Major Research Paper:

The Role of Internationally supported Conflict Resolution Mechanisms in Transboundary Water Conflicts: An examination of three case studies

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Abstract:

The Nile River Basin, the Indus River Basin and the Mekong River Basin are all case studies of transboundary water conflict between states. In all these cases there are existing political mechanisms that, with the support of key international actors such as international organizations and foreign countries, contribute to water cooperation. The goal of this paper is to use a liberal institutionalist framework to summarise and assess the respective success of these political mechanisms, and the role of certain key international actors. This assessment will be done to enable recommendations to improve these mechanisms and develop an understanding of the role of certain international actors in their development and function.

The results of this paper show that the institutional design of the political mechanisms active in these case studies are key to their effectiveness. The Nile and Mekong basin mechanisms for example do not have substantive conflict resolution processes. The Indus River's mechanism does have such a process and has had historic success in encouraging water cooperation between the two rivals of India and Pakistan. Notably, the World Bank was central to the design and function of the Indus River mechanism this can potentially be a key example towards improving the implementation of water cooperation mechanisms.

To summarise the recommendations, using a liberal institutionalist framework this paper shows that political mechanisms such as regional cooperation institutions can assist it mitigating power politics and steering water conflicts towards cooperation. Certain international actors have historically been important to the function and evolution of these types of cooperative mechanisms and should continue this role. With international support and renewed institutional design these mechanisms can steer water conflicts towards cooperation even in an era of growing water scarcity and environmental insecurity.

Introduction:

"Water water everywhere, Nor any a drop to drink" is a well known line from the poem "The Rime of the Ancient Mariner," by the British poet Samuel Taylor Coleridge. The line describes the situation faced by sailors trapped on a ship, surrounded by salt water that they cannot drink. While earth is 71% water, only 0.3 % of that total is drinkable freshwater, and access to this precious resource is shrinking. Therefore this very dire sentiment of suffering from thirst while being surrounded by water, expressed in the verse of a fictional mariner, could soon become a fact of life for billions of people across the planet. The consequences of this possible reality are dire both for in terms of human security and wellbeing, as well as for international security. The following graphic from the Exchange on Environment, Conflict, and Cooperation neatly summarizes one basic example of how this issue effects state and international security (2020).

Figure 1. An example of conceptual pathways regarding water conflict

The 2018 edition of the United Nations World Water Development Report stated that nearly 6 billion peoples will suffer from clean water scarcity by 2050 (Boretti, A & Rosa, L.

2019). This is a sobering statistic regarding access to a resource that is critical for numerous aspects of human life, from health and hygiene to agriculture and industry. Another statistic is that the regions facing the most acute and severe issues of water scarcity are also the areas of the globe experiencing the most rapid economic and population growth. Alongside these factors is the omnipresent and disruptive effects of global climate change. This means that at-risk regions, particularly in Africa and Asia, where access to water is a serious and growing issue are also frequently changing in ways which exacerbates existing and evolving water access issues (Neubert, S., Scheumann, W., & Kipping, M. 2008).

These statistics show clearly that there is significant progress to be made regarding the proper management and development of water resources in the diverse regions affected by water scarcity. However, the management and development of water resources is a complex and multidimensional process combining social, environmental, economic, political and geographic considerations. One key geographic and political complication is that many issues over water management are international in scope rather than domestic. About 60% of water flowing in the worlds rivers is shared by two or more countries. This includes roughly 263 river basins in 145 countries, where roughly 40% of the world's population live. The result of this difference between environmental and political geography is that many countries are highly dependent on water resources that are affected by decisions made outside of their national territory and thus outside the control of that country's political decision makers. For example, 34% of water resources in India and 76% of water resources in Pakistan originate from outside these countries. Further, the Nile River Basin is shared by 11 rapidly growing countries that are mutually dependent for their water resources (Levy, B. S., & Sidel, V. W. 2011).

These kinds of scenarios, with multiple actors at both the state and sub-state level competing for a shared resource becomes a situation predisposed towards conflict. Indeed, various academics and organizations, including the UN note the serious potential of conflict between states who share transboundary water resources (United Nations. 2020). Hence a significant issue in the larger challenge of water security becomes the management of transboundary water conflicts between states. Given the current and evolving situation of many nations seeking greater access to a critical and diminishing resource, the possibility for increased interstate conflict over transboundary water resources is clear. Some academics have stated that situations of transboundary water sharing more typically results in cooperation over conflict, particularly highlighting the infrequency of inter-state conflict in a "water wars" type scenario (Giordano, M et al. 2002). However, other academics note that while this premise may have been true in the past, given the unprecedented effects of climate change and population in particular water stressed areas, it is possible that this assessment no longer stands (Swain, A. 2011). The ripple effects of a situation of water conflict exploding into interstate violence would pose significant regional and international security risks. Therefore, understanding the political mechanisms through which this conflict/cooperation between states in a water conflict is central to regional and international stability.

Critical to this discussion of political mechanisms for building cooperation in situations of water conflict is an understanding of what framework will be used in the assessment. The conceptual framework used by this paper in examining the key political mechanisms in the respective cases of water conflict is a liberal institutionalist approach. This approach to international relations focuses on the power of institutions rather than solely dwelling upon power politics. Rather, liberalism focuses on international cooperation and the ability of

institutions to engender this cooperation as means of building on nations respective interests and contributing to world peace (Barua, A., et al. 2019). This approach is supported inherently by the academic thesis that cooperation is more likely outcome than war or violence in situations of water conflict, particularly in recognizing the geographic power imbalance between upstream and downstream countries sharing a transboundary river (Giordano, M et al. 2002).

Therefore the focus of this paper is to use a liberal institutionalist framework to summarise, analyse and assess internationally backed mechanisms for water basin management and water cooperation in three regions of water conflict. The purpose will be to determine the relative success of these mechanisms and better understand the role of key international actors in their function. This assessment will allow for recommendations to assist future decisions made by players in these water conflicts, including key international actors relative to strengthening these mechanisms, to reduce the incidence of water conflict. These case studies will be the Nile River Basin in Africa, the Indus river in South Asia shared by India and Pakistan and Mekong river in Southeast Asia.

Methodology:

The topic of water management and water conflicts is a vast and complex area of study. As noted above, questions of water conflicts include numerous interlinked factors from social habits and political motivations to geographic and technical considerations. It is truly a multi-disciplinary area of research. For the purpose of this research paper examining political mechanisms related to water conflict/cooperation as well as the role of key international actors, those being states and international organizations, on these mechanisms, the focus will therefore be on political, economic and social considerations. This is not to say that geographic,

environmental and technical variables will not be discussed, for indeed it would be difficult to discuss this topic without considering those variables, but rather, they will not be the focus. The politics of water, particularly relative to international affairs has often been characterized as “Hydropolitics”. Hydropolitics, as defined by academic Arun P. Elhance's is "the systematic study of conflict and cooperation between states over water resources that transcend international borders"(Elhance, A. 1999). Therefore, the term “Hydropolitics”, that being the political and international relations considerations relative to this spectrum of water conflict v. water cooperation are at the core of this paper.

This paper’s focus on “Hydropolitics” relative to the mechanisms of water cooperation in the selected case studies has academic backing in the evolving field of water politics. Professor Peter Mollinga discusses the changing framing mechanisms for issues of water politics relative to past pushes to “depoliticise” water issues. He cites the role that international development agencies have had in attempting to turn issues of water politics into “technical issues” rather than issues of governance in a previous epoch. Mollinga reiterates that in the contemporary era there has been a steady push in the field to re-include the political issues of “governance”, and thus the role of the state to discussions of water issues. Therefore focusing on the state, and the political issues of political mechanisms for cooperation and the role of international actors is justified in the discourse of water politics. Indeed a simple quote to encapsulate the growing consensus around issues of water politics is that “The world water crisis is a crisis of governance – not one of scarcity" which originated from the “No Water No Future” speech at the Johannesburg Summit by the Prince of Orange (now King) of The Netherlands (2002). Effectively that speech announced the arrival or return of “governance” and thus politics and international relations to the arena of water politics (Mollinga, P. et al. 2008).

Given this focus on politics, international relations and political mechanism for interstate cooperation, it is clear that an liberal institutionalist framework is a relevant theoretical approach. This framework focuses on institutions relative to how they facilitate international cooperation. It acknowledges the realities of political power but proposes that institutions can have an independent outcome on issues of international affairs (Keohane, R., & Martin, L. 1995). This theoretical framework also supports the focus on the state as a unit of political power when it comes to international affairs. This paper recognizes that in many states, sub-state actors play a critical role in the process of water governance. However, it is also clear that when it comes to the academic discourse in international "Hydropolitics", the state is still key (Moore, S. 2018). Therefore given that the focus of this paper is using a liberal framework to examine and assess the role of internationally backed mechanisms for transboundary water conflicts the Westphalian tradition of a lens on national level states and their sovereign role in international affairs will be focused upon (Schuett, R., & Stirk, P. 2015).

The design of this paper focuses on case studies. The use of case studies in international relations is a common and well-established method for performing research in this field (Lamont, C. 2017). It was deemed important to follow some key academic guidelines relative to the design of a rigorous qualitative analyses of case studies. As described by a Klotz (2008) fundamental to such as paper is a solid definition of how cases are selected:

"Appropriate case selection depends first and foremost on ontology because any research question relies on core concepts. That brings us to the starting point for case selection: a case of what?"

Definitions are therefore critical. In the case of this paper therefore it is clear that the "what" of case study selection is on water conflicts where there are internationally backed

mechanisms to facilitate international water cooperation and water basin management. In terms of definitions "water conflict" is thus defined as "a conflict between countries, states, or groups over an access to water resources" (Kameri-Mbote, P. 2007). While "water cooperation", relative to "Hydropolitics" as defined as:

"the term water cooperation implies an establishment of coordination among two or more parties or states over the distribution, utilization, and management of their shared water resources" (Qureshi, W. A. 2017)

The definition of what entails a "mechanism" of basin management and cooperation for the purpose of this paper will entail any kind of political treaty, arrangement, organization or body that facilitates joint management of a water body. This definition is supported by the research of Aaron Wolf (2007) and the work of the Transboundary Freshwater Dispute Database at Oregon State University.

Further, the classification of what constitutes "internationally backed" relative to the above noted mechanism is as follows. Effectively the definition will be any international actors that has contributed significant political, economic, or technical support to the mechanisms that will be assessed in the respective cases. Pre-empting the body of the paper a bit these actors are both states and international organizations such as the UN, World Bank and other key regional political organizations. These actors all bring with them different political-economic tools relative to influence transboundary water issues, as will be seen. The focus will therefore not just be on foreign states as independent actors affecting political mechanisms for water cooperation as there is an understanding, based on a liberal framework as well as the work of Barnett and Finnemore (2004) that international organizations can have political power and influence independent of states. Therefore both key foreign states and international organizations will be

assessed alongside the water cooperation mechanisms they support, recognizing that they can be significant independent players in the design and function of political mechanisms for water conflict.

