stetter et al., 2011, 450).

Other large stakeholders are Sudan and the newly independent South Sudan. With the split of the countries, Sudan has lost the lion's share of its resources. About three quarters of the area's oil and an area of water rich swamps are located in current South Sudan (Abseno, 2013, 193). These losses mean a grown reliance on the Nile for Sudan and a larger stake in TWA negotiations for South Sudan. Lastly, Ethiopia is an important actor, mainly because of its role in recent negotiations and its challenging of Egypt's hegemon status (as will be explained further below).

General state interaction

Historically, the region's hydrological geopolitical landscape has been shaped mainly by Egypt and Ethiopia (Hussein & Grandi, 2017, 801). Despite being the downstream country, Egypt has had a vast influence on the unstable transboundary water interaction in the region, partly because of its hegemon status and the signing of two important treaties in its own favour (Hussein & Grandi, 2017, 801). Egypt has used its hegemon status and power to silence other riparian states in negotiations regarding Nile water rights (Hussein & Grandi, 2017, 804). Egypt's proactive behaviour can be explained by its dependence on the river Nile (Stetter et al., 2011, 450). However, unilateral action in the hydropolitical context does not necessarily lead to efficient development of a water source.

Egypt has consolidated its status further by erecting the Aswan High Dam and by using international organisations, such as the Nile Basin Initiative (NBI), to influence neighbouring states (El-Sayed & Mansour, 2017, 236). Another reason Egypt has been able to maintain its hegemon status, are diplomatic ties with global powers and international organisations¹⁴ (Hussein & Grandi, 2017, 804; Rahman, 2012, 45). For example, Egypt has used its influence to pressure international institutions from supporting Ethiopian water projects and has persuaded the Arab world not to invest in Ethiopian development projects in the Nile (Rahman, 2012, 45). Another important factor is Egypt's strong relative economic status and its military strength compared to others in the region, which Egypt was able to develop partly with foreign support (Hussein & Grandi, 2017, 804).

Other riparian states have, in general, made the choice to keep on Egypt's good side in order to gain some benefit or avoid making an enemy, which also helped made Egyptian hydrohegemony the norm (Hussein & Grandi, 2017, 804). However, Egypt is slowly losing the power of providing other states with benefits to Ethiopia, that has become a powerful state in the region that could counter Egyptian hegemony. In part because of two treaties signed by Egypt in the 20th century, Ethiopia has never had the opportunity of hydrological exploitation (Hussein & Grandi, 2017, 801). Now, Ethiopia has added to existing tensions by starting the construction of the Grand Ethiopian Renaissance Dam without support from Egypt and Sudan, who are the main stakeholders in this project because they are located downstream from Ethiopia (Hussein & Grandi, 2017).

¹⁴ Including the United States, United Kingdom and the European Union (Hussein & Grandi, 2017, 804; Rahman, 2012, 45).

Furthermore, Ethiopia is leading a so-called upstream block of countries in a hydrodiplomatic battle against Egypt. This has already resulted in an erosion of Egypt's hegemon status and the inclusion of all riparian state in the creation of the Nile Basin Initiative in the 1990s (Hussein & Grandi, 2017, 803). Ethiopia is thus challenging the Egyptian hegemon status by adopting the same technique as Egypt did, namely providing political and economic benefits to other states. Ethiopia increased its own economic and political status and access to the international market and has signed deals with multiple upstream countries between 2011 and 2013 for the sale of energy and energy infrastructure. Ethiopia is currently expanding on generating more power and is planning to draw most energy from hydropower (Hussein & Grandi, 2017, 805).

With this strategy, Ethiopia is not only growing national energy capacity for itself and neighbours, but is also building reciprocal relationships with neighbouring states. Following the Neo-Liberalist theory of interdependence, these newly developed economic ties should strengthen state relations and lessen the chance of conflict. Ethiopia's motivation to enlarge its hydro energy provision also explains Ethiopia's need to build the Grand Ethiopian Renaissance Dam. In addition, growing support for Ethiopia as a counter hegemon would explain the boldness of Ethiopia in constructing the dam, as well as Egypt's restraint in its reaction (which has, so far, not used military force against Ethiopia). Although it is important to note that Ethiopia has a powerful military as well (Rahman, 2012, 36).

When it comes to the third major stakeholder Sudan, Hussein & Grandi (2017, 805) argue that based on statements made by former Sudanese president al-Bashir, Sudan is slowly changing its alignment from Egypt to Ethiopia. This move helped Ethiopia in its bargaining power, both in the Nile Basin Initiative as in bilateral negotiations, and Ethiopia has gained agenda setting power within the NBI. One of the main items on the NBI agenda, put forward by Ethiopia, is the renegotiation of the 1929 and 1959 Egyptian treaties (Hussein & Grandi, 2017, 804). The next chapter will discuss the region's history of conflict resolution further, starting with a timeline of relevant events, and including the two mentioned treaties and the NBI.

5.2 Reconstructing the case

Timeline

- 1876 Last time military action was used within the Nile River basin (when Egypt invaded current Eritrea) (Hussein & Grandi, 2017, 802-3).
- 1929 British ruled Egypt signs the Nile Water Agreement in Regard to the Use of the Waters of the River Nile for Irrigation Purposes with British ruled Sudan, in favour of Egypt (Abseno, 2013, 193).
- 1956 Egypt sends troops to its border with Sudan as a reaction to Sudan's wish to revise the 1929 Nile Water Agreement (Stetter et al., 2011, 450).
- 1959 Egypt signs the Agreement for Full Utilization of the Nile Waters with independent Sudan, in favour of Egypt (Abseno, 2013, 193).
- 1993 Establishment of the Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile (TECCONILE) (Stetter et al., 2017, 454).
- 1997 All riparian states join in the Nile Basin Initiative (NBI) (Stetter et al., 2011, 452).
- 1997 NBI member states begin working on Cooperative Framework Agreement (CFA) (Nile Basin Initiative, undated a).
- 2011 Start of construction Grand Ethiopian Renaissance Dam (GERD).
- 2013 First CFA member state, namely Ethiopia, ratifies treaty (Nile Basin Initiative, undated a).
- 2015 Signing of the Declaration of Principles between Egypt, Ethiopia and Sudan (Hussein & Grandi, 2017, 806).
- 2021 Completion of Grand Ethiopian Renaissance Dam (Al Jazeera, 2021).

