



SELINUS UNIVERSITY
OF SCIENCES AND LITERATURE

**UNDERSTANDING THE DOMINANT DRIVERS AND
PRACTICES OF WATER DIPLOMACY IN THE
SOUTHERN AFRICAN REGION**

By Dumsani Hamilton Mndzebele

Supervised by
Dr. Salvatore Fava PhD

A DISSERTATION

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DECLARATION

I hereby attest that I am the sole author of this thesis titled “**UNDERSTANDING THE DOMINANT DRIVERS AND PRACTICES OF WATER DIPLOMACY IN THE SOUTHERN AFRICAN REGION**”, and that its contents are only the result of the readings and research I have done. I hereby declare that all the information in this research was obtained and presented in accordance with academic rules and ethical conduct, and I fully cited all the references, materials and results that are not original to this work.

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Signature

APPROVAL CERTIFICATION

This is to certify that this Thesis titled “UNDERSTANDING THE DOMINANT DRIVERS AND PRACTICES OF WATER DIPLOMACY IN THE SOUTHERN AFRICAN REGION”, carried out by Dumsani Hamilton Mndzebele with student number UNISE1235IT of the Faculty Arts & Humanities, has been approved with unanimity/majority of votes by the Jury and has been accepted for the award of Doctor of Philosophy (Ph.D.) in International Relations.

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DEDICATION

I dedicate this work to my family. To my wife Phumzile, for her unfailing support and continuous encouragement. To my children Nondumiso and Uminathi, who were a constant source of inspiration by their mere expectations of the outcome of the studies of their dad. This was a constant motivation for me to push to complete the work, as a lesson to them that in life important assignments do need to be delivered to full completion.

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ABSTRACT

This study was aimed at identifying and understanding the dominant drivers and practices of water diplomacy in the Southern African region. It utilised a qualitative study approach, and three case study projects in three different transboundary river basins were used to attain insights in the dominant drivers and practices of water diplomacy. The purposeful sampling technique (a non-probability sampling strategy) was applied to get the participants to help with responses to the six research questions that were raised to guide the study. The results were complemented with findings from literature-based analyses. The study found that regional water diplomacy in Southern Africa is largely driven by the following factors or ambitions: (a) joint development of shared waters; (b) resilience against water disasters; (c) peace and security through water cooperation; (d) equity in resource sharing (fairness in utilisation); (e) optimisation of regional hydropower; (f) standardization of practices and laws; (g) role of water as catalyst for livelihoods and development; and (h) avoidance of causing harm to one another. The study then recommends strengthening coordination of the river basin institutions, for increased contribution to regional development—a regional development agenda for transboundary water cooperation is required. The study also recommends redefining water as a regional resource (as opposed to it being viewed as a resource only for basin states), and increased collaborative and inclusive governance of transboundary waters to also include non-state actor and private sector institutions, so as to create a wider pool for funding and expertise support.

Key words: water diplomacy, development, hydro-diplomacy, water governance, transboundary waters, regional integration, hydropolitics, cooperation

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LIST OF ABBREVIATIONS

ASEAN	Association of South East Asian Nations
EC	European Commission
ECSC	European Coal and Steel Community
IWRM	Integrated Water Resources Management
KAZA	Kavango Zambezi Transfrontier Conservation Area
LHDA	Lesotho Highlands Development Authority
OECD	Organisation for Economic Co-operation and Development
OKACOM	Okavango River Basin Water Commission
ORASECOM	Orange-Senqu River Commission
RBO	River Basin Organisation
RSAP	Regional Strategic Action Plan
SADC	Southern African Development Community
TCTA	Trans-Caledon Tunnel Authority
TFCA	Trans-Frontier Conservation Area
UN	United Nations
UNEP	United Nations Environment Programme
ZAMCOM	Zambezi Watercourse Commission

CHAPTER ONE

OVERVIEW:

INTRODUCTION

Water diplomacy is increasingly recognised as vitally important in the issue of international relations and its contributions to regional integration and development across the globe. Developing and integrating nations, one-way-or-the-other, must attend to the global challenge of provision of adequate water supplies to their people and economic undertakings. Water is then at the core of the integration of states, being central in regionally integrating states' international relations. Antonelli, et al. (2015) provide the example of Saudi Arabia and Egypt, whereby at the core of their international relations is the water diplomacy concern; which manifests in their cooperation around virtual water trading or even sea water desalination projects, between themselves as well as with other countries. Saudi Arabia and several countries in the Middle East are able to mitigate their water scarcity problem by reducing agricultural activities with a view to import agricultural products from Egypt and other Northern African countries (Antonelli, et al.,2015; Lee, et al.,2018). While this practice is not only typical of the Middle East, as it also is evident in European countries and the rest of the world cooperation arrangements, the Middle Eastern countries have a strong dependence on virtual water trading (Lee, et al., 2018). International relations and water diplomacy are therefore catalytic in creating a climate for development and regional growth.

In the post-World Wars I and II era, regionalism-supplied international relations have increasingly improved cooperation, resulting in a rise in shared nation-building projects among neighbouring states. The increased cooperation has benefitted the global efforts of peace-building and joint

development, and has constricted the likelihood for repeat of war in the world (Munia, et al., 2016; Watson, 2015). Development of international relations can in general therefore be said to have improved stability and peace in the regions of the world (Mubarik, 2013; Rattanasevee, 2014).

Central in the regional and global peace-building projects, is the issue of water use to enhance economic productivity and human life; which indirectly reveals the role of water as an enabler for social and economic development, and even for ecosystem functionality. Not only is water a strategic factor in times of war, it is also one of the priority resources in restoration projects in nation-rebuilding efforts towards social and economic recovery. Water then presents itself as an indispensable ingredient in most regional development projects, be it food security, energy integration, transport integration, or any other area of integration. Arguably this is the reason that water governance theorists tend to view water diplomacy as a vehicle for cooperation and joint planning among the integrating states.

Water diplomacy in the context of transboundary water governance is also important for integrating regional societies, which is especially imperative for Southern Africa considering its water dependencies and the slow pace of its regional integration. De Sherbinin (2016) and Degefu (2017) estimate the world's population that live in internationally-shared river basins at least 40%. The situation highlights the extent of the demand for functional water diplomatic arrangements among integrating and riparian states. Functional water diplomacy should involve the pertinent players in the practice of water governance, development and management—a target that has always been elusive for Southern Africa.

Klimes, et al. (2019) presents water diplomacy transformation can be realised through a regional cooperation framework that enables a higher stakeholder participation beyond those traditionally involved in water cooperation. The scholars assert that this approach broadens the opportunities of cooperation through a framework of multi-track water diplomacy, which draws from the classification of diplomacy in general. Scholarship of international relations characterises diplomacy into four major categories (Staats, et al., 2019), namely: (a) Track 1 Diplomacy (official); (b) Track 2 Diplomacy (by unofficial institutions feeding into formal processes); (c) Track 3 Diplomacy (by people); and (d) Multitrack Diplomacy (pursuit of multiple tracks of diplomacy simultaneously). Track 1 Diplomacy entails high-level state-to-state engagement which could be at the heads of state level or government ministries of foreign affairs or at such level, for peace-talks, treaties or agreements. Track 2 Diplomacy is mostly unofficial dialogue on problem-solving and relations-building and allows creative thinking that can then inform the official processes. It therefore allows influences of non-state actor institutions such as non-governmental organisations (NGOs), academic and religious institutions. Lately, the international relations space has witnessed the emergence of what is called Track 1.5, which allows the interaction of the formal and informal diplomatic processes and actors, to work together in conflict-resolution efforts. Track 3 Diplomacy is essentially a kind of people-to-people diplomacy, by private groups and individuals. It may take place at the grassroots level across borders, through organised meetings and conferences, whereby participants from different concerned countries partake. Multi-track Diplomacy, for its part, entails application of several tracks simultaneously, involving official processes and institutions, as well as non-state institutions and citizens, and private sector.

For Southern Africa, the regional water cooperation framework advocated by Klimes, et al. (2019) tends to answer a number of questions around mainstreaming of non-state actors in transboundary water cooperation and hydro-diplomacy, which the region has always been struggling to answer. The framework is non-other than the Barua (2018)-advocated Brahmaputra Dialogue (BD), which is a multi-track water diplomacy framework. The approach provides an innovative way to overcome the obstacles of water diplomacy in river basins. It categorises water diplomacy levels into several main tracks of which three are discussed in the current research: Track 1; Track 2; and Track 3. Track 1 water diplomacy involves engagement between transboundary cooperating countries often through government institutions. In a relaxed Track 1 water diplomacy the environment of the river basin is typified by a unilateral approach of some riparian countries, a trust deficit within and among riparian states, non-existence of a cross-border water institutional mechanism, and restricted or the lack of public access to data and information. Track 2 may be viewed as the middle ground state between Track 1 and Track 3, combining some elements of both tracks. Track 3 is essentially characterised by a people-to-people water diplomacy process between riparian countries. Klimes, et al. (2019) argues BD provides a neutral forum for state and non-state actors, and offers a platform for meaningful science-policy-society intersections and interactions—a type of Track 1.5 water diplomacy.

Experiences of the application of the BD in India and Bangladesh has shown that in a period of four years the BD has evolved from initially serving as a bilateral Track 3 people-to-people water diplomacy process (phase 1, 2013–2014), to a multi-actor Track 2 (1.5 Track) and Track 3 process with the involvement of Bhutan and China (phase 2, 2014–2015), and finally adding Track 1 in phase 3 (2015–2017) to engender political will for a fully-fledged transboundary cooperation. The engagement of a broader collection of stakeholders in the BD, it has been argued, has built

confidence and trust through reduced misperceptions and increased transparency within and across the riparian states. The BD forum also facilitates capacity building for non-state actors (e.g., minority groups and women), who are often marginalized from formal decision-making processes on transboundary water governance (Earle & Bazilli, 2013). Most importantly, the BD was found to help riparian states discover the incentives and drivers of cooperation for each country and aided joint building of a shared vision in the cooperation—society’s relationships with its water and geopolitical dynamics in the setting of its regional cooperation institutional arrangement do not necessarily result in sustainable transboundary water management. The incentives and drivers of cooperation can be stimulants for effective and sustainable water hydro-diplomacy (Cheung, 2017; Işık & Gül, 2016).

The present research has also considered the application of the BD framework as a potential tool to help improve the water diplomatic practices for the Southern African region. While the circumstances of the regions may not be exactly the same, the problem is shared and the process dynamics could be similar considering the vehicles that Southern Africa has used to garner stakeholder political will in its regional projects. The presumption made is that the approach could help give meaning to the argument of water as an important area of cooperation and conflict prevention among integrating states in Southern Africa—shared water resources tend to induce a propensity to cooperate rather than fight over it (Jacobs, 2011; De Stefano, et al., 2017). How water diplomacy can increase the benefits of regional development and integration, was in general the main focus of the research.

1.1 PROBLEM STATEMENT

Southern Africa, like the rest of Sub-Saharan Africa, is a region commonly associated with poverty and low economic performance but with a huge growth potential (African Development Bank, 2015). However, realization of this growth potential seems to be ever elusive. At least 60% of the Southern African region's population survives on less than US\$2/day, and 40% on less than US\$1/day (Swatuk, 2008; 2017; World Bank, 2015). Efforts of regional coordination institutions such as the Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA), in response to this regional challenge, have been to push for regional integration, viewed as driver philosophy for coordinated and accelerated regional development. Water has featured strongly in this undertaking, seen as a catalyst and enabler for development, especially through its contribution in food and energy production, livelihoods, and for drinking (Mabhaudhi, et al., 2018).

However, the impact of water's contribution to this regional integration-driven development agenda is not very evident (Muller, et al., 2015). An observation by Conley (1996) and validated by Msangi (2014) is that in Southern Africa the tendency is that many of the most economically prosperous nations are actually countries that are more water-scarce. This can also be seen in global statistics that reveal that Southern African countries rated very low in global competitiveness indices are not necessarily those with acute water shortage (e.g., Botswana and South Africa, even though suffering from acute water shortage, have better economies than many of the region's better water-endowed economies). Swatuk (2008; 2017) illustrates this argument with Zambia, which accounts for 45% of all of Southern Africa's water resources (excluding the Congo River), but ironically less than 50% of the country's rural people have access to water of good enough quantities and quality.

Using a qualitative study approach, the current research has examined the dominant drivers and practices of the region's water diplomacy, with a view to understand the pointers in aspects that could be tweaked to realise better outcomes in the hydro-diplomatic practices of the region that are considered important for regional development. Understanding the dominant drivers of regional water diplomacy is crucial as non-progressive hydropolitics are known to be a deterrent to cooperation in regionally integration societies (Jarkeh, et al., 2016; Mianabadi, et al., 2014b). Furthermore, the knowledge of the dominant drivers of water diplomacy will enable quicker resolution of present and emerging impediments in water cooperation, to timely diffuse likely tensions in the utilisation of the region's transboundary waters.

1.2 PURPOSE OF RESEARCH

The purpose of the qualitative study was to increase the understanding of the real drivers of water diplomacy and its practices in regional development and cooperation in Southern Africa. Scholarship of hydropolitics has it that, depending on the inherent dynamics of transboundary cooperation, water can either be a unifier or an irritant in regional cooperation (Jarkeh, et al., 2016; Jacobs, 2011, Mianabadi, et al., 2014b). The study was therefore designed to help increase the knowledge and understanding of when can positive traits in hydro-diplomacy be expected in regional water cooperation. It aimed at answering the question whether water can be said to truly contribute towards regional development and be a catalyst in the realisation of regional integration courses in the Southern African region. Since water diplomacy in Southern Africa is understood to define the enabling environment for water development in support of regional economic and social growth, water being an input to economic productivity and social upliftment (Al-Saidi & Hefny, 2018; Mabhaudhi, 2016; Namara & Giordano, 2017), it was necessary then to understand

the architectural dimensions of the regional water diplomacy—hence the study. Precisely, the study focused on understanding the practices and drivers of the water diplomacy phenomenon, with the view to understand deeper its characteristics that could be nurtured for even better outcomes in water governance’s support to regional integration and development in the region.

1.3 SIGNIFICANCE OF THE STUDY

The study will contribute to the body of knowledge of international relations and regional integration. This is crucial for Southern Africa considering, for instance, that eight of the region’s countries are still among 18% of the world’s poorest states despite over thirty years of regional cooperation (Swatuk, 2008; 2017). This low level of development could be attributed to the region’s governments' failure in the allocation of resources, and some inefficiencies in frameworks for collaboration among the regionally integrating states. The knowledge of how to unlock existing bottlenecks in existing diplomatic arrangements needs to be deepened. The current study has added to increase this knowledge base, especially in the application of the hydro-diplomacy concept in the area of shared transboundary water cooperation and regionally integrating societies.

Strong and relevant water institutions with the requisite knowledge are required to deal with the region’s challenges. The research has therefore tried to ascertain the type of institutions required, and how they should be established and function for efficacy and effectiveness.

Research findings will thus also inform the hydro-political knowledge base and help decision-makers and regional planners in the management and optimization of the benefits of shared water resources in the region. Approximately 70% of river basins in the Southern African region are shared between countries (Mabhaudhi, et al, 2018). There is therefore high level of water

dependency among Southern African countries—close to 42% of the twelve inland states of SADC member state’s survival, for instance, depend on water generated outside their borders to meet over 50% of their total water requirement (Malzbender & Earle, 2008; Mabhaudhi, et al., 2016).

