Hydro Diplomacy and the Quest for Sustainable Water Security

A dissertation submitted to the School of International Development of the University of East Anglia in Part-fulfillment of the requirements for the Degree of Master of Science
August 2014
Word Count: 10,661
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Abstract

This dissertation explores the connections between third party hydro diplomacy, water security and securitization. By developing and applying the Framework of Sustainable Transboundary Water Security to the case study of World Bank hydro diplomacy in the Indus basin, the study seeks to understand how third party hydro diplomacy contributes to sustainable water security, and how the dynamics of securitization affect the outcomes of third party hydro diplomacy. The study is informed by a review of concepts including hydro diplomacy, water security, securitization, water scarcity and conflict, and international transboundary water cooperation. The results are triangulated through interviews with key informants.

It is found that World Bank hydro diplomacy in the Indus basin fails to contribute significantly to sustainable water security, and rather takes a ‘national security’ approach to water security, which constrains the scope of cooperative benefits and fails to address underlying drivers of conflict. Additionally, securitization of water resources is judged to have motivated, in part, World Bank hydro diplomacy in the basin and led to cooperation in the form of the Indus Waters Treaty. The securitization of water resources in the basin, however, is considered to have narrowed the scope of cooperative benefits from third party hydro diplomacy.

Sustainable water security is thus deemed an important consideration for third party hydro diplomacy, and it is suggested that hydro diplomacy practitioners be conscious of the dual nature of securitization.

Acknowledgements

I am incredibly fortunate to have been surrounded by generous and inspiring individuals during the course of my dissertation. First and foremost I would like to thank my wonderful classmates for their support and camaraderie, and my supervisor, Dr. Mark Zeitoun, for challenging me to find my voice. Additionally, many thanks go to the lecturers and researchers at UEA who have aided me in this process, and the interviewees who shared their time and insight.
Chapter 1: Introduction

One of the greatest challenges of managing water is that it is a fugitive resource with no respect for political boundaries (Phillips et al., 2006). When water crosses national borders, the resource creates interdependencies between nations which have the potential to foster cooperation or exacerbate conflict (Pohl et al. 2014). There are a total of 276 transboundary river basins that cover 46% of the earth’s terrestrial surface, which are home to about 40% of the world’s population (UN Water 2014). International transboundary waters are of vital importance to the 148 nations that share at least one river basin with another nation (UN Water 2014). Some experts believe that competition over water in transboundary basins is likely to increase, largely due to rapid population growth and the effects of climate change, and are calling for ‘hydro-diplomacy’ to defuse tensions that may arise between riparians (Doyle 2011; Pohl et al. 2014).

Hydro diplomacy, or water diplomacy, is a relatively novel concept, which is gaining steam in academic and policy circles. At UN Water Talks 2012, UNESCO Director-General Irina Bokova called for “a renewed commitment to water diplomacy” as a tool for “a more peaceful world” (UNESCO 2012), while at the SIWI World Water Week 2013 it was concluded that “fine-tuned water diplomacy is essential for tomorrow’s water management” (Stockholm International Water Institute, 2013: 7). However, despite the enthusiasm around hydro diplomacy and its growing list of proponents, there doesn’t seem to be a broad consensus about what exactly the concept entails.

An initial exploration of the concept, which is expanded upon in the literature review, finds that hydro diplomacy is commonly understood as bilateral or multilateral contact between state actors, and/or non-state actors, over transboundary water resources for the purposes of deterring conflict and promoting cooperation. Intimately linked to hydro diplomacy is the concept of water security, which has been identified as both a ‘founding theory’ and fundamental aim (UNITAR et al. 2013a; Hefny 2011). Hydro diplomacy seemingly has considerable implications for water security, as transboundary water management and cooperation between nations for the development and protection of shared water resources are crucial in the context of water security (UN-Water 2013).
Despite its apparent importance, current research has failed to sufficiently consider the relationship between water security and hydro diplomacy, in particular, how hydro diplomacy may contribute to sustainable water security, and how different approaches to water security may affect the outcomes of hydro diplomacy. This research aims to begin addressing this gap by exploring the relationship between hydro diplomacy, sustainable water security, and securitization.

One of the most oft-cited examples of successful hydro diplomacy is the World Bank’s intervention in the Indus dispute between India and Pakistan, which led to the signing of the 1960 Indus Waters Treaty (IWT) (World Bank 1997; Genderen & Rood 2011; Nakayama 1997). To many, the Bank’s successful intervention in the Indus basin represents the importance of third party involvement in resolving international transboundary water disputes (UNITAR et al. 2013b; Cosgrove 2003; Nakayama 1997).

However, while the World Bank’s intervention in the Indus basin and the signing of the IWT managed to contain the conflict between India and Pakistan and bring about a period of relatively stable cooperation over the Indus waters, the Treaty is proving to be insufficient for addressing the challenges posed by population growth and climate change to water security in the basin (Miner et al, 2009; Sarfraz, 2013).

By developing and applying the Framework of Sustainable Transboundary Water Security, this research analyzes the case study of the World Bank’s third party hydro diplomacy in the Indus basin in order to explore the relationship between hydro diplomacy, water security and securitization, and address the following two research questions:

1. How does third party hydro diplomacy contribute to sustainable water security?
2. How do the dynamics of securitization affect the outcomes of third party hydro diplomacy?

Of course, an analysis of the World Bank’s intervention in the Indus is not sufficient to make any sweeping statements regarding the relationship between hydro diplomacy and water security, especially given the contextual complexity of the case. Rather, this study seeks to emphasize the importance of considering sustainable water security in hydro
diplomacy, and how securitization of water resources may affect hydro diplomacy, rather than attempting to make any definitive statements about the relationship between the concepts.

The following chapter will outline the methodology utilized to carry out this research. Chapter 3 will explore important theories and concepts in the existing literature. Chapter 4 will develop the analytical framework, before it is applied to the case of World Bank hydro diplomacy in the Indus in Chapter 5. Building on the Chapter 5 and concepts from the literature review, Chapter 6 will address research questions 1 and 2. Lastly, conclusions will be offered in Chapter 7.
Chapter 2: Methodology

This study utilizes three methods of qualitative research for data collection and analysis. A review of the relevant scholarly literature surrounding the topic serves as the primary method of data collection, and provides the basis for the study’s analytical framework. The framework is then applied, and the data analyzed by means of a case study. Key informant interviews are utilized for supplemental data collection, and to triangulate and refine the analysis and discussion.

2.1: Literature review

The literature review is used to refine the research questions, develop the analytical framework, identify gaps in research, and situate the analysis and discussion. As Bryman (2008) suggests, the literature review is an important means of developing an argument about the significance of research.

Primo OneSearch is used primarily to find relevant scholarly literature. Literature is initially found by searching for key terms. From there, additional sources are identified from the bibliographies of these texts. Relevant grey literature is accessed via the online databases of the World Bank, United Nations, etc. Additionally, interviewees are asked for literature recommendations. The review covers topics that contribute to the development of the framework, as well as topics crucially linked to the analysis of hydro diplomacy.

2.2: Case study

The use of a case study is crucial to this research as case studies are the preferred approach “when ‘how’ or ‘why’ questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context”; all criteria which are present in this study (Yin, 2003: 1). The researcher applies the framework to the case study of World Bank hydro diplomacy in the Indus Basin, in particular, the negotiation and formulation of the IWT.
Originally the researcher sought to apply the framework to two cases: World Bank hydro diplomacy in the Indus basin, as well as in the Mekong basin. It was thought that a comparison of the two cases could provide meaningful insights into the affect of securitization on outcomes of third party hydro diplomacy. However, profound differences between the cases in terms of hydrology, geopolitics, and the nature of the World Bank’s hydro diplomatic involvement in the two basins made a meaningful, focused comparison unrealistic (World Bank 1997; George & Bennett 2005)(Interviewee C). While multiple case designs are generally considered to be preferable, a single case design focusing on the World Bank’s hydro diplomacy in the Indus basin was considered appropriate due to the uniqueness of the case (Yin 2003). Additionally, the practical constraints of working within a limited word count made a meaningful analysis and comparison of two cases infeasible for this study.

2.3: Interviews

Semi-structured key informant interviews are used primarily as a means of triangulating and refining the analysis and discussion, as well as a method of supplemental data collection. As Robson (2011) points out, semi-structured interviews are commonly used in multi-strategy research designs, and are most appropriate when the interviewer is also the researcher, as is the case here.