History of conflict resolution

In the timeline of relevant events above, one can observe two main periods. The first is a period in which Egypt and Sudan are the main actors, along with Britain, and where two treaties are signed. Especially in Egypt, it is clear that events from colonial times still influence politics (El-Sayed & Mansour, 2017, 237). This status quo has survived for a few decades, but started changing into a more cooperative period with all riparian states involved. Another important observation is the lack of violent conflict regarding water, with the last case of military action was in 1876¹⁵. In 1956, Egypt sent troops to its border with Sudan, but Egyptian soldiers did not set foot on Sudanese territory. The next part of the text will go deeper into these events and the level of cooperation. The starting point being the two British imposed treaties, because these have set the tone for the current state in the Nile basin.

Egypt has signed two main treaties in the 19th century, first an agreement in 1929 between Sudan (a British colony at the time)¹⁶ and Egypt (then also under British rule) and second an agreement with newly independent Sudan in 1959. Both treaties are not basin-wide and heavily skewed in favour of Egypt, denying proper water rights for upstream riparian states (Hussein & Grandi, 2017, 801). In the 1929 Nile Water Agreement, for example, Egypt won the right to the majority of the Nile water flow. In the same treaty, Egypt gained the right to build hydro works without Sudanese

¹⁵ There have been some violent conflicts in in the 20th century, but not relating to water. For example, between Ethiopia and Eritrea, and Rwanda and Burundi (Rahman, 2012, 44).

¹⁶ Some scholars refer to the 1929 agreement as being signed by Egypt and Great Britain (instead of Egypt and Sudan), for example, Hussein & Grandi, 2017.

approval, while Sudan needed Egyptian approval to construct infrastructure (Stetter et al., 2011, 450).

Both treaties came about because of Britain's interest in growing the Egyptian economy. Unfortunately, this came at the expense of the interests of Ethiopia and other riparian states, who were excluded from negotiations (Hussein & Grandi, 2017, 801). In addition, Ethiopia and Britain tried to negotiate a treaty in 1902, but failed (Hussein & Grandi, 2017, 803). This situation has not invoked military action (there has been none since 1876), but has created shared mistrust between Ethiopia and Egypt (Hussein & Grandi, 2017, 802-3). Ethiopian resentment towards Egypt has only grown and the reciprocal tension makes negotiations hard (Hussein & Grandi, 2017, 903).

In 1956, newly independent Sudan initiated a revision of the 1929 Nile Water Agreement, to which Egypt reacted by sending troops to its border with Sudan as a threat (the troops did not cross into Sudan). Three years later, in 1959, Egypt and Sudan did sign a new treaty, but Egypt kept its water rights and veto rights regarding new construction projects. Sudan gained some water rights, with 90% of all Nile water rights allocated to Sudan and Egypt jointly (Stetter et al., 2011, 450). This exchange is a good example of Egypt not willing to grant Sudan relative gains, which would affect Egypt's hegemon status. Instead, Egypt granted Sudan some absolute gains since Sudan did gain some rights to the Nile water.

As a result, this 1959 revision of the Nile Water Agreement caused new tension in the region, because the bilateral agreement did not consider the interests of other riparian states. In addition, Egypt threatened war against Ethiopia twice, in 1977 and 1980, although it did not come to military action (Stetter et al., 2011, 450). In general, Egypt had two strategies for refuting Sudan's revision request. On the one hand, Egypt used principles of international law to uphold its water rights, gained by treaty in 1929. On the other hand, Egypt used the threat of military force as a reaction to Sudan and Ethiopia. In both strategies, Egypt framed Nile water as existential to its own survival, thus justifying its interests (Stetter et al., 2011, 451). As then-President Anwar Sadat stated in 1979: "the only matter that could take Egypt to war again is water" (Kameri-Mbote, 2007, p. 1).

Although Egypt has kept the view of water from the Nile being an issue of national security, Egypt struck a more cooperative tone with the other riparian states since the late 1990's. The country began involving itself in regional projects against water pollution and aiding general management in upstream states (Stetter et al., 2017, 453). This change of tone has changed the focus of negotiation to the management of the Nile water, rather than solely the allocation of scarce water rights. This new discourse creates room for negotiations on a technical and practical base with the emphasis on rationality and absolute gains for all parties (Stetter et al., 2011, 452).

The Nile Basin Initiative

This view is reflected in the 1993 establishment of TECCONILE, an organisation with an emphasis on sharing technical information between non-political actors (Stetter et al., 2017, 454). Even though TECCONILE is not the first institution with a technical mandate¹⁷ in the region, it is the first basin-wide institution in the Nile basin. TECCONILE was also the soil on which the Nile

¹⁷ For example, between 1961 and 1977, a few upstream countries have set up Hydromet and later the Kagera Basin Organisation. These initiatives were purely technical and not basin-wide (Abseno, 2013, 195).

Basin Initiative could grow (Abseno, 2013, 195). This seed was planted in 1997, when all ten states¹⁸ in the Nile basin launched the NBI. The NBI is meant to promote cooperation and better the socio-economic situation in all involved countries (Stetter et al., 2011, 452). In addition, the NBI was initiated as a step towards a permanent legal framework called the Cooperative Framework Agreement (CFA).