1.4 ASSUMPTIONS AND LIMITATIONS

The focus of this study was on increasing the understanding of dominant drivers and practices of water diplomacy in the Southern African region, with the intention to increase water’s contribution to regional integration and development, and the peace and security agenda of the region. However, water diplomacy, as an international relations concept, is a vast subject, especially when viewed in the contexts of regional integration and transboundary water cooperation. The study was therefore constrained to focus more on core elements of water diplomacy and its impacts on regional integration as directly impacted by transboundary water governance, based on the research questions answered in the study. The analyses were confined to the theoretical transboundary cooperation space and did not extensively examine water-related nexus functional spaces potentially impacted by broader hydro-diplomatic practices’ contributions to the water resource use (e.g., irrigation, hydropower and land sectors), and how themselves these sectors might contribute in the regional integration agenda based on the water services they receive. However, despite these limitations, the study will still contribute massively in the body of knowledge in the subject of international relations, regional integration, and especially in increasing the understanding of how water-diplomacy could aid regional integration and development through the ways it unlocks water’s potential to be a catalyst for development and peace building (water neighbourhoods).

1.5 SUMMARY

The chapter presented the research problem and the purpose of the study, which, taken together, identified the need for deeper understanding of the water diplomacy issue at both regional and river basin scales, especially regarding how the hydro-diplomatic practices could contribute better to regional development goals. It also highlighted the significance of the study, particularly noting its contribution in the body of knowledge in water diplomacy, international relations and regional integration. It further highlighted in brief the underlying assumptions and limitations of the research pertaining the examination of cooperation frameworks and practices in Southern African regional water sector, to help answer the research questions.

CHAPTER TWO

LITERATURE REVIEW:

INTRODUCTION

Literature review of the study predominantly comes from the research work of several scholars and theses on the subject of international relations, water governance and water diplomacy. The research also draws from seminal work from authors of major theories and concepts in the area of hydro-diplomacy and hydro-politics.

2.1 THEORETICAL ORIENTATION FOR THE STUDY

Three theories define the framing of the study, which are essentially foundational theories or approaches of water cooperation. The theories are namely: international relations; diplomacy; and hydro-diplomacy. In the pursuit of the purposes of the study, the theories were considered as interwoven, and together useful for the deeper understanding of the issue of water diplomacy.

2.1.1 INTERNATIONAL RELATIONS THEORY

Firstly, international relations theory. International relations theory embodies theories that are essential as they aid understanding how the international systems work, and the interactions among states and their view of the world. Ranging from liberal, equality-centric strategies to bold realist thoughts, international relations theories have served international relations experts and diplomats to prescribe the direction taken by governments regarding courses of international political issues or concern. In defining international relations, Cristol (2019) presents that the drivers of international relations are inherently associated with economic, political, economic, or even security gains to the union of states. Three major branches of international relations theory can be

identified, namely realism, liberalism and constructivism. These theories are essentially a replacement of the earlier realism-idealism dichotomy (Cristol, 2019).

Realism, which is a forthright approach to international relations, states that nations work to increase their individual power, and that power is crucial for them to thrive, and states would wish to control the less powerful nations (Braun, et al., 2019; Chan, 2017; Gold & Mc Glinchey, 2017). It foresees or projects a world dominated by anarchy, a dangerous place, and so requiring that states prepare themselves accordingly for intense competition and security for survival. Realism and Neo-Realism explain the inevitability of states' competition and conflict as these theories emphasise the anarchical and insecure nature of the hegemonic international environment. Precisely, realism theory suggests that the nation's primary and foremost interest is that of self-preservation and continual attainment of power as an economic, social, and political imperative. This then suggests that by nature of realism, seeking a moral high ground is not always achievable and so violence and deceit cannot be avoided in the pursuit of advancing national interest.

Liberalism, also called 'liberal internationalism', on the contrary, is premised on the presumption that the global system does have the potential to foster a peaceful world order. Liberalism therefore emphasises that instead of investing energies in war, states are better seeking the use of diplomatic instruments, commerce, and international institutions as means of building peaceful relations with one another. In this regard, it theorises of alternatives to the reliance on military action or direct force, and emphasises international cooperation as a vehicle for furthering each nation's interests. Liberal (and neo-liberal) institutionalism therefore tend to emphasise benefits of and efforts towards transnational co-operation. Akin to Neo-Realism, Neo-Liberalists also consider the state to be legitimately a representation of society. Liberalists argue that the negative consequences of force—such as civilian casualties and economic losses—far exceed the possible benefits.

Therefore, liberal politicians rather have preference for use of social and economic development instruments as a strategy to their national goals (e.g., negotiating agreements with neighbouring countries to help secure their borders and on shared natural resources). Liberalism is therefore a counter strategy to realism, and has increasingly become even more engrained in international cooperation through the institutions of the United Nations system (Molnar, et al., 2016; Moravcsik, 2003).

Constructivism, for its part, is reliant on the notion that rather than embracing the pursuit of material interests, the nation's belief systems matter more—social, historical, and cultural—that explain its behaviour and foreign policy efforts. Constructivism therefore theorises of human institutions as the influence behind states choices, which, if correctly applied could help states make sound foreign policy decisions. Constructivists then argue against the notion of states being the most important actors in international relations. Instead, it presents that international institutions and other non-state actors are essential agents in behaviour influence through persuasion and lobbying. International organizations are therefore promoted by this theory and are perceived as important to even play a bigger role in the advocacy for human rights, and sometimes to the extent of becoming an international standard to which countries in the international system are expected to conform.

One rising branch of the constructivism theory, in the category of non-mainstream or tributary theories, is feminism, as an international relations theory. Tributary theories are self-reflective by nature and are in the literature of international relations sometimes considered an assemblage of postpositivist theories in the domain of the constructivism theory. Some other theories in this category include the critical theory, normative theory, post-modernism and historical sociology

(Elaati, 2016; Jacobs, 2011). The main object of feminism theory is to regulate power derived from (or denied based on) gender. The theory views international relations through the gender relations lens, and stresses both the historical and potential roles that women can assume in foreign policy. Feminists generally seek to track social and political developments that constrain process and success in female populations.

Another theory of international relations, that has undergone rising and waning cycles in the political theory is Marxism. It is worth discussing considering its tenets that are sometimes unavoidable in mainstream international relations theory. Marxism, as a theory carefully analyses social classes, and its intentions are towards dismantling the capitalist structure of the international system. It advances arguments on the flaws of capitalism as a sustainable strategy for the modern world. Marxism hypothesizes that the capitalism-supplied productive relations actually prompt competition among states for scarce resources, and thereby adversely impacting on the workers' welfare in the process (Molnar, et al., 2017). Marxists therefore believe and advocate for the replacement of private property with cooperative ownership, and the shift of focus to human needs, rather than private profit.

2.1.2 DIPLOMACY

The second theoretical framework of the study is diplomacy, which can be loosely defined as the art of communication between different independent parties, which can take place between sovereign states or independent agencies and institutions (Huntjies, et al., 2017). In international relations, diplomacy is also often considered the art of conducting negotiations, establishing alliances, engagement on treaties and agreements. At the level of society, diplomacy may simply refer to the art of dealing with and managing people positively and, employment of tactfulness to

ensure unity of mind. It is perhaps in this respect that Zareie, et al. (2020) describes diplomacy as the art and skill of utilising negotiations to manage international relations between states' representatives or agencies. So, central in the notion of diplomacy is the relevance and application of negotiation theory.

2.1.3 HYDRO-DIPLOMACY

The third theoretical framework explored in the study is hydro-diplomacy. Hydro-diplomacy, often directly viewed as water diplomacy, derives its essence from the idea of diplomacy. Hydro-diplomacy then relates to application of the tenets of diplomacy to the issue of water's equitable, efficient and sustainable utilisation. Pangare (2012) also describes hydro-diplomacy as a tool for states cooperating on water to balance their sovereign interests while cementing regional cooperation with the countries that they share common water resources with. In this vein, hydro-diplomacy is considered invaluable in the efficient, equitable and sustainable management of the shared waters. In this respect then, hydro-diplomacy plays a tremendous role as it even goes further than the science of water management, through engaging sovereignty, economic considerations and political security. Smith (2012) argues there is no one-size-fits-all solution in the nurturing and application of collaborative governance, the strategy tool in the delivery of water diplomacy. For this reason, theorists of hydro-diplomacy argue of it as needing to be tailored to match the unique characteristics of the implementing parties, and the nature of the river basin and involved communities.

Scholarly, hydro-diplomacy or water diplomacy can be defined as a branch of diplomacy which is applied to bilateral or multilateral water negotiation among cooperating states (Zareie, et al., 2020).

It is about negotiation, dialogue and the reconciliation of conflicting interest in the utilisation of

shared waters among states, and inherently involves power politics and institutional capacity of the involved states (Hefny, 2011). The demand for negotiation theory application in the water sector is stimulated by the complex nature of water cooperation problems. When the water challenges stem from complex – interconnected, unpredictable, uncertain, and boundary-crossing changes that are feedback-laden, conventional problem-solving frames may be counter-productive and limiting. When the hydrologic and governance boundaries don't overlap, implementation problems also arise; necessitating that negotiated agreements are formulated. Oftentimes the situation even calls for establishment of new institutional arrangements, especially as the engagement scope broadens (Molnar, et al., 2017). In such complex terrains of problem-solving, research has shown that tools and ideas from multiparty negotiation theory can also be useful to analyse and manage complex water challenges (Molnar, et al., 2017). This can be implemented by: (1) identifying and engaging the core stakeholders in the decision-making process; (2) exploring and assimilating scientific solutions into political decisions processes through joint fact-finding; and (3) generating 'value creating options and opportunities.' The Mutual Gains Approach (MGA) of multiparty negotiation then becomes handy in mediating disagreements involving many parties, with different expectations, issues, and differing levels of technical skill and experience (Susskind, 2014). So, negotiation theory can be utility is dealing with complex water disputes. The joint fact-finding practice advocated in negotiation theory serves to bring the parties to an agreed-upon understanding that is both publicly credible and scientifically sound, and thereby allowing decision-makers and stakeholders to move to collaborative problem-solving (Molnar, et al., 2017; Schenk, et al., 2016).

Zareie, et al. (2020) further describe water diplomacy as a strategic tool and an innovative approach to resolve water issues at various scales such as local and trans-boundary when water conflicts

threaten cooperation or mutual sharing of water resources. In essence, water diplomacy also serves to manage complex water problems arising from its sharing by the different user sectors such as urban and domestic, industry, agriculture, environment and others that compete for the finite or scarce water resources. Water diplomacy may therefore be viewed as contributing to solving a range of water conflicts and thus can also be viewed as a tool for sustainable water resources management (Zareie, 2020).

In the literature of hydro-politics water diplomacy has often been used interchangeably with ‘water cooperation’ and sometimes with ‘transboundary water management’, and yet there is that subtle difference between the two. Molnar et., al. (2017) presents that the connotation of diplomacy is suggestive of high-level political engagement, with the presumption of strong government involvement. While water diplomacy may utilise the same means as cooperation over water, the outcomes tend to influence broader scope beyond water sector, and impacting on regional peace and stability. Another difference, as presented by Schmeier (2016), is that while water cooperation can sometimes be the goal in itself, water diplomacy is mostly a means to realise the goals beyond water (e.g., peace, cooperation and stability). The key tenets of the water diplomacy then drive efforts towards trust-building. Trust-building over water attains relevance in the political context when transparent procedures and rules need application to a shared water resource arrangement (Molnar, et al., 2017). Water diplomacy is therefore instrumental for trust-building between countries or even provinces that share or border the same river system (riparian states).

2.2 REVIEW OF LITERATURE

2.2.1 HISTORY AND FOUNDATIONAL THEORIES OF INTERNATIONAL RELATIONS AND DIPLOMACY

The concept of water diplomacy, a sub-set of diplomacy, as a phenomenon is founded on international relations theory. Theories of international relations are themselves conventionally understood to be driven by concepts such as political economy, rivalry, geopolitics, power and balance of power, and are still in use in analysing regionalism and foreign affairs and a few other theoretical frameworks (Xing & Shengjun, 2015). In scope, international relations is generally much broader, including a wide variety of political, non-political, formal and informal, official and unofficial relations and activities (Pal, 2018).

The conception of foreign affairs as important in the international relations phenomenon inherently brings prominence to the concept of internationalism. In political science, internationalism often brings up the notion that cooperation between different countries should be beneficial for everyone (Jahn, 2013; Ikenberry, 2014). In practice then, governments in the internationalism doctrine are to have some level of commitment to the course of working with other nations' government institutions to prevent conflict and cooperate economically and politically. The economic expectation of such internationalism is often the reward of 'free trade' which allows nations to freely sell and buy goods across borders. The antithesis of internationalism is 'ultra-nationalism' or 'jingoism', which embrace extreme patriotism to the extent of aggression toward other countries.

Early scholarship of internationalism presents it in three concepts or visions, namely: hegemonic, revolutionary, and liberal (Halliday, 1988) internationalism. Khan (2019) views international

relations as referring to the study of interconnectedness of politics, economics and law on a global level. Other scholars present international relations as the study of relations of nation-states with each other and with international organisations and sometimes with certain sub-national entities (Braun, et al., 2019; Chan, 2017). Others still, present it as an interaction of nation-states and non-governmental organisations for the goals of cooperation in politics, economics and security (McGlinchey 2017; Pouliot & Cornut ,2015). From these definitions what is notable is that international relations tend to bring connectedness, relations and interaction among independent states, for the shared objectives of mutual benefit from the cooperation arrangements. The states' relationship can either bilateral or multilateral.

Notable also of international relations, as advanced by other scholars of international relations theory, is the exploration of key players of world politics, to understand the intrinsic political patterns, and identify the theories of how agreement and cooperation can be reached (Braun, et al., 2019). International relations theory is then viewed as seeking to explain the interactions of states in a global interstate system, and to explain the relations of others with behaviours that originate within one country but targeted towards other countries' members (Cacciatore, et al., 2014). So dominant in the theorisation and understanding of international relations are the concepts of competition, conflict and cooperation. These tenets are also are also huge influence in the issue of hydro-diplomacy or water diplomacy.

Since the state is key in international relations theory, it then becomes necessary to define it when exploring the issue of internationalism and international relations. While it may appear negative and militarily in tone, the classical definition of the state that Max Weber offered has been adopted in the research, and it explicitly locates the centre of authority of the cooperating institutions.

Weber (1947) defines the state as "...a human community (that successfully) claims the monopoly of legitimate use of physical force in a given territory" (p.79). In this, Weber identified two dimensions pertaining state's right to use the highest authority in its territory namely, 'internal' and 'external' authority. Whereas, internal authority is associated with its coercive authority within its boundaries, external authority relates to the state's judicial rights in the international system and territorial integrity.

Furthermore, since international relations and diplomacy concern the issue of sovereignty among nation-states, it was important in the research to also develop an understanding of the concept of 'sovereignty'. Considering that sovereignty is an old concept, a classical definition will then be followed in its use as in the case of the state. Sovereignty is: "the supreme legal authority of the state to give and enforce the law within a certain territory and, in consequence, independence from the authority of any other state and equality with it under international law "(Morgenthau, 1950, p.249).

In the internationalism space the sovereign states are each seeking to create various sorts of relations with others for mutual gains. Notably in this socialisation, the arrival of globalism has resulted in the international relations discourse has taking various forms and paths, with countries trying to align themselves to both regionalism while equally internationalising or globally outward-looking. The two international relations spheres (regional and global) could be seen as both complementing and competing. Inherent in the theory of international relations is sense of connectivity, which could be either ideational or spatial.

2.2.1.1 DIPLOMACY AND TRADITIONS OF DIPLOMACY.

Pouliot and Cornut (2015) define diplomacy as a culturally and historically contingent bundle of practices which are analytically resembling in their claim to represent a given polity to the outside world. Integral in the conception of international theory lies the theories of diplomacy, and likewise the diplomatic theory of international theory (Sharp, 2009). Some of the claims of international relations theory relate to its explication of how the contemporary international society is organised; the institutions that comprise its structure and texture, and the understandings and conventions that enable the functionality of these institutions, as well as the dynamics that justify their demand and existence that also constrain them at the same time.