According to Klotz and Prakash (2008), the next step for academically rigorous qualitative research in international affairs is the selection of cases and laying out the logic of comparison. The number of cases for this paper has been set at three to allow for some variety in terms of geographic and political considerations. These three were chosen based on their significance in the field of water conflict, as well as the existence of internationally backed political mechanisms relative to basin management and conflict resolution. Specifically, the logic for choosing these cases is as follows:

- The Nile River was chosen given its historical and contemporary centrality in the field of transboundary water issues. The current state of water conflict there is widely cited in research and the media and is central to the future of that region. Further, with the Nile Basin Initiative, it possesses an appropriate political mechanism for water cooperation for study in this paper.
- The Indus River was chosen given the historical importance of the mechanism of the Indus Waters Treaty between the two rivals of India and Pakistan. Despite the rivalry of these nations, and growing challenges, the Indus Waters Treaty is considered one of the most successful water cooperation endeavours in the world today.
- The Mekong was chosen given the certain academics identify it theoretically provides an illustrative example of how the three concepts of transboundary water management, water cooperation, and water diplomacy come together and are centrally important to the

success or failure of (Bearden, B.L. 2010). Further, with the existence of the Mekong River Commission it also has an internationally backed mechanism relevant to this paper.

The logic of comparison between these cases is that they are all modern examples of water conflicts where there are existing, internationally backed mechanisms for basin management and water cooperation. The assessment of these mechanisms will be based on several metrics. The first being the empirical evidence and assessments of other scholars. As the cases are all significant in the field of water conflict there is a wealth of writing, both academic and in the media providing details and assessments that will be used by this paper. There will also be an analysis done based upon the contemporary and historical narrative of these case studies. This analysis of narrative will be done to determine the effectiveness of the mechanism in contributing to water cooperation, and the role of the key international actors in supporting this process. In this way developing a greater understanding of the mechanisms through which peace and cooperation in situations of water conflict can be achieved is the goal of this paper.

Case Studies:

Nile River Basin:

The Nile River Basin will be the first case study this paper examines. The Nile River, arguably the longest river in the world and the birthplace of some of humanities earliest civilizations has long held a central place in the human psyche. However, in a very temporal sense this massive river basin is critical to the lives and security of the states and societies that exist along the Nile's expanse. Eleven countries share the basin of the Nile, including Burundi, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, South Sudan, Tanzania, Uganda, and the Democratic Republic of the Congo. There are numerous reports that have identified the Nile

River basin as a critical spot for water conflict and Hydropolitics, particularly in light of demographic changes and the environmental insecurities brought on by global climate change (Boretti, A & Rosa, L. 2019). Existing mechanisms relative to cooperation and basin management include the Nile Basin Initiative (NBI), founded in 1999 with the key support of the World Bank (Nile Basin Intiative. 2020) as well as several historic treaties regarding water rights that are generally regarded as outdated and based in colonial-era geopolitics (Abdulrahman, S. A. 2018). While so far there has been no violence between states directly related to the ongoing water conflict there have been significant threats and rhetoric, particularly from Egypt, given the significant importance water access has to the country. This rhetoric has historically and presently made the Nile a very fraught region when it comes to Hydropolitics. Quotes such as Egyptian President Anwar Sadat saying in 1979 that “The only matter that could take Egypt to war again is water.” (Kameri-Mbote, P. 2007). Or the 1985 speech by then-Egyptian Foreign Minister Boutros Boutros-Ghali, who would later be the United Nations’ Secretary-General saying that "the next war in the Middle East will be fought over water, not politics" shows clearly the significant importance this issue has to the Egyptian state, and indeed regional and international security (BBC. 2003).

Given this aggressive and foreboding rhetoric, as well as political and economic interests in the region, international actors have, and continue to be been keenly involved in the Hydropolitics of the Nile. This process of international involvement in water conflict in the Nile Basin extends to present-day where states and international organizations, are heavily involved in the region. From the World Bank providing economic and political support to regional political mechanisms such as the Nile Basin Initiative, to the United States or the African Union attempting to broker new agreements related to flashpoints in this ongoing water conflict, it is

clear that international players and the mechanisms they support are significant to this case study of water conflict (Reuters. 2020). Thus this paper will use a liberal institutionalist framework to dissect and analyze these mechanisms, and the role of key international players to better understand how they contribute to the spectrum of cooperation/conflict in the Nile Basin.

The countries of the Nile River Basin have a combined population of 480 million as of 2012, or roughly 40% of Africa's totally population, with approximately 257 million of their citizens living in the immediate vicinity of the Nile watershed. (Nile Basin Initiative. 2016). Of these 257 million it is estimated that roughly 160 million people depend directly on the Nile River for their livelihoods. Critically, these are also some of the fastest growing countries in the world both economically and demographically, meaning that the present situations of water stress and water conflict is at risk of being exacerbated by these countries growth trajectories, as well as global climate change (Kameri-Mbote, P. 2007).

Based on their respective geographies, not all countries in the Nile River Basin are so reliant on water from the basin, and thus are more or less involved in water conflicts regarding the distribution of its waters. It is therefore important to understand that geographically the Nile has two main branches:

- The White Nile: Which Stretches from the African Great Lakes region to Sudan where it converges with the Blue Nile. Burundi, Uganda, Sudan, South Sudan, Rwanda, Tanzania, Kenya, Democratic Republic of the Congo are all countries that that border upon the White Nile.
- The Blue Nile: Drains from the Ethiopian highlands through Sudan, Egypt, Ethiopia and Eritrea before flowing and finally into the Mediterranean Sea.

Importantly these two branches of the Nile are unequal in their contribution to the total waterflow of the Nile. These contributions differ over time depending on seasonal rainfall and other ever changing environmental factors. It has been assessed that typically 59% to 80% of the Nile rivers flow at Egypt comes from the Blue Nile. With the remainder coming from the White Nile and other minor branches. While it is clear that this flow has significant seasonal fluctuations, it also shows that based on geography, the relationship between countries contesting the Blue Nile, those being Sudan, Egypt, Ethiopia is key when considering this water conflict as they contest the largest share of the Nile's water (Elsanabary, M., & Gan, T. 2012).

The map below should assist in getting a sense of the geographic expanse and characteristics of the Nile River Basin:

Figure 2. A map of the Nile River Basin. Source: Printing, Graphics and Map Design Unit, The World Bank 2017

Critical to the discussions of transboundary water conflict over this shared water resource is the understanding that these states, based on their geographies, both human and physical, depend on the Nile to different extends. The following statistics, based upon data from the UN's Food and Agriculture Organization's Aquastat database and analysed by academic Stefan Deconinck portray the uneven nature of renewable water supplies (from the Nile and other

sources) in Nile basin countries and assess which countries depend most critically on withdrawals from the Nile (2020).

	Area in the Basin (km^2)	% of country area in Basin	% of Basin	Internal renewable water supply (km^3) (*)	Withdrawal (km^3)
Burundi	13,860	49.8	0.4	10	0.3
DR Congo	21,796	0.9	0.7	900	0.6
Egypt	**302,452**	**30.3**	**9.5**	**1.8**	**68.4**
Eritrea	25,697	21.1	0.8	2.8	0.4
Ethiopia	365,318	31.9	11.5	122	5.6
Kenya	51,363	8.7	1.6	20.7	3.2
Rwanda	20,625	78.3	0.7	9.5	0.2
South Sudan	620,626	96.3	19.5	26	0.7
Sudan	**1,396,230**	**74.9**	**44**	**4**	**26.9**
Tanzania	11,507	12.5	3.7	84	5.2
Uganda	240,067	99.5	7.6	39	0.6

Figure 3. Nile Basin Countries by Internal renewable water supply. Source: UN FAO - Aquastat - 2017.

*Note: Internal Freshwater in this graph does s not only from the Nile but can include other renewable freshwater resources. However, for Sudan and Egypt the source is primarily the Nile.

These statistics clearly show that the Nile Basin, as a water resource, is especially critical to the populations of the downstream countries of Egypt and Sudan. The Nile also plays a huge role in the cultural and historical narrative of Egypt in particular. Historically the annual flooding of the Nile brought nutrient rich silt from upstream Ethiopian highlands and allowed Egyptians to practice a very productive form of irrigation-based agriculture that continues to this day. This form of agriculture allowed ancient Egyptian civilization to take root and indirectly led to the creation of such important historical and cultural monuments such as the pyramids and others that are part of the collective human imagination and more specifically, modern Egyptian national identity (Cascão, A. 2008).

The geographic extent of this watershed means that no one political power or state has ever controlled the full extent of the river. This is an important fact which has consistently put downstream polities and peoples at a strategic disadvantage in respect to controlling the flow of the river. The fact that the downstream countries of Egypt and Sudan are critically reliant on the flow of the river for the survival and well being of their citizenry makes them particularly sensitive to this disadvantage. This power disparity relative to controlling the river is key to consider relative to internationally backed political mechanisms for water basin management and cooperation.

This geographic disadvantage felt by Egypt and Sudan who are particularly reliant on the Nile River has been exacerbated by a key new development on the Blue Nile. The dynamic new front in the Nile Basins transboundary water conflict is the Federal Democratic Republic of Ethiopia's construction of the Grand Ethiopian Renaissance Dam (GERD). The GERD is the most ambitious hydrological project to impact the Nile River Basin since the Egyptian

constructed Aswan Dam of the 1970s. The GERD, once construction is complete will become the largest hydroelectric facility in Africa producing 6.45 Gigawatts of electricity. This electricity is slated to become the backbone of Ethiopia's future national development plans. Celebrated politically in Ethiopia as an ambitious national project, downstream nations such as Egypt and Sudan are clearly threatened by such a development considering the substantial amount the Niles output that comes from the Blue Nile which the GERD would dam (Veilleux, J. 2014). The GERD is scheduled to be completed in 2023. However the filling of the dams reservoir, which is estimated to take an estimated 5 to 15 years before full power generation capacity can come online, is slated to begin sometime in the summer of 2020. During this period it could reduce the flow of the Nile downstream, particularly during periods of drought, hence Egyptian opposition and the current crises evolving over this dam at the time of this reports submission. The Egyptian side has been highly vocal in its direct opposition to the project with a discourse that stresses the need for a diplomatic solution while also dipping into more threatening tones, including mentions of military action, representing a node to regional power politics. One example is the quote by former president Mohamed Morsi in 2013 where he stated that all options are open when dealing with the water security issues caused by the GERD (Veilleux, J. 2014). Further, according to Wikileaks, 'government officials in Cairo at one point talked about aerial bombing or a commando raid to destroy the dam' (Conniff, R. 2017). The potential effects of the GERD and the threat it poses to Egypt and Sudan if its effects are not properly managed are summarized in the graphic below.