The CFA has nine member states instead of the NBI's ten, excluding South Sudan. Both the NBI and the CFA are a tool for upstream riparian states to replace the 1929 and 1959 treaties, which upstream states deem unlawful and thus invalid (according to international law, including the UN Watercourses Agreement). At the same time, the two 20th century agreements make it difficult for Egypt and Sudan to fully support the NBI and CFA, because their privileges are at stake (Abseno, 2013, 195). As of 2011, all countries have signed the CFA except for Egypt and Sudan¹⁹. Hussein & Grandi argue that the involvement of Egypt and Sudan in the NBI is not with the purpose of signing, but could be explained by their interest to keep the status quo. A common strategy used by hegemon is to join in, but then stall the process (Hussein & Grandi, 2017, 804).

Egypt and Sudan have used the stalling technique multiple times in different stages of the CFA process. For example, Egypt and Sudan have rejected the initial text of the treaty, the wording of article 14b and the opening of the signing procedure (Nile Basin Initiative, undated a). Article 14b states that all countries should not significantly affect another states' *water security*. Egypt has proposed to amend this article to add that no country will affect another states' *existing water rights* (Nile Basin Initiative, undated b). This amendment by Egypt clearly indicates Egypt's unwillingness to fully commit to an equitable allocation of water rights. Interestingly, despite the rejection by these two powerful states, all other states have moved on with the process by majority vote (Nile Basin Initiative, undated b). The CFA ratification process is continuing in 2021, with four ratifications so far (Nile Basin Initiative, undated a)²⁰.

Still, Egypt had already changed its tone, with joining the NBI and with the government stating it wants to continue amicable cooperation with all states in the CFA (Stetter et al., 2011, 452). This is interesting, because Egypt is still the downstream country with the largest dependence on Nile water. It could be that Egypt has realised it is losing its hydrohegemonic position and cannot keep unreasonable water rights in place. Instead of resisting, Egypt has chosen to cooperate in order to stabilize and grow its water buffer. This is visible in Egypt's involvement with the NBI and CFA, but also in its aid for regional projects (as mentioned above). In the tradition of Realist and Liberalist thinking, this places Egypt as a rational actor, that has chosen to cooperation over conflict in order to avoid losing water access.

Additionally, Egypt has chosen to accept absolute gains for all riparian states, despite relative losses for Egypt with the CFA. In this case, absolute gains for the whole basin will better the economic and hydraulic situation for the whole region, including Egypt. For example, if upstream countries get the water rights needed to generate more electricity, the surplus can be used in downstream

¹⁸ NBI members are Egypt, Sudan, South Sudan, Ethiopia, Kenya, Uganda, Tanzania, Democratic Republic of the Congo, Rwanda, Burundi, plus Eritrea acting as an observer (by its own choice) (Nile Basin Initiative, undated a).

¹⁹ And the Congo, but that is not relevant here.

²⁰ Six ratifications are needed for the CFA to enter into force, as stated in the CFA itself (Abseno, 2013, 196).

states (Wu & Wittington, 2006, 1). There is also a financial incentive, as the International Monetary Fund and the World Bank are withholding development funds to the riparian states as long as there is conflict impending (Rahman, 2012, 43). In conclusion, Egypt does not have to lose sight of its own interests in the long run, but it has to trust its neighbours and allow gains for all riparian states first to create synergy in the region.

Another step in the cooperative direction happened in 2015, when Egypt, Ethiopia and Sudan signed the Declaration of Principles over the use of water from the Nile. Along with this signing, then Egyptian President El-Sisi made a few other diplomatic moves (El-Sayed & Mansour, 2017, 236), as to mark the importance of this process for Egyptian-Ethiopian relations. This is an important step in bringing hegemon Egypt and counter hegemon Ethiopia together, as well as Sudan, supporter of both states. Especially when considering the history of Egyptian-Ethiopian relations with its lack of cooperation and Egypt's strategy to isolate Ethiopia (Abseno, 2013, 194). However, this move can also be viewed through a more critical view, in which Egypt tries its strategy of keeping its enemies close in order to keep its hegemon status. And where Ethiopia is continuing its strategy of gaining hegemon status using soft power. Lastly, it would be in Sudan's best interest to keep both its powerful neighbours on its friendly side.

5.3 Understanding the case

The following part will provide a further analysis of the Nile River basin case, structured by the five hypotheses discussed earlier in chapter three. This way, the analysis will conclude which role transboundary water agreements have played in this case. This analysis will act as a starting point of the main comparison in chapter 7.

Hypothesis 1: states will not use violence in order to gain water rights or access to water.

In this case, there is empirical proof that riparian states have not resorted to military action in relation to water. Although Egypt has threatened military action a few times against Ethiopia, it did not grow to be more than a threat. Even in the process of building the Grand Ethiopian Renaissance Dam, which is now complete, no country has attacked the construction. Furthermore, non-violent cooperation between riparian states is growing.

Hypothesis 2: conflict over water rights will motivate cooperation through the negotiation of transboundary water agreements.

Despite conflict over water rights (for example, Egypt and Ethiopia) and other conflict in the basin (see footnote 15), riparian states in this basin are working together in multiple transboundary water agreements. The fact that both the NBI and CFA are basin-wide, emphasises the importance of the Nile and devalues other conflict in this context. This makes it easier for states to cooperate, because they can agree on the collective need to develop the water source and to divide water rights fairly.

In this view, this case shows the hypothesis of water as a catalyst for cooperation. States are aware of their dependence on the Nile and on each other to ensure enough water is available for themselves. With this knowledge has to come an acceptance of absolute gains for other riparian countries, in order to grow water availability as a whole. In addition, collectively striving for a larger water buffer will not only ensure sufficient water availability, but it will also decrease general tension between states (Kameri-Mbote, 2007, 5; Abseno, 2013, 193). The NBI and CFA show the willingness of, at least most, riparian states to cooperate in order to achieve common goals (Rahman, 2012, 44).