Sharp (2009) presents three traditions of diplomacy that have specifically received attention in the study, namely: radical diplomacy; rational diplomacy; and lastly the realist diplomatic tradition. While some of the traditions may appear classical, their practice does manifest in the continuum of the evolution of international relations theory and internationalism. The traditions have assumed a life of their own in the history of mankind through distinctive and patterned ways of thinking and relations in their own generation of influence.

2.2.1.2 DIPLOMACY IN THE RADICAL TRADITION

The radical tradition views diplomacy as needing to re-shape international relations arrangements; not being content with the status quo which is either labelled passive or just a social club of the cooperating states. The presumption associated with subversion in revolutionary diplomacy is common, as equally assigned to the countries that are said to exhibit those traits. While there is lack of clarity with respect to the application of the idea of legitimacy, even in the sociological sense to the international societies, the radical tradition of diplomacy perceive that optimal benefits

of cooperation will truly be realised when the diplomatic arrangements are intended for all people, and not just for the elite class. This is because the international society concept implies a partnership typified with rules and conventions considered permissive by domestic standards and cemented in contractual commitments as opposed to being rooted in unchosen membership and belonging objectives.

Central in this tradition then is the popular conception of diplomacy as subtle, complex, and with a great deal of subversiveness, and with the diplomats acting as subversives in their dealings in an international society (Sharp, 2009). The practice of diplomacy in this arrangement leads to widely disparate ends. Although frowned at by many, advocates of the tradition view it as bringing about the necessary profound transformation in the processes of international relations.

The implications of the radical tradition to water diplomacy then is in the way states engage in water cooperation. The radical approaches argue for review of old agreements to open them up for new water allocation arrangements. It believes that colonial times arrangements (or old models) of water rights distributions between riparian parties may not be workable to justify equity and reasonableness in modern day principles of transboundary water cooperation (Abdulrahman, 2018; Mumbere, 2018).

2.2.1.3 DIPLOMACY IN THE RATIONAL TRADITION

Diplomacy in the rational tradition is characterised by the international thought that assumes individual human beings as proper subjects, whose affairs are dealt with through the application of reason, both to the opportunities and challenges confronting them, and the processes by which arguments over how to handle them are settled. In the rational tradition, the significant moment is

not the one that occurs when people advance, or have imposed upon them a notion of otherness. The significant moment occurs when one or both parties recognizes that, despite the value they attach to their freedom, they must relate well with the other to get what they want. This realization suggests a rational calculation of the limits to what one's own power and will can achieve in an external world dominated by multiple and often conflicting powerful wills, and from which flows a great deal of wisdom. The reasoning behind the decision to consult others gives rise to relations with them.

This reasonableness arising from valuing others and collaboration with them is what culminates in the establishment of conventions, understandings and rules for placement of these new relationships between people on a more stable footing. People graduate from relations into being in relationships with one another. Argued thus, it can be noted then that the calculations by which groups enter into relationships and relations with each other are essentially similar to those that account for how and why individuals within groups enter into relationships. People realise that, in group relations, other forces besides reasonableness and reason are at play, and that certain circumstances make it difficult to be rational, let alone reasonable.

On the whole, contemporary international relations appear more rational and reasonable compared to previous years, which triggers an expectation that future international relations will likely be more rational and reasonable than present time experiences (Abdulrahman, 2018). While this growth is driven by individuals' reasoning, at the social or historical process level, it is propelled by a series of jumps – crises, formative realisations and experiences – rather than by logical steps. The development is uneven in the sense that advancement may be witnessed in one part of the

world before it does in another. And, it may also be multi-directional in the way the social relations to international relations that the growth give rise to.

Noteworthy also of the rational tradition, is that it is also expected that the application of rationality to a relationship may not always privilege cooperation, nor cooperation should necessarily lead to imbuing the interest and identity of others with moral significance. It is a diverse world to which good diplomacy makes its own contribution in distinctive ways. The agents of the diplomatic practice (the diplomats) may act as civilizing influences encouraging their principals to pursue courses of rational cooperation. The relationship can also result from development and guarding the processes and institutions that help keep those they represent civilized. It can, again, also result from contributions to the construction of a civilized international or world order by those involved, and thereby maximize the scope of individual human freedom.

In the rational tradition, individuals are viewed as moral agents exercising their free will in the service of their interests and what they perceive as good. While they may behave wisely, it is also expected that could also react foolishly or badly; and therefore, the anticipation is that through their choices they can either help or harm themselves and others. Thus, the rational tradition presents diplomacy as a space for architects and builders to contribute towards the establishment of more civilized conditions for the practice of international relations. The actors of the diplomatic practise are to secure the growth of reason and reasonableness in the relations between collaborating states in the international system. The resultant international society can then be said to work because it is rational and reasonable in its practice, and thereby the cooperation yielding outcomes of the collective meditation on the interests of its members. Positivists of the rational tradition emphasize what is possible, and the adherents to conceptions of natural law see the

international society of states as reflecting some deeper sense of order and moral reason in human affairs.

There is another strand of the rational tradition of international thought though, distinct from positivist and naturalist understandings of the state system. It emphasises the extent to which the international society of states, and allows for many possible outcomes of reflections on international relations. It argues that the success of the process is dependent on the extent to which its constituents continue to believe in it.

Perhaps the biggest threat to the concept of rational diplomacy was the appearance of the First World War, that left a majority of the rational diplomatic thought unsure whether it really works or not. The disciples of the practice, on the other hand, still believed that through it, solutions would be found, and actually diplomacy was still active in communication and negotiations. The crisis precipitated by the First World War shook the partnership between diplomacy and the rational tradition of international thought; with the added new tension to claims between serving the Prince and serving Peace. Advocates of the rational tradition, on the other hand, praised it with the claims that it offered the identification of a solidarity turn in the reflections and conduct of international relations that gathered pace throughout the twentieth century and which is arguably still continuing today.

Implications of the rational tradition to water diplomacy is in practice in the recognition of all in international law parties as equal and each having rights of access to waters of common interest. It refutes that the upstream country should use its advantage to dictate what share the downstream country should have. In theory, it also refutes that the states that were first in right to the basin resources should stifle the right of access to newer developing states.

2.2.1.4 DIPLOMACY IN THE REALIST TRADITION.

The realist tradition is typified with power politics. Perhaps the realist tradition can be better understood through the work of Martin Wight. The work of Wight in this area is emblematic of the power politics' difficulty. The term 'power politics' itself resonates with associations in both popular and expert use, in which Wight also links the tradition with Machiavellianism. In his essay 'power politics,' Wight (1946; 1991) actually refers regarding the term to politics among the powers, to states. Power politics is a natural result of an international society that is organized into a system of interest-driven sovereign states, and so the system reflects and arises out of who the global community is as power political environment (Epp, 1993).

Diplomacy in this tradition then acts in accordance with the logic of a community that that exists in an anarchical system of power distributed between power-maximizing, self-interested, and self-helping people. While diplomacy fulfils an essential function as a neutral medium in the behaviour of international relations, it needs agents to gather and disseminate information; the diplomats and actors. The diplomacy conduct then involves communication of promises and bargaining positions, and even threats sometimes. Even more, involved in the delivery of diplomacy are the tasks associated with interest representation such as negotiation. In state-level conceptions of the power politics or realist tradition, therefore, diplomacy is often viewed as another element of power. Successful diplomacy tends to reward countries with a reputation for being strong in diplomacy – Britain, Canada, and are often cited as examples in this regard – similar to as countries can be strong in other power elements (Sharp, 2009). In water diplomacy, this tradition manifests through hegemonic attitudes in some of the transboundary water cooperating states.

2.2.2 THEORIES OF WATER DIPLOMACY

A broader definition of water diplomacy embraces both inter and intra-state interactions with engagement and inclusion of a broad array of stakeholders in the water diplomacy processes for attainment and maintenance of effective water cooperation (Klimes & Yaari, 2019). The involved actors in multi-track water diplomacy should then consists of various groups of state and non-state actors. Non-state or informal actors have a significant role in water diplomacy dialogues representing civil organisations, think-tanks, academia, media, and faith-based traditions (Huntjies, et al., Molnar, et al., 2017). Their participation can likewise enhance opportunities to build relations and result in increase in shared knowledge on common water resources. External actors, like bilateral development partners and multilateral development agencies, United Nations agencies and other international organisations, development banks, and regional organisations, also have significant roles to play towards creating an enabling environment for water diplomacy.

According to Hefny (2011), the core purpose of water diplomacy is to address transboundary water conflicts, using international relations channels. Water diplomacy therefore complements and support the realisation of goals of foreign policy by facilitating the prevention, containment, and resolution of conflicts (He, 2015) to foster transboundary water cooperation and thus support the realisation of regional integration goals (Pohl, et al., 2014). From academics and organisational practices, there is common understanding in water diplomacy of the relevance of inclusiveness in the consideration of interests of the multiple actors and dimensions in cooperation processes (Huntjens, et al., 2016; Klimes & Yaari, 2019). According to this theorisation, shared values are the glue that binds the cooperating and integrating nations, resulting into a union of states.

Klimes and Yaari (2019) further present water diplomacy as an approach that engages a variety of stakeholders to jointly assess ways to solutions for management of shared freshwater resources. It is viewed as a dynamic process seeking to develop sustainable, reasonable, and peaceful water management solutions while informing and promoting collaboration and cooperation among riparian stakeholders. Dialogue is one of the prime tools of water diplomacy, resulting in the facilitation and discovery of innovative ways for confidence- and trust-building and to strengthen stakeholder cooperation, and stakeholders of all types. Thus, water diplomacy scholars tend to study how interests and values structure the definition of a water problem, and ultimately the influences of the definition in the way tools are development and utilised to resolve the problem. In practice, the dominant politics get also disclosed in this water diplomacy process.

To effectively address complex water problems, hydro-diplomacy answers questions such as ‘whose water’ and ‘at what costs’ in order to produce ethical and normative options in political decision-making. Inherent in answering these questions is the issue of mutual gains arising from sharing cost and benefits of the diplomatic solutions to the water problem—which then triggers the use of solution approaches like value creation, and the mutual gains approach in political theory. The mutual gains approach has in literature of transboundary water cooperation been frequently applied, and in practise it ensures that parties consider more than just individual optimisation, to include what benefits other parties—considering options that offer benefits that are ‘great for them, good for others’ ([Zaerpoor](#), et al., 2017). Thus, the traditionally promoted technical ‘rational’ and optimisation solutions are overcome through nexus governance regardless of who benefits from it.

Three major theoretical lenses guided the analysis of the present research namely: (a) water governance and institutionalism theory; (b) water diplomacy in the context of governance of shared waters; and (c) water diplomacy in the context of regional integration.

Water Governance and Institutionalism Theory

The water governance definition adopted in this synthesis is the “range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services at the different levels of society” (Global Water Partnership, 2003, p. 16). From this definition also arises the question of the logic of delivery of the water management and development to the various beneficiaries of such services. The Organisation for Economic Co-operation and Development (OECD, 2016) presents water governance to mean” ... the set of rules, practices, and processes through which decisions for the management of water resources and services are taken and implemented, and decision-makers are held accountable” (p.34). From the definition also arises the need for understanding of the agencies of the governance phenomenon—the institutions. Deepened understanding of the water governance phenomenon perhaps also warrants the examination of institutionalism in the context of water management and governance. Noteworthy also in the examination of the definitions of water governance, is that they are ‘state-neutral’, instead referring to decision-making authorities; possibly suggesting the definition holds at all levels of water cooperation (e.g., national, river basin, regional and international).

Institutionalism studies date back to the very early stages of political thinking, the era of early philosophers and political theorists such as Hobbes, Aristotle, and Locke (naming but a few). While in the history of institutionalism the term ‘institution’ has often been used interchangeably

with the term ‘organisation’, from political thought the two have always been distinct. Underlying this line of thought, Romzek (2009) differentiate institutions from organisations in that, whereas “institutions are ‘rules of the game’ basically representing laws, policies and arrangements that have been created”, organisations “are groups of individuals who are bound by common objectives towards specified goals” (p. 6). Institutional frameworks then define the birth and mortality of organisations (Jiboku, 2015).

The analysis of institutions within the context of governance does necessarily call for the review of governance theoretical frameworks in general. In reviewing the concept of modern governance, Kooiman (2015), effectively isolated governance (theory) from governing (a practice). The departure point of the analysis by Kooimann was to separate governing as an intensive interactive space for private and public actors to challenge prevailing problems and to develop social growth opportunities, with the recognition of institutions as facilitators and governors of such interactions and the design of normative foundations for the pursued activities. In governance then, institutions get characterized according to formal and informal constraints. This is the same characterisation of their function in the context of opportunities they provide. Institutions are essential for both enabling and constraining functions (Söderbaum, 2011). Formal constraints in this context can be viewed as clearly defined rules (like property rights, laws, constitutions, and others), which may be judicial, economic judicial, or even political in nature. Informal constrains may involve codes of conduct, behavioural norms, or even conventions naturally evolving in communities. Institutions and their regulatory rules then become humanly devised constraints to direct human behaviour (Jiboku, 2015).

The idea of governance also carries the notion of change, and change in institutions occurs incrementally—a phenomenon which is often labelled ‘gradualism’ in classical institutional theory. The institutional change direction in this gradualist transformation is contingent on the institutional interactions as they chase differing deliberate ends which could be targeting economic, political, educational, or other objectives. Scholarship of institutionalism also theorises on the bi-directional transformation between formal and informal and formal institutions, each impacting on the other in a continuum of institutional evolution (Rosser, 2017). The change elements are driven by thousands of specific small alternations or re-arrangements that are aggregated by some change agent forces.

According to Koring, et al. (2018), the forces in institutional change are often the result of inspiration of neighbouring states and regions, including influential organisations. Institutionalism scholars also suggest that institutional re-arrangements tend to emerge when institutions in the position of authority restrict the active harnessing of the gains offered by new and emerging opportunities (Blackmore, et al., 2016; March & Olsens, 2013). In the water sector, the numerous perspectives of the resource, both of its use and intrinsic premises, offer various entry points in the examination of water institutions. The natures and contexts of water institutions are also defined by social and economic, political, and cultural forces, and similar to other institutions, water institutions are subjective, hierarchical, and path-dependent (Romzek, 2009). The normative context of water institutions is also explained by the logic of appropriateness and the logic of unity, like March and Olsens (2013) and other normative scholars argue; that, actors’ behaviours arise from the influence of political institutions through an ensemble of norms, routines, rules, and understandings.

Non-state actors and sub-basin processes are therefore a crucial part of the story, and play central roles in water diplomacy. Molnar, et al. (2017) present a compelling and comprehensive overview of how water cooperation and water diplomacy are defined by different actors. A notable realisation is that there is no universally accepted definition of water diplomacy and the term is often-times assumed to be interchangeable with water cooperation (Molnar, et al., 2017). Advanced water cooperation in river basins is characterized by differing levels of trust, common priority issues, data sharing, cooperation levels, and institutional arrangements, demonstrates that regional cooperation frameworks are crucial and supportive of water diplomacy transformations (Akhmadiyeva & Abdullaev, 2018; Al-Saidi & Hefny, 2018; Barua, 2018).

In water diplomacy, adaptive management is widely considered an appropriate management approach in dealing with uncertain and complex natural resource problems (e.g., Cockburn, et al., 2018; Ros-Tonen, et al., 2018). In this respect, collaborative adaptive management approaches are invoked, which recognise that decision's implementation often does not work out on the first try.