Potential interviewees are identified based on their position and expertise, as they relate to hydro diplomacy and closely related topics. Additionally, a number of potential interviewees are identified at the recommendation of the researcher’s supervisor. Once identified, potential interviewees are sent an email to request their participation. The email contains a brief background of the research and the researcher, as well as an attached consent form, which provides further details about what their participation entails. One of the difficulties involved in this method is obtaining cooperation from potential interviewees (Robson 2011).

The discussions are guided by a set of interview questions, which are sequenced, adjusted, or expanded upon depending upon the responses of the interviewee, and the flow of the conversation. The interviews are recorded to ensure that answers to open ended questions are accurately captured, and that the discussion is well documented.
The ethical considerations involved in carrying out interviews are discussed in the Application for Ethical Approval, which can be found in Appendix 2.

2.4: Study limitations

There are a number of limitations on this study, some of which have been touched upon in the previous sections. The single case design of the study is an obvious limiting factor on the strength of the analysis and conclusions, but was determined to be most appropriate given the uniqueness of the case, and constraints in terms of resources, time, and a strict word count (Yin 2003). Additionally, the research could benefit from a broader scope of interviewees, as securing the cooperation of potential interviewees proved difficult.

The main limitation of this research, however, is the reliance on secondary data, as fieldwork was infeasible. Reliance on secondary data is particularly significant in this instance given that a great deal of hydro diplomacy occurs behind closed doors, and the author did not have access to the internal archives of the World Bank (Interviewee B). Transboundary water relations are difficult to research, especially when they are contentious, as Allan and Mirumachi (2010: 21) caution, “The level of difficulty in carrying out research on transboundary waters is directly proportional to the intensity of the contention over shared waters”. Nonetheless, the author did review literature from authors with more privileged and intimate access to the inner-workings of the World Bank, as well as the Indian and Pakistani governments (Alam 2002; Indus Basin Working Group 2013).
Chapter 3: Literature Review

3.1: Hydro Diplomacy

Hydro diplomacy is a rather alluring, yet elusive concept. While many have called for hydro diplomacy as a means of combating transboundary water challenges, the concept lacks comprehensive academic review, and very few have attempted to define it (Doyle 2011; Win 2012; UNESCO 2012). Only a few definitions of hydro diplomacy exist, and they range considerably in their scope and level of prescription. Three key definitions of hydro diplomacy are outlined in Box 3.1 below.

Box 3.1: Definitions of hydro diplomacy

Water diplomacy, also referred to as hydro-diplomacy, can be broadly defined as all contact between (non-) state actors and at least one state or international governmental organizations over transboundary freshwater resources such as lake, river and aquifer basins (Genderen & Rood, 2011: 10).

The purpose of water diplomacy is no other than to put the standard skills and competencies of the diplomatic body to the benefits of challenges posed by the decrease in per capita freshwater quantities as a means to prevent or deter conflict and promote cooperation (UNITAR, 2013: 9).

Water diplomacy uses diplomatic techniques of negotiation, mediation and intercultural communication to promote sustainable development of water resources and transform the potential risk of competing demands and even conflict over water into forms of cooperation that extend beyond water and economics (Hefny, 2011: 26).

Drawing on the definitions above, hydro diplomacy, for the purposes of this study, is understood as: bilateral or multilateral contact between state and/or non-state actors over transboundary water resources for the purposes of deterring conflict and promoting cooperation.

According to Hefny (2011: 21), hydro diplomacy is not merely a theoretical concept, but a process involving “dialogue, negotiation and reconciling conflicting interests among riparian states”, required for facing the challenges involved in the sustainable
management of transboundary waters. Hydro diplomacy can occur at many levels: bilateral, multilateral, basin wide; and can take many forms including scientific and economic cooperation, international treaties and joint institutions (Genderen & Rood 2011).

This research will focus on third party hydro diplomacy, which is understood as hydro diplomacy for the purposes of “aiding or convincing (riparian) states as a part of national (e.g. Netherlands) or organizational (e.g. World Bank) foreign and/or development policy” (Genderen & Rood, 2011: 11). Third parties, including states, international organizations and NGOs are believed to, and often do, play a significant role in hydro diplomacy (Cosgrove 2003; Genderen & Rood 2011; Hefny 2011).

State and non-state actors have played an important role in the negotiation of international water treaties, and the establishment of river basin organizations (Pohl et al. 2014; Genderen & Rood 2011). Such third party hydro diplomacy as an aspect of foreign and/or development policy is likely to play an increasingly prominent role as the international demand for water management and governance expertise continues to grow (Genderen & Rood 2011).

While hydro diplomacy has typically been the domain of technical and development experts, the importance of engaging foreign policy makers is increasingly recognized (Pohl et al. 2014). The interest of foreign policy makers in hydro diplomacy is reciprocal in nature: foreign policy can improve transboundary water governance, and transboundary water governance can advance foreign policy aims (ibid.).

Citing growing water scarcity and the subsequently heightened risk of conflict over water resources, Pohl et al (2014: 41) assert that “The need for and prospective benefits of hydro diplomacy” are on the rise.

3.2: Water scarcity and conflict

The debate around the links between water and conflict has been raging on for years, and seems to be fuelled in part by discrepancies in terminology (Montenegro 2009). Use of the term conflict here is “not necessarily equal to war or a state of effective armed
fighting between parties, but rather a state of incompatible aspirations between parties around the use of water” (UNITAR, 2013: 46).

Water is often emphasized as a key strategic resource in the dominant policy discourse surrounding global security threats (Zala 2013). In fact, three successive UN Secretaries General have made declarations about the potential for competition over scarce water resources to lead to violent conflict (United Nations University 2011).

The relationship between water and conflict became a topic of interest during the broader debates on environmental security in the 1990s (Gleick 1993). Gleick (1993) argued that water resources have historically contributed to interstate conflict, and that such conflicts have the potential to become violent and are increasingly likely, especially in regions with shared water resources. Frey (1993) similarly identified the shared nature of water resources in international river basins as a risk for conflict. Other studies by Ohlsson (2000) and Homer-Dixon (1994) support the determining role of water scarcity in violent conflict but argue that such conflict is more likely to occur at the sub-national, rather than international level.

A number of scholars, including Selby (2005) and Wolf (1998) have since convincingly disputed the deterministic relationship between water and violent conflict. Studies by Yoffe et al (2003) and the UNDP (2006) have found that violent conflict over water between nations is exceptional, and that cooperation over transboundary water resources is far more likely. However, Zeitoun and Warner (2006: 441) have pointed out that “the absence of war does not mean the absence of conflict”. They emphasize that there are varying degrees of water conflicts that fall short of armed violence but are nonetheless destructive (Zeitoun & Warner 2006).

In surveying prominent studies and policy papers of a number of western states concerning national threat analysis, Zala (2013: 275) found that despite the recent trend to emphasize the cooperative potential of water resources, there is an “enduring preoccupation with water and conflict”. He found that two factors were particularly important in framing water issues as a national threat: projections of a rapidly growing global population, and the impacts of climate change (Zala 2013). It is within this context that
hydro diplomacy is being promoted as a strategy for averting potential violent conflict over increasingly scarce water resources (Doyle 2011; Win 2012).

3.3: International Transboundary Water Cooperation

Cooperation over transboundary water resources is the principle aim of hydro diplomacy, and is promoted as a means of deterring conflict between riparian countries (Genderen & Rood 2011; Hefny 2011; UNITAR et al. 2013a).

Cooperating over an international body of water is seen as ideal because treating a basin “as one system allows optimized management and development” (UNITAR, 2013b: 9). This concept is very much in line with the principles of Integrated Water Resources Management (Global Water Partnership 2000a). As Daoudy (2010: 48) points out, basin-wide cooperation is perceived to have positive outcomes including “…flood control, drought mitigation, basin-wide yields of water, hydropower and optimal environmental management”. There are essentially two models for transboundary water cooperation: volumetric allocation, and benefit sharing (Phillips et al, 2006).

Volumetric allocation involves establishing an agreement that allocates a set volume or percentage of transboundary water resources to each of the riparians involved (Phillips et al. 2006). The United Nations Convention on the Law of the Non-navigational Use of International Watercourses, which entered into force on 17 August 2014, is considered by some to be the most authoritative instrument for guiding transboundary water allocations (WWF 2014; Phillips et al. 2006). The UN Convention outlines key three principles to guide the use of transboundary watercourses: equitable and reason use, the avoidance of significant harm, and the prior notification of works which may affect co-riparians (United Nations 1997).