Hypothesis 3: transboundary water agreements will be supported by the riparian hegemon.

On the one hand, Egypt, as the hydrohegemon is not leading negotiations or initiating transboundary water agreements. Even though Egypt is participating, it is not necessarily contributing. In the case of the CFA, Egypt is stalling the process by attempting to keep as much water rights as it had gained through the 20th century treaties signed under British rule. On the other hand, Egypt is slowly coming around to a rational standpoint of water sharing and contributing to basin-wide development. However, as a hegemon, Egypt is not the leading factor in the process of TWAs in the Nile River basin. Furthermore, as observed in the negotiations process of the CFA, Egypt's support is not necessary for other riparian states to continue cooperation.

Hypothesis 4: international organisations will play a role in initiating and/or enforcing transboundary water agreements.

This hypothesis does not hold true in this case, because international organisations have not played a major role in the creation of the CFA (nor TECCONILE or the NBI). These transboundary water agreements, in the form of River Basin Organisations, were initiated by riparian states from the

bottom up, rather than top-down.²¹ These regional organisations do play a large role in changing the status quo, as decision making is done via majority vote. In this view, regional international organisations will have to enforce its own rules. Typically, as mentioned earlier, large international organisations such as the UN and European Union will support regional River Basin Organisations in doing so.

Hypothesis 5: non-violent cooperation is not always fair.

Regarding the status quo, based on the 1929 and 1959 treaties giving Egypt an unfair take of Nile water rights, this hypothesis fits. In the more recent situation with the CFA, it can be argued that the end result will be fair. Although Egyptian water rights have not been annulled completely, the basin-wide CFA text has been approved by majority vote and the ratification process has begun. The question is, will the CFA become fully ratified, and will it then become the leading TWA in the basin? In any case, although hegemon Egypt and aspiring hegemon Ethiopia are not fully supportive at this time, the CFA is a fair treaty.

What is the role of transboundary water agreements in water related conflict in the Nile River basin?

To conclude for this case, the influence of transboundary water agreements on states in the Nile River basin is major. Firstly, the 20th century treaties have had a large impact on current relations within the basin. Secondly, instead of using military action, transboundary water agreements allowed states a non-violent way to handle conflict about Nile water rights. Thirdly, regarding water as relative objective and technical subject has created an opportunity for all riparian states to come together in a basin-wide initiative. Fourthly, following the theoretical framework, River Basin Organisations lower the chance of violent conflict in the future, by creating cultural and economic ties between states and by providing a political arena and by lowering transaction costs, in addition to a higher loss (of basin-wide prosperity) in the case of military action.

²¹ If the bottom is the national level and the top is the supranational level.

6 CASE II: The Yarmouk River basin

6.1 Introduction

The Yarmouk River²² is the main tributary of the Jordan River and part of the Jordan River basin. The focus of this case study is the Yarmouk and the countries through which the Yarmouk flows, which are Jordan, Israel and Syria. In this case study, the focus lies on Jordan and its relations with Syria and Israel regarding the Yarmouk²³. The reason for Jordan to be at the core of this case study is because Jordan has relations with both Syria and Israel. In fact, since the start of this case study, 1948, Jordan has been unique in being an Arab state that has relations with Israel (Climate Diplomacy, undated b). Other stakeholders are discussed whenever they come into play, such as Palestine, the US, the UN or the Arab League.



Figure 2: The Yarmouk River Basin. Credits: Hussein & Grandi, 2017, 807.

The following text will refer to the Jordan River basin a few times, this is intentional as to keep historical facts correct and only where relevant to the Yarmouk as well. As can be seen in figure 2, the Yarmouk originates in Syria (near the Al-Wahda Dam) and flows along the Jordan border with Syria, sometimes crossing into Syria. After that, the Yarmouk follows the Jordan-Israeli border shortly before it flows into the Jordan River (south of Lake Tiberias). Part of this border area between Jordan, Syria and Israel, east of Lake Tiberias, is called the Golan Heights, which is Syrian territory under Israeli occupation. The geographic location of the Yarmouk is especially interesting, because it flows along Jordan's border with Syria and Israel, but does not flow far inland in any country. Where the Nile River flows through different states one after the other, the Yarmouk flows through two states at the same time.

Resource need

In general, this area is one of the driest in the world and is estimated to become drier in the future, due to climate change. The amount of water flowing through the Yarmouk River has been declining over the past few hundred years, but especially since the 1960's, with estimates showing an 85% decrease in water flow (Avisse, Tilmant, Rosenberg & Talozzi, 2020). Additionally, the area has also seen a rapid population growth in the last hundred years (Gleick, 2014, 332). These two factors in itself cause tension between all states in the basin and add to existing conflict in the area, such as the Israeli independence in 1948 and the 1967 occupation of the Syrian Golan Heights, as well as the cultural differences between Israel and the Arab countries in the area.

In the Jordan River basin, Israel and Jordan are downstream countries and Syria is the upstream country. In the case of Israel, the Yarmouk and Jordan Rivers accounted for one-third of Israel's water supply (before the occupation of the Syrian Golan Heights). For Jordan, these rivers,

²² The Yarmouk River will be referred to as the Yarmouk in the rest of this text.

²³ The reasoning behind this is that Jordan has had the most interactions with both Syria and Israel.

particularly the Yarmouk, provide two-thirds of the total water access (Lowi, 1993, 10). Both states rely heavily on the Yarmouk (and Jordan River) and their position as downstream countries gives them little opportunity to unitarily develop these waters, which would force them to either seek cooperation (in the case of Jordan) or resort to military action (in the case of Israel) in order to increase access to the river.