Water Diplomacy and Governance of Shared Waters

Scholars of water diplomacy and transboundary water governance argue for effective and continuous interaction across the policy, science, and practice space, in an effort to speak the same language of hydro-diplomacy and striving for increased integrated approaches to tackle complex issues like transboundary water governance in conflict-ridden regions. In an exposition of the issue of water cooperation, Swatuk (2015) presents two notable waves of scholarship of hydropolitics in Southern Africa namely: (i) the post-Cold War focus on resource scarcities and the possibilities of water wars; and (ii) the mid-2000s rise of fears surrounding the impact of changing climate on water resources regimes. He argues that the first wave is what gave birth to a significant body of

scholarship demonstrating the predominance of cooperation rather than conflict. The latter wave served as a spur improved governance and management; while acknowledging the much cooperation that has been realised, there is still weak governance and inept management in certain areas that could yet still lead to conflict. Swatuk (2015) further notes the emergence of a third wave concerning the so called ‘nexus’, i.e. the water-energy-food-climate security nexus. He argues critical scholarship has emerged that specifically poses a challenge on water diplomacy scholars, water conflict and cooperation across the region is, to reconcile both practically and theoretically the macro studies of transboundary hydro-politics with micro studies on water access struggles for rural and urban water societies (Swatuk, 2015).

There is ample research evidence for collaborative governance arrangements, embodied in international agreements and institutions, helping to catalyse the resilience of transboundary basins to environmental and socio-economic pressures and thereby diminishing their vulnerability to hydro-political tensions (De Stefano, et al., 2017; Petersen-Perlman, et al., 2018; UNEP, 2016). Generally, cooperation in the governance and management of shared waters tends to strengthen and foster peaceful relations between riparian states, and is instrumental for peacebuilding, reconciliation, and recovery in post-conflict societies (Ide & Detges, 2018).

The world’s transboundary river basins provide vital resources for close to half of the world’s population. It is still imperative therefore that potential tensions are transformed into partnerships for regional development especially in water-conflicted areas. Unfortunately, while the pressure on the resource is ever rising, many transboundary streams remain without frameworks for joint management (Manish, et al., 2018). The importance of this issue is notable in the recent shift of

focus of the UN Security Council recently towards deepened understanding of the connection between water risks and conflict within and between countries.

The regional water diplomacy dimension in practice manifests through the integration dimension of water management. Transboundary water cooperation (and ultimately governance), which is also a hydro-diplomacy issue, has been in literature of international relations been increasingly viewed as a state integration factor. However, it has also been criticised by other scholars of being a pro-environmentalist (conservationist) concept as opposed to being developmental (Giordano, 2014; Fulazzaky, 2014; Van Koppen & Shreiner, 2014). In this cooperation space, water shortage and scarcity, and sometimes its availability in undesired excessive quantities (flooding), have been the major drivers of water governance. In shared watercourse and aquifer systems, water scarcity can be a threat to cooperation as it has a potential to trigger conflicts. Perhaps the Malthusian and Falkenmark's discourses were premised on this type of rationalisation when they theorised of linearity in resource scarcity and conflict relative to population growth (Jacobs, 2010). Under these circumstances the responsive water governance measures include intensification of regulatory frameworks, targeting to manage and minimize perceived potential conflicts.

Notable of water governance under the traditional scenario, is that it has always been state-supplied, and the advanced argument is that of water being a public good whose services should at best be provided by the state—a notion violently rejected by market theory scholars. Market theorists argue that private and no-governmental actors (formal and informal) are known in market theory to have also supplied public goods and in many instances outperformed state institutions in the provision of such services (Phumpin, 2008).

In the provision of water governance and management services, the water practitioner has always been presented with the challenge that water is a dual-dimensional natural resource: it being an economic good in one instant while also a social good in another. This governance results from water's feature of 'common pool' resource of non-excludability, being a public good yet with consumptive rivalry (Sehring, 2009). Water also has a use-based complexity due to its intrinsic links in the broader cultural and social contexts, making it also to be readily associated with power politics in its supply. The variability and multiplicity character of water, compounded with its fugitive nature of a resource that can transcend borders, could explain the huge difference that water has from most natural resources (Sehring, 2009). These complications are part of the water diplomacy challenges, especially in relation to enforcement of the international law principles of its reasonable and equitable utilisation and distribution.

2.2.3 REGIONAL INTEGRATION AND WATER DIPLOMACY

It has been presented elsewhere in this study that water diplomacy inherently finds significant relevance in the pursuit of the goals of shared development among integrating states. One of the central challenges that regional integration seeks to address is the securing of adequate and sustainable water supply for the economic undertakings and drinking water for the peoples of the integrated community. Several countries in the Middle East, North Africa and Europe have found themselves having to factor in the issue of cooperation for water exchange as one of the areas of cooperation in their regional integration projects. Scholarship of hydropolitics does suggest that the dependency of countries on one another on water is increasing daily (Antonelli, et al.,2015; Lee, et al.,2018).

Regional integration through water cooperation across-borders intrinsically also suggests an integration across sectors, as the benefits of cooperation are realised in trade-offs that, while dependent on water, the benefits that trigger the cooperation are on the lower end of the value chain. For instance, the Lesotho Highlands project may be driven by need for water for industrial activities in South Africa. Regional integration has therefore in recent literature of international relations increasingly discussed the issue of nexus across sectors as a vital strategy for delivery or the regional integration. According to Grech-Madin, et al. (2018) water diplomacy presents tools that complement nexus governance, embracing joint fact-finding, mutual gains approach, value creation and together with collaborative adaptive management. Water diplomacy inputs to the nexus approach includes: (a) promoting a politically-sensitive approach; (b) providing tools to address complexity; (c) generating shared understanding; and (d) bringing a mutual-gains approach. On the flip-side, the nexus approach's offerings to water diplomacy includes: (a) identifying synergies and trade-offs beyond the water and basin scale; (b) enriching discussions and promoting more balanced stakeholder and sectoral negotiations; (c) help find mutual benefits and promoting value creation; (d) facilitates dialogues and regional cooperation; (e) supports peace-building through commerce; and (f) reduces focus on disputed natural resources.

Arguably, nexus governance practitioners can draw from the field of water diplomacy in dealing with the complexity of resource systems in their political milieu. On the other hand, in the view of the practitioner, water diplomacy has to rise above barriers of information access (Barua, 2018), secrecy (Yasuda, et al., 2017), short-term thinking in political processes, and ambiguity on the results of negotiations (Pohl, et al., 2014). This is not a unique problem of the water sector as it also manifests in relation to other resources such as land and energy resources. Besides, there are political and institutional barriers to generate the requisite research evidence for transboundary

natural resource governance and management due to dominant transboundary water conflicts and national interests.

Water diplomacy in the nexus context then suggests that the starting point in a nexus approach to governance is to ask the question ‘how do we do’, whereas water diplomacy considers first the question ‘how do we think’ (Grech-Madin, et al. (2018). This enables water diplomacy practitioners to examine how interests and values shape the definition of a water problem, and subsequently how this definition influences the ways tools are applied to resolve this problem. In this water diplomacy arrangement politics are disclosed.

Arguably, the most complete nexus approach to date in a transboundary context recognizes and analyses governance and key sectors (energy, water, food, land, environment, climate, and ecosystem), examines intersectoral issues, and fosters dialogue for the discovery of synergetic solutions (UNECE, 2017). According to Cascao and Zeitoun (2010), a technical framing of nexus governance may neglect consideration of allocation decisions - ‘who gets what, when and where – which is ultimately dependent on cultural and political considerations (Susskind, 2017). More precisely, the technical framing and analysis on their own do not address inequality, dimensions of international political economy and geopolitics (Al-Saidi & Hefny, 2018). This then necessitate that nexus governance solutions need to be supplemented with plural approaches to the analysis and understanding of the problems, which may also be highly political in nature and their associated decision-making processes (Allouche, et al., 2015). Literature of transboundary water cooperation also suggests that in the same way that the transboundary context requires cooperative relationships, nexus governance likewise is potentially a facilitator of transboundary cooperation. Nexus governance offers larger exchange of experiences and understandings, thereby giving a

richer lens in the analysis of stakeholders' and sectoral relationships. Similarly, peacebuilding could be catalysed through the nexus approach in the implementation of nexus development projects that incentivise intra- and inter-state cooperation – it can overcome the hydro-diplomacy state-centrism by adding intra-state (sectoral, institutional and regulatory) arrangements and practices.

The influence between nexus and water diplomacy is therefore not unidirectional. While nexus approaches are viewed as solutions in some water diplomacy problems, water diplomacy literature also suggests that the nexus approaches are greatly enabled by water diplomacy solutions in the governance of shared waters. Pioneers of the Water Diplomacy Framework, Islam and Susskind (2012), have shown that that water diplomatic decisions have unlocked many different types of problems in transboundary water management.

To deal with some of complex elements of nexus governance, the so-called Decision Analytical Framework for the water-energy-food Nexus (DAFNE) in complex transboundary water resource systems developed a methodological nexus approach which incorporates a social model (Scholz, et al., 2018), a decision analytic framework (Micotti, et al., 2019), and a water governance model (Yihdego, et al., 2018). The social model includes social, cultural and demographic developments (population growth, displacement, access to water and/or food, agricultural practices, and urbanisation) which are considered a starting point in mapping the links between energy, water, and food systems (Scholz, et al., 2018).

Scholarship of regional integration also has it that countries may elect to participate in a regional integration scheme for several reasons, but largely with the realists' objective of gaining from such participation (Dema, 2014; Kaushik, 2017). In such participation, ideally the regional integration

project becomes a platform for win-win solutions among the integrating states; primarily the realisation of equitable distribution of the gains of the resultant cooperation (Arfanuzzaman & Syed, 2017; Dema, 2014). In African economies, incentives for cooperation and partnership among integrating states are often the desire to address issues of poverty, for economic development and assurance of peace and security (Isik, 2016; Njoka, 2016). Water being instrumental in issues of poverty eradication and economic development, necessarily puts the issue of water diplomacy at the fore in regional cooperation and integration.

2.2.4 REVIEW OF RESEARCH ON WATER DIPLOMACY

Limited research work has been done in the area of international relations in the context of water diplomacy. However, various scholars have, as presented earlier, provided theoretical frameworks and opinions useful to inform deepened understandings on the issue of diplomacy. Most of these frameworks have provided the grounding on the little research available in the issue of water diplomacy most of which are worked from the premise of international relations on water.

De Stafano, et al. (2017), in this respect, describes international relations as necessary to reduce tensions in the hydropolitical regime in water cooperation. Rattanesevee (2014), on the same, presents international relations as catalytic for cooperative institutionalization. Swatuk (2015), on the other hand, introduces water diplomacy in the context of international relations as a potential maximiser for economic and political cooperation benefits. Notable of the scholarship of water diplomacy and transboundary water governance, also, is the issue of norm diffusion, norm flow, and norm convergence. In this regard, Inga Jacobs presents two claims on norm convergence in shared waters cooperation: top-down influence (cooperation principles handed down by international practice, being be accepted for cooperating nations); and bottom-up influence, in

which international rules of cooperation are arise from national and local and national (Jacobs, 2010). In this respect, Jacobs singles out eight norms of cooperation on shared water fin a top-down norm-flow from the United Nations (UN) system on water: (a) equitable use; (b) sovereign equity and national integrity; (c) avoidance of significant harm; (d) information exchange; (e) prior notification; (f) environmental protection; (g) consultation with other riparian states; and (h) peaceful resolution of conflicts (Jacobs, 2010).

The present study has explored three prominent research work on hydro-diplomacy which used as lenses in the analysis of water diplomacy in the context of water diplomacy and international relations. The reference research works are premised on theories on hydro-politics, institutionalism and negotiation theory application using complex science approaches. Specifically, the present study draws from the work of De Stefano, et al. (2017) on hydro-politics, Rattaneseevee (2014) on international relations and institutionalization, and Islam and Susskind (2018) on complex theory application in hydro-politics. However, for presentation, only the research work of De Stefano, et al. (2017) on hydro-politics and Islam and Susskind (2018) are discussed below. The work of Rattaneseevee (2014) on institutionalisation is not presented as it has already been elaborately discussed earlier under theories that inform the current study.

In their research work, whereby they applied the hydro-political lens to international relations, De Stafano, et al. (2017), identified several factors for hydro-politics as a potential source of conflict to be considered by in water diplomatic arrangements: (a) water availability; (b) salience of the river; (c) climate change (Gleditsch, 2012); (d) peacefulness of riparian relations; (e) level of democracy; (f) existence of transboundary treaties (Brochmann, 2012); (g) commercial trade (Dinar, et al., 2015); (h) upstream-downstream relationships; and (i) specific design of

international water law agreements (Dinar, et al., 2015). They argued that these factors, should be considered the first call for evaluation, and as a check on the causal links between drivers of potential tension over water and conflict. One of the findings of De Stefano, et al. (2017) in this research is that dam development in upper riparian systems has propensity for high potential for hydropolitical tensions. This indicates the need for deeper consideration the water infrastructure development issue in analyses of shared transboundary cooperation, and any water diplomatic arrangement on shared waters.

Islam and Susskind (2018) utilised complex science to deepen the understanding of water diplomacy, which they also applied in within the framework of negotiation theory. They followed the argument that water diplomacy is about solving complex water problems, involving multiple user sectors and conflicting interests among the cooperating riparian states or riparians. In the analysis, they categorised complex problems into four, those: (a) that are interconnected having several variables, actors, processes and institutions; (b) that transcend domains, scales, and boundaries; (c) those whose identification of causal connections is virtually impossible; and (d) those whose historical records are unreliable as indicators of the future scenarios. The research revealed that for complex water problems, climatic, hydrological, social, ecological, and political processes generally interact nonlinearly – with tipping points, feedback, and thresholds – and render virtually impossible the identification of an optimal solution. The research also drew from an earlier work by Islam (2017), that concluded that what is usually referred to as “complexity science” may in actuality be a collection of theories, frameworks, tools and models from systems. Complex systems, naturally resist prescriptive diagnosis, and remain unexplained by simple cause-effect relationships. At the heart of any complex system lies a collection of interdependent elements: processes, actors, variables, and institutions.

Islam and Susskind (2018) applied the complex science analysis in case of California in the drought of 2011-2017. The situation involved heightened attention among the industrial, agricultural, residential and general users of water, each assigning blame to the other due to water shortage. As expected, agriculture received particular scrutiny, being the largest user, with the main crop of alfalfa (Cooley, 2015) in the state, and yet being a feed crop both primary economic value as well as international export. The complexity in the case study arose out of the natural uncertainty about drought intensity and duration, which added the complexity questions regarding water planning and prioritization. The complex theory application by the scholars to the case in the situation analysis and solution space deviated from conventional solutions aimed at seeking to “optimize” water use (in terms of pollution, economic value, or even calories grown per dollar). It was felt that the traditional approaches would be limiting, leading to reductive analyses that tend to ignore the interrelationships and second- and third-order benefits—and costs—of water use solutions. In similar cases of complex science application in water governance solution, as in the examples of Bolivia, Egypt, Israel and Jordan, they observed that complexity manifests mostly in water management. The guidance provided in the study in such desired diplomacy-information analyses should be, instead of looking at elements, focus should be interdependencies and interactions among the elements.

Some of the conclusions by the scholars were that a complex-science-based exploration would allow the researcher and the negotiators to step back and examine at how elements (factors) interact to create emergent patterns. The tendency is that unexpected patterns will continually emerge and it is difficult to fathom their extent and to know how and from where the next one will come, and most importantly how it will affect water use, access, and allocation. Such is the

environment of the water diplomats, as they explore the unlocking of complex conditions through negotiation theory scenarios of the hydro-diplomatic cooperation arrangement.

2.2.5 REVIEW OF METHODOLOGICAL LITERATURE ON WATER DIPLOMACY

As noted by Farnum (2018), the field of diplomacy is undergoing transformation, engaging non-traditional methods and actors. This dynamic necessitates that water diplomacy practices and approaches likewise align to the emerging changes to remain relevant. There is therefore the ‘big tent’ approach to water diplomacy which manifest in various studies of scholars of hydro-diplomacy, which are also suggestive of that innovative and traditional water diplomacy tools can serve multiple objectives to realise sustainable management of shared water resources while promoting robust social engagement in governance processes towards peace and security. Notably, scholarship of hydro-diplomacy also posits that River Basin Organizations (RBOs) are central to all tracks of water diplomacy engagements. Chandrapanya, et al. (2017) presents the case of the Mekong and a few other river basins to illustrate how the absence of sincere engagement triggers tensions within a river basin, leaving vulnerable populations very much uncertain of their future water, food, and energy security.