The contributions of Grey and Sadoff are fundamental to the understanding of benefits from transboundary water cooperation, and are particularly relevant to this research given their positions of influence within the World Bank. Furthermore, the framework offered by Grey and Sadoff (2003) to analyze the potential benefits of transboundary water cooperation constitutes a crucial element of the framework developed in Chapter 4.
Grey and Sadoff’s (2003) framework outlines four types of cooperative benefits: benefits to the river, benefits from the river, reducing costs because of the river, and benefits beyond the river. They emphasize that recognizing the widest range of potential benefits is key to motivating cooperation (Sadoff & Grey 2005). Riparians are only likely to cooperate over transboundary waters if the perceived benefits of cooperation outweigh the costs involved (Daoudy 2010; Sadoff & Grey 2005).

Sadoff and Grey (2005) also argue that cooperation in one area, water management in this case, can strengthen cooperative capacity for further undertakings by developing processes, relationships and institutions. This concept of ‘cooperative capacity building’ is tied to the idea that cooperation over transboundary water management can create a ‘spill-over’ effect, acting as a catalyst for cooperation in other sectors, which is often cited as a benefit of, and motivation for, hydro diplomatic initiatives (Genderen & Rood 2011; Hefny 2011).

The concept of benefit sharing, is defined as “any action designed to change the allocation of costs and benefits associated with cooperation” (Sadoff & Grey, 2005: 422). As Daoudy (2010: 48) explains, the way benefits are best shared is “associated with trade-offs and scenarios for optimal use”. Some of the mechanisms involved in benefit sharing include revenue sharing, hydropower trade, preferential electricity rates, compensation for costs, and side payments (Daoudy 2010).

While transboundary cooperation is often promoted as a means of deterring conflict in the context of hydro diplomacy (Genderen & Rood 2011; Hefny 2011; UNITAR et al. 2013a), Zeitoun and Mirumachi (2008) argue that the two phenomena are not mutually exclusive. They assert that conflict and cooperation can co-exist, and that it is indeed this dual nature which characterizes interaction over transboundary waters (Zeitoun & Mirumachi 2008). Furthermore, Zeitoun (2013a) asserts that consideration of this dual nature of transboundary water interaction is crucial for diplomatic efforts which aim to transform or resolve transboundary water conflicts.
3.4: Water Security

Water security is another ambiguous concept with weighty implications for policy that has preoccupied the minds of researchers (Cook & Bakker 2013). It is also crucial to this research. Zeitoun’s (2013b) web of sustainable water security is adapted to serve as the foundation of the analytical framework of this study, and Lankford’s incodys water security model provides an element of inspiration.

Three key definitions of water security are outlined in Box 3.4 below:

**Box 3.4: Definitions of water security**

Water security is defined here as the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water related disasters, and for preserving ecosystems in a climate of peace and political stability (UN-Water, 2013: 1)

...water security is defined here as the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies (Grey & Sadoff, 2007: 545)

Three key elements of water security:
1. Water security is based on three core freedoms: freedom from want, freedom from fear and freedom to live in human dignity
2. Ensuring water security may lead to a conflict of interests, which must be capable of being identified and effectively dealt with at the international, national and local levels
3. Water security, like water, is a dynamic concept, and one that needs clear local champions and sustained stewardship (Wouters, 2005:169)

As Cook and Bakker (2013) observe, definitions of water security have become increasingly diverse and expansive. Whereas initial definitions of water security tended to focus on quantity and quality of water resources, the definitions above encompass other aspects of security, including human and food security (Cook & Bakker 2013). Furthermore, definitions such as Wouters’ (2005) acknowledge that the pursuit of water security may lead to conflict, which must be addressed at different levels: local, national, and international. This concept is crucial to hydro diplomacy as pursuit of water security
at the national level may have ramifications at the sub-national and international levels (UNITAR et al. 2013a).

While many conceptualizations of water security treat security and insecurity as opposites, Lankford (2013: 337), in considering the transition from water insecurity to security, proposes that “there is not a single linear scale between water insecurity and water security”, but rather two directions, and thus two axes for addressing water security: sufficiency and equity. Lankford (2013) thus proposes that there are four states of water (in)security, as follow:

- Insecurity: insufficient water, benefits/harm shared inequitably
- Co-insecurity: insufficient water, benefits/harm shared inequitably
- Co-security: sufficient water, benefits/harm shared equitably
- Dys-security: sufficient water, benefits/harm shared inequitably

The shared nature of benefits and harm acknowledged here is an important consideration for international transboundary water cooperation, and hydro diplomacy. The analytical framework developed in the next chapter attempts to incorporate this element of Lankford’s (2013) incodys water security model.

In response to conceptualizations of water security which over rely on the physical aspects of water resources, insufficiently consider social aspects, and fail to think beyond the watershed, Zeitoun (2013b) developed the conceptual tool of the ‘web of sustainable water security’. The web consists of six interrelated security areas: human/community security, national security, water resources security, food security, energy security and climate security (Zeitoun 2013c). Sustainable water security is then interpreted “as a function of the degree of equitability and balance between the six related security areas, as this plays out within a web of socioeconomic and political forces at multiple spatial levels” (Zeitoun, 2013c: 16).

Zeitoun’s (2013c) conception of sustainable water security builds on the principle of ‘sustainable security’. A ‘sustainable security’ approach to water security, according to Zala (2013: 280), “prioritises the resolution of the interconnected and underlying drivers of insecurity and conflict, with an emphasis on preventative rather than reactive
strategies”. This is in contrast to a ‘national security’ approach, which tends towards a reactionary, control-based approach to symptoms of insecurity (Zala 2013). Zala (2013: 273) argues that a sustainable security approach to water security is most appropriate for basing a “holistic and long-term policy response to water, conflict, and cooperation”. A national security approach to water security, on the other hand, is likely to result in securitization of the issue, a concept which is explored in the following section (Zala 2013).

3.5: Securitization

Securitization involves presenting an issue “as an existential threat, requiring emergency measures and justifying actions outside the normal bounds of political procedure” (Buzan, Wæver, & de Wilde, 1998: 24). Securitization occurs discursively through speech acts that label an issue as a high priority threat (Mirumachi 2013). As Burgess et al (2013: 8) explain, “In the speech act theory of security, the securitizing actor identifies both the referent object of security and the threat that renders it insecure”. However, it is important to distinguish between a securitizing move and effective securitization (Buzan et al. 1998). While a speech act that portrays an issue as a threat to an object of security constitutes a securitizing move, it only becomes securitized once it has been accepted by an audience (Buzan et al. 1998). Thus, as Buzan et al (1998: 25) explain, “the exact definition and criteria of securitization is constituted by the intersubjective establishment of an existential threat with a saliency sufficient to have substantial political effects”.

Phillips et al (2006) have observed a global trend toward the securitization of water resources, which links water issues to national security concerns, and is a part of the larger trend of securitization of the environment (Clement 2013). The role of the securitizing actor is key, as their perspective shapes the perception of threats (Phillips et al. 2006). Burgess et al (2013: 10) explain that under state-based securitization, the state “presents itself as under threat by virtue of the threat to water that the state uses, needs or wants”. Buzan et al (1998) point out that issues may be securitized not only by state actors, but by non-state actors as well. Burgess et al (2013:10) claim that, “The primary attempts at securitizing water stem from UN organizations, nongovernmental organizations (NGOs), aid agencies and others”. It has been proposed that these actors
may have a greater incentive to purposefully securitize water issues in order to capture policymakers’ attention, and propel water issues “to the top of international policy and aid agendas” (Clement, 2013: 156; Fischhendler & Katz, 2012).

The securitization of water issues has considerable implications for water security. As Zeitoun et al (2013: 3) note, a securitized approach to water issues may involve “safeguarding the resource in volumetric terms from others, and is often associated with the desire to eliminate risk and variability”. They argue that such an approach, which achieves water security for some at the expense of others, cannot be considered sustainable water security (Zeitoun et al. 2013). Leb and Wouters (2013: 41) also understand securitization as an obstacle to water security, and proclaim that “cooperation and not securitization is at the heart of achieving effective water security”.