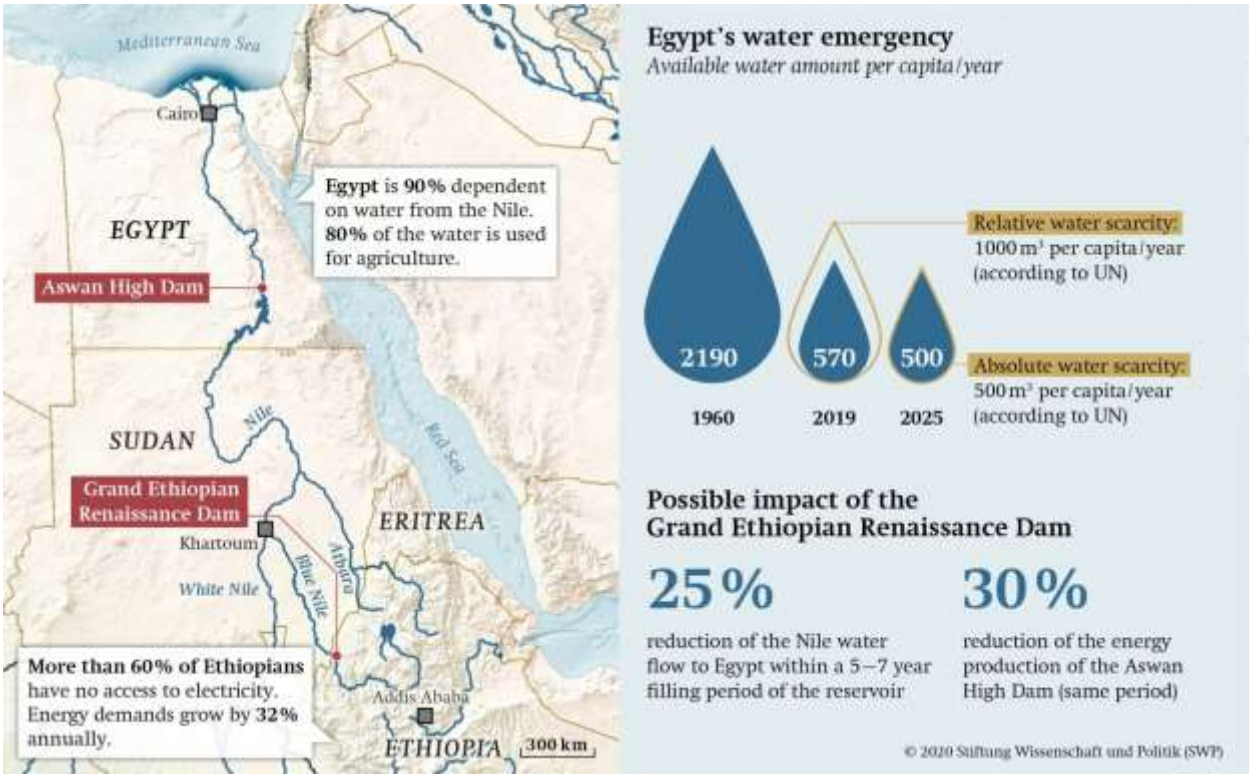

Figure 4. Potential Impacts of the GERD project on Egypt. Source Sifftung Wissenschaft und Politk/ German Institute for International and Security Affairs (2020)

Notably on the other side of this water conflict, the Ethiopian government and citizens strongly support the development of the GERD. Research based upon national level surveys in Ethiopia shows that the GERD has substantial support from citizens regardless of ethnicity, class and economic status. Also interesting was the fact that in interviews, citizens often brought up the discourse that the GERD will also have benefits for its downstream neighbors, those being Sudan and Egypt. Examples of these potential benefits include reduced evaporation of dammed water, electricity exports alongside other potential economic and environmental goods. This sort of discourse at a local level is largely followed by national leaders who discuss the GERD in a

much more positive narrative of shared economic development as opposed to the national security and power politics rhetoric of the Egyptian side (Veilleux, J. 2014).

The GERD presents a clear flashpoint in this water conflict with significant differentiation between Ethiopia, Egypt and Sudan. During trilateral negotiations over the GERD, as recent as February 2020, an agreement is yet forthcoming and with Ethiopia stating that it will begin to fill the dam's reservoir by July, regardless of the concerns of Egypt and Sudan. The situation therefore seems inclined towards a significant escalation in rhetoric, if not outright hostility (Lashitew, A. 2020). Significantly, as identified by certain stakeholders the GERD could have mutually beneficial impacts for all parties if only the concerns of Egypt and Sudan could be placated alongside Ethiopia's national development strategy. Indeed, holistic and coordinated management of the basin as a whole would clearly benefit the region. Hence water cooperation would obviously be preferred over the current state of water conflict. Therefore, given the importance of the current GERD crises, understanding and assessing the political mechanisms that function in the Nile Basin with respect to water cooperation, as well as the role of key members of the international community relative to these mechanisms is key to offering recommendations to improve the future prospect for cooperation in this region.

Mechanisms:

Historic and Contemporary Treaties:

The nearest thing to political hegemony over the Nile was at the height of the British Empire when the British had control or direct influence over most of the states along the Nile except for Ethiopia. It was during this period of colonial British domination over the region that the first regional political/legal mechanisms regarding management of the Niles waters, the 1929 Agreement between Egypt and Anglo-Egyptian Sudan was signed. This agreement provided

legal justification for what was essentially an agreement to divide the hydrological wealth of the Nile between these two states, with no consideration for upstream nations (Lumumba, P. 2007). Indeed, this treaty even granted the Egyptian state the right to veto any project which could impact the rivers output as far upstream as Lake Victoria. The 1929 treaty had significant flaws, as indeed in the 1930's Sudan underwent significant growth in its irrigated agricultural production which, among other factors led it to renege on its adherence to the 1929 treaty. This led to Egypt stationing troops on the border (Chatterji, M. et al. 2002). As far as mechanisms go, this British-backed treaty clearly did not succeed in solving the regions water conflict. Indeed, power politics and conflict were still prevalent, given British political hegemony in the region and Egypt's use of troops to compel adherence to the treaty. However, it could be assessed that this treaty laid the groundwork for future cooperation.

Moving forward roughly 30 years and coinciding with the era of decolonization and political change in the region, another treaty was signed in 1959 between the United Arab Republic (Egypt) and the new Republic of the Sudan. This treaty resulted in a similar legal framework as the 1929 agreement, with the majority share of the Nile Rivers flow directed to Egypt and a smaller amount to Sudan. No share of the river's waters were considered for upstream nations, including Ethiopia where a significant amount of the upstream rivers originates (Kimenyi, M. S., & Mbaku, J. M. 2015). The 1959 treaty was effectively a bilateral treaty and exemplary of the regional power dynamics at the time. This is to say it continued the legal and political framework for Hydropolitics in the Nile Basin that was set by the Anglo-Egyptian treaty in 1929 that was quite favourable to Egypt. Egypt in 1959 was by far the most powerful state in the Nile basin in terms of economic and military strength (Abdalla, I. 1971). As part of decolonization and the Cold War, given Egypt's geostrategic importance, international

powers and organizations had little interest in influencing the development of this treaty in a way that would disrupt the advantage of Egypt. Further given relative economic underdevelopment of other Nile Basin states at the time, they had little interest or ability in challenging the status quo. (Abou-El-Fadl, R. 2018). Indeed it is this treaty and its existence as a mechanism for the status quo that Egypt continues to use as the basis for Egypt's negotiations relative to the ongoing water conflict (Wolf, A. T., & Newton, J. T. 2007). As part of its position Egypt has cited that it has the historic legal right to deny upstream projects. This position however has become more untenable given the shift in power politics along the basin which ensures that Egypt no longer has the only voice for decisions made regarding the Niles flow.

Since the formation of the 1929 treaty under the auspices of the British Empire and the subsequent 1959 treaty in the era of the Cold-war and decolonization, it is clear that key international actors have had a role in the mechanisms related to water cooperation in the Nile. Given the ongoing water conflict over GERD there is a new push towards the negotiation of a trilateral treaty that would govern the Blue Nile. These ongoing negotiations and the cooperation implicit in coming to the table in spite of shifting power politics can be related back to the history of treaty-signing and limited cooperation between Egypt and Sudan. It seems that the institution of these past treaties forms the basis from which future cooperation in this area can grow. Further, it is clear that international players, including the US, EU, the AU and China are all involved in varying degree in the negotiation and foundation of a new mechanism. However academics have stated that Sudan, Egypt and Ethiopia, as the key players in this conflict should resist unilateral attempts at foreign actors to mediate such a treaty and rather focus on the formation of a comprehensive treaty mechanism with wider international support (Lashitew, A. 2020). It is clear however that current negotiations are in danger as all sides accuse one another

of abandoning key principles of a 2015 statement that stipulated an "equitable and reasonable" utilization of the Nile that will not cause "significant harm" to other riparian countries. In spite of years of negotiations, however, they have made little progress in specifying the technical details on the filling and operating of the dam. (Euractive. 2020) (Ahram Online. 2015). It is therefore clear that the mechanism of an internationally backed trilateral treaty, in the same frame as the 1929 and 1959 treaties, designed to deal with this water conflict in the Nile Water Basin is facing ongoing difficulty in solving a serious flashpoint in this conflict.

The Nile Basin Initiative:

The Nile Basin Initiative was formed in 1999 and is an intergovernmental partnership of the ten key Nile Basin Countries those being Burundi, Democratic Republic of the Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda with Eritrea participating as an observer. It celebrated its 20th anniversary on the 22nd of February 2019 and has seemingly achieved much in the way of improving regional water cooperation during its existence. The core functions of this organization are to facilitate cooperation and dialogue between basin countries, make improvements in water resource management and support water resource development at the local level. It embraces and embodies concepts of water cooperation in its shared and stated vision which is "to achieve sustainable socio-economic development through equitable utilization of, and benefit from the shared Nile Bain Water resources (Nile Basin Initiative. 2019). Essentially the organization has built upon liberal ideas of supporting international cooperation to work towards defusing the pre-1999 situation of competing self-interested states. Notably the NBI was founded, and continues to benefit from the key support of many donor countries but most critically the World Bank and the European union who have committed to its liberal approach relative to basin cooperation and conflict resolution (The

World Bank. 2019). The World Bank was fundamental is husbanding donor countries into an International Consortium for Co-operation on the Nile which contributed significantly to financing the NBI in 2001. Further, it was due to political and economic pressure of the World Bank that pushed Egypt to join this liberal institution for water cooperation rather than sticking to it's historic position of treating access to the Nile waters in stark, power politics terms (Swain, A. 2011). This was thus a real political coup in getting nearly all basin countries (Eritrea remains an observer to this day), even those with the most intractable negotiating positions into the same cooperation mechanism. The EU for its part has committed to supporting the NBI and has stated that it expects that its Programme for Transboundary Water Management in the Nile River basin should contribute to building further incentives for agreement and water cooperation in the region.