Three methodological approaches to water diplomacy are discussed in this paper, which the literature of water diplomacy suggests could have strong relevance for Africa and the Southern African region (Akhmadiyeva & Abdullaev, 2018; Huntjens, et al., 2016; Islam & Susskind, 2018). These are namely: (a) Multi-Track Water Diplomacy Analysis; (b) Hydrosocial Cycle Approach; and (c) Water Diplomacy Framework.

2.2.5.1 MULTI-TRACK WATER DIPLOMACY ANALYSIS

Water diplomacy processes towards resolving or finding a settlement disputes over water are inherently political (Grech-Madin, et al., 2018) and difficult to de-couple from other processes (Islam & Susskind, 2018). Yet, practice suggests technical tracks are applicable in highly sensitive environments in the re-calibration of channels of communication and advancement of mutual understanding towards shared risks in basin cooperation (Klimes and Yaari, 2019). Islam and Susskind (2018) therefore postulate that cooperation frameworks founded on negotiation theory should be tailored to the specific needs of complex water challenges while focusing on the identification and engagement of relevant stakeholders in decision-making. The argument is that such cooperation frameworks provide support to water diplomatic transformations that avail more options for institutional arrangements, methods, and tools to support water cooperation within or beyond the watershed framework.

Huntjens, et al. (2016) presents the Multi-Track Water Diplomacy Framework to support in the complex issues of water diplomacy and needed effective cooperation. The framework was developed in the context of the research project ‘Water Diplomacy: Making Water Cooperation Work’. The mission was led by The Hague Institute for Global Justice, in partnership with Stockholm International Water Institute (SIWI), UNESCO Category II Centre for International Water Cooperation (ICWC), Uppsala University, International Union for the Conservation of Nature (IUCN), University College Cork, University of Otago and Tufts University Water Diplomacy Program. The purpose was to identify and operationalize the key factors affecting transboundary water cooperation in several case studies; a process that started with development of the multitrack water diplomacy framework. The framework was then tested and fine-tuned using

the Jordan and Brahmaputra case-study basins, mainly through literature analysis, multi-stakeholder dialogues, and in-depth interviews.

A framework on water cooperation should be founded in the correct understanding of the science, practice and drivers of cooperation. Keohane (1984) distinguishes cooperation from simple ‘harmony’, arguing that “cooperation requires that the actions of separate individuals or organizations –which are not in pre-existent harmony– to be brought into conformity with one another through a process of negotiation” (p. 51). He further presents, “cooperation occurs when actors adjust their behaviour to the actual or anticipated preferences of others, through a process of policy coordination” (Keohane, 1984, p.51). This implies that, cooperation requires the effort of all parties, and often times, them making compromises regarding their interests for mutual and better joint outcome. Addressing the same concern, Sadoff and Grey (2005), present what they termed the ‘cooperation continuum’, premised on the theorisation that cooperation is largely seeking to move from ‘dispute’ to ‘integration’. The cooperation continuum consists of three major steps: informing; adapting; and joining. The three-step process involves progression through the four stages of: unilateral action – coordination– collaboration–joint action (Sadoff & Grey, 2005).

The Multi-Track Water Diplomacy Framework then seeks to reflect on the cross-sectoral dynamics, while refraining from presenting cooperation and conflict as a dichotomy (but as a complex and multifaceted set of drivers). These dynamics comprise transboundary economical/ political/ geographical processes, as well as the influence of non-traditional actors of the cooperation processes, and the role of representation on practice and discourse. The framework is premised on the Institutional Analysis and Development (IAD) Framework of Ostrom (2005), especially in relation to how the latter defines the concept of ‘action situation’ in a water

cooperation arrangement. Central in the IAD Framework, is the action situation, which is defined as a “situation when two or more individuals are faced with a set of potential actions that jointly produce outcomes” (Ostrom 2005, p.32). An action situation refers to,

the social space where participants with diverse preferences interact, exchange goods and services, solve problems, dominate one another, or fight (among the many things that individuals do in action arenas) (Huntjens, et al., 2016, p.23).

In the development of the Multi-Track Diplomacy Framework, the action situation was taken as the object of the analysis, and was considered together with a reframing and repositioning of the key analytical components, so to better present the structure-agency relationships (Huntjens, et al., 2016). The framework (reproduced in Figure 2.1 below with some adaptations, for clarity) consists of five main key interacting components for understanding factors affecting water cooperation: (a) Basin wide context and Situation specific context; (b) Structure/institutions; (c) Actors/agency; (d) Action situation; and (e) Outputs, Outcomes and Impacts (Huntjens, et al., 2016).

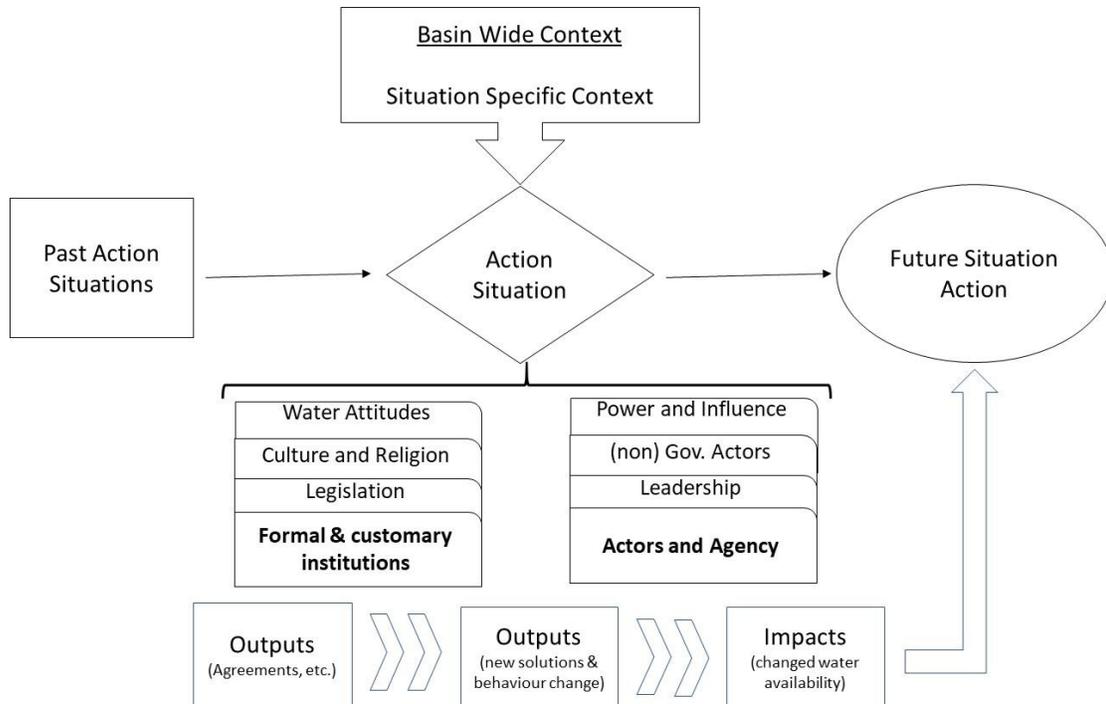


Figure 2.1: Multi-Track Diplomacy Framework, adapted from Huntjens, et al. (2016)

Importantly, the action situation is categorised or described with three lenses: Past Action Situations; Action Situation – present; and Future Action Situations (zone of possible effective cooperation-ZOPEC). The Formal and Customary Institutions component accounts for elements such as legislation, policy, culture and religion, water attitudes and related factors. The Actor and Agency component, on the other hand, accounts for elements such as leadership, government & non-government actors, power and influences, and other related factors.

The Zone of Possible Effective Cooperation (ZOPEC), derives from what in literature of negotiation theory is referred to as ‘zone of possible agreement (ZOPA)’, which refers to, “a set of possible agreements that are more satisfactory in terms of perceived interests of each potential party, than the non-cooperative alternative to agreement” (Sebenius 1992, p.333). In the present framework, the ‘zone of possible effective cooperation’ illustrates the potential areas that could

promote effective cooperation and bring benefits to all parties involved in managing the water” (Huntjens, et al., 2016, p.38). In this respect, the ZOPEC considers a combination of viable future action situations.

Huntjies, et al. (2016) applied the framework in the Brahmaputra Basin, which was the important case study basin under the ‘Water Diplomacy: Making Water Cooperation Work’ project on joint research institutions led by the Hauge Institute of Global Justice. A number of relevant action situations were identified and analysed based on the framework, and included: (a) Action situation 1: India-China bilateral cooperation; (b) Action situation 2: India-Bangladesh cooperation through the Joint Rivers Commission; (c) Action situation 3: Cooperation between India-Bhutan; (d) Action Situation 4: Bhutan-Bangladesh cooperation; (e) Action Situation 5: Bhutan-China cooperation; (f) Action situation 6: China-Bangladesh cooperation; (g) Action situation 7: Ecosystems for Life; (h) Action situation 8: Brahmaputra Dialogue.

The Action Situation 1 on India-China bilateral cooperation, for example, surfaced information gained through interviews in the two countries through application of the framework as, which inherently also consisted of review of literature and online information sources. Conducted interviews totalled 21 in China and 18 in India, and the informants ranged from government, academia, civil society, private sector and international cooperating partners (donors). A combinatory application of stakeholder mapping and snowball sampling methods were used to identify appropriate interviewees for the study. Preliminary research results validation was through the Brahmaputra multi-stakeholder workshop, and it brought representatives from four basin states together. Further validation was through some additional inputs to the study by the participants.

The classification style of the workshop used the Chatham house rules, for confidentiality processes of the participants.

The main outcome of the application can be seen in the process outputs, as earlier highlighted in the identification of the action situations, with the central action situation being the bilateral cooperation over the Brahmaputra between China and India. Highlights on the 'Formal and Customary Institutions' included: (a) China's energy plan and policy plan to open up the West; (b) India's North-East development policy; and (c) Sensitivity and 'distrust' due to territorial disputes and lack of clear information. The Actors and Agency components included: (a) Ministry of Water Resources and Ministry of Foreign Affairs on both sides; (b) Various States in India (Water is a state matter); and (c) Bilateral approach to transboundary water.

The main outputs of the process included: (a) China-India Memorandum of understanding on flood season data sharing; (b) China-India cooperation on emergency situations; and (c) Expert group mechanism. The main outcome was the provision of flood-season hydrological data and emergency management, which will impact in reduced disaster in shared Brahmaputra basin.

While it has not been in the interest of the current study to develop a framework as such, the factors or elements assessed in the Framework and the projection towards some desired state in the cooperation arrangement, in what they termed the 'ZOPEC', were found to be quite useful for the analysis in the present research. The framework also provided a useful analytical lens for the examination of the issues and the interpretations regarding what could be considered the real driver systems of the Southern African water diplomatic arrangements and processes.

2.2.5.2 HYDROSOCIAL CYCLE APPROACH

The study of the Hydrological Cycle Approach applied in the Caspian Sea case study, attracted interest in the present research. It drew interest in the present study in view of the application of the methodologies in understanding the history, present circumstances and future prospects of the Caspian water diplomacy and management issues. The Caspian study used the concept of the hydro-social cycle, and management paradigms by Akhmadiyeva and Abdullaev (2019) to review the effectiveness of regional cooperation through examining the paradigm shifts in water management in the Caspian Sea basin and tracking water management developments as represented by the changes in technical, socioeconomic, and environmental indicators during five historical periods.

In the case study, motivation for the Caspian Sea by Akhmadiyeva and Abdullaev (2019) arose from the pressures that the system had been experiencing lately; being an object of critical environmental degradation, including deteriorating water quality, loss of biodiversity, poor public health, and soil contamination. Weak environmental policy and regulation and lack of joint efforts in the five littoral states were the limiting factors in the effectiveness of efforts aimed at protecting the Caspian environment. The newly independent countries, Azerbaijan, Turkmenistan and Kazakhstan, had been extensively developing their gas and industries aiming at attracting investment to these sectors. Consequently, the Caspian Sea was hugely exposed to pollution threat from gas and oil extraction, refining, transportation, storage, and utilisation of petroleum products, as well as accidental oil spillage. This became a great concern for the Caspian Sea, known to have a unique ecosystem endowed with over 400 endemic species, including over 110 types of fish. Under this scenario of developments, such abundant biodiversity got exposed to water contamination and habitat demolition (ADB, 2009). No wonder, the Caspian Sea was recognised

through listing by the International Union for Conservation of Nature's among the list of threatened and endangered species (IUCN, 2017).

The work of Akhmadiyeva and Abdullaev (2019) explored the changes in water management paradigms of the Caspian Sea basin in the period covering the last three centuries, but focussing more on the period after 1990. The scholars based their investigation on the chronological analysis of the water sector's developments, agreements and treaties between the littoral states, important political transformations, and technical inventions in their political regimes.

Methodologically, the exploration was aligned with two major concepts namely water management paradigms, and the hydro-social cycle concept. The water management paradigms concept was used to get a deeper understanding of the developmental stages' management of the Caspian Sea waters. The hydrosocial cycle concept was applied as an analytical lens in the analysis of each paradigm. Of the hydrosocial cycle, Palomino-Schalscha, et al. (2016) present that it demonstrates how economic and political factors, as well as social power interrelate with water, transform water, and are changed by water. Substantial literature endorsed the hydrologic cycle as a physical process differing from various approaches that affected by change over time (Duffy, 2017). However, other scholars have criticized the hydrologic cycle for disregarding the social dimensions (Linton, 2010). The hydrologic cycle assumes the physical states and related water conditions of its processes as asocial and apolitical. The hydrosocial cycle concept contrasts the hydrologic cycle as a more holistic process that captures both the biophysical and socio-political dimensions (Budde, et al., 2014). The argument is that institutional change and social progress have increasingly influenced global hydrologic processes. Various scholars have viewed water as

a politically contended resource, and there has been apparent convergence of thought that water management policies and institutes are the results of political actions.

In its theorisation, the hydro-social cycle functions with reference to social contract theories. It therefore foresees a hydro-social nexus at play at the intersection of water management, legal and social norms, the state, and the environment. Water is then viewed as embedded in the social arena by social norms, individuals' rights and water resources, as well as the social fabric of the societies in this developed relationship with water. In the lens of political ecology, the hydrosocial cycle adds to understanding how society and nature interact with each at various levels, and the interaction is what governs the conditions for change in the water management practices (Cook and Swyngedouw, 2012). The hydrosocial cycle, often associated with socio-hydrology, the budding interdisciplinary science proposed by Sivapalan, et al. (2012), focuses on observing, forecasting, and understanding of co-evolution of coupled human-water systems; consists of three main components: the water (or water resources), the technical context and the social context (Akhmadiyeva & Abdullaev, 2018).

In studying the management paradigms, Akhmadiyeva and Abdullaev examined different understandings of water through five stages: i) pre-industrial era (before 1846); ii) industrialization era (1846–1917); iii) era of the Soviet collectivization (1917–1940); iv) hydraulic mission (1940–1990); v) independent coastal states (1990–2019). The analysis revealed that prior to the Industrial Revolution, the Caspian Sea was managed by Persia and the Russian Empire and Persia for fishing and navigation. However, the subsequent technical progress brought about regional sectoral activities, stimulating the hydraulic mission which caused a considerable degradation of the Caspian sea's ecosystems. The adoption of the Tehran Convention in 2003 was the significant step

towards the Integrated Water Resources Management (IWRM) paradigm for the Caspian Sea basin. However, there was lack of political will to implement the agreed principles of IWRM in the in the water governance by the Caspian states and, consequently, the natural environment has continued to deteriorate. The study then provided new insights, approaches and directions for reviewing society's role in the governance of the Caspian Sea and its resources. This, it argues will yield better outcomes in these collaboration efforts.