While Syria is the upstream country, it still does not have full control over its water sources. In Syria, around sixty percent of its water comes from across its borders and all major rivers in Syria, including the Yarmouk, are shared (Gleick, 2014, 332). However, Syria does not rely heavily on the Yarmouk as a water source, as it has access to other sources as well (Lowi, 1993, 11). It is important to note that Syria lost a chunk of its access to the Yarmouk in 1967 when Israel occupied the Golan Heights (as will be further explained below). Although the location of upstream state is favourable, the position also comes with a responsibility to downstream states. In practice, this means that Syria has the responsibility to cooperate on development projects if it wants to prevent conflict.

General state interaction

Existing conflict and a lack of state relations form the backdrop of hydropolitics in the Jordan River basin (Lowi, 1993, 2) and, traditionally, states in the Yarmouk basin have let this conflict influence their negotiations about water (Dinar, 2000, 378). Jordan, Syria and Israel have not joined in a river basin initiative or another type of international organisation to regulate water rights (Gleick, 2014, 337). Jordan has signed a few bilateral deals with Syria and Israel, respectively. However, these treaties are either not respected in practice or unfairly negotiated. So, cooperation (through treaties) coexists with conflict (through not implementing negotiated agreements and pressuring agreements) (Hussein & Grandi, 2017, 806).

Israel is the hegemon in the basin, mainly because of its relations with other powerful states, such as the US (Hussein & Grandi, 2017, 808). In addition, Israel has the strongest military out of all riparian countries (Dinar, 2000, 390). Israel's hegemon status will be discussed below, especially in relation to the 1955 Johnston plan and the 1994 deal with Jordan. In addition, Israel's military occupation of the Syrian Golan Heights during the 1967 War is still intact, despite its unlawfulness according to international law. Since this occupation, Israel is in control of over half the length of the Yarmouk River. In comparison, before the occupation of the Golan Heights, only 10 kilometres of the Yarmouk River flowed through Israel (El-Sayed & Mansour, 2017, 232).

Between Jordan and Syria, Syria is traditionally the most powerful state, although this has changed in the last decade. Since the start of the Syrian civil war, Jordan has been able to shift the hegemonic status to itself. Jordan has increased its ties with other states and is therefore less dependent on Syria for its import and export (Hussein & Grandi, 2017, 809). Recently, the flow of water in the Yarmouk to Jordan has increased. However, it is not necessarily due to Jordan's improved status, as it is more likely Syria does not hold the capability to exploit the Yarmouk as much as before the civil war (Hussein & Grandi, 2017, 811). Interestingly, while Jordan accused Syria of limiting the Yarmouk water flow by building the dams, Syria had blamed climate change for this problem (Avisse, 2020).

6.2 Reconstructing the case

Timeline

- 1948 Israel enters the stage as an independent state (Climate Diplomacy, undated b).
- 1953 Jordan and Syria sign first bilateral treaty to construct the Wahda Dam (also called Unity Dam) and Joint Water Committee to oversee the project, although the project failed (Hussein & Grandi, 2017, 808).
- 1955 Jordan negotiates with Syria and Israel over the Johnston plan, but the plan fails (Hussein & Grandi, 2017, 808).
- 1960 Over the course of twenty years, Syria builds 26 dams in the Yarmouk basin without Jordanian consent (Hussein & Grandi, 2017, 809).
- 1987 Jordan and Syria sign a bilateral treaty, in favour of Syria (Hussein & Grandi, 2017, 806).
- 1994 Jordan and Israel sign a bilateral treaty, in favour of Israel (Hussein & Grandi, 2017, 806).
- 1995 Establishment of EXACT by Jordan, Israel and Palestine (Zeitoun, 2011, 170).

History of conflict resolution

Based on the timeline, it may seem as if Jordan, Syria and Israel have been cooperating for over fifty years. However, this cooperation has not always been successful or fair. This case study starts in 1948, when Israel became an independent state. As mentioned above, Israel is traditionally the hydrohegemon in the Jordan River basin, including the Yarmouk. A good example of the hegemon status of Israel happened in 1948 in Jordan. Due to the migration of Palestinian refugees to Jordan, the country wanted to grow its freshwater buffer. Therefore, Jordan decided to build a dam in the Maqarin valley and use this site as the new main water storage for the Yarmouk, instead of Lake Tiberias. The plan was technically feasible, but was not executed because of the interference of a few third parties: Israel, the United States and the UN (Hussein & Grandi, 2017, 807).

At first, the United States and the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) supported the plan. The US wanted to prevent a communist uprising in Jordan by supporting this plan, that would foster economic growth and general stability in the country. The UNRWA supported the plans because it would provide food security and employment for the Palestinian refugees. However, Israel opposed the plan to stop using Lake Tiberias as the main storage of water in the basin. As a result, the US stopped backing the project and Jordan halted the plan (Hussein & Grandi, 2017, 808). It is clear in this situation that Israel is the regional hydrohegemon and the United States the global hegemon. Israel had the power to stop the dam, but only with the support of the US (which had the real bargaining power).

The idea did not die out completely, however, with the US embassy proposing a version of the plan in 1955 to Israel, Jordan and Syria²⁴. This Johnston plan included an allocation of water rights in the Jordan River basin and a plan for water rights for the Yarmouk in particular. The proposition also included the Jordanian idea of water storage in Maqarin, although water would still be stored in Lake Tiberias as well. The plan was negotiated between the US, Israel and the League of Arab States (on behalf of Jordan and Syria²⁵). The League of Arab States did at first agree to the technical part of the plan, but backed out because it did not want to recognise Israel politically (at the time,

²⁴ And Lebanon.

²⁵ And Lebanon.

there were no diplomatic relations between Israel and neighbouring Arab states) (Hussein & Grandi, 2017, 808).