The NBI has worked to support water cooperation along the Nile in a variety of ways, including broad based state building through its capacity building water resource management operation in participating states. State building is this sense is defined by building and supporting state institutions and governments capacity to govern. State building can be argued as being important in the context of this regional water conflict as states that cannot govern cannot be meaningful partners relative to political mechanisms designed to increase cooperation (Paris, R. Sisk, T. 2009). Removing the lens of post-violent conflict from the theme of state building it is clear that states which lack key government capacity are threats to the international system and oftentimes their own citizens. Thinking about water security in the Nile in this light acknowledges that given potential issues of weak governance in the region, state building of government and local institutions involved in managing water resources are key to building cooperation in the region. For example, if a country does not have the technical capacity to

monitor water flow relative to flooding or irrigation it cannot be a meaningful partner in regional water cooperation. This theme of reducing information asymmetries relative to building cooperation is key in the liberal IR framework. Thus the NBI functions a quite a liberal political mechanisms for enhancing cooperation supports states with technical assistance designed to build capacity when it comes to governments and local community's ability to monitor and govern water issues. This state building approach for building cooperation represents an overall liberal framework approach to the water conflict by improving the capacity state actors to competently manage and negotiate on water security issues in respect to the shared waters of the Nile.

The NBI also exists to facilitate state-to-state cooperation and dialogue regarding the transboundary water issues involved with the Nile River. This role essentially serves to support proactive diplomacy between the state-level stakeholders. In this respect the organization has had some important success from the beginning in that the key states along the river are all members, even those who subscribe to different narratives and objectives around the river's managements (ex. Egypt). This is not to say that this state-level political approach is without issue. When the NBI proposed the Cooperative Framework Agreement (CFA) which would have become the legal replacement for the 1959 agreement, allowing for a more equitable sharing of water resources between all basin countries, both Sudan and Egypt suspended themselves from the activities of the NBI, while retaining membership. They refused to acknowledge the CFAs conditions that included the formation of a Nile Basin Commission which would have legal authority to manage transboundary water issues in the basin. Another key sticking point was Egypt and Sudan demanding that an article of the treaty reflect that upstream activities would "Not to adversely affect the water security and current uses and rights of any other Nile Basin

States" (Mekonnen 2010). The use of "water security" here represents the power imbalance felt by these downstream partners, whereas access to water is keenly felt as an existential issue to the country. The inability of the NBI to overcome these serious "water security" concerns in negotiating enhancements to the mechanisms ability to support cooperative management is a significant weakness.

It can be argued that despite the failure of the CFA, the NBIs liberal approach of facilitating dialogue between the states has increased the incidence of water cooperation between countries along the basin particularly upstream countries who supported the CFA and continue to wholeheartedly support the NBI. Overall, however, as a political mechanism the NBI lacks fundamental political power to compel states to come to an agreement. Further, it does not have enshrined conflict resolution mechanisms or authority that could assist in the disagreement between members such as that of Ethiopia, Egypt and Sudan over the GERD development. Therefore, while the NBI continues to exist as a liberal , internationally supported mechanisms for building cooperation and capacity in the Nile also has some key weaknesses in it's inability to manage key flashpoints in this water conflict, such as the GERD development.

Indus River Basin:

Like most rivers in the world, the Indus River in South Asia does not recognize political boundaries. It crosses over the Tibetan plateau in China, flows into Afghanistan, through India before entering Pakistan and finally emptying into the Arabian Sea. The map below should assist in gaining a basic understanding of the geographic and political makeup of this river basin.

Figure 5. A map of the Indus River Basin. Source: Wikipedia (2020)

This river basin is central to the livelihoods of those living in the heavily populated northwest of South Asia. Also, as was the Nile, it is one of the earliest cradles of human civilization with the Indus Valley Civilization roughly coinciding with the Bronze Age of 3300–1200 BC. Despite the variety of countries touched by this significant river basin, the two countries that are central to the water conflict over the water resources of this basin are the two rival nations of India and Pakistan. The table below will provide an understanding of geographically how fundamental the watercourse is to these respective countries.

Basin	Area		Countries Included	Area of country in basin (Km2)	As % of total area of basin	As % of total area of country
Indus	Km2	% of Southeast Asia	Pakistan	520000	47	65

	1120000	54	India	440000	39	14
			China	88000	8	1
			Afghanistan	72000	6	11

Figure 6. Table: Country areas in the Indus River Basin Source: United Nations FAO Aquastat 2011 http://www.fao.org/3/CA2136EN/ca2136en.pdf

Also, of critical importance to the nature of this water conflict is the fact that the Indus river basin is a semi-arid region. This means that irrigation is particularly critical to agricultural production and thus the food security of the millions that live along its banks. This is particularly notable in Pakistan, where 90% of the land is considered barren or semi-barren, thus relying on irrigation, that is water from the Indus, to be made agriculturally viable. Further, given the agricultural focus of its economy, as well as its industries reliance on processing water-intensive crops like cotton, access to the flow of the Indus river waters is an absolute must for the states wellbeing. India's heavily populated north-west also depends on access to the river. Further, Hydro development is also key to electrification is both countries (Qureshi, W. 2017). The critical take away from these points is that while both India and Pakistan are reliant on the rivers of the Indus, Pakistan is significantly more reliant. Also, as a downstream nation it is at a strategic disadvantage regarding political control of the water it relies on.

Moving from geographic to political considerations for this water conflict, since the partition of British India in 1947 India and Pakistan have found themselves at military and political odds with significant border tensions over territory, particularly the Jammu-Kashmir region that makes up a large portion of India's part of the Indus Basin. These tensions have boiled over into war many times including in 1947, 1965 and 1999 (BBC. 2019). Indeed, as part of the war of 1947 India withheld water from Pakistan as part of that campaign. This clear use of

“water as a weapon” is a dangerous precedent in this region. Other than these wars, there continues to be frequent violent border skirmishes across the Line of Control that separates these two belligerent countries control of the Kashmir region. This includes significant recent escalation of Indian air strikes within Pakistani territory in 2019 following insurgent attacks on Indian forces that were blamed on Pakistan (BBC. 2019.) It is therefore abundantly clear that India and Pakistan have a turbulent and violent political history and a profound rivalry that continues to this day. These geographic and political considerations relative to the Indus River Basin thus set the stage for a serious water conflict in the region.

Refocusing from this rivalry onto the topic of political mechanisms for water cooperation and conflict resolution it is almost surprising that India and Pakistan have what is deemed to be historically one of the most successful political mechanisms for water cooperation, the Indus Water Treaty. This treaty is often cited as a success story as a mechanism for water cooperation given that it has survived three wars, a persistent conflict on Kashmir, and generally turbulent political relations between India and Pakistan (Briscoe, 2010). Indeed former US president Eisenhower once described it as "a bright spot ... in a very depressing world picture that we see so often." (World Bank 2018). However, despite its long-lived success in preventing a serious “water war” between these two nuclear armed powers, in recent years there have been significant challenges to this mechanism. Recent factors such as climate change and unilateral transgressions of the treaties clauses has led to concern from the international community. Given this increasing pressure on the water supply in these countries Indian Prime Minister Narendra Modi has stated that: “[W]ater which ‘belongs’ to India cannot be allowed to flow into Pakistan.” This prompted the Pakistani response that: “It's highly irresponsible on part of India to even consider revocation of the Indus Waters Treaty” and any suggestion as such a decision was

framed as “an act of war or a hostile act against Pakistan.” (Qureshi, W. 2017). With this increasingly heated rhetoric and a possible withdrawal of India, it is key to understand how this internationally backed political mechanism for water cooperation succeeded historically and the role of key international actors in this function. Indeed, understanding this historic success is critical to assessing how these political mechanisms can contribute to water cooperation and the role that international actors can have in assisting towards building cooperation over transboundary water resources.

Mechanisms:

Indus Water Treaty:

The Indus Water Treaty (IWT) is a water treaty over access to the waters of the Indus River Basin. It was signed in 1960 by leaders from both Pakistan and India after significant brokering from the World Bank and important political figures in the United States (Bauer, P. 2019). As part of its makeup the IWT includes the formation of the Permanent Indus Commission (PIC) which was designed to be a neutral dispute resolution mechanism run by joint commissioners from either country as well as a neutral World Bank representative (Alam, U. 1998). The treaty effectively divides rights over the main branches of the Indus. The IWT gives control of the three "eastern rivers" the Beas, Ravi and Sutlej to India, while control over the waters of the three "western rivers" the Indus, Chenab and Jhelum to Pakistan. Hydrologically speaking this was a rather generous deal in terms of water flow to Pakistan, it is estimated that based on varying seasonal data, roughly 16-20% of the basins flow goes to India while the remainder goes to Pakistan (Young, W. et al 2019). The IWT also ensures that despite the three Pakistani rivers passing through Indian territory, India has traditionally and legally not been allowed to inhibit the flow of these rivers. Within the annexes of the IWT there are some

agreements for certain types of projects on rivers given to the opposing countries as long as they do not fundamentally alter the "natural flow of the river". The exact technical nature of such projects has been stretched and pushed over recent years, as well as requirements to notify the opposite country of planned works (Qureshi, W. 2018).

Historically, the negotiations around the formation of the IWT were rather fraught. It took roughly nine years of negotiations before India and Pakistan signed the Indus Water Treaty (IWT) in partnership with the World Bank and with financial assistance from the U.S. and U.K and several other donor countries including Canada (Alam, U. 1998). Key figures in the development of the treaty include World Bank President Eugene Black and American administrator David Lilienthal. Lilienthal was key in developing key principles relative to what he perceived was a necessary dispute resolution mechanism. These principles where as follows:

- Firstly, recognition by the disputants that there was enough water in the Indus Basin for both India and Pakistan's existing and future uses.
- Secondly, the water in the River Sutlej, alone, would be inadequate or resolution, therefore, the water in all six rivers of the Basin should be considered.
- Thirdly, to avoid past claims and disputes from obstructing the resolution process any further, the matter should only be approached from a functional perspective

Effectively Lilienthal sought to divorce the Indus water issue from the larger political issues in the bilateral relationship, including the Kashmir issue, as well mandating the involvement of a neutral, third party in the mechanism. Given its role in the negotiations, as well as its status as an independent international organization, the World Bank was chosen as the neutral third party. (Qureshi, W. 2018). The World Bank, more specifically the International Bank for Reconstruction and Development (IBRD) thus played and continues to play a role in the political

mechanisms that is the IWT. It provides mediation as well as ultimately significantly contributed to the economic and political incentives to push for the IWT mechanism. Critically it was noted that the World Bank and other donor nations, as powerful economic actors in this region during the period of negotiations, refused to fund any projects on the disputed watershed until an agreement was had. This put significant economic as well as political pressure on India and Pakistan to reach an agreement that would enable them to not only secure cooperation over a critical water resource but also to gain access to economic support. Therefore, key international actors such as the World Bank and the US, heavily incentivized this agreement while pushing for its political legitimacy and ensuring it had a functional dispute resolution mechanism. This type strategy incentivising the creation of an instrument for cooperation crucially lines up with liberal-institutionalist IR theory. It notably seeks to overcome power politics between these strategic partners specific to the issue of water resources and provides incentives to support water cooperation both politically and economically.