So, what are the notables of the approaches? In the present study, while not utilising precisely the scope of the management paradigms in a tracked historical sense, the analytical framing of the historic developmental junctions informed the analysis of the data to be collected from research participants. The hydro-social context also came into play in the interrogation of the question of the role of private sector and non-state actor in transboundary and regional water diplomacy.

2.2.5.3 WATER DIPLOMACY FRAMEWORK

Islam and Susskind (2013) introduced the Water Diplomacy Framework (WDF) as another tool for cooperation of states over shared water resources, to help cooperating states in handling complex decision in the issue of equitable and sustainable joint utilisation of shared waters. Complex water problems arise from the interconnectedness and inherent feedbacks in the dominating variables, actors, processes and institutions. Many institutions and actors with competing values and interests get involved in the decision pertaining management and utilisation of shared waters.

The WDF was then offered as an alternative to the traditional techno or values-focused solution methods to water management and governance (Islam and Susskind, 2013; Islam and Repella,

2015). It starts by asking the question: “Who decides who gets water and how?” (Islam & Susskind, 2018, p.4). The WDF hypothesis is that for water challenges arising from complex – interconnected, unpredictable, uncertain, and boundary crossing – system dynamics intense with feedback, problem-solving traditional frames can be very limiting or even counter-productive. The WDF further hypothesizes, “...when dealing with complex problems, these dimensions cannot be de-coupled” (Islam & Susskind, 2018, p.4-5). According to the authors, the WDF recognises both the constraints to knowledge – objectivity of observations versus subjectivity of interpretation – and the contingent nature of man’s action. The approach stresses that all parties have a legitimate right of concern regarding an accepted intervention’s evidence, implications of the future intervention and the basket of proposed solutions. The parties may consider producers and users of water knowledge, technical experts, managers, decision makers, policy makers, and politicians. Further, the WDF asserts that parties by requirement, have to seek consensus on mutual value creation and guiding principles in the negotiation of a solution.

Islam and Susskind (2018) present the application of the WDF in the case of Israel and Jordan cooperation of the shared waters of the Jordan river; through use of the approach in the Jordan’s 1994 Peace Treaty. Jordan did not have water storage capability within its own boundaries, and so the agreement was to store Jordan’s water share in Lake Tiberius (in Israel) during the rainy season, for release to Jordan during the dry season. Israel also accepted to assist in the construction of the water transfer infrastructure to minimise water loss in the water transfer to Jordan. A win-win solution was therefore realised as Israel was able to get the treaty it desired most, while Jordan (on the other hand) achieved a solution to meet its dry season water needs. The tool can then be said to have allowed water to be treated as a ‘flexible resource’ in this cooperation arrangement (Islam & Susskind, 2018).

2.3. SYNTHESIS OF THE RESEARCH

The significance of water in the global economy cannot be contested anymore. The UN Water (2016), for instance presents that two-fifths of the world's entire labour force works in heavily water-dependent sectors like mining, agriculture, and fisheries. Therefore, water insecurity can significantly affect the economies and livelihoods they support, and lack of secure access to sufficient supplies of safe water can result in dire socio-economic consequences.

In an analysis of transboundary water cooperation, Islam and Susskind (2018) theorise of water diplomacy as being a process that culminates into establishment and/or enhancement of cooperation over shared freshwater resources, and involving a diverse range of players/actors at multiple levels; whether formal or informal, intra and inter-state. In this conception, water diplomacy is informed by technical tracks and is reliant on data. Typical of contemporary water diplomatic practices is the increase of application of collaborative adaptive management solutions to the management of shared waters. Collaborative adaptive management offers a continuous and iterative experimentation process, adjustments and careful monitoring of results (Islam & Susskind, 2018; Yihdego, et al., 2018).

In Africa, and particularly Southern Africa, the dependence on shared water resources is high, as can be seen in literature of transboundary water cooperation on the significance of river basins such as the Nile, Niger and Zambezi. The Zambezi River Basin, in Southern Africa, has a population of about 40 million inhabitants (Zambezi Watercourse Commission, ZAMCOM, 2016). It is Africa's fourth largest river basin in Africa (1.39 million km²), and accounting for 4.5% of Africa's continental area. The basin faces pressures from a quick-rising population, estimated at

51 million by 2025 (i.e., 27.5% more than in 2008). The population growth is predicted to bring about an increase to 60% in food demand, with an associated 50% rise in energy consumption by 2035, and an increase of 10% in irrigation water withdrawals by 2050 (Zambezi Watercourse Commission, 2016). For Southern Africa, the Zambezi River Basin can serve as an exemplar of water diplomacy tools and strategy application in a river basin setting. However, the current study, nevertheless, opted for three slightly smaller basins for a case study, which in the analysis were compared for diversity of diplomatic successes against a regional one-unit basin (Zambezi) experience.

Scholarship of hydro-diplomacy also suggests that countries may opt to participate in international water cooperation projects for a number of reasons, but largely with the realists' objective of gaining from such participation (Dema, 2014; Kaushik, 2017). However, other scholars also submit that liberalist or neo-liberalism inclinations are also manifest in the history of water diplomacy. Regional institutions such as river basin organisations have been established and increasingly entrusted with the responsibility of coordinating water cooperation over shared waters (Molnar, et al., 2017). The present research has served to track these issues in the context of the Southern African region.

Islam and Susskind (2018) have also theorised that complex science theory can assist in unpacking the complex issues of water diplomacy, and thus aid negotiation theory at play in transboundary water cooperation and the sharing of water resources in a peaceful and sustainable way. They further developed a water diplomacy framework whose application in places such as the Jordan River Basin has yielded promising in dealing with the pertinent issues of conflict reduction. The approaches of these scholars have been found useful in the present study, for consideration in

interrogating the question of allocation and joint development of shared water resources in Southern Africa, and navigating around theoretical solution spaces for equitable and reasonable water utilisation in the regional hydro-diplomatic arrangements.

Recent scholarship of hydropolitics has increasingly refuted the extremists' postulations of water wars being around water; arguably dispelling predictions of water tensions by the Malthusian and Falkenmark Discourses on tensions arising from goods' demands from by rising populations (Dema, 2014; Molnar, et al., 2017). The scholars have gone further, based on analytical work of Alan Wolf and others, to show how work on hydropolitics dispel the myth of water wars. The work by Alan Wolf shows that in over 1800 potential conflict events, more that 67% were on the cooperation side, way below the threshold to war. Similarly, other scholars present that over the last seventy years, the world has witnessed only thirty-seven disputes globally, against 295 water cooperation treaties (Salman, 2015; Wolf, et al., 2003). This, arguably presents that water has a strong propensity to draw cooperation than wars over it, and suggestive that the long history of informal diplomatic arrangements world over has yielded some dividends in water cooperation. The present research has examined some of the factors that could cause conflict in Southern Africa and also considered systems in place for conflict resolution and management, and then went further to identify the practices and drivers that could boost more water cooperation in the region.

Later scholars have also argued of joint planning, monitoring and notification measures as having played vitally important role in containing potential conflict over water; and the joint cooperation effort necessarily being viewed as a useful water diplomacy tool (Molnar, et al., 2017). The cooperation continuum theorisation of Molnar, et al. (2017) also suggests that successful water diplomacy arrangements should result in outcomes towards joint effort in the planning,

development, utilization and management of shared waters. The current research has, in an effort to increase the understanding of water cooperation incentives, utilised the lens of whether or not identified benefits really appear to aid joint planning and togetherness in water cooperation on transboundary water resources.

The purpose of the research ultimately was to understand the real drivers of water diplomacy and its practices in regional development and cooperation in Southern Africa. Molnar, et al. (2017) have already presented on the main global drivers of water diplomacy, and in their view, these consist of two main factors: (a) the driver to grow and develop; which is the call for global frameworks to address economic risk; and (b) environmental security concern. The present research has sought to further explore deeper the regional relevance of these global drivers, and those that are specific for Southern Africa; especially noting the pressures of the regions' waters that come from both flood and drought extremes, and the unique content offerings of the Southern Africa regional integration project.

2.4 SUMMARY

Literature review in this chapter acknowledged that the international relations of water are key for peace building, poverty reduction and maximizing regional growth. The chapter examined a wide range of research work on international relations, regionalism, hydro-diplomacy and the methodological approaches on several water diplomacy case studies. There are mixed conclusions in the literature on the visibility and importance of water diplomacy in regional development; with some scholars casting doubt on the relevance of water as a contributor of note (e.g., Muller, et al., 2015), and others suggesting that hydro-diplomacy as potentially being a strong regional integration deal-breaker depending on its delivery mechanism. Transboundary water cooperation,

water governance, and the hydro-politics of resource distribution region-wide are perhaps cooperation areas that can either enable or limit the regional development drive whereby water unlocks a region's development potential (Mabhaudhi, et al., 2016). Detailed review of theories of international relations, regionalism, and hydro-diplomacy indicate that water diplomacy theoretical framings can shed more light on the real drivers of water diplomacy and regional growth.

Chapter Two also presented water diplomacy frameworks, that provided insights towards application of the concepts and theories of international relations and hydro-diplomacy towards maximizing the gains of the water diplomacy practice. This was analysed in the context of transboundary systems as well as in regional integration settings, especially focussing on the goal of optimising outcomes in water diplomacy arrangements intended for regional development. Chapter Three will present the research methodology towards examining deeper the conduct and influences of water cooperation, and thereby surface information on the likely drivers and practices of water diplomacy in Southern Africa.

CHAPTER THREE

RESEARCH METHODOLOGY

Chapter Three describes the selected research methodology and its application in the study. The adopted methodological approach is the qualitative study; in particular the single-instrument case study, which was applied to realise the purposes of the study: to identify and understand the dominant drivers and practices of water diplomacy in the Southern African region. The chapter also presents the description of the purpose, research questions, population sampling, legal aspects, rights of participants, and data collection methodology.

3.1 PURPOSE OF THE STUDY

The purpose of the qualitative study, as earlier presented, was to advance the knowledge and understanding of the main practices and drivers of water diplomacy in regional cooperation and development in Southern Africa. Scholars of hydropolitics argue of water as a potential irritant or unifier for regional cooperation depending on the dynamics of the cooperation arrangements (Jarkeh, et al., 2016; Mianabadi, et al., 2014b). The study design therefore intended to aid the increase of knowledge and understanding of when to expect positive traits in water diplomacy in a regional water cooperation situation. This would be realised through answering the question whether water truly contributes positively to regional development in the Southern African region. Premised on the postulates of water diplomacy as a development enabler for Southern Africa through its contributions to social upliftment and economic development and (Al-Saidi & Hefny, 2018; Mabhaudhi, 2016; Namara & Giordano, 2017), the study was also designed to increase the understanding of the architectural dimensions of water diplomacy. Specifically, it sought to understand the drivers and the practices of the water diplomacy phenomenon, with the aim of

deepening the understanding of the characteristics to be nurtured for better outcomes in water cooperation for regional development and integration.

3.2 RESEARCH DESIGN

The study research design is qualitative. Specifically, the research method applied is the qualitative case study approach: the single instrumental case study. The case study as a methodological approach is considered versatile in a study like this one, that is focussing more on the ‘how’ and ‘why’ questions of the phenomenon. As earlier presented, the approach is vitally important in the provision of an understanding of a phenomenon within its natural context where the bounds between the phenomenon and the context itself cannot be markedly defined (Khaldi, 2017; Yilmaz, 2013; Zucker, 2009). The system boundaries for the case study are defined by five selected inland states in Southern Africa, which are also actors in the regional integration project. These are countries that participate in the three selected cross-border water infrastructure projects located in three of the region’s fifteen transboundary river basins; namely Kunene, Orange-Senqu and Incomati River Basins. Paired according to the bilateral joint cross-border projects and river basins, the countries are namely Angola and Namibia (Kunene River Basin), Lesotho and South Africa (Orange-Senqu River Basin), and South Africa and Eswatini (Incomati River Basin). The countries were also considered the unit of analysis in the study.

The applied methodological approach consists of two distinct steps: (a) theoretical (or literature-based) research, and (b) field research. For the literature-based phase, a textual analysis was employed through application of a qualitative method as a conceptual lens. As part of the analysis, was the execution of a descriptive and explanatory application of the literature-based theoretical approach. An attempt to literary trace development of the regional development practice was done

and it largely focussed on the countries that are part of the river basins in which projects under study are located. To answer the questions and confirm applicability of considered theories, the methodology for a case, studied three shared or cross-border water infrastructure projects; through tracking and analysing issues of water governance and their contribution to the regional cooperation and water diplomacy agendas of the Southern African region. The analysis was supplemented by an investigation of the circumstances of the river basins and member states governance systems where these projects are situated. The process consisted of an analysis of the instruments and institutions of cooperation on the projects, and related regional (and transboundary) water cooperation frameworks that influence the conduct of cooperation of the participating countries. Selection of the cross-border projects used in the research was also informed by their regional importance in the water sector, considering particularly their sensitivity to transboundary water cooperation, and contribution to regional cooperation and regional peace building. The selection was also confirmed through solicited advice of some regional actors such as the river basin organisations (for river basins where the projects are located) and experts from the Southern African Development Community (SADC) Secretariat. The rationale for targeting these institutions was their historic connection in facilitating the enabling environment for cooperation on the projects in various ways.

As earlier explicated, the studied projects are located in river basins that include the Kunene, Incomati, and Orange-Senqu river basins. Precisely, the three transboundary water projects in the research are: (a) Komati Basin Water Development Project (in the Incomati basin, between South Africa and Eswatini); (b) Lesotho Highlands Project (in the Orange-Senqu basin, between Lesotho and South Africa); and the (c) Kunene Transboundary Water Supply Project (in the Kunene basin, between Angola and Namibia).

Three levels of regional and member states institutions were considered in the analysis. These levels are: (1) institutions that cooperate in the selected projects under investigation (considered core in the analysis); (2) institutions responsible for riparian cooperation in the selected river basins of the studied cross-border water projects; and (3) regional actors of importance for the purposes of the study. The analysis intended to track the practice and development of instruments of cooperation (cooperation frameworks, practices, constraints, limits of cooperation and sharing of costs and benefits), and to understand their philosophy towards conflict prevention and management. The analysis also aimed at increasing the understanding of the water diplomacy and governance institutional regime and instruments that determine the overall regional climate and culture of cooperation for the projects. The rationale was that these possibly are aspects that may inform the arbitration of conflict in the event of disagreement.

For the purposes of the study, the synthesis of the research concentrated more on exploring and creating an understanding of the regional hydro-diplomatic setting of Southern Africa, the vehicles used for the delivery of water diplomacy, evaluation of water governance systems at play, and establishment of the relationship between water diplomacy and regional cooperation. The object of the study then was to identify the best practices guidance frameworks, courses of action, water diplomacy and water governance models that could increase the gains of collaboration among the water cooperating states. The research questions would help shed light and inspire the analyses leading to deeper understanding of some of the research contentions of the study. The research contentions were: (a) water diplomacy is an enabler of governance processes of shared watercourse systems; (b) understanding the dominant traditions of water diplomacy in water cooperation arrangements can help increase trust-building levels for joint resources management in the water cooperation continuum; (c) non-state actor institutions are also crucial role players for sustainable

transboundary water cooperation; and (d) the driver incentives of cooperation tend to determine the direction and speed of cooperation in joint water projects.

The list of interviewees considered in the study also drew participants from non-water sectors like the energy sector, agriculture, transport and a few others also participating in the regional integration and water diplomacy projects of the Southern African Regional Economic Communities (RECs) such as the SADC, Common Market of Eastern and Southern Africa (COMESA) and the East African Community (EAC). These are the RECs that are custodians of regional development mandates for Southern Africa, in varying degrees and focus areas. The aim was to also get an appreciation of the regionalisation projects, and to get deeper understanding of how they perceived expected and existing interactions with the water sector that may enable optimization of outcomes of regional development efforts of the region. Data analysis undertaken aimed to shed light in these issues.