Interestingly, the US and Israel did not succeed in using their hegemonic power this time. In conclusion, both cases show examples of hydrodiplomatic negotiations that stranded because of purely political reasons, as the technical aspect in both cases was deemed irrelevant. During this era (the 1950's), both the Arab countries as Israel saw any technical water solution initiated by the other party as threatening, while cooperation was not possible in the political climate at that time (Dinar, 2000, 381-6). However, despite the failing of the plan, it is considered to have provided a base for further negotiations in the basin (Hussein & Grandi, 2017, 808). The following parts will discuss these events further in two parts, seen from the Jordan perspective (so, one part about Jordan and Syria and the second part about Jordan and Israel), both starting in the 1950's, after the failed Johnston negotiations.

Jordan and Syria

After the failed Johnston negotiations, Jordan still needed to find a way to expand its water supply. Therefore, Jordan turned to Syria in 1953 and both signed a treaty in order to develop the Wahda Dam near Maqarin, on the Yarmouk River. The deal was based on absolute gains for Jordan and Syria, which were water and energy, respectively. Jordan gained a larger water supply from the use of the dam and Syria gained the right to three quarters of the energy produced by the dam. In addition, the countries created The Joint Water Committee was to oversee the project (Hussein & Grandi, 2017, 808).

Unfortunately, the project failed because of geopolitical and diplomatic tensions between Jordan and Syria, and the Wahda Dam did not start construction. Instead, Syria unilaterally built 26 dams in the Yarmouk basin between 1960 and 1980, without consent from Jordan. The dams caused over-exploitation of the water flowing to the river, which caused tension between Syria and Jordan (Hussein & Grandi, 2017, 808). So, Syria gained energy and took water, leaving Jordan without any gain. Jordan forcibly accepted this, because it had only one fifth of the population of Syria, and the need to keep Syrian waters open for trade. In this case, Syria used its hydrohegemonic status in relation to Jordan to ignore the 1953 agreement (Hussein & Grandi, 2017, 809).

When Jordan-Syrian relations had improved after 1985, the two countries began negotiating again. The agreement they struck this time included new plans for a smaller Wahda Dam, a reservoir at Maqarin and recognition of the 26 dams Syria had built illegally years prior. Negotiations happened without the involvement of a third party, contrary to earlier talks. This 1987 deal was clearly in favour of Syria, which reflects the hydrohegemonic role of Syria over Jordan. This new Syrian role continued after 1987, with Syria building more unauthorised dams and wells and increasing exploitation which shrank water flow from the Yarmouk to Jordan (Hussein & Grandi, 2017, 809-10).

The Wahda Dam still had not been build and new negotiations in the beginning of this century reduced the size of the dam even more. Eventually, the Wahda Dam was fully completed in 2009 (and had been in use already since 2006). However, the full potential of the dam had not been met in the first years of use and, after 2012, the Syrian civil war caused operational use of the dam to deteriorate even more. In 2009, the Joint Water Committee, that was established in 1953, initiated

research on the declining water quality and quantity of the Yarmouk. As a result, Syria and Jordan both agreed to the instalment of monitoring stations in each respective country (Hussein & Grandi, 2017, 810). However, despite the establishment of the Joint Water Committee and said monitoring stations, Jordan and Syria are not sharing information on water flows publicly (Avisse et al., 2020).

The fact that Syria and Jordan have, through the years, negotiated peacefully and have signed treaties seems like a sign of proper cooperation. However, negotiations and treaties can also be the source of new conflict. The fact that Syria and Israel have both been hydrohegemony in relation to Jordan, explains why Jordan had to accept Israel's meddling in deals and Syria's overexploitation of the Yarmouk (Hussein & Grandi, 2017, 811). However, Jordan is becoming more powerful due to a growing population and increased relations with states outside the basin (Hussein & Grandi, 2017, 810), and Syria is losing hydropolitical power due to its internal conflict. Unfortunately, it is too early to tell at the time of writing this thesis if a proper shift of power from Syria to Jordan will follow in the future.

Jordan and Israel

While Jordan and Syria have tried to use transboundary water agreements as a way to cooperate, Jordan and Israel have tried to do the same. After the failed Johnston negotiations ended, Jordan and Israel kept negotiations going over their shared part of the Yarmouk²⁶ in 1956. This cooperation deepened after 1967 when the two states reached some agreement over the utilization of said water source (Lowi, 1993, 9). However, this cooperation was limited to purely technical talks and does not qualify as a proper transboundary water agreement. However, these talks were an important step for Jordan-Israeli relations, which were consolidated in a 1994 transboundary water agreement.

Shortly after signing the 1987 deal with Syria, Jordan also turned to Israel to negotiate a bilateral agreement, which was signed in 1994 (Dinar, 2000, 390). Despite the fact that Jordan and Israel had been in talks earlier in the century, other factors were needed to start these unconventional negotiations. Firstly, international relations were reshaped at the end of the Cold War, after which part of the Arab world turned from supporting the former USSR to leaning towards the US. Israel already had good relations with the US, so Jordan could join Israel in the US camp (Dinar, 2000, 391). In addition, the Madrid Conference on Peace in the Middle East, held in 1991-1992, provided a starting ground for Jordan and Israel to start negotiations (Dinar, 2000, 390).

Contrary to the 1955 Johnston plan, which failed because all states were inflexible to their own interests, the 1994 deal showed a better collaboration between Jordan and Israel. In this case, both states saw hydropolitical cooperation as a way to facilitate their general interests (Dinar, 2000, 392). Both states linked hydropolitics with high political issues, such as their national survival, which raised the importance of negotiating a deal. As a result, the Jordanian government publicly hailed this treaty as a large achievement for Jordan's hydropolitical position. However, this treaty is skewed in favour of hegemon Israel, which won negotiations in most water clauses. Jordan had to compromise heavily on the water issues to gain some matters of national security, but cannot continue surviving with these limited water rights (Zeitoun et al., 2011, 167).