Clearly however, as in any issue of competing interests, there were bound to be disputes. Thus, there was a conflict dispute resolution mechanism developed as part of the Permanent Indus Commission. This mechanism notably functions on an escalating scale. At the first stage of a disagreement it is up to the joint Indian and Pakistani commissioners to resolve any disputes. If they are unable to do so then it falls to the Neutral Expert appointed from the World Bank. Should the Neutral Expert fail to coordinate a resolution then the IWT specifies that bilateral diplomatic negotiations should resolve a dispute. If a bilateral diplomatic resolution can be found then disputes are to be submitted for international arbitration (Abas, N. et al. 2019).

While no disputes have ever risen to the ultimate stage of international arbitration it is notable that of the several that have arisen, they have typically taken decades to resolve and often

end up at the bilateral diplomatic stage. Examples include the Sala Dam Project which India planned for the Chenab River. In 1970 Pakistan objected to this project due to its projected impact on Pakistani access to water. The objection rose to the level of Joint Commissioners and Neutral Third party which was unable to solve this issue. It thus escalated to bilateral talks between the countries in 1975 and by 1978 India agreed to make the necessary modifications to the project. This is clearly an example on the dispute resolution mechanisms working as it should, albeit not in independently resolving the issue but in building an instrument which allows the two sides to manage water issues independently from other bilateral issues. Another example is the Baglihar Dam Project in which, as the treaty stipulates, India provided Pakistan designs in 1992, to which Pakistan objected. The commission again failed to solve the issue, and bilateral talks failed leading to an agreement tot appointment a Neutral Expert in 2005 who by 2007 had resolved the issues, albeit with some lingering Pakistani concerns (Qureshi, W. 2018). It is therefore clear that this conflict resolution mechanisms is far from perfect given the long time horizons and frequent requirement reliance on bilateral talks. However, it can be argued that the political institution of the IWT and it's conflict resolution mechanism has managed to build cooperation given that these countries have routinely came to the table and resolved water conflict issues independent of other ongoing conflicts.

Another key aspect of the IWT is the fact that it includes significant provisions for monitoring. Monitoring is key to the design of this political mechanisms and is a factor that liberal institutionalists cite as being significant in building trust and cooperation. This trust and cooperation have been used to build up various other provisions relative to water cooperation in the Indus basin, such as specific agreements relative to irrigation as well as a 1989 agreement specific to flood warnings (Zawahri, N. 2009). These are both significant signs of water

cooperation and given the mutual rivalry of these two states can be taken as a key benefits of the mechanism for cooperation that is the IWT.

Overall, it can be argued that thanks in large part to the IWT, India and Pakistan have maintained a begrudging but active cooperation over the Indus River Basin. Using a liberal-institutionalist approach, it can be stated that the political mechanisms of IWT has facilitated and assisted in this water cooperation. The role of key international actors such as the World Bank in the development and function of this mechanism is thus key. Without the political/economic pressure and incentives from the World Bank and donor countries it is unlikely that two warring countries could have build such a mechanism. Particularly given the context of the war of 1947 where water was used a weapon. Further, pressure from the international community at large, especially the US has also been cited as a key motivation for both of these countries, particularly India given its strategic power relative to the water conflict, for remaining part of the treaty (Qureshi, W. 2018).

Therefore as modern issues continue the evolve to challenge the relatively peaceful status-quo of this basin it is clear that there are positive lessons to learn from the model of the IWT. This can be summarized in the historically the IWT functions as an "ideal" liberal institution. Its development was supported and incentivized by liberal institutions such as the World Bank and key states. It facilitates the mutual cooperation of two hostile countries which face a significant power imbalance, both generally and specific to the issue of the water conflict (downstream/upstream dynamics). These mechanisms include provisions for building capacity to improve water management, mutual monitoring to prevent or inhibit cheating, political mechanisms for cooperation and basin management, as well as a functional conflict resolution mechanism. This conflict resolution mechanisms has been characterised as a significant

development to the relative success of the mechanisms that is the IWT is resolution (Zawahri, N. 2009). While not perfect the IWT, as an internationally backed political mechanisms for encouraging water cooperation seems to coincide strongly with liberal IR theory and has, until now, been a success story in this field.

Mekong River

The final case study for this paper will be examining the Mekong River basin and the water conflict between the neighbouring countries that share this river. The Mekong River is a critical river to Southeast Asian states. Starting on the Tibetan Plateau, the river travels through China, Myanmar, Laos, Cambodia, Thailand before it forms the Mekong Delta in Vietnam and emptying into the South China Sea. This area is frequently referred to as the Greater Mekong Subregion (GMS). Geographically this river basin is typically viewed in a divided fashion between the Upper Mekong otherwise know as the Lancang river that is in solely in Chinese Territory and the Lower Mekong that is a transboundary extent of the river which is shared by the 6 nations mentioned above (Summers, T. 2008). The map below should assist in understand some the of the basic geography of the basin.

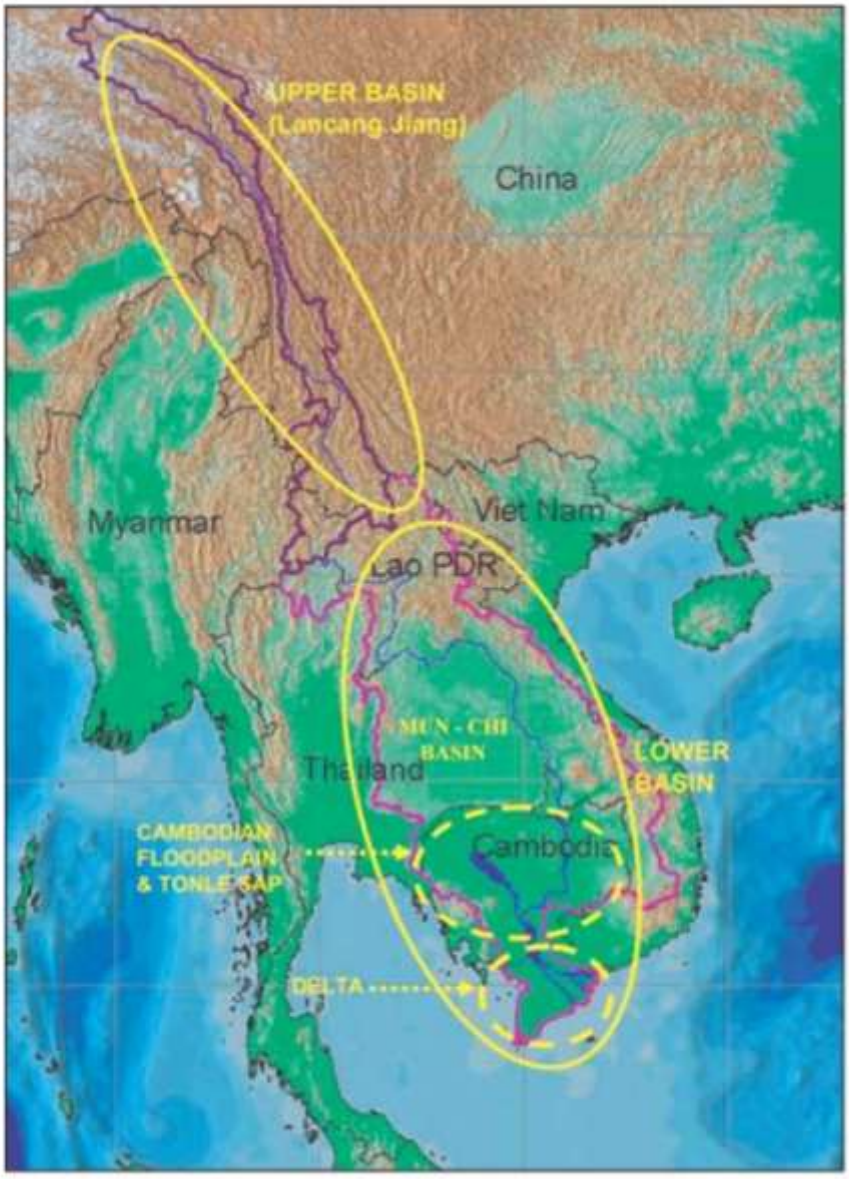

Figure 7. Mekong River Geographical Regions. Source http://www.mekonginfo.org/assets/midocs/0001968-inland-waters-overview-of-the-hydrology-of-the-mekong-basin.pdf

It is understood that over 60 million people directly depend on the flow of the Lower Mekong River for their lives and livelihoods. The security of these individuals is thus critical to the stability of the states along the lower Mekong. While politically there is currently relative peace between the countries of Southeast Asia, brought about through initiatives like the

Association of Southeast Asian Nations (ASEAN) and other factors, it is clear that there exists a state of water conflict over the Mekong itself. Like in the other case studies we have seen this conflict essentially boils down to conflict between upstream countries and downstream regarding developments that can affect the flow of the river, typically hydroelectric projects. The key political mechanism that will be discussed relative to basin management in this section will be the Mekong River Commission (MRC) which is made up of all basin countries, excluding China.

The graphic below provides some context for Hydroelectric development along the Mekong.

Figure 8. Retrieved from Deutsche Welle. (2019)

Returning to the issue of geography, most of the flow that affects the states of the Lower Mekong is contributed from tributaries in the Lower Mekong Basin, rather than the Upper Mekong which is exclusively in China. Flow from the Upper Mekong thus typically contributes a small portion of the annual flow of the Mekong. However, depending on seasonality it can become significant, constituting up to 40% of the rivers flow. This point becomes particularly sensitive given that China has developed extensive dam and hydrological projects in the Tibetan Plateau where the Mekong originates and all along the Upper Mekong. This provides it substantial power during dry seasons or periods of drought to control the flow of the river, as well as to influence flooding and other environmental effects downstream. On average, the rivers flow can be constituted as follows: China contributes 17%, Myanmar less than 1%, Laos 41%, Thailand 15%, Cambodia 19% and Viet Nam 8% to the annual discharge (FAO. 2016). Given that the Mekong River Basin is not arid or semi-arid like the previous two case studies, seasonality, flooding and drought are key aspects of many water projects along the river, rather than being a predominantly agriculture issue (Jacobs, J. 2002).