Process-tracing was also employed in the thesis to ascertain the extent and trends of socialisation of normative international and regional principles that influence the propensity to integrate or cooperate. Policy alignment and harmonisation with international and regional instruments of cooperation, and speed in updating and re-calibrating such national instruments by member states in the event of changes or emerging issues in guiding global and regional frameworks and systems, are also an important indicator therefore to gauge readiness of a country to cooperate and collaborate. Ratification of such tools may also be an important measure of the regionalism propensity of a country (Flogera, 2018). At a bigger scale, the country's participation level in river basin water diplomacy engagements can also be viewed as an expression of how the country would fare in region-wide cooperation (Muller, et al., 2015). Literature examination of international water

agreements, signed bilateral, regional and multilateral agreements was essential for this purpose of examining the intensity and extent of involvement of the countries in regional water diplomacy arrangements. The level of participation of countries in global and regional water interchanges and dialogue initiatives, can also be a measure of their inclination to cooperate (Flogera, 2018). Various modes of information gathering were also applied in the study such as email correspondence, meetings and workshop participatory approaches. These approaches generally consist in bulk what is often termed process-tracing research in a river basin arrangement (Flogera, 2018; Ulibarri, 2015).

3.3. RESEARCH QUESTIONS

The Research Questions answered are:

R1: What specific traits are characteristic of transboundary water cooperation that can be nurtured for progressive water diplomacy in the Southern African region? The Sub-questions to this first Question are:

R1a: What are the important drivers of water diplomacy that shape regional water cooperation in the Southern African region?

R1b: How should the practice of transboundary water cooperation, especially the motivations of river basin states to participate in water sharing and joint water projects, be understood?

R2: How can cooperation and water resource sharing frameworks be re-shaped for better regional development and peaceful joint water utilisation outcomes? The Sub-questions to this second Question are:

R2a: How is the distribution of water rights determined in shared transboundary watercourses, and whether these arrangements contribute positively to regional peace and development?

R2b: How could present water governance institutional frameworks and practices be adapted to yield more satisfactory social and economic development outcomes in the region?

3.4 POPULATION AND SAMPLING STRATEGY

3.4.1 POPULATION

The target population consisted of regional water governance practitioners and experts with experience in transboundary water cooperation and/or regional development and cooperation, but with links to the institutions or countries or of the case study projects. Since the study primarily focused on three transboundary river basins in Southern Africa and yet targeting specific projects in the case study, of importance in the sampling was to have at least three of the interviewees coming from countries or institutions closely associated with at least one of the projects. All participants were therefore from countries involved in the projects, although some had more experience in river basin or regional cooperation issues than project specific experience. Of particular note also, was that some of the research informants were from countries involved in more than one of the projects, resulting in some kind of double counting in these instances (e.g., in the case of the Incomati and Orange-Senqu River Basins).

3.4.2 SAMPLING STRATEGY

The sampling approach applied was the qualitative methodology, to respond to the wide-ranging cooperation issues from the various premises of water governance and river basin management. Precisely, the purposeful sampling strategy was applied to select research participants that could meaningfully contribute in the understanding of the study due to their deeper appreciation of the subject issues (Benoot, et al., 2016; Palinkas, et al., 2015). Palinkas, et al. (2015) further argue that while there are many different purposeful sampling strategies, the criterion sampling is most commonly used in practice. The criterion sampling is the strategy applied in the current study.

Generally, the purposeful sampling technique (a non-probability sampling strategy) has been extensively used in qualitative research. It prioritises selection of research participants based on the particular purpose of the experiment. It is often commended for allowing a reasonable degree of freedom to the researcher for decision-making in the selection of individuals to form part of the experiment, as informed by a distinct criterion such as specialist knowledge and experience, and readiness to participate (Palinkas, et al., 2015; Showkat & Parveen, 2017). The purposeful sampling technique further advocates for research participants selection based on the particular purpose of the experiment. In the present study, the snowballing sampling strategy was also applied, so as to allow for referrals by interviewees to other potential research participants that could have useful information for the study.

In applying the criterion purposeful sampling, the researcher singled out five main characteristics that defined the criteria for selection of research participants. The characteristics consist of: (a) years of experience in regional cooperation-related work; (b) experience in participation in

regional political and/or water governance dialogues; (c) overall appreciation of the socio-economic issues of the Southern Africa region; (d) belonging to, involved or having interest in any one of the river basins under study; and (e) critical thinkers with interest in regional development or water governance. For reasons of confidentiality, information that could easily lead to identification of the individual with a specific river basin or country or specific project was coded.

3.4.2.1 SAMPLE SIZE

Many scholars suggest that in a qualitative research, the sample size is determined by the nature of the study contingent on the homogeneity of the group, as well as the saturation point. The saturation is the point beyond which any additional data collection process does not offer any relevant or new data (e.g., Benoot, et al., 2016; Latham, 2016; Fusch, et al., 2018; Saunders, 2017). Latham (2016) recommends a minimum sample of fifteen participants for most qualitative interview studies for the case of homogenous participants, with the argument that saturation would have happened between twelve and fifteen participants. Marshal, et al. (2013), analysed over eighty qualitative studies of leading Information Systems journals, and from the findings of the study recommend that for single case studies (as in the current research), fifteen to thirty interviews would suffice to realise the desired rigour of the study. The current study aimed at an initial sample size of fifteen participants. It, however, provided for an increase in the sample size, as determined by additional interviewee referrals in the application of the snowball approach as part of the sampling strategy.

3.5 RESEARCH INSTRUMENT

The main instrument of the research was an interview, a semi-structured interview; a combination of face-to-face and telephonic (including skype call) interview by the researcher. It involved a set of questions that fell into two main categories according the two main research questions. The first category dealt with the regional water cooperation issue with the view of understanding the characterisation of the water diplomacy practice; and the second focussed more on the river basin governance and project-specific experiences. Literature-based information served to complement the interviews. In this respect the review of material sought to aid the understanding of the culture of doing business, and regulatory and policy frameworks in the studied river basin and member states institutions. The researcher was therefore in this respect also considered as part of the research instrument.

3.5.1 INSTRUMENT VALIDATION

Credibility of the study was confirmed through validation of the research questions by experienced research professionals. Since the researcher was active as a part of the research instrument in the study, this being a qualitative inquiry, credibility of the researcher therefore needed to be also checked. Important to note, is that the researcher is relatively very much experienced in issues of water governance from both regional and transboundary contexts. The researcher is well exposed to regional integration issues and resource material; having worked in a regional institution, with over eight years of practical experience employed in a regional organisation (i.e., SADC Secretariat).

Noteworthy, however, is that since this is largely a qualitative research and thus the researcher construed as being the 'human research instrument', the risk of researcher bias cannot be ignored. Thirsk and Clark (2017) also grappled with the subject of bias in qualitative studies. The scholars highlighted that:

The rigor of qualitative research is particularly vulnerable when it lacks some of the devices that have been employed in quantitative research to ensure that what is produced is not just well-composed rhetoric of a well-meaning, but biased researcher's opinion (p. 4).

A researcher's background and position generally tend to have a bearing on what the researcher selects to investigate, the angle of the investigation, the methods considered sufficient for analytics for the set purposes, considered findings, as well as the framing and communication of conclusions (Galdas, 2017; Thirsk & Clark, 2017). Galdas (2017) further presents, "Those carrying out qualitative research are an integral part of the process and final product, and separation from this is neither possible nor desirable" (p. 2).

The method applied in the present research to deal with possible researcher bias is the Peer Debriefing method (also called analytical triangulation). Hadi (2016) describes the method as a process whereby a peer researcher is brought in to help probe the researcher's thinking of certain parts or the entire process of the research. Three professional researchers were used in the study to do the analytical probing so to help uncover likely ignored biases, assumptions and perceptions. The process was also required to test and defend emergent conclusions, to confirm their reasonableness and plausibility to the disinterested (or impartial) de-briefers (Anney, 2014; Figg, et al., 2010). In the analysis, it also served to broaden, review or even validate emergent patterns from the data analysis.

3.6 DATA COLLECTION PROCEDURES

Data collection was, as presented earlier, mainly through physical contact and telephonic (even skype), as means for conducting the interviews. An initial list of fifteen research participants to be interviewed was identified. The expectation was that this number would increase as the snowballing approach was applied, with referrals to more candidates for interview. Kiley Daley, in a comparable qualitative study, used a higher number (thirty-seven people), in a research that sought to explore prevailing relationships between public health and wastewater systems and municipal water in Coral Harbour, Nunavut, in Canada (Daley, 2013). The number was informed by the saturation point of the study, which was higher for the Daley (2013) study than that of the present study due to the considered anticipated differing level of homogeneity of the samples. Daley conducted the interviews with key residents and informants before thematically analysing the collected data and information. In the current study, the complete set of data and information typical of a case study inquiry was also collected, namely interviews, documents, archival records, and direct or physical contact (Brinkmann & Kvale, 2014; Moser & Korstjens, 2018).

All interviews were conducted in English, and likewise transcription of the digital recordings performed in English. The interview specifically targeted attaining information on the participants' perceptions, attitudes and experiences in the issue of transboundary water governance and water diplomacy. With this goal, application of a semi-structured interview protocol took place with two main research questions and four sub-questions. The interview duration estimate was in the range 30-45 minutes. The researcher allowed flexibility, for the participants to follow any order of preference in sharing their experience in responding to the questions.

3.6.1 DATA SOURCES, RIGHTS OF PARTICIPANTS AND LEGAL ISSUES

Several data sources were considered in the research. Most reports were sourced from the Southern African Regional Economic Communities institutions (SADC, COMESA, & EAC), member states, river basin organisation, and some target research institutions. For theory, other research publications were obtained from various research data sources, internet, academic and research work of several scholars, theses on the subject of water diplomacy and water governance, and seminal work from authors of major theories and concepts.

Research participants were mostly regional experts practising in the areas of water governance or regional cooperation in various areas linked to water, as already detailed in the research methodology above. The rights of participants were accordingly protected in the study as discussed under legal issues below.

3.6.2 LEGAL ISSUES

In the study, the full consent of the interviewees to participate in the study was considered vitally important (Showkat & Parveen, 2017). In conducting the study therefore, approval was sought from each research participant before collecting the data. Emails and telephone call were sent out or made, to seek the interviewees' consent in conducting the interview. Such communication calls or messages were also made for follow-up. On the day of actual data collection (interview), signatures of the participants were secured using consent forms. For telephonic (or online) participants, the form was emailed, for them to sign and send back after the interview. Follow up was made (using email or telephone) with those that delayed to submit the signed forms.

3.7 DATA ANALYSES

Once data was collected, the researcher employed some parts of the method by Moustakas' (1994) for data/transcripts analysis, also used by De Felice & Janesick (2015) and Orsucci, et al. (2015). In this application the following steps were used: (1) Horizontalization of data; (2) Clustering meanings; (3) Describing textures of the experiences; (4) Describing the Structures of the Experience/Imaginative Variation; (5) Constructing a Textural-Structural Description; and (6) Textural-Structural Synthesis. The information packaging and coding were structured in a way that sought to help answer the identified research questions.

3.8 EXPECTED FINDINGS

Expected findings were that the qualitative analyses would either validate or refute the main assumptions of the study. Shared experiences and views of practitioners in transboundary water cooperation and/or regional cooperation would identify present practice and identify gaps in relation to desired ultimate outcomes of the cooperation practice. The major assumptions of the study would also be validated or confirmed or refuted through an examination of strategy and policy of the region as outlined in river basin and regional cooperation instruments.

The major anticipation with regards the collected information was that practitioners closest to physical joint projects of cooperation would aid in shedding information on the strengths of cooperation in and from such projects. Expectations were also that this would aid the understanding whether the research participants saw these projects as contributing something to the goals of regional development and cooperation, beyond just directly benefiting from them. Furthermore, the interviews would help confirm the level of volatility of the basin hydropolitics, whether their net impact should be viewed as positive or negative. Also, experiences of the

practitioners were desired to help gauge whether the selected basin projects' philosophies and lessons can be readily replicable in other river basins of the beneficiary states and elsewhere.

The experience of thinkers and region-wide knowledge from interviewees was also crucial in the identification of the connectors between the two concepts (water diplomacy and regional development as driven through regional integrations), to help ascertain the dependencies, deliberateness, and strengths of these interactions. It was also going to aid in the identification of whether prevailing water dialogues and discourses are seeking (or even successful) to facilitate strengthening of regional cooperation. Investigations premised on the incentive theory of water diplomacy and regional cooperation would also help shed light on the benefits of participation in such cooperation schemes by the riparian and regional countries.

Ultimately, the interviews sought to help come up with identifiers of meaningful water cooperation regarding its contribution to the gains of regional cooperation through the practice of water diplomacy in Southern Africa. The set of identifiers would also surface themselves in the form of a guidance framework of indicators of water governance contribution to regional cooperation and development.

3.9 SUMMARY

Chapter Three outlined a detailed description of the research methodology selected for and used in the study. The study used a qualitative case study approach to attain the main goals of the research. The detailed descriptions by the research informants and exposition through literature analysis aimed to provide clarity on the dominant drivers and practices of water diplomacy in the regional cooperation agenda of the Southern African region. The perceptions and

interpretations would also facilitate the identification of spinoff influences of the regional water diplomacy to regional cooperation practices in Southern Africa; those likely bi-directional influences between the water diplomacy and the regional cooperation phenomena. Resultant insights from the process would also offer foundational knowledge that could be used in re-shaping the water governance practices of the region; which in turn could potentially increase the impact of transboundary water governance's contribution in the broader regional cooperation and development.

CHAPTER FOUR

DATA PRESENTATION:

INTRODUCTION

The purpose of this qualitative case study was to understand the dominant drivers and practices of water diplomacy in the Southern African region. It particularly focussed on river basin cooperation experience of the Southern African region, making use of three purposefully selected cross-border water infrastructure projects. For the purposes of the study, the qualitative case study approach was followed, to understand the perceptions of research participants and their experiences on the subject, to interrogate the research questions. Literature review-based analyses supplemented this information. The results and analyses of the study are presented along the themes that emerged, utilising data analysis from responses of the participants. The information was captured through semi-structured interview protocol questions. The Chapter concludes with a summary.

4.1 DEMOGRAPHICS

The information below (Table 1) presents a high-level summary of the demographic context in relation to the main river basin characteristics of the case study projects, and also depicts the link of the research informants to the river basin projects under study. The informants (participants) came from the countries and sectors in the Southern African region as discussed in the Methodology section.

Table 1: Summary of demographic and basin characteristics information for study joint projects

Cross-Border Water Project (and involved States)	Transboundary River Basin	No of Participants from Basin States	Basin Runoff (Mm ³ /a)	Rainfall (mm/a)	Basin Runoff by two Countries (%)	River Basin Organisation (Implementing Entity)
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Kunene (Angola/Namibia)	Kunene	4	5,500	100–1400	100	Permanent Joint Technical Committee (Steering Committee)
Komati (Eswatini/South Africa)	Incomati	7	3 590	600–1500	95	Joint Water Commission (Komati Basin Water Authority)
Lesotho Highlands (Lesotho/South Africa)	Orange-Senqu	8 ¹	11,300	50–2400	96	Orange-Senqu Watercourse Commission (LHDA ² , TCTA ³)

(Source: Adapted from river awareness kits, material from literature, and additional information from the Author)

4.2 DETAILS OF ANALYSIS AND RESULTS

Six main themes emerged from analysis of the research questions and responses of participants, which were an articulation of the individuals' experiences and perceptions on the phenomenon examined in the study. The themes flow along the lines of the research questions, and they are: (a) drivers of regional water diplomacy; (b) drivers of transboundary water cooperation; (c) relations among cooperating states; (d) cultures of the cooperation arrangements; (e) water rights distribution; and (f) water governance frameworks. The first four themes respond to the first main research question on specific traits that are characteristic of transboundary water cooperation that can be nurtured for progressive water diplomacy in the Southern African region. The remainder of the themes relate to the second research question on cooperation and water resource sharing frameworks for regional development and joint water utilisation. The data and results of the study are presented below.