On the other hand, Mirumachi (2013) and Phillips et al (2006) have established that in some instances, the securitization of water resources management and governance has led to the establishment of international agreements over transboundary waters. However, Mirumachi (2013) advises that critical inquiry into the quality of such agreements is needed, and Phillips et al (2006) warn, while securitization may lead to international transboundary water cooperation, the scope of such cooperation will be constrained by the dynamics of securitization.
Chapter 4: Framework of Sustainable Transboundary Water Security

Building on concepts covered in the literature review, this chapter develops the Framework of Sustainable Transboundary Water Security for analysis of the contribution of third party hydro diplomacy to sustainable water security, as well as the effects of securitization on the outcomes of third party hydro diplomacy. Elements of Sadoff and Grey’s (2003) cooperative benefits framework, Zeitoun’s (2013c) web of sustainable water security, and Lankford’s (2013) incodys water security model are combined to provide the basis of the framework. Each element is discussed in turn, followed by a discussion of the potential limitations of the framework.

4.1: Sadoff and Grey’s cooperative benefits framework

Drawing from their experience with the World Bank, Sadoff and Grey (2003) offer an analytical framework for examining the extent of potential benefits from the cooperative management of international transboundary rivers. The framework outlines four types of cooperative benefits:

1. \textit{Increasing benefits to the river}: Cooperation over the management of transboundary rivers at the basin level can contribute to the health of ecological systems, which in turn benefit river uses and users.
2. \textit{Increasing benefits from the river}: Managing a river at the basin level can increase the quality, the available quantity and economic productivity of transboundary waters.
3. \textit{Reducing costs because of the river}: Cooperation over transboundary rivers can result in savings by reducing the costs of non-cooperation and potential disputes.
4. \textit{Increasing benefits beyond the river}: Cooperation over transboundary rivers may contribute to other forms of regional cooperation, which can generate economic and political benefits ‘beyond the river’.

Sadoff and Grey (2003: 396) stress that understanding the potential benefits of cooperation is essential, because the interests of the actors involved are “commonly not the water itself – but rather the benefits and opportunities they hope to obtain from
access to that water”. Genderen and Rood (2011: 10) point out that “water diplomacy, when seen as bi- or multilateral contact with the goal of cooperation” can potentially lead to the four types of benefits outlined in the framework, thus Sadoff and Grey’s (2003) framework is easily adapted to examine the benefits of hydro-diplomacy.

4.2: Zeitoun’s web of sustainable water security

In discussing diplomacy for water security, Zeitoun (2012) asserts that rather than short term national water security, effective hydro diplomacy should consider the goal of sustainable water security as a tool for conflict resolution. In contrast to short-term national water security, sustainable water security “is guided by ‘balance’ in use of the natural ‘security resources’ and by ‘equitability’ of distribution of benefits and risks amongst the concerned social groups” (Zeitoun, 2012: 41-42).

Adapted to a framework, the web provides a lens for viewing how hydro diplomacy contributes to, and is balanced amongst, the interrelated security areas. The security areas of the web adequately capture the potential benefits of hydro diplomacy outlined by Sadoff and Grey (2003) and illuminate gaps in policy. Additionally the lens of the web provides a basis from which to evaluate to what extent hydro diplomacy takes a ‘national security’ or ‘sustainable security’ approach to water security (Zala 2013).

Figure 1: The web of sustainable water security from (Zeitoun 2012)
While the web provides a relatively holistic conception of the security areas related to water, environmental security is not explicitly addressed. Cook and Bakker (2013) note that sustainability, which entails the balance of human and environmental needs, is a common theme in definitions of water security. As the Global Water Partnership (2000b) explains, water security means that human needs are adequately met “while ensuring that the natural environment is protected and enhanced”. Environmental management is considered to be a fundamental aspect of river basin management and development, and thus is an important consideration for the analysis of international transboundary water cooperation (Sadoff & Grey 2003). Therefore, for the purposes of the framework, the web of sustainable water security has been expanded to include environmental security.

4.3: Incodys inspiration

Equitability is suggested as a guiding principal of sustainable water security (Zeitoun 2013c). The framework attempts to incorporate the analysis of this element of sustainable water security by borrowing the concept of the ‘equity axis” from Lankford’s incodys water security model. The distinction between co-security and dys-security is useful here for differentiating between benefits of hydro-diplomacy that are shared equitably amongst actors and benefits that are shared inequitably. As the framework considers how hydro diplomacy aims to contribute to water security in a positive sense, benefits of hydro diplomacy can then be categorized as contributing to ‘co-security’ when benefits are shared equitably or ‘dys-security’ when benefits are shared inequitably. While the framework does not utilize the ‘equity axis’ in the hydro-physical sense that Lankford intended, it is nonetheless applicable.

4.4: Applying the framework

The framework is displayed in the matrix on the following page (Table 4.1). The matrix may be filled out by considering case specific benefits of hydro diplomacy, and how each type of benefit contributes to each security area. Depending of the degree of equitability, benefits of hydro diplomacy can be classified as contributing to co-security, or dys-security.
<table>
<thead>
<tr>
<th>Security area</th>
<th>Type 1: Benefits of diplomacy to the river</th>
<th>Type 2: Benefits of diplomacy from the river</th>
<th>Type 3: Reducing costs because of the river through diplomacy</th>
<th>Type 4: Benefits of diplomacy beyond the river</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human/Community Security</td>
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<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
</tr>
<tr>
<td></td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
</tr>
<tr>
<td>National Security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
</tr>
<tr>
<td></td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
</tr>
<tr>
<td>Water Resources Security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
</tr>
<tr>
<td></td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
</tr>
<tr>
<td>Food Security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
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<tr>
<td></td>
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<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
</tr>
<tr>
<td>Energy Security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
</tr>
<tr>
<td></td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
</tr>
<tr>
<td>Climate Security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
</tr>
<tr>
<td></td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
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</tr>
<tr>
<td>Environmental Security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
<td>Co-security</td>
</tr>
<tr>
<td></td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
<td>Dys-security</td>
</tr>
</tbody>
</table>

Table 4.1: Framework of Sustainable Transboundary Water Security
4.5: Potential limitations of the framework

Perhaps the greatest limitation of the framework is that it does not adequately address scale. Scale is an important consideration for the analysis of hydro diplomatic outcomes, as Zeitoun (2013a: 143) points out, in the realm of international transboundary waters, “any and all actions and decisions will reverberate for states, communities and individuals across space and across time”. For instance, some cooperative benefits of hydro diplomacy may contribute to energy co-security at the international level, yet contribute to energy dys-security at the sub-national level. While the framework does address national security and human security, it does not explicitly facilitate the analysis of security areas at different scales. While consideration is still given to security at different scales, the analysis may tend towards the level with most adequate data. Thus in subsequent applications, the framework may provide greater utility when applied at specific scales.

Another potential limitation of the framework is its compartmentalized nature, as it does not inherently facilitate the analysis of interdependencies between the different security areas, which are a crucial element of the web of sustainable water security (Zeitoun 2013c). While the framework addresses each security area in turn, it does not naturally draw out the interdependencies between them, hence the analysis of hydro diplomatic outcomes may require elaboration, and involve a certain degree of redundancy.
Chapter 5: Analysis

By applying the Framework of Sustainable Transboundary Water Security developed in Chapter 4, this chapter analyzes the case of the World Bank’s third party hydro diplomacy in the Indus basin.

5.1: World Bank hydro diplomacy

To date, the World Bank has been the most active donor and facilitator in transboundary water cooperation (Genderen & Rood, 2011). The Bank’s goals of “economic development, poverty alleviation, and sustainable environment” are intimately tied to the resolution of riparian conflicts and effective cooperation over the development of transboundary water resources (World Bank, 1997: vi). The Bank has been significantly involved in third party hydro diplomacy in the Indus, Nile, Mekong and Euphrates river basins (Genderen & Rood, 2011). The Bank’s intervention in the Indus basin is considered to be amongst its greatest hydro diplomatic successes, and thus provides an excellent case study for an analysis of hydro diplomacy’s contribution to sustainable water security.

5.2: Indus river basin

5.2.1: Context

The waters of the Indus Basin, located in Northwest India and Pakistan are crucial for irrigated agriculture in the region and have long been a source of dispute (Wolf & Newton, 2010). Even prior to independence, the states of Punjab, Sind, Bahawalpur and Bikaner were at odds over the utilization of the waters (Salman & Uprety, 2002). When India and Pakistan gained independence from Great Britain in 1947, the border created between the two newly independent countries was drawn primarily along religious lines, separating the areas settled by Muslims and Hindus (Clemens, 2005). But with inadequate consideration given to water resources, the new political boundary was drawn across the Indus basin, effectively making India the upstream riparian, and Pakistan the downstream riparian on five of the six rivers in the Indus Basin (Salman &
Uprety 2002). India was effectively given control of “the upper reaches of the Indus tributaries in addition to much of the irrigation infrastructure constructed by the British” (Wolf & Newton, 2010: 195). What was formally an issue between states became an international dispute (Salman & Uprety 2002).