²⁶ And upper part of the Jordan River (Lowi, 1993, 9).

Despite this, Jordan and Israel have continued their cooperation in the Executive Action Team (EXACT), that was established in 1995 after the Oslo II agreement and is supported by the US and UK. The main goal of EXACT is to let scientists share knowledge and to create a situation that betters all parties. Officially, Jordan and Israel are joined in EXACT by Palestine, but Israel has actively denied Palestinian officials to participate, for example by preventing Palestinian scientists to travel to meetings. As a reaction, the Palestinian Water Authority has withdrawn its participation in future meetings, which leaves Israel and Jordan as active parties. This behaviour by Israel is telling for the workings of EXACT in general, where not much actual cooperation has happened yet. EXACT, just as the 1994 bilateral treaty, is Israel's manner of handling conflict, without having to resort to military power (in relation to Jordan) (Zeitoun, 2011, 171).

6.3 Understanding the case

The following part will provide a further analysis of the Yarmouk River basin case, structured by the five hypotheses discussed earlier. This way, the analysis will conclude which role transboundary water agreements have played in this case. This analysis will act as a starting point of the main comparison in chapter 7.

Hypothesis 1: states will not use violence in order to gain water rights or access to water.

Israel's actions during the 1967 War refutes this hypothesis. Israel used military action to occupy the Golan Heights, which was a strategic action to gain access to water sources in that area and is ongoing to this day (El-Sayed & Mansour, 2017, 232). Despite this, when looking exclusively at the Yarmouk River, states have not used violence in order to gain access. Syria did not need to since it could use its hegemonic status over Jordan to ignore transboundary water agreements without using force. Jordan did not react to Syria with violence, because of the same reason. The liberalist idea that states will eventually cooperate in order to create synergy in a basin, has not proven correct in this case.

Hypothesis 2: instead, conflict over water rights will motivate cooperation through the negotiation of transboundary water agreements.

As mentioned, Israel and Jordan are the downstream countries in the basin with the largest resource need. This gives both states the choice between cooperation or military action. In the case of Israel in the 20th century, it can be observed in the occupation of the Golan Heights that Israel chose the road of military conflict. Jordan has chosen differently and has sought peaceful cooperation with both Israel and Syria through the years. Currently, Israel and Jordan share an active bilateral treaty. However, time will have to tell if this treaty can withstand a Jordanian call for revision of the water rights from 1994.

Hypothesis 3: transboundary water agreements will be supported by the riparian hegemon.

Considering that Israel is the Yarmouk River's hydrohegemon, this hypothesis does not hold up. Although Israel has been participating in regional negotiations, it has not actively supported or initiated a basin-wide water agreement. Israel has signed the 1994 bilateral agreement with Jordan, but this treaty does not support basin-wide multilateral development. In addition, Israel has not intervened in the situation between Jordan and Syria, where Syria has ignored its bilateral water agreements with Jordan and has developed infrastructure on the Yarmouk illegally. In the situation between Jordan and Syria, it can be concluded that Syria is not supporting transboundary water agreements, because its position as hegemon and upstream country lessens the need for cooperation.

Hypothesis 4: international organisations will play a role in initiating and/or enforcing transboundary water agreements.

Regarding the bilateral agreement signed by Jordan and Israel in 1994, the Madrid conference was clearly the starting point for the bilateral negotiations. However, no international organisation has played a large role in any of the transboundary water agreements negotiated or signed in regarding the Yarmouk. The United States have played a role, initiating the Johnston plan in the 1950's, which has opened up conversation between Jordan, Syria and Israel, but had no tangible result. The same goes for the UN/UNWRA, that supported the initial Jordan plan to build a new water buffer in the area but backed out after pressure from Israel and the US.

Hypothesis 5: non-violent cooperation is not always fair.

Despite the fact that Syria and Jordan have not used military action against each other, and Israel has limited itself²⁷ to maintaining its illegal occupation of the Golan Heights, there has been plenty of non-violent conflict. As mentioned, Israel and Syria have an ongoing conflict over water sources in the Golan Heights and Syria has never respected its bilateral treaties with Jordan. In addition, the 1994 transboundary water agreement between Israel and Jordan is a proper example of hegemonic power in negotiations.

In this case, Israel used its power to skew the treaty in its favour, especially gaining water rights, while Jordan was forced to compromise to reach an agreement on security with Israel, that is a stronger military power. Thus, hydrohegemon Israel is supportive of transboundary water agreements, but has used its power to skew this TWA in its favour, as was predicted by the international relations theory discussed above. It can be concluded in this case that transboundary water agreements are not always fair and do not necessarily end conflict. The idea that TWA's can be the continuation or even the start of new conflict, clearly holds true in the Yarmouk River basin.

Research question: What is the role of transboundary water agreements in water related conflict in the Yarmouk River basin?

In the case of the Yarmouk River, bilateral transboundary water agreements have not always succeeded in a fair distribution of the Yarmouk water flow. Furthermore, it is argued in this thesis that the signed bilateral treaties between Jordan and Syria have caused addition tension, with Syria ignoring the agreement, and between Jordan and Israel, with Israel pressuring Jordan into accepting an insufficient amount of water rights.

However, throughout the timeframe of this thesis, all three states have been in negotiations together, although often without result. Unfortunately, it is not possible to conclude whether or not these states would have resorted to military action without these negotiations (and in the case of Israel, if it had resorted to more military action than it already has in the Golan Heights). In any case, the idea that transboundary water agreements can act as a continuation of conflict holds true in the Jordan River basin. However, the idea that transboundary water agreements can end violent conflict and continue the same conflict in a non-violent manner also applies to this case.

²⁷ In reference to its conflict in 2002 with Lebanon over the Wazzani Springs, which resulted in interference from the UN and Israel backing down.