This is not to say that agricultural production is not central to the issues of access to water along the Mekong. GMS countries, particularly downstream countries are sensitive to the water quality of the river. This is to say that traditionally the fertile Mekong Delta region, one of the major rice exporting regions of the world, depends of rich silt being transported downstream from the Tibetan plateau. Hence the construction of dams, in China or in other upstream countries trap silt that would usually be transported downstream. Fishing and fish farming is another key agricultural activity that is sensitive to the dam building at the center of this water conflict. Indeed fish is a key source of protein to many citizens in the GMS. Dams disrupt the migration of these fish, preventing them from travelling to their spawning grounds upstream and

disrupting their life cycle. Therefore, unrestricted and uncoordinated dam construction could significantly affect agricultural production in the GMS. For example a Deutsche Welle report indicated in 2019 that "the MRC [Mekong River Commission] predicted up to a 40% reduction in Mekong fish stocks by 2020, and up to 80% by 2040 as a result of hydropower dams in the region, particularly in the upstream countries of China and Laos (Sasipornkarn, E. 2019).

One point of human geography to consider relative to this water conflict is, as in the other case studies, the fact that there is a demographic and economic boom occurring in the area. Population estimates are expected to grow from 232 million to 292 million by 2050 (Boretti, A & Rosa, L. 2019) with an increasing demand for electricity that encourages hydroelectric projects on the river (Viet, T. 2013). It is therefore clear that there are numerous domestic political pressures from citizens of GMS countries on their governments to continue to develop nominally domestic hydroelectric capacity to power a growing expectation for the lifestyle of these growing low-middle income countries.

Politically, while there is presently peace between GMS countries their does exist a history of violent conflict. Border skirmishes and armed confrontations have historically flared up among the GMS states including between Cambodia and Viet Nam (1975–1977), Thailand and Viet Nam/Cambodia (1979–1989), Viet Nam and China (1979), Laos and Thailand (1987–1988), and Cambodia and Thailand (1950s, 2008–2011) (Kittikhoun, A., & Staubli, D. 2018). It is therefore not inconceivable that despite significant moves towards peace and a cohesive management of the Mekong River basin through the mechanism of the Mekong River Commission that a water conflict could spiral into inter-state conflict.

Another key aspect to this conflict is that fact that despite its relatively small role relative to the flow of the Lower Mekong, China, with its significant push towards hydroelectric

development in its southeast provinces has significant advantages as an upstream country in influencing the flow of the river downstream. Further, it has outsized political and military power relative to the smaller GMS countries (Moore, S. 2018). China is not a signatory to the Mekong River Commission and thus is not part of this mechanism that contributes to water cooperation in the same way as other GMS countries (Grumbine., R. E. 2017). While it behaviour towards downstream countries has varied significantly, from being blamed for flooding, to withholding water during seasonal droughts, it is clear that in recent years the Chinese position relative to management and cooperation in the basin has shifted to a softer tone. This includes the sharing of technical data and other factors useful to its downstream neighbours (Heydarian, R. 2018). However, it is difficult to guess how this behaviour will continue to develop. The fact remains that politically and geographically China remains a significant player in the Mekong Basin and the its relationship with the MRC itself is important to consider when considering the effectiveness of that mechanism towards water cooperation. Indeed its relationship with the mechanisms and institution of the MRC is especially relevant to this paper given that it is not part of this organization and yet has tentatively used this mechanisms in liberal fashion to enhance mutual cooperation in the wider Mekong River Basin.

Mechanisms:

Mekong River Commission:

The Mekong River Commission, ratified by countries in 1995 has its roots in earlier regional cooperation between Cambodia, Lao PDR, Thailand and Viet Nam dating back to the era of decolonization from France around 1954. In 1957 a Committee for Coordination of Investigations on the Lower Mekong Basin “The Mekong Committee” was set up under a statute endorsed by the United Nation and other international actors (Mekong River Commission. 2020).

The primary focus of this committee was on developing flood control projects for the region. Beyond this however it was clear that international actors, particularly the United States, wished to use this committee as a sort of funnel for regional development as a way to prevent communism from spreading through Southeast Asia.

Moving from this early period there were numerous periods of political turmoil for GMS states, which affected the ability of this Committee to effectively coordinate water cooperation. Moving forward to April 5th 1995 Cambodia, Lao PDR, Thailand and Viet Nam signed the Agreement on Cooperation for Sustainable Development of the Mekong River Basin (the Mekong Agreement), in Thailand. This agreement, which officially established the MRC, ensured that the responsibilities of management were left to the four Member countries. Important to understanding the MRC is the structure of this organization which is easily discerned in the figure below.

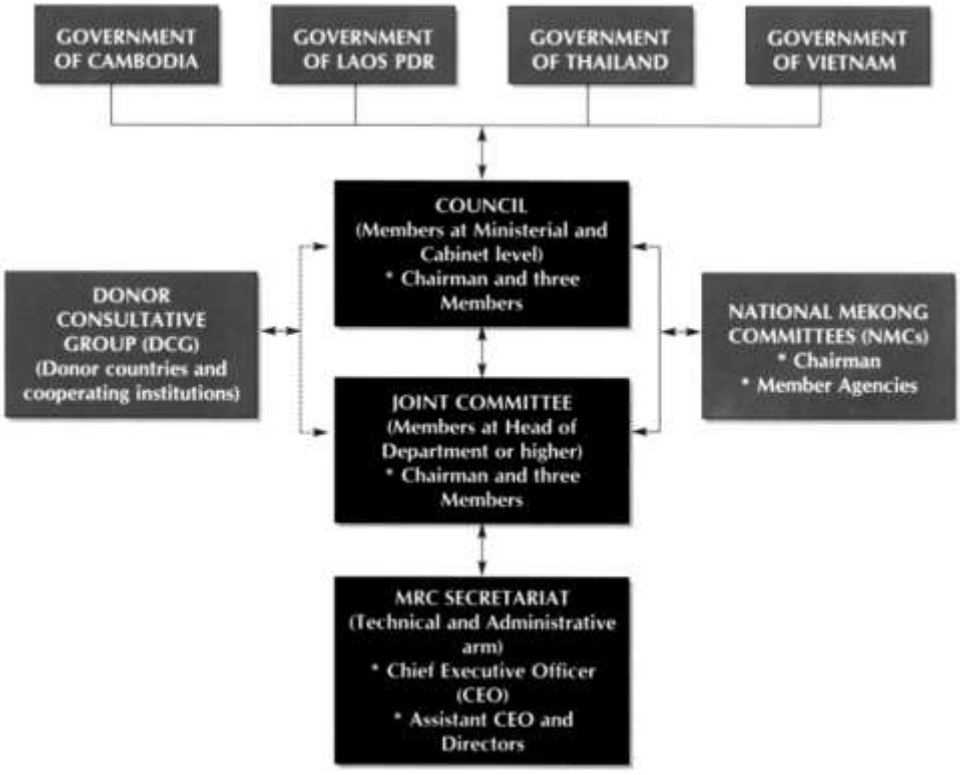

Figure 9. Structure of the Mekong River Commission. Source Mekong River Commission. (2020).

Of particular note in this diagram is the fact that donor countries and cooperating institutions are a key part of the organization design. This design is to facilitate one key function of the MRC which is to act as a coordinating body for donor funding into water-related capacity building projects along the Mekong River Delta. Given the economic influence of donor countries in the region this gives them a certain political lever directly within the broader political mechanism for cooperation that is the MRC. This can be exemplified by some analysis done by the Danish Centre for International Studies (Lange, R., & Jensen, K. 2013) that provides the following table relative to three of the Mekong River Countries relative to various metrics relevant to the MRC and water cooperation.

	Laos	Thailand	Vietnam
Risk perception	Low	High	High
Policy-making	Weak	Moderate	Strong
Funding	Low, donor-dependent	Low to medium	Medium, donor-facilitated
Development agenda	Strategic coupling	Controversial	Integrated
Mekong cooperation	**Capacity, legitimacy, national development**	**Hesitant**	**Capacity, legitimacy, upstream development**
Political priority	Low	Medium	High

Figure 10. Political metrics relative to Transboundary Cooperation in the Mekong Delta. Source: (Lange, R., & Jensen, K. 2013).

While the work of Lange and Jensen focused on climate change policy rather than water conflict, it notably quantified key political metrics relative to MRC, and while it omits Cambodia it is still interesting academic work relevant to this paper. They describe that Laos, as a economically weaker partner, seeks to use the Mekong River Commission to build capacity and fuel national development through the facilitation of economic assistance from donor countries. Thailand is described as being somewhat hesitant in its approach to cooperation while Vietnam is presented as wanting to benefit from capacity building exercises empowered by the MRC but also as being keenly aware that as the furthest downstream partner, it has vulnerabilities and that it desires to use the MRC as a mechanism to assist in managing upstream development in partner countries.

Coming to the issue of upstream development as a growing issue in the Mekong River Delta, it becomes clear that the MRC does not have adequate tools to manage this issue. There is no agreed upon dispute resolution process (as with the IWT in the Indus). Indeed, while there is a

process of mandatory consultation between states on projects that affect the flow of the river, these consultations are not binding and do not imply that requested modifications will be actioned (European Union. 2018). Indeed it is noted that the process of prior consultation built into the MRC "neither implies a right to veto the use nor a unilateral right to use water by any riparian without taking into account other riparian rights"(Mekong River Commission Secretariat. 2017). Therefore, there have been several cases of countries ignoring or partially ignoring the results of consultations with partner countries. Some examples include the Xayaburi Dam that began development in Laos in 2007. In this example downstream partners noted several concerns with the project. While the Laotian government did agree to some changes to the design it was not sufficient to allay all the cited concerns. Further they did not and continue to not provide sufficient data to ensure monitoring of the effects (Peter, Z. 2019). This is obviously mixed results relative to a liberal political mechanism designed to improve cooperation and build trust. Another more recent example is the Luang Prabang Dam in Laos where again; the concerns of downstream partners have been identified as not being robustly protected by the non-binding consultative process. Indeed, the MRC itself has noted of the consultation process "We believe that the prior consultation process has served its objective and addressed the mandate of the MRC secretariat. But as a process, we acknowledge that there is room for improvement," (Peter, Z. 2019). This is an effective summary of the consultation process as indeed it would seem to be a function of the MRC mechanism to assist in building cooperation, however it clearly has some significant flaws, including that it is largely toothless in compelling action when there are significant objections.

A further weakness of the MRC is that, the mandate of the MRC only extends only the to the main branch of the lower Mekong, rather than any tributaries. It is noted that earlier when

discussing the geography of the lower Mekong, a significant amount of the flower of the river to downstream countries comes from these tributaries not covered under the MRC. This is therefore a flaw that the mandate of the MRC does not cover the Mekong's tributaries. Particularly in light of the relatively uncoordinated rush to develop hydroelectric capacity along the lower Mekong and its tributaries, particularly in underdeveloped Laos (Sasipornkarn, E. 2019).