Following partition, the chief engineers from East Punjab (India) and West Punjab (Pakistan) signed a temporary Standstill Agreement, which stipulated that “the status quo would be maintained with regard to water allocation in the Indus Basin irrigation system” until the end of the current crop on 31 March, 1948 (Salman & Uprety, 2002: 42). However, after the expiration of the Standstill Agreement, India “blocked the course of the Ravi river at the Madhapur dam, and that of the Sutlej at the Ferozepur dam” on 1 April 1948, effectively cutting off water to Pakistani canal networks branching off of these dams, depriving them of irrigation waters at a crucial time (Clemens, 2005: 60). This act precipitated the formal dispute between the two countries (Biswas 1992).

5.2.2: Securitization of Indus waters

While Biswas (1992) stresses that there were likely multiple, differing motivations for the incident of 1 April 1948, Michel (1967: 197) contends, “…the canal closures of April 1948 were an assertion of India’s claim to all the water in all the rivers that flowed through her territory”. According to Sinha et al (2012: 736), the event signified Pakistan’s awakening to its “geographical vulnerability and water dependency on India”. Such threat perception, according to Phillips et al (2006: 176), is a key variable of securitization, because of its “capacity to link issues of national security with perceptions of growing water scarcity”.

Alam (2002: 347) highlights how during the subsequent negotiations over the Indus basin, politicians from Indian and Pakistan made a number “bellicose statements” in public, which meet the criteria of securitizing speech acts (Buzan et al. 1998). For instance, in regards to the threat posed by India’s development of the Indus waters, and the possibility that water to Pakistan would be cut off, Pakistani Prime Minister Hussain Suhrawardy stated that:
“… if it does so without replacement, it is obvious that we shall be starved out and people will die of thirst. Under those circumstances… you can well realise that rather than die in that manner, people will die fighting” (Alam, 2002: 347-348).

While Alam (2002) questions whether or not India or Pakistan ever intended to actually go to war, he asserts that such statements were used to “generate domestic support for a political position”, constituting the ‘audience acceptance’ element of successful securitization (Buzan et al. 1998).

According to Leb and Wouters (2013: 27), the negotiations over the Indus basin, which culminated in the signing of the Indus Waters Treaty “facilitated and resulted in a sustained process of desecuritization of the Indus waters” which increased water security for both India and Pakistan. However, as Alam (2002: 350) observes, “the nature of the Indo-Pakistan cooperation was shaped by the wider tensions between the two countries”.

5.2.3: World Bank involvement

The World Bank acted as a neutral third party to facilitate the drafting and signing of the Indus Waters Treaty by offering its offices to India and Pakistan to jointly create a joint management plan, by proposing the solution of dividing the rivers of the Indus Basin when the negotiations stalled, and by mobilizing the finances necessary for implementation from donor countries (World Bank 1997). The establishment of the Indus Waters Treaty is considered by many in academic and policy circles to be an excellent example of the successful resolution of an international water conflict through third party hydro diplomacy (Salman & Uprety 2002; Genderen & Rood 2011; Clemens 2005; World Bank 1997; Biswas 1992). The Indus Water Treaty (1960) will serve as the basis for analysis in the following section.

5.3: Application of framework

This section is split into the ‘security’ areas of the framework to examine how the IWT generates cooperative benefits, and how they contribute equitably or inequitably to sustainable water security in the Indus basin.
5.3.1: Water resources security

The primary feature of the IWT is the territorial division of the water resources of the Indus basin between its Eastern and Western Rivers (Miner et al. 2009). Article II (1) of the IWT grants control of the three Eastern rivers (Sutlej, Beas, and Ravi) to India, while Article III (1) grants Pakistan control of the three Western rivers (Indus, Jhelum and Chenab). The benefits to water resources security from the IWT are classified as Type 3, as the Treaty provides Pakistan with the means to control its own water resources, and absolves India of the burden of the conflict (Salman & Uprety 2002). As Wolf and Newton (2010) point out, the IWT is viewed as an example of a negotiation process which led to successful independent water resource management rather than successful transboundary management. Although by dividing the Eastern and Western rivers the IWT effectively allocates approximately seventy-nine of the total volume of the Indus basin waters to Pakistan, and only approximately twenty-one percent to India, the IWT is widely viewed to contribute equitably to long term access to water resources in India and Pakistan, thus qualifying as co-security (Clemens 2005; Miner et al. 2009; Salman & Uprety 2002; Alam 2002).

5.3.2: National security

Processes for settling disputes are centrally featured in the IWT, and highlight the Treaty’s emphasis on national security. Article VIII (1) of the IWT establishes the Permanent Indus Commission (PIC), which consists of two commissioners, one appointed by India and the other by Pakistan. The Commissioners are tasked with maintaining and promoting cooperation between the parties, and act as a ‘first line’ for examining disputes (Salman & Uprety 2002) (IWT, Article VIII).

In the case of differences and disputes, Article IX of the IWT outlines a detailed process for their settlement. The Treaty provides a step-by-step approach for resolving issues “first through the commission, then by a neutral expert appointed by the World Bank… and then by the PCA” (Sarfraz, 2013: 211). Interviewee C noted that an effective conflict resolution mechanism, such as the one featured in the IWT, is a crucial aspect of a treaty for maintaining relations between riparians. The IWT, and Article IX in particular
contribute to national co-security between India and Pakistan by providing Type 3 benefits, which reduce tensions over the river. As Sarfraz (2013: 213) observes, “throughout the treaty, mutual agreement and consensus building have been emphasized, laying foundations for the peaceful coexistence of the riparian states”.

Additionally, control over access to water resources is a vital aspect of national security, thus Articles II (1) and III (1) of the IWT, which equitably grant control over the Indus basin waters to India and Pakistan, contribute to national co-security (Clemens 2005; Alam 2002). The fact that the Treaty has survived three wars between India and Pakistan, during which the Commission continued to meet regularly, is a testament to the IWT’s contribution to national water security for both India and Pakistan (Miner et al. 2009; Sarfraz 2013).

5.3.3: Human/community security

Article II (1,2) of the IWT allocates the Eastern rivers of the Indus system to India and obliges Pakistan to let the rivers flow without interference, while Article III (1,2) allocates the Western rivers to Pakistan and obliges India to let them flow without interference. However, these allocations are not absolute, as the IWT allows Pakistani and Indian citizens to take water respectively from the Eastern and Western rivers for domestic use (including household, municipal, and industrial purposes), non-consumptive use (including navigation, flood control, fishing, and wildlife protection) and restricted levels of irrigation use which are outlined in Annexures B and C (Miner et al. 2009). In this sense, the IWT generates Type 3 benefits of cooperation, which contribute to human/community security in India and Pakistan. However, the Treaty does not include any mechanisms for addressing issues of water quality, which are linked to significant adverse health impacts in India and Pakistan (Miner et al. 2009; Burgess et al. 2013).

Additionally, the IWT has created a number of internal conflicts at the sub-national level in India and Pakistan, as some groups feel excluded from, or disadvantaged by the Treaty (Pohl et al. 2014). For instance, the IWT has caused resentment in the Indian state of Jammu and Kashmir, as the three rivers that run through the state are allocated for Pakistan’s use (Swain 2013; Sinha 2010). In fact, the state legislature in Jammu and Kashmir “passed a near unanimous resolution in 2002 calling for a review and
annulment of the Indus treaty” (Swain, 2013: 8). Therefore at the human/community level, the Type 3 cooperative benefits of allocating the Eastern rivers to India, and the Western rivers to Pakistan contribute to dys-security.

5.3.4: Energy security

The IWT allows India and Pakistan to independently develop hydropower on their respective rivers in a manner which does not cause any material damage to the other party, as far as practicable, thus contributing to energy security through Type 2 and Type 3 benefits (IWT, Article IV, 9) (Salman & Uprety 2002). However, opportunities for hydropower generation afforded by the IWT are not distributed equitably. For instance, politicians in the Indian state of Jammu and Kashmir claim the IWT has constrained their ability to harness hydropower. The Jhelum, Chenab and Indus rivers, all of which are allocated to Pakistan under the IWT, flow through Jammu and Kashmir, so the state “must seek permission from Pakistan before any reservoir construction” (Miner et al., 2009: 209). Of the potential 7,500 MW of hydropower that could be generated in Jammu and Kashmir, India is only harnessing 1,361 MW (Miner et al. 2009). Consequently, energy starvation is hampering economic development in the state (Swain 2013). Therefore, the IWT contributes to energy dys-security in the basin through Type 2 and Type 3 benefits.