7 COMPARISON

This chapter will include a comparison between the two case studies. At the base of this comparison lies the research question for this thesis: What is the role of transboundary water agreements in water related conflict in the Nile and Yarmouk River basins? Both case studies have been analysed throughout their respective chapters and in particular in the last parts, structured by the five hypotheses set out in the theoretical framework. For that reason, the comparison part will focus solely on comparing the outcome of the analyses.

In both cases, transboundary water treaties have been the cause of tension within the basins. In the case of the Nile, bilateral water agreements have played a large role in basin hydropolitics. Starting with the 20th century treaties, these have been the cause of conflict but have been respected. Part of this, of course, was because of the hegemon status of Egypt. Currently, the validity of these treaties is being challenged, along with Egypt's hegemon status. One could argue these treaties are solely the cause of tensions as well as a major obstacle in current water rights negotiations. However, one could also argue that these treaties have recently formed the start of new negotiations and have motivated upstream states to work together in creating a new, basin-wide initiative for cooperation.

In the Jordan River basin, an example of such a treaty is the 1994 agreement between Jordan and Israel, which was essential for Jordan at the time, but has created new tension because the treaty shrank water rights for Jordan too much. Additionally, the cooperation between Jordan and Syria in general have only increased tensions, because of an unequal state relation and their (failed) bilateral agreements. This shows again the power of the NBI in the Nile basin, where a basin-wide system including all riparian states seems strong enough to keep the hegemon state in check, whereas a bilateral agreement between a hegemon and other states is not as capable (as can be observed in the Yarmouk River basin).

It could be argued that states in the Nile River basin seem to realize that cooperation is the way to go when it comes to water sharing. Multilaterally developing a shared water source can create synergy and benefit all states, which would truly decrease tensions and conflict. The idea that conflict does not have to equal violence, but can motivate cooperation, could hold true in this basin if Egypt decided to fully join in and support a fair negotiation.

In contrast, the states in the Yarmouk River basin are still focussing on their unilateral goals, which could be caused in part by the underlying conflict between Israel and the Arab world. Military power is being used to this day by Israel in the Golan Heights, but some conflictive energy is at least spent at the negotiation table with Jordan. In addition, the occupation's focus lies solely on the strategic geographic location of the Golan Heights, and not on using violence against infrastructure or civilians (as has been discussed in the literature chapter of this thesis).

The importance of a hydrohegemon can be observed in both cases. In the Nile River basin, the status of Egypt, and also Ethiopia, has played a large role in stalling the decision making process in the Nile Basin Initiative. However, the NBI is gaining power and is on a strong course to change the general state interaction and distribution of water rights in the basin. It is important to note that, despite not every riparian state hosting an equally large part of the Nile River flow, all states in the NBI have equal voting power. This shows that the theoretical idea of developing a river as a singular unit, regardless of state borders, is put in practice by the states in the NBI.

In contrast, the lack of a strong basin-wide institution in the Yarmouk River basin (and also the larger Jordan River basin) provides Israel and Syria the freedom to use their hegemonic power to reach unfair agreements with Jordan. As mentioned earlier in this thesis, geographical factors play a large role in hydro politics, and the strongest state can have the least natural access to a water source. The Israeli occupation of the Golan Heights shows what can happen if a hegemon, with the strongest military, needs more access to a water source and is not kept in check by a strong institution or international organisation.

Despite the theoretical importance of international organisations in the creation of transboundary water agreements, neither of these cases show much involvement by IO's. River Basin Organisations, however, do play a role in both cases. Of course, in the Nile River basin the NBI is a very important development in changing hydro political power structures and creating a strong legal framework regarding the development of the Nile River. In the case of the Yarmouk, EXACT is the main RBO, by lack of a basin-wide institution. As mentioned, power structures do still play a role in the NBI, but not as much as in EXACT. It could be argued that Israel is conducting a similar strategy in EXACT as Egypt and Ethiopia are in the NBI, but Israel is more successful in using its hegemon status in the small and informal setting as is EXACT.

8 CONCLUSION

To conclude, the influence of transboundary water agreements in both basins has been substantial, but not always positive. Cooperation does not equal amicability, but can be a way in which states continue conflict. Cooperation, in this view, is merely a way of communication, rather than a way of making peace (Rahman, 2012, 44). On the other hand, the Yarmouk riparians show opposing states can at least keep communicating and the Nile Basin Initiative shows there is a way forward with creating transboundary water agreements. One could wonder which methods of negotiation states would have used without the negotiation table as an arena to fight.

With the limitations of this research in mind (non-generalizability, the small number of cases and the lack of a strong theory on hydro politics and transboundary water agreements), it is hard to make tangible the influence that TWA's have on state relations. As mentioned, one could only imagine what those state relations would be without the concept of transboundary water agreements, but one could not prove what could be. Therefore, recommendations for further research include to repeat this research with other cases, and to compare a larger number of cases in order to narrow down on the actual influence of transboundary water agreements in said cases.

In addition, further research should focus on creating a sound theory on hydro politics and transboundary water agreements, based on a larger range of theories than just from the field of international relations. A strong theoretical base could be useful for researchers and governmental staff globally, as well as the staff on international organisations such as the United Nations. This theoretical knowledge could also prove useful in preventing conflict around other issues than water. Even though fresh water holds unique properties that partly explain the lack of conflict around water, hydro political ideas could prove useful in international relations and conflict studies in general.

Despite these limitations and the fact that more research is needed to establish a route for states to take in order to prevent conflict in the future, the conclusion of this thesis is somewhat optimistic. To end on this hopeful note, and as former UN Secretary General Ban Ki-moon said (quoted from Leb, 2009, 126): “[t]here is still enough water for all of us – but only so long as we keep it clean, use it more wisely, and share it fairly”. And, to add to that, as long as states unite in River Basin Organisations to develop transboundary water agreements.

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