There are however some key positive contributes to water cooperation that the MRC mechanism has enabled. It is clearly useful relative to some key aspects of managing the Mekong Basin as an integrated unit. Despite its mixed results in gaining access to information from upstream China, the downstream countries have had positive outcomes in terms of cooperating to exchange and sharing technical data and information as well as monitoring water use (Jacobs, J. 2002). Given the design of the MRC it allows for an ease of information exchanges relative to technical water management issues which eliminate information asymmetries between partner countries. This process is largely made up of the Core River Basin Management Functions (CRBMF) of the organization. These functions include various projects such as data acquisition, modelling, planning and forecasting relative to various aspects of water management issues including droughts and flooding. It is notable that the concept of using political mechanisms to reduce information asymmetries to build peace is a key strategy of building cooperation in a liberal-institutionalist framework. Further, as mentioned previously the MRC acts as a funding platform to direct the flow of aid from donor countries to specific projects that can provide benefit all MRC countries in the name unified basin management. Besides directing economic aid from international partners the MRC also provides solid technical capacity to MRC countries and, as a unified body allows for easy investment by international actors into building up this technical capacity of the MRC and MRC countries to manage the lower Mekong (MRC. 2020).

Overall, as an internationally backed, liberal mechanism the MRC has been critical to contributing to cooperation and capacity building in the Mekong Delta. It clearly has some flaws, it has no dispute resolution mechanism and a relatively toothless consultative process, as well as it is unable to independently overcome its issues regarding the upstream neighbour that is China. Overall, it is clear that the MRC has made significant contributions to water cooperation along the Mekong, especially in terms of leveraging donor-funding, technical assistance to increase governing capacity and reducing information asymmetries between MRC countries.

Analysis and assessment:

The three case studies of the Nile River Basin, the Indus River Basin and the Mekong River basin are all unique examples of regions that are embroiled in various levels of water conflict. What is significant in all these cases is that there exist key political mechanisms, fostered and supported by international actors that are designed to contribute to joint basin management and water cooperation. The goal of this paper is now going to shift to assessing these mechanisms, and the role of key international actors within them. The goal is to offer recommendations towards improving mechanisms for water cooperation going forward. Certain academics have assessed that most situations of water conflict typically result in cooperation over the long term, particularly when conflict is categorized as "water wars" of inter-state violence (Giordano, M et al. 2002). This meshes quite well with liberal international relations theory which holds that states tend towards cooperation, particularly when institutions and mechanisms are created that facilitate these types of exchanges. However, given the widely discussed "return of power politics" to the global stage, alongside factors that exacerbate water crises such as climate change and demographic change, it is entirely possible that this assessment

may dramatically shift. Given this, the role and efficacity of these mechanisms and the role of key international actors within them may become more important than ever in reducing water conflict.

Nile Basin:

The Nile Basin Initiative/GERD Negotiations:

In assessing the Nile Basin Initiative, it is clear that overall, with the political and economic support of the World Bank, the EU, and other international actors it has had significant success in generally improving cooperation in the Nile Basin. Examples of this support include the World Banks facilitating of funding to the organization, as well as its political-economic leverage in pushing all key basin countries to the table. The EU has given notable statements and key political support backing the legitimacy of the NBI. In this it seems that the EU and World Bank, as bodies founded upon clearly liberal ideals relative to international relations theory appear to be supporting the NBI as another body founded in a similar liberal spirit of international cooperation. In including all basin countries (with Eritrea as an observer) the NBI has enabled the expansion of political, economic and technical capacity to improve water management throughout the Nile basin. It has been an effective springboard for hydrological projects that benefit all the countries involved. With regards to these issues, there have been certain major successes since its foundation in 1999.

However, what is also clear is that since 2007, particularly between the countries that share the Blue Nile, those being Sudan, Ethiopia and Egypt, there has been a significant divergence of interests relative to water management. Indeed, Ethiopia's full-fledged embrace of the GERD project and its growing political and economic clout has led to a serious shift in traditional political power structures in the region (Gebre, S., & Wainer, D. 2020). Indeed, the

balance of power has clearly shifted. Egypt no longer has the upper hand in treaty negotiations, as it would have a historically. Therefore, without a robust conflict resolution mechanism the NBI finds itself somewhat sidelined as liberal mechanism as these negotiations occur at a tri-lateral level without a clear mediator or arbiter. Without the leadership of the NBI it has fallen to other international actors to attempt to mediate this conflict, which has until now been unsuccessful. For example, the US's role as "mediator" has been undermined by its apparent advocating for Egyptian interests (Reuters. 2020). In this sense it is clear that that as in any conflict, that an effective mediator has to have a level of impartiality, alongside the political-economic power to influence state behaviour. Given these requirements most of the great power states are disqualified, such as the US or China as they have stakes in this conflict .The NBI, if it had the mandate could play this role, but alas it has been sidelined. Indeed it is somewhat stunning in these ongoing negotiations regarding the GERD conflict, the largest flashpoint of water conflict in the region, that there is notable absence of the NBI. It has issued statements supporting a peaceful resolution but otherwise appears politically toothless. The reason for this appears to be due to an absence of political will/mandate to broker such a conflict but also that the design of the NBI and the geography and interests at play in the Nile essentially pits downstream countries (Sudan and Egypt) against the rest. Given Egypt's lack of renewable water resources it is at the geopolitical mercy of upstream states. This makes it clear that from the Egyptian/Sudanese standpoint, a forum that includes far off and distant Basin countries such as the DRC or Burundi, with significantly different goals relative to basin management is politically unpalatable to have a role in negotiations. The NBI simply not the right political mechanism to deal with the ongoing issue of the GERD, at least with its current design (Cascão, A., & Nicol, A. 2016). This is not to say that the NBI does not have value as a mechanism that assists in

building integrated basin management and water cooperation. However, relative to dealing with sticky disputes, such as the GERD conflict, the NBI simply does not have the right institutional design to manage the conflict. Indeed, it could be more relevant for the NBI to segment itself based upon the divide of the White Nile and Blue Nile to better respond to the different regional water issues in this basin.

However this is not to say that the NBI, with its liberal backing, must remain sidelined. As has been seen in recent weeks were the ongoing GERD negotiations have been referred by Egypt to the UN security Council, there is an appetite for conflict participants to have an international body have a role in the conflict. Also, as was seen in the original creation of the NBI, it is clear that key international actors, in that case the World Bank played a key role in incentivising countries to come to the table and adhere to mechanisms that support water cooperation. These type of mechanisms, as will be presented in the forthcoming assessment of the Indus Water Treaty central to the Indus River Basin, can include functional conflict resolution processes. With political and economic pressure from key foreign powers, disputing countries can be pressured to overcome sticking points and adopt a more liberal institutional framework, such as a renewed treaty, or integrated process for solving conflict and building cooperation. Indeed, there are already proposals of this nature being floated by certain academics and think tanks. Given that the main sticking point of the GERD is the filling rate of the dam, there are already a proposals by a European think tanks that suggest that international actors, in this case the EU, effectively pay Ethiopia to adopt a fill rate that does not significantly negatively impact its downstream neighbours of Sudan and Egypt in order to come to a negotiated settlement and an agreed upon framework (Von Lossow, T., Miehe, L., & Roll S. 2020). This type of policy, which recognizes the current inability of Egypt, Sudan and Ethiopia to overcome

power-asymmetries relative to coming to an agreement, suggests foreign intervention to overcome these asymmetries and build a new framework for enhancing water cooperation. It is not the only liberally minded proposal of this type. For example another proposal by the Washington institute follows a similar logic in that it would effectively offer significant economic aid aimed specifically at addressing issues of water stress in downstream countries as leverage to ensure the countries at issue come to the table and reach an agreement without resorting to dangerous unilateral action (Barfi, B. 2018). While this type of proposal would require a significant expenditure of political and economic capital, with the relative historic success of the Indus Water Treaty it is clear that with the right incentives, and the right design (which includes a dispute resolution process) an internationally supported political mechanism can reach success in contributing to water cooperation, even given difficult or complex political issues. What is also clear is that, using a liberal framework to encourage these types of policies certain conditions would need to be met. The mutual benefits of cooperating must be accentuated for all partners, for example, given Ethiopia's development goals and Egypt's water security concerns, the incentives must be significant enough to encourage compromise towards a mutually beneficial agreement. A further condition would be for a neutral-third party act as an arbiter, in this the NBI could be a prime candidate given its long success as a mechanism towards encouraging water cooperation in the basin. Given an impartial forum/mediator and sufficient incentives to overcome sticking points it would seem that this could be a liberal solution to manage the GERD conflict. While it would require recognizing and addressing the current weakness in the NBI design as well as requiring international actors to incentives cooperation, given the success of this type of policy in other water conflicts, this liberal formula could perhaps find success again.

Indus River:

Indus Water Treaty:

As widely discussed in this paper, the Indus Water Treaty is a key example of an internationally recognized and supported liberal mechanism for water cooperation that has been historically successful. However, it is clear that in the past several years there are growing issues with this mechanism that have led to cracks appearing in its façade (Abas, N., Khan, N., Saleem, M., & Raza, M. 2019). Going alongside this trend towards dysfunction however has also been somewhat of a vacuum in international actors pushing to renew or renegotiate the IWT. It is clear, after all, that while it has a theoretical dispute resolution process, most issues are solved bilaterally as both payers are hesitant to appeal to international arbitration. Therefore while the process is there in theory, in practice it allows for some issues, particularly the building of dams whose technical specifications may be counter to the IWT, to not be adequately addressed, adding pressure to the agreement. Combined with newfound water stresses brought on by climate change and population growth it is clear that in this vacuum a new modernized IWT is necessary. However, despite these issues it is also apparent given the longevity and many successes of IWT/Joint Commission conflict resolution that the machinery required to overcome information asymmetries and resolve water disputes does exist and function, albeit not in all cases.

Given the current impasse over renewing the IWT as a political mechanism for cooperation it is clear that the onus would likely have to be on key international actors, such as the World Bank, to once again, provide sufficient incentives to bring these countries to an agreement. The World Bank is noted here given its significant, albeit diminished role (since 1947) in Pakistan and India's economy, as well as its historic political legitimacy as a player and mediator under the IWT. It has been cited after all that one of the key reasons why India has not

yet backed out of the IWT is due to the international reputational risk and fallout should it do so (Qureshi, W. (2018). What is unclear is where the push for renewal of this historic mechanism would come from. The World Bank for its part has issued statements regarding the IWT that seeks to clarify its role in the process as minor (World Bank. 2018). While that is true in the function of its mechanisms, looking at the narrative of the IWT, it is clear the World Bank and it's political and economic pressure were fundamental to the creation of the IWT. In this it seems like the World Bank, is somewhat underplaying its transformative role as a linchpin in the creation of the liberal mechanism of the IWT. It is also possible that given changing political dynamics since 1947 the World Bank no longer has the political or economic influence required to incentivise a renewal of the IWT. The US, as a former beacon of liberal policies, particularly in the post-WW2 era, who was also key to the creation is also relatively quiet on this front. While it advocates for a peaceful resolution it has done little to push these two to the table once again. Given the US pivot to the Indo-Pacific and it's growing need to court India to counterbalance China, it is unlikely that the US will be the force which exerts pressure on India or Pakistan to come to a new agreement.