5.3.5: Food security

Agriculture in the Indus basin is heavily dependent upon irrigation, and is of vital importance to both India and Pakistan (Alam 2002; Miner et al. 2009; Clemens 2005). Articles II and III of the IWT, which divide the rivers of the Indus basin between India and Pakistan, and as previously mentioned contribute to water resources co-security by reducing the costs of potential disputes, also contribute to food security through Type 2 and Type 3 benefits by ensuring a secure source of water for the countries’ irrigation needs. Additionally, Articles IV and V of the IWT stipulate the construction of a system of works in Pakistan to replace water supplies for irrigation canals that were formerly dependent upon water from the Eastern rivers (IWT). However, critics argue that in the Indian state of Jammu and Kashmir, the IWT has constrained irrigation to only 40% of cultivatable land, in much the same way that the Treaty has constrained the
development of hydropower in the state (Sinha et al. 2012). Thus the IWT is deemed to contribute to food dys-security in the basin.

5.3.6: Climate security

Article IV (2) of the IWT allows for the independent development of schemes for flood control and protection, so long as material damage to the other party is avoided as far as practicable. Additionally, Article IV (8) of the Treaty stipulates information sharing between the two parties concerning extraordinary discharges and flood flows. While these measures contribute to climate co-security through Type 3 benefits, they are not designed to explicitly address the impacts of climate change. Climate variability and uncertainty are not explicitly addressed in the IWT (Sarfraz 2013). As Miner et al (2009: 211) point out, the IWT “does not create mechanisms to address issues not specified in the treaty per se, such as … changes in flow due to climate change … or rainfall variability”.

5.3.7: Environmental security

Sarfraz (2013: 212) points out that an obvious shortcoming of the IWT “is in the area of environmental protection, preservation and management”. While Article IV (10) of the Treaty stipulates that each party will prevent undue pollution as far as practicable, the IWT does not contain any mechanisms for addressing issues of water quality (Miner et al. 2009; Indus Basin Working Group 2013). As the downstream riparian, Pakistan suffers disproportionally from the industrial and agricultural pollution which flows across the border from India (Miner et al. 2009). Thus, the pollution provision under the IWT contributes marginally to environmental dys-security through Type 1 benefits. Beyond the restrictions placed on pollution in Article IV (10), the IWT does not include any considerations for the protection of the environment. Neither transboundary environmental impact assessments, nor the maintenance of environmental flows, which are necessary to maintain ecosystems and the benefits derived from them, are addressed under the Treaty (Sarfraz 2013). Therefore, the Treaty’s contribution to environmental security is deemed to be minimal.
Chapter 6: Discussion

Building on the literature review and the findings from the case study analysis in Chapter 5, this chapter addresses research questions 1 and 2.

6.1: Research question 1: How does third party hydro diplomacy contribute to sustainable water security?

In order to evaluate how World Bank hydro diplomacy contributed to sustainable water security in the Indus basin, the author developed and applied the Framework of Sustainable Transboundary Water Security. The summary results of the analysis are displayed in Table 6.1 below.

<table>
<thead>
<tr>
<th>Security area</th>
<th>IWT Articles</th>
<th>Benefit Types</th>
<th>Equitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water resources security</td>
<td>Article II, Article III</td>
<td>Type 3</td>
<td>Co-security</td>
</tr>
<tr>
<td>National security</td>
<td>Article VIII, Article IX, Article II, Article III</td>
<td>Type 3</td>
<td>Co-security</td>
</tr>
<tr>
<td>Human/Community security</td>
<td>Article II, Article III</td>
<td>Type 3</td>
<td>Dys-security</td>
</tr>
<tr>
<td>Energy security</td>
<td>Article IV</td>
<td>Type 2, Type 3</td>
<td>Dys-security</td>
</tr>
<tr>
<td>Food security</td>
<td>Article II, Article III, Article IV, Article V</td>
<td>Type 2, Type 3</td>
<td>Dys-security</td>
</tr>
<tr>
<td>Climate security</td>
<td>Article IV</td>
<td>Type 3</td>
<td>Co-security</td>
</tr>
<tr>
<td>Environmental security</td>
<td>Article IV</td>
<td>Type 1</td>
<td>Dys-security</td>
</tr>
</tbody>
</table>

Table 6.1: Analysis summary
Sustainable water security is interpreted as “a function of the degree of equitability and balance” between the interrelated security areas, thus an analysis of balance and equitability here reaps considerable insight (Zeitoun, 2013c: 16).

As a whole, the benefits of the IWT are not well balanced amongst the security areas. The Treaty clearly prioritizes, and contributes most significantly to the areas of national security and water resources security, by establishing an effective conflict resolution mechanism, and by granting India and Pakistan control over their own water resources. While the IWT does contribute to energy security and food security, it largely does so by virtue of granting India and Pakistan respective control over the Eastern and Western rivers for their own independent development. The treaty contributes to human/community security to an extent by allowing for domestic, non-consumptive and limited irrigation use by Indian and Pakistani citizens, but falls short in addressing issues of water quality. Finally, apart from nominal measures for pollution and flood control, the IWT fails to contribute significantly to either climate security or environmental security in the basin.

To a large degree, the benefits of the IWT are not distributed equitably. By providing a comprehensive and neutral dispute resolution mechanism, and granting the riparians independent control over their water resources, the Treaty is judged to contribute equitably to national security. Similarly, by splitting the Eastern and Western rivers of the basin between India and Pakistan, the Treaty contributes to water resources co-security. However, the solution of splitting the rivers disadvantages certain areas, especially the Indian state of Jammu and Kashmir, and contributes inequitably to energy, food, and human/community security in the basin. While the impact of Article IV (10) on pollution control is seemingly negligible, it nonetheless contributes to environmental security for the upstream riparian, India, more so than Pakistan. Additionally, the IWT contributes equitably to climate security, although only to a minor degree.

Due to the inequitable, and imbalanced manner in which the IWT contributes to the interrelated security areas, World Bank hydro diplomacy in the Indus basin is judged to make a limited contribution to sustainable water security.
The concept of ‘sustainable security’, an important principle for sustainable water security, “prioritises the resolution of the interconnected and underlying drivers of insecurity and conflict” with an emphasis on preventative strategies (Zala, 2013: 273; Zeitoun, 2013c). Hydro diplomacy is often promoted as a strategy for averting conflict over increasingly scarce water resources, the predominant threats for which are commonly identified as the demands of a rapidly growing population, and the physical effects of climate change (Doyle 2011; Win 2012; Zala 2013). Although it is likely due in part to the fact that these threats had not yet emerged at the time of its negotiation, the IWT seems to be “…inadequate in its ability to address climatic variability and hydrological uncertainty … and the exigencies of growing demand, driven by significant increase in population” (Sarfraz, 2013: 205). Thus the IWT fails to take a ‘sustainable security’ approach to water security.

Rather, it seems that World Bank hydro diplomacy in the Indus basin takes a ‘national security’ approach to water security. A ‘national security’ approach to water security attempts to control, and tends to react to the symptoms of insecurity (Zala 2013). The predominant features of the IWT, being the division and control of the Eastern and Western rivers between India and Pakistan, and the comprehensive conflict resolution mechanism, seem to be designed for controlling, and reacting to symptoms of insecurity. Such an approach limits the prospects for meaningful international transboundary water cooperation (Zala 2013). As Wolf and Newton (2010: 196) point out in reference to the Indus, “recognizing that the most important issue is control by each state of its own resource, precludes the benefits that can be derived from co-management of water resources”. By limiting meaningful cooperation over transboundary waters, a ‘national security’ approach fails to contribute to sustainable water security. As Interviewee F so eloquently expressed:

“…being able to truly consider the value of cooperation around water, especially in transboundary settings, is clearly the top condition towards guaranteeing peaceful, just and sustainable measures be undertaken for the sake of preserved water security”.
6.2: How do the dynamics of securitization affect the outcomes of third party hydro diplomacy?