Given a dearth of liberal international backers to support the renewal of the mechanism of the IWT, there is a remaining factor that could assist in renewed cooperation. This is the evolving field of international water law and the growing pressure the global community as a whole. A proposed 1997 United Nations Convention on water law took as its basis the 'equitable and reasonable' use of water as being fundamental to water treaties. India, Pakistan, both participated in the debate. While the 1997 Agreement is not currently in force, and the fact that Pakistan and India both abstained from voting, academics have noted that their objections were largely technical in nature rather than political (Stone, R, D. 2010). Perhaps then the "push"

factor to incentivize mutual cooperation and a renewal of the existing IWT will not come from a political or economic pressure from the World Bank or similar body, but rather from the liberal international organization of the UN as a whole and a new framework for international water law. It is therefore feasible that given the historic cooperation that has been enjoyed along this river basin, combined with pressure from a renewed international push for a UN convention on water law could push both sides to the table to embrace the principle of "reasonable and equitable" use of water. Adopting these principles of international water law into both countries water management regimes would thus constrain and moderate these states behaviour and influence them towards continued cooperation. Thus, such a policy change would go a long way to ensure the continued success of the IWT.

One of the strengths of the Indus River Treaty, and a key lesson learned for the other political mechanisms discussed in this report is its ability to, in the framework of conflict resolution, focus on the specific issue of water management rather than being part of wider bilateral relations. As per the Linenthal principles of its founding, it was clear that with critical issues such as the Kashmir issue in the background, a narrow and specific focus on water management was necessary and helpful to building cooperation (Qureshi, W. 2018). Indeed, this approach seems to have worked quite well in practice. Even within the staged dispute resolution process of the IWT, when issues of water management reach the bilateral stage of the process they tend to remain focused narrowly on water management rather than being used as a bargaining chip as part of wider bilateral relations. Using a liberal framework to analyze this is it notable that the IWT in its design has thus functioned to set the narrative between these two countries in regards to water management issues (Zawahri. 2009). This is yet another strength of this liberal mechanism as it independently functions to assist in building water cooperation.

Overall, it seems that the IWT is a prime example of a successful, internationally backed mechanism for water cooperation. The IWT's liberal structure and historical narrative of support from key international actors has facilitated the building of cooperation between two countries that have frequently been at war. The ability of these countries to cooperate, albeit begrudgingly on water issues, in the face of numerous other bilateral issues makes the IWT and it's design an example for other water cooperation mechanisms.

Mekong River Basin:

Mekong River Commission

Despite its success relative to encouraging several key measures of cooperation along the lower Mekong, it is clear that the Mekong River Commission (MRC) lacks some components that could assist in a more cohesive management of the lower Mekong basin. Indeed some of the very issues that are at the root of the Mekong water conflict, that is the uncontrolled building of hydroelectric and other types of project within MRC countries should, if all parties were acting in good faith, not be an issue. Having a system of mandatory consultations only work if parties are consulting in good faith. If the concerns of downstream partners are not adequately met, there should be changes to the design. While the MRC has the technical capacity to assess and action consultation processes, it clearly lacks the political power to enforce a state of "fair-play" for MRC countries. Using a liberal framework, it is clear that the skeleton of a functional political mechanism to build cooperation is there, but there is not enough incentive to push countries to long-term cooperation given their divergent goals for the MRC. Further the MRC limited mandate over solely the main flow of the lower Mekong is also significantly limiting, given the importance of other tributaries (European Union. 2018). With domestic political considerations constraining the ability of MRC countries to overcome differences and adhere to long-term

cooperation, it is possible that this current "tragedy of the commons" type scenario of relatively disorganized hydroelectric development may continue. The effects of this will be felt unequally by MRC countries, with those downstream being most negatively affected. Thus it is the responsibility of a liberal organization like the MRC to overcome these challenges and implement conditions to continue to support mutual cooperation over short-term self-interested policies and conflict. Therefore, an effort to renew and empower the MRC may be necessary to solve some of the key issues of the current state of water conflict.

In this it seems that, as previously mentioned, the IWT could be a key example. Key international actors such as the World Bank were key in the formation of that successful mechanism for water cooperation. The MRC, given its history with international actors could become a renewed forum for incentivized cooperation based on the pressure of donor nations and bodies. Indeed, there is a key component of the mechanism of the MRC that should facilitate this process. The Donor Consultative Group is a body within the structure of the MRC. While it has no executive power over the MRC, it certainly has political influence given the reliance of certain countries on donor funding, particularly in the realm of water management. While this body has traditionally been used as an effective channel of economic assistance towards technical capacity-building and development projects over the years, it could also transmit political will to incentivize modifications to the MRC. The MRC has recognized that it clearly needs some political teeth in its consultative process relative to hydroelectric projects. A more robust dispute management process and a expanded mandate would also be helpful in designing an improved MRC that would be able to independently encourage long-term cooperation in the Mekong Basin. If key donor countries and other international actors that are currently part of the Donor Consultative Group withheld this assistance relative to water management, as was done in

the lead up to the Indus Waters Treaty by the World Bank and other donor countries, it is possible that this could incentivize the necessary reforms to the mechanism of the MRC that could allow it to better fulfill it's mandate to improve cooperation in this region..

In terms of the assessing the MRC, another clear benefit is its voice as a unifying regional voice of the partner countries with respect to their powerful upstream neighbour, China. With respect to the geo-strategic position of China relative to the Mekong, the downstream countries are at a significant disadvantage. However, as with other regional bodies in Southeast Asia, for example ASEAN, it forms a useful political counterweight for which MRC countries can group their collective interests specific to the lower Mekong together to better balance against China's power. While the MRC clearly wasn't developed with "balance of power" in mind, it has formed a useful channel for discussions with China regarding water issues. It, like the IWT allows for wider issues of bilateral relations be set aside to focus on water issues. Thus it independently moderates the dialogue specific to water management along the Mekong. This function clearly isn't a panacea to the issues of increasing Chinese dam construction on the upper Mekong river, which inevitably affects downstream partner, but it has shown some success. For example, overtures from China in the form of the sharing of data and visiting of sites within China is a positive step towards water cooperation between MRC countries and China, and significantly likely would not have occurred without the political grouping aspects of this body. These successes also bring up the concepts of monitoring and reducing information asymmetries which under a liberal IR framework are key to improving cooperation, which can be seen between the MRC countries and China specific to water management.

Conclusion:

To conclude, all the case studies discussed, the Nile River Basin, Indus River Basin and the Mekong River basin are currently within various states of water conflict. Within each of these water basins however exist political mechanisms backed by key international actors aimed at improving integrated basin management and moving towards water cooperation over conflict. The focus of this paper has been to use a liberal institutionalist framework to summarise, analyse and assess these internationally backed mechanisms for water basin management and water cooperation in three regions of water conflict. In this the relative success of these mechanisms has been presented. A greater understanding of the specific role of key international actors have in the function of these mechanisms has also been developed. As part of this assessment recommendations have been made to improve these mechanisms, with the role of key international actors discussed relative to their influence on these mechanisms. These recommendations are made with the understanding that using a liberal framework for IR theory institutions and mechanisms are critical to building international cooperation. Thus, the goal of the recommendations are to strengthen these mechanisms and to reduce the incidence of water conflict given the growing environmental and demographic pressures that could potentially exacerbate these conflicts. These mechanisms have been assessed to have different levels of success depending on a variety of geographic and political considerations. Two things are clear:

First, as stated by Bernaur (1995) “If the degree of success in international collaboration can be influenced by the institutions we establish and operate, we can be more successful if we know how to design institutions that produce the desired effect”. This is to say that the design of these liberal mechanisms is key to the varying outcomes they have achieved in building water cooperation amongst the countries involved. Therefore, using a liberal framework, on the topic

of mechanisms for facilitating transboundary water cooperation, the design of these institutions is critical. This was exemplified in this paper by the number of recommendations to stemming from the design of the relatively successful mechanisms for water cooperation, the Indus Water Treaty. Alternatively, as summarized by Zawahri (2009) "Since the capability vested in these commissions has an impact on their ability to perform their function, states need to invest more effort in negotiating their design". This summary reflects an understanding that given the right design and conditions, bodies like the IWT, MRC and NBI are useful mechanisms for building cooperation in situations of water conflict and that a key difference in their different outcomes is their design.

The second key takeaway is the significant role of the key international actors in fostering and supporting the development and renewal of liberal political mechanisms for transboundary water cooperation. In all the cases, specific international actors particularly the World Bank have had a significant role in providing political and economic incentives for countries overcome concerns and to join these discussed cooperative mechanisms. The precursor to the Mekong River Commission for example, began with widespread international support which encouraged an appetite for increasing mutual cooperation relative to water management between basin countries. However, during the 1970's political issues lowered international enthusiasm and thus diminished the role of the World Bank and key donor countries like the US in encouraging "Mekong Spirit" (Wolf, A. T., & Newton, J. T. 2007). Another example includes the World Bank influencing Egypt to the NBI table. These examples show the power that certain international actors have in contributing to provide the necessary incentives to overcome obstacles and asymmetries to get countries facing water conflicts to move towards longer term cooperation. Returning again to the liberal IR framework it is clear that liberal institutions like

the World Bank and UN, can act as a mutually enforcing web to reinforce and incentivise other liberal mechanisms, such as those discussed in this paper, to improve their incidence of cooperation. Given the significant challenges facing liberal institutions and indeed the liberal ideology at present, it should not be forgotten the historic success these institutions have had in contributing to peace and cooperation. The IWT succeeded for a long time in bringing literal warring factions together regarding the critical resource of water. All the discussed mechanisms share a need for renewal or evolution and the onus to push for this will likely only come from the wider world. Identifying or encouraging a renewal of this liberal spirit and institutions is however a wider problem and is the topic for another paper.

Overall, while it is more palatable that the assessment of Giordano, that water conflicts tend towards cooperation rather than conflict be true, given a changing world, both politically and environmentally, it is critical to understand how conflicts over such a precious resource as water can be better managed (Giordano, M., Giordano, M,. & Wolf., A. 2002). Clearly, no person or country desires a "water wars" scenario of interstate conflict over a diminishing and critical resource. Towards this end, cooperation amongst countries who share transboundary water resources is key and needs to be encouraged. This paper has shown that using a liberal framework, it is of key importance to encourage this cooperation through the implementation and design of the political mechanisms. This paper has also shown the critical role that key international players have had in fostering and supporting these mechanisms. This is somewhat encouraging as it solidifies the role that the wider world has relative to transboundary water conflicts. They need not be left to be solved by the countries involved, but rather that all countries, through their inclusion and participation in wider political organizations have a role to

play in solving such a fundamental human problem as a lack of water to drink and the serious spillover effects such a problem can have on wider regional and international stability.

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