Interviewee E notes that the securitization of water resources could serve to motivate third party hydro diplomacy. The World Bank’s intervention in the Indus dispute was spearheaded by Bank President, Eugene R. Black, who was inspired by an article written on the Indus dispute by the former Chairman of the Tennessee Valley Authority, David E. Lilienthal (World Bank 1997). In his article, Lilienthal described the Indus dispute as “a dangerous power-keg which could explode anytime”, and proposed that India and Pakistan jointly develop the Indus basin with assistance from the World Bank in order to resolve the conflict over the basin (World Bank 1997; Lilienthal 1966). As Alam (2002: 344) notes, the World Bank offered its offices for mediation of the dispute as it became a “potential flashpoint” for conflict. It is argued here that securitization, being “the intersubjective establishment of an existential threat with a saliency sufficient to have substantial political effects”, served, at least in part, to motivate third party hydro diplomacy in the Indus basin (Buzan et al., 1998: 25).

In regards to transboundary water interactions, Mirumachi (2013) claims that securitization can lead to cooperation when international agreements offer a way out of the perceived existential threat. In the case of the Indus, World Bank hydro diplomacy offered a way out of the crisis for both parties, as signing the IWT ensured that “both countries were able to safeguard their long term water supplies” (Alam, 2002: 347). Mirumachi (2013) emphasizes that while securitization of transboundary waters may lead to cooperation in such instances, the quality of such cooperation should not be overlooked.

When the World Bank initially intervened in the Indus dispute, they proposed a plan, based on Lilienthal’s suggestion, to develop the Indus basin as a single hydrological unit to be jointly administered by India and Pakistan (World Bank 1997). However, it became apparent during the negotiations that very little was agreed upon between the two parties, and neither one was willing to sacrifice sovereign control over their water resources to the extent necessary for joint development (World Bank 1997; Salman & Upreti 2002). While Phillips et al (2006: 176) contend that, “securitization dynamics do not allow anything other than agreement on specific volumetric allocations”, in the case
of the Indus, India and Pakistan weren’t even able to agree on that much (Wolf & Newton 2010).

Interviewee A pointed out that hydro diplomacy is often about “how you get to ‘yes’ between various stakeholders who have very different interests and motivations”. In order to secure an agreement between the two basin countries, the World Bank discarded their plan to develop the basin as a single hydrological unit, and proposed a solution based on the division of the rivers of the Indus basin between the two nations (World Bank 1997; Nakayama 1997). In this case, the World Bank had to settle for a sub-optimal solution to the conflict in order to ‘get to yes’ (Wolf & Newton 2010).

As Salman and Uprety point out (2002: 122), “Ignoring the logic of integral unity of river basins and common stakes in the optimal progress of upper riparian and lower riparian partners is self-destructive”. In the case of the Indus, it seems that dynamics of securitization contributed to the infeasibility of joint development of the basin by India and Pakistan, thus constraining the potential benefits of cooperation.
Chapter 7: Conclusion

International transboundary waters tie nations, communities, individuals and the environment together in a complex web of interrelated security areas, which depending on the degree of equitability and balance between them, can contribute to sustainable water security. It is argued here that sustainable water security should be a central consideration of hydro diplomacy to reduce the likelihood of conflict and contribute to meaningful forms of cooperation in international transboundary basins.

As hydro diplomacy is increasingly being proposed as a strategy for addressing the challenges of transboundary water governance, this research sought to explore the connections between hydro diplomacy, water security, and securitization. By applying the Framework of Sustainable Transboundary Water Security to the case of World Bank hydro diplomacy in the Indus basin, the following two research questions were addressed:

1. How does third party hydro diplomacy contribute to sustainable water security?
2. How do the dynamics of securitization affect the outcomes of third party hydro diplomacy?

While the World Bank’s intervention in the Indus basin and negotiation of the IWT is often praised as an exceptionally effective instance of third party hydro diplomacy, it is becoming increasingly evident that the IWT is insufficient for facing the challenges posed by climate change and rapid population growth (Sarfraz 2013).

Analysis of the case found that the IWT contributes to the interrelated security areas in an imbalanced, inequitable manner, thus failing to contribute meaningfully to sustainable water security in the basin. Rather, it was found that the Treaty takes a 'national security' approach to water security which predominately features reactionary, control-based measures for addressing insecurity. Such an approach limits the scope of benefits from cooperation, and is insufficient for addressing the underlying drivers of conflict. Therefore, it is recommended that a sustainable water security approach to hydro diplomacy is more appropriate for addressing the underlying drivers of conflict and broadening the scope of cooperative benefits.
Additionally, the case of the Indus dispute demonstrates that securitization of water issues can potentially motivate third party hydro diplomacy and lead to agreements on international transboundary waters. However, such securitization also has the potential to constrain the scope and benefits of cooperation. These findings have considerable implications for the states, international organizations, NGOs and UN agencies that are actively involved in third party hydro diplomacy (Genderen & Rood 2011). While these actors may have the incentive to use securitizing language in order to catch the attention of policymakers, Fischhendler and Katz (2012: 335) caution that the use of such “…security jargon could have a profound effect on willingness to cooperate, to sacrifice, and even to negotiate and debate”.

References


# Appendix 1: Details of Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Expertise</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Academic with research interests in transboundary water conflict and cooperation, water governance, environmental security</td>
<td>23/07/2014</td>
</tr>
<tr>
<td>B</td>
<td>Academic with research interests in food-energy-environment-water nexus, environmental security and governance, environment policy</td>
<td>24/07/2014</td>
</tr>
<tr>
<td>C</td>
<td>Academic with research focusing on issues relating transboundary water resources to political conflict and cooperation</td>
<td>31/07/2014</td>
</tr>
<tr>
<td>D</td>
<td>Representative from a security think tank, working on topics including: foreign and security policy, peacebuilding and conflict, energy resources</td>
<td>11/08/2014</td>
</tr>
<tr>
<td>E</td>
<td>Representative from a water think tank, with expertise in water management in arid regions, environmental policy formulation, monitoring and control of water pollution</td>
<td>18/08/2014</td>
</tr>
<tr>
<td>F</td>
<td>Independent consultant involved in water diplomacy training module</td>
<td>24/08/2014</td>
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</table>
Appendix 2: Application for Ethical Approval

Ethical Approval was granted on 2 July 2014.

<table>
<thead>
<tr>
<th>APPLICANT INFORMATION</th>
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<tbody>
<tr>
<td>Forename</td>
<td>Tyler</td>
</tr>
<tr>
<td>Surname</td>
<td>Farrow</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Student ID number (if applicable)</td>
<td>100060631</td>
</tr>
<tr>
<td>Contact email address</td>
<td><a href="mailto:Tyler.Farrow@uea.ac.uk">Tyler.Farrow@uea.ac.uk</a></td>
</tr>
<tr>
<td>Date application form submitted</td>
<td>10/06/2014</td>
</tr>
<tr>
<td>1st application or resubmission?</td>
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<th>PROJECT INFORMATION</th>
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*DEV/DEVco faculty or DEVco research associate applications only:*

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*Submitted by SSF or DEVco?*

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<tbody>
<tr>
<td>Name of supervisor(s)</td>
<td>Position held</td>
</tr>
<tr>
<td>Mark Zeitoun</td>
<td>Reader</td>
</tr>
<tr>
<td>Signature (supervisor of student)</td>
<td>Date</td>
</tr>
</tbody>
</table>
1. OVERVIEW OF THE STUDY

Describe the purposes of the research/project proposed. Detail the methods to be used and the research questions. Provide any other relevant background which will allow the reviewers to contextualise your research or project activities. Include questionnaires/checklists as attachments, if appropriate.

Hydro diplomacy can be defined as “all contact between (non)state actors and at least one state or international governmental organization over transboundary freshwater resources such as lake, river and aquifer basins”. In light of a growing population and increasing freshwater scarcity, hydro diplomacy is being advocated as an approach to increase cooperation, and decrease the likelihood of conflict in water scarce regions of the world. Hydro diplomacy is an appealing concept, and thus is gaining considerable attention from donors and international organizations. However, whether or not hydro diplomacy can contribute to sustainable water security and decrease the likelihood of conflict remains relatively untested. This research will analyze will analyze the theory that supports the concept of hydro diplomacy, as well as more prominent examples of it’s implementation to determine how, and in what ways it can contribute to sustainable water security.

The literature review will investigate publications on transboundary water cooperation, environmental conflict resolution, and diplomacy. Case studies will be determined upon further desk based research as well as email, skype, telephone and possibly in-person interviews (in the UK) with experts in the field or other key-informants.

My research will focus on the following questions:

1. Do policies of hydro diplomacy further contribute to the securitization of water resources?
2. Are hydro diplomatic efforts a valid strategy for countering hegemony?
3. Do hydro diplomatic efforts have the potential to entrench hegemony in regions?
4. Is increased cooperation over water resources a cause, or a symptom of greater stability and the avoidance of conflict?
5. Do hydro diplomatic efforts address the potential for intrastate conflict?
6. Are policies of hydro diplomacy best carried out through state, bilateral, or multilateral arrangements?
7. What are the elements of ‘best practice’ for hydro diplomacy, to enhance water security?

My interview questions have not yet been determined, but as discussed with my supervisor, Mark Zeitoun, they will be derived from my research questions and developed as my research progresses.
2. SOURCES OF FUNDING

The organisation, individual or group providing finance for the study/project. If you do not require funding or are self-funded, please put ‘not applicable’

Not applicable

3. RISKS OR COSTS TO PARTICIPANTS

What risks or costs to the participants are entailed in involvement in the study/project? Are there any potential physical, psychological or disclosure dangers that can be anticipated? What is the possible benefit or harm to the subject or society from their participation or from the study/project as a whole?

What procedures have been established for the care and protection of participants (e.g. insurance, medical cover) and the control of any information gained from them or about them?

There is relatively little risk posed to key informants as they are already involved in the study of hydro diplomacy, and their positions are established and known. To mitigate the potential for negative feedback from participation, I will ensure that participants know they have the right to opt out at any point in the process. I will also clarify that any data or opinions records will be kept confidential.

4. RECRUITMENT/SELECTION PROCEDURES

How will study/project participants be selected? For example will participants be selected randomly, deliberately/purposively, or using lists of people provided by other organisations (see section 11 on Third Party Data)?

Participants will be selected based upon their expertise and involvement in the field of hydro diplomacy. Potential participants include academics, policy makers, activists, and NGO workers.

I will contact potential participants via email initially to gauge their interest. If interested, I will follow up with a document including my research questions, and consent form.

5. PARTICIPANTS IN DEPENDENT RELATIONSHIPS

Is there any sense in which participants might be ‘obliged’, to participate – for example in the case of project beneficiaries, students, prisoners or patients – or are volunteers being recruited? If participants in dependent relationships will be included, what will you do to ensure that their participation is voluntary?

Participants speaking on the behalf of an organization, whether it be an NGO, a think tank, or governmental agency, could be considered to be in a dependent relationship.

In order to address the concerns of those in a dependent relationship, I will make it clear that they are not obliged to answer all of the questions, and have the option of leaving the interview at any time.
5. PARTICIPANTS IN DEPENDENT RELATIONSHIPS

In regards to the information collected, including information from individual interviewees and information from organizations, all data from participants will be made anonymous unless otherwise requested. Additionally, in terms of analysis, potential biases from participants speaking on the behalf of an organization will be taken into consideration.

6. VULNERABLE INDIVIDUALS

Specify whether the research will include children, people with mental illness or other potentially vulnerable groups. If so, please explain the necessity of involving these individuals as research participants and what will be done to facilitate their participation.

The research will not include anybody under the age of 18, nor will it include anybody with detectable or known mental illness prior to the interview.

7. PAYMENTS AND INCENTIVES

Will payment or any other incentive, such as a gift or free services, be made to any participant? If so, please specify and state the level of payment to be made and/or the source of the funds/gift/free service to be used. Please explain the justification for offering payment or other incentives.

I will not offer any incentives or gifts.

8. CONSENT

Please give details of how consent is to be obtained. Participants must be aware of their entitlement to withdraw consent and at what point in the study/project that entitlement lapses. A copy of the proposed consent form, along with a separate information sheet, written in simple, non-technical language MUST accompany this proposal form as an ATTACHMENT.

As most/any interviews I will conduct will likely be via Skype or other electronic means, I will send a copy of the consent form to participants before our scheduled interview time. I will request that they sign it, and return an electronic copy.

I will ensure that participants are clear on the fact that they have every right to withdraw at anytime and additionally, that any of their responses or data they submit will be kept confidential and that they have the right to withdraw or ask for any bit not to be used up until the middle of August.

I will ensure that they are clear on how to contact me, should it be necessary. I will allow for any questions or concerns people have and I will ask them specifically if they understand everything I present about my project and who I am and if any further clarification is required. Please see attached consent form for additional information.
8. CONSENT

9. CULTURAL, SOCIAL, GENDER-BASED CHARACTERISTICS

What consideration have you given to the cultural context and sensitivities? How have cultural, social and/or gender-based characteristics influenced the research design, and how might these influence the way you carry out the research and how the research is experienced by participants? For example, might your gender affect your ability to do interviews with or ask certain questions from a person of a different gender; might it affect the responses you get or compromise an interviewee? How might your position/status as a UK university based researcher affect such interactions?

As most of this research will be with either academics or key informants in North America or Europe, there are not major cultural or social differences that I am aware of. However, in order to be alert of possible cultural/gendered differences that I’m currently unaware of, I will do background research on my participants, and invite them to share any concerns they may have. The cultural/gendered differences will be taken into consideration in my questions, and the settings in which I conduct my interviews.

I will conduct interviews and interactions with men, women, and transgender in the same manner. Again, I will re-emphasize the right to withdraw, to not answer questions and that any answers they do give will be completely confidential.

10. CONFIDENTIALITY

Please state who will have access to the data and what measures which will be adopted to maintain the confidentiality of the research subject and to comply with data protection requirements e.g. will the data be anonymised?

I will be the only one with direct access to my own data. I will keep all names and positions anonymous unless somebody specifically requests that their title or name are included in the project. All data from interviews or personal research will be kept on my password-protected hard drive. Any written notes will be either stored in a locked location or immediately transposed onto my computer and the hard copies will be destroyed. In the writing up of the dissertation all participants will be made anonymous to a degree sufficient to not attribute anything they said to them, unless of course they request otherwise.

11. THIRD PARTY DATA

Will you require access to data on participants held by a third party? In cases where participants will be identified from information held by another party (for example, a doctor or school) describe the arrangements you intend to make to gain access to this information.

I will not require third party data.
11. THIRD PARTY DATA

12. PROTECTION OF RESEARCHER (THE APPLICANT)
Please state briefly any precautions being taken to protect your health and safety. Have you taken out travel and health insurance for the full period of the research? If not, why not. Have you read and acted upon FCO travel advice (website)? If acted upon, how?

As I will be based in Norwich there are no additional physical dangers beyond those experienced by any student attending UEA.

13. PROTECTION OF OTHER RESEARCHERS
Please state briefly any precautions being taken to protect the health and safety of other researchers and others associated with the project (as distinct from the participants or the applicant). If there are no other researchers, please put ‘not applicable’

Not applicable.

14. RESEARCH PERMISSIONS (INCLUDING ETHICAL CLEARANCE) IN HOST COUNTRY AND/OR ORGANISATION
The UEA’s staff and students will seek to comply with travel and research guidance provided by the British Government and the Governments (and Embassies) of host countries. This pertains to research permission, in-country ethical clearance, visas, health and safety information, and other travel advisory notices where applicable. If this research project is being undertaken outside the UK, has formal permission/a research permit been sought to conduct this research? Please describe the action you have taken and if a formal permit has not been sought please explain why this is not necessary/appropriate (for example, for very short studies it is not always appropriate to apply for formal clearance).

As I will be based in Norwich and my student visa is valid until January 2015, this does not apply.

15. MONITORING OF RESEARCH
What procedures are in place for monitoring the research/project (by funding agency, supervisor, community, self, etc.).

I will check in regularly (bi-weekly) with my supervisor.
15. MONITORING OF RESEARCH

16. ANTICIPATED USE OF RESEARCH DATA ETC

What is the anticipated use of the data, forms of publication and dissemination of findings etc.?

The data will be used primarily for the production of my dissertation. However, if the dissertation is well received, I may pursue publication of the work following the conclusion of my MSc. at UEA.

17. FEEDBACK TO PARTICIPANTS

Will the data or findings of this research/project be made available to participants? If so, specify the form and timescale for feedback. What commitments will be made to participants regarding feedback? How will these obligations be verified?

I will offer to make my dissertation available by the beginning of October of 2014 for any interested participants. I will leave contacts for myself and the UEA for anybody wishing to follow up or inquire about my dissertation for verification purposes.

18. DURATION OF PROJECT

*The start date should not be within the 2 months after the submission of this application, to allow for clearance to be processed.*

<table>
<thead>
<tr>
<th>Start date</th>
<th>End date</th>
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<tr>
<td>Present</td>
<td>28 August 2014</td>
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</table>

19. PROJECT LOCATION(S)

Please state location(s) where the research will be carried out.

Norwich, possibly London (for interviews).