¹ Number includes participants that also represented South Africa for the Incomati River Basin, as South Africa participates in both river basins

² LHDA means Lesotho Highlands Development Authority, representing Lesotho in the joint water scheme

³ TCTA means Trans-Caledon Tunnel Authority, representing South Africa in the joint water scheme

Results for R1: What specific traits are characteristic of transboundary water cooperation that can be nurtured for progressive water diplomacy in the Southern African region?

Theme #1: The first question's theme is: Drivers of regional water diplomacy. The theme arises directly in response to the first research Sub-Question, R1a: What are the important drivers of water diplomacy that shape regional water cooperation in the Southern African region? It explains the motivations for the countries studied to even consider being part of the regional water cooperation and integration project of the Southern African region.

Drivers of regional water diplomacy tell of the forces that push the cooperating agents (or countries) to work with others, and in a group, they highlight the forces that pull the countries together (King, 2018). In a practical sense, the push forces can manifest through common interests and fears (challenges). Generally, both fears and aspirations determine the nature of drivers of water diplomacy among states, which in the context of regional integration also underlie the political-will and capacity dimensions of the water-based regionalism (Byiers & Vanheukelom, 2014). In Southern Africa, according to results of this study, the pull-forces for the regional states consist of the desire for: peace and security through water cooperation; equity in resource sharing (fairness in utilisation); optimisation of regional hydropower; standardisation of practices and laws; and the shared view of water as a catalyst for livelihoods and development. Push factors, as deduced from analysis of the responses in the study, include the desire for prevention of significant harm to one another in the utilisation of shared waters, and desire for stronger collaboration or partnership to increase resilience against water disasters of various types.

Below is presented some responses from research participants on the drivers for regional water diplomacy:

P1: Participant no.1 stated that “The need to engage beyond the border drives regional [water] cooperation.”

P2: Participant no.2 stated that “Flood warning is another reason for needed joint effort in river basin planning and monitoring.”

P3: Participant no.3 stated that “Water is about peace and stability, and peace and security benefit from water cooperation.”

P4: Participant no.4 stated that “Transboundary cooperation projects boost regional economic development.”

P5: Participant no.5 stated that

regional power generation is optimized when planned regionally, as one [river] basin hydropower scheme needs supplementation of other basin schemes to meet the regional clean energy demand.

Theme # 2: The second theme of the first question is: Drivers of transboundary water cooperation. Water diplomacy tends to provide for a wider net of cooperation, beyond just bilateral neighbouring states cooperation, and with the many benefits including conflict prevention or mitigation (Petersen-Perlman et. al., 2017). Lufkin (2017) presents that hydro-politically-driven conflict is often due to both scarcity and excessive waters (flooding) in transboundary river basins. In the study, the theme helped answer the question whether there is a relationship between transboundary water cooperation drivers and the drivers of region-wide water diplomacy. Specifically, the research sub-question on this theme sought to understand how should the practice of transboundary water cooperation be understood, especially the motivations of river basin states to participate in water sharing and joint water projects. The sub-question also sought to validate or

refute the claims for possible bi-directional influences between water diplomacy and the governance of shared waters in the Southern African region. The interview question asked about the benefits of riparian countries for participation in transboundary water cooperation schemes.

Responding to the questions, most research participants argued of conflict prevention as a chief driver for transboundary water cooperation. The motivation for conflict prevention as a driver for transboundary cooperation, according to this assertion, relates to flood risk mitigation, the curb of transboundary water pollution, and equitable utilisation of shared resources. Another notable driver, as advanced by the respondents, is trust-building—the need to gain trust of one another among river basin states. The tendency in trust-building is for each party to seek to posture itself as a responsible partner that will not un-necessarily trample the rights of fellow river basin states (Lufkin, 2017).

According to Borzel (2016), the objective of any regional integration (even water-based integration), especially as viewed through the constructivist lens, is also to realize a vision of a shared community, and it also identifies cooperation as a precondition for regional partnership. In Southern Africa, according to some of the research informants, joint water planning and development is another driver of transboundary water cooperation; often realised when the collaborating countries commit to understand each other and work together. This interdependency among the transboundary water cooperating countries also serves as an indicator that no one country feels self-sufficient to withstand the pressures induced by external forces, both economically and politically. The responses of participants that elucidate on the theme on drivers of transboundary water cooperation are presented below.

P1: Participant no.1 stated that water cooperation brings countries to work together, "...when sitting together you are able to deliberate on the needs and interests of one another."

P2: Participant no.2 stated that "...it helps build trust and understanding, through enhanced information sharing."

P3: Participant no.3 stated that through transboundary water cooperative governance "Water became a common thread of strong connection of riparian neighbours."

P4: Participant no.4 stated that transboundary water cooperation fosters good neighbourliness, and provided the example that, "Diplomatically, even the big brother mentality that may exist in some states gets subdued, as every country wants to be perceived as a good neighbour."

P5: participant no.5, making an example of the Southern African Development Community (SADC), stated that

Even before the SADC Water Protocol, there was already cooperation in the Kunene [River Basin] by the Portuguese (in Angola) and the Afrikaners (in Namibia), and cooperation agreements on power generation between the two countries.

Theme #3: The third theme is: Relations among cooperating states. The theme arises from responses to the second research sub-Question R1b: How should the practice of transboundary water cooperation, especially the motivations of river basin states to participate in water sharing and joint water projects, be understood? The theme highlights the immediate gains that the countries see in participating in transboundary water governance schemes in Southern Africa. It talks of the incentives of collaboration and joint effort in shared waters' cooperation arrangements—the incentive theory at play.

Incentive theory draws from content theory, which generally explains the rationale behind the human behavioural change with time. According to incentive scholarship, intrinsic factors are primarily what inspire people (and decision-makers) in the pursuit of some identified acts (Badubi, 2017). While undeniably there is still disagreement over the permanence of behavioural transformation through use of incentives to steer practices and attitudes in a certain direction (Hu, 2015; Ovedenko, 2014; Thomson, 2014), incentives are known to bring about motivation in individuals, countries and institutions in the pursuit of distinct objectives (Mattoussi, 2014). The present research assessed the gains (incentives) for participation in regional water diplomacy and water cooperation in the Southern African region.

A major finding in the study was that some of the drivers of water diplomacy are also viewed as incentives of cooperation among the riparian states. The water cooperation gains (incentives), according to the respondents, also included: increase of assurance of water supply; pooling of financial resources in joint water infrastructure development; and security from water disasters. Movement of people, services and goods (trade) are other incentives of regional connectivity through the region's lake waterways, according to some respondents. Apparently, the intensity of cooperation increases among countries involved in cross-border joint projects, due to the associated high stakes of the joint initiatives. The intimacy of the partnership could be explained through responses of some of the participants, that, the location of the desired dam sites for water development could be in the next country and so making cost and risk-sharing with such a country a huge incentive for cross-border cooperation. In their own words the respondents presented:

P1: Participant no.1 stated that "Border cooperation enhances movement between countries, and thus trade."

P2: Participant no.2 stated that “The need for sharing of costs and risks of investment stimulates cooperation on joint water infrastructure”, and that, “the best dam site for the basin may be in the other country...”, makes joint development a logical option.

P3: Participant no.3 stated that it enables formulation of “...transboundary water sharing agreements [that] provide assurance of supply among cooperating riparian states.”

Theme #4: The fourth theme is: Cultures of the cooperation arrangements. The importance of this theme derives from consideration of the value attached to water in the region, according to analyses of the study. The theme again also arises directly from the second research Sub-Question: R1b: How should the practice of transboundary water cooperation, especially the motivations of river basin states to participate in water sharing and joint water projects, be understood? The theme essentially surfaces the characterisations of the cooperation arrangements, as sked in the main question.

Dai (2021), drawing from the experiences of the challenges of water cooperation between Israel and Palestine, highlights that the main constraint of the two states to realisation of water cooperation agreements consensually are the dominant political tensions and mistrust on broader issues. This shows the importance of the socio-cultural issue in the question of water diplomacy success. Investigating the issue of cooperation arrangements and cultures was therefore vitally important in the present study, to aid in deepening the understanding of the environment of the water diplomacy space in the Southern African region and its river basins organisations.

The research participants believe that regional cooperation on natural resources (including water) help overcome the limitations of local (national) solutions. In Southern Africa, this regionalism attitude is normatively grounded on the shared cultural heritage among the region’s people.

According to the respondents, regional cooperation arrangements have historically frowned at zero-sum solutions—there have often been win-win solutions in regional engagements, at least at the negotiation table in concluding cooperation arrangements. In the cooperation practice, the neighbourliness principle matters more, and normatively each party wishing to be perceived as a good neighbour. Traditional water cooperation experience, the present research has found, was literally neighbour-neighbour riparian states water cooperation in close joint projects. However, with the gradual rise of the river basin approach, the neighbourliness connection has been extended through the shared resource—resulting in even the downstream-most country finding that it is intimately connected to upstream-most country even when there is no physical border shared—the shared waters being the point of connection. The culture of inter-dependency is therefore very strong and has a long history (dating back to the period before there were formal water agreements or protocols), the respondents advanced.

While dynamics and developments of time may result in a variation of water cooperation arrangements, government is believed to be natural leader of regional water diplomacy in Southern Africa. The sharing of watercourses that define the country boundaries between the countries also consists some other factors in certain river basins that always keep government at the centre-stage in the issue basin and region-wide water diplomacy in Southern Africa, according to some of the respondents. In these situations, the culture of water cooperation is shaped by the geo-political cooperation pressures as well, as presented by one respondent. Making these articulations, the participants presented:

P1: Participant no.1 stated that, “Our historical context within Southern Africa is that our countries and our population share a significant amount of heritage, and likewise our regional water resources are shared by multiple countries.”

P2: Participant no.2 stated that

Regional perspectives help view riparian neighbourliness from a more global view; and for transboundary waters, aids in the water resource modelling needs to consider upstream and downstream countries.

P3: Participant no.3 stated that, “Transboundary water governance is state-led mostly, but as trust increases we can bring in more players, including the private sector and others.”

P4: Participant no.4 stated that,

Rivers border some countries, so participation in transboundary water cooperated is needed to manage border shift. This has been the experience in the Songwe River Basin cooperation between Malawi and Tanzania.

P5: Participant no.5 stated that,” Even if cooperation frameworks are not fully developed at the transboundary or national level, the crisis is minimized when the regional ones are ready.”

Results for R2: How can cooperation and water resource sharing frameworks be re-shaped for better regional development and peaceful joint water utilisation outcomes? The Sub-questions to this second Question are:

R2a: How is the distribution of water rights determined in shared transboundary watercourses, and whether these arrangements contribute positively to regional peace and development?

R2b: How could present water governance institutional frameworks and practices be adapted to yield more satisfactory social and economic development outcomes in the region?

Theme # 5: The fifth theme of the study is: Water rights distribution. The theme reveals the practice of water allocation in Southern Africa. It is also relevant to provide answers to the question of who

should lead the discourse and act of water allocation in transboundary water cooperation and how. The theme also helped with the interpretation of whether or not the current practice of water rights distribution does promote regional integration. It also aided to decipher whether water should be viewed a regional resource or should be perceived as a national resource.

The transboundary water allocation discourse attains huge prominence in regional hydropolitics (Mianabadi, 2016). Water governance literature advances ample arguments for the placement of water at the centre of regional development (Mianabadi, 2016; Petrie, 2017), and top in this assertion is the issue of transboundary water allocation. Answering the question of how and who should do or lead the allocation was of vital importance in the study, to gauge whether allocation of the region's waters can be made to the best use for a more regional gain as opposed to water allocation being exclusively premised on the priorities of river basin states, devoid of the regional interests.

Pertaining to the question of how transboundary waters can be best allocated, some research participants advocated for need-informed, basin-wide allocation, as guided by river basin developmental strategies. Joint planning and equity in water allocation were repeatedly highlighted by respondents as some of the preferred criteria. Markedly, there were divergent views on the question of who should actually do the allocation, and the arguments related to the issue of sovereignty versus basin-informed allocations. Submissions for basin-informed allocation tended to favour river basin organisations (RBOs) as best placed to allocate the shared water resources.

The following responses were received from participants in the issue of water allocation:

P1: Participant no.1 stated that "...equity issues are important, but it is important to allocate some water for basic human needs."

P2: Participant no.2 stated that “Benefit-sharing should be the main drive...” in the allocation of shared waters.

P3: Participant no.3 stated that

National water development plans should be shared and discussed at transboundary river basin level, so that basin-wide development scenarios can then be jointly modelled, and agreeable allocation scenarios determined.

P4: Participant no.4 stated that “...river basin organisations need to be empowered to take this responsibility, and [they] would be perfect driver of the process.”

Theme #6: The sixth theme is: Water governance frameworks. There is an emerging convergence in the scholarship of governance theory that ‘governance’ is broader than just participation of government institutions, but also extends to cover contributions and interests of other actors and includes stakeholders (Ansell & Torfing, 2016; Egeberg, et al., 2016; Peters, 2016). Governance literature also suggests that trade and economic productivity are mostly private sector-driven (Inder & Cornwell, 2016; Schmida, 2018), and would therefore justify private sector’s active participation in the provision of water services to meet such industry objectives.

The interview question on this theme aimed at ascertaining the perceptions and views of research participants on the role that non-state actor and private sector institutions can play in transboundary water cooperation. The question also sought to acquire deeper appreciation of the roles and institutional frameworks that could aid equitable and sustainable management and distribution of both surface and ground waters. The question also intended to deepen the understanding of the regional water cooperation normative process in Southern Africa. In this respect it sought to understand the genesis and cascade of best practice and regional norms to lower governance tiers,

and the possible resultant self-updating feedback mechanisms at play in the processes, and the desired links with the stakeholders of the process. In this regard, participants shared insights on the practice of regional water governance, engagement and involvement of the private sector and non-state entities, and the contributions of these actors in the decision-making process. The research informants also presented their views on changes they desire to see in the region's transboundary water governance frameworks. Making their views on the governance frameworks participates specifically presented:

P1: Participant no.1 stated that “Economic efficiency is private sector business, and so the private sector has a key role to play, and so are non-state actors, and they have to be listened to.”

P2: Participant no.2 stated that some institutional changes are needed for transboundary water management but they need to be gradual.

Institutional reforms for transboundary groundwater management need not be drastic, but rather should be building on existing institutions for surface water cooperation. Instead of new institutions, there is need to re-look the river basin organisation structures to take on board transboundary groundwater management.

P3: Participant no.3 stated that regional water planning in regional entities, such as in the case of the SADC, is directed through the Regional Strategic Action Plans (RSAPs).

RSAP was an effort by SADC to have a comprehensive coordinated programme for SADC... and a consensus framework or structure to synthesize national inputs into a regional framework. We also made sure from the first RSAP that those who would be funding it are part of the process; the international cooperating partners.

P4: Participant no.4 stated that an integrative multi-sectoral approach is needed in water institutionalisation.

The regional Water-Energy-Food Nexus initiative is so relevant, demonstrates the dependencies (and interdependencies) between water, agriculture and energy sectors' governance systems. Water supply itself is dependent on the energy sector for pumping water to storage and driving of treatment plants.

P5: Participant no. 5 also presented the example of stakeholder engagement of the SADC regional entity, that stakeholder engagement is through the multi-stakeholder dialogues and RBO workshops.

The [Multi-Stakeholder] Dialogue, established as a communication tool, was one of the activities of the communication strategy for the sector that was designed also alongside SADC-wide strategy. The dialogue platform has evolved over time to serve as the sounding board for new concepts that need to be mainstreamed into the regional programme. RBO Workshops were established for learning and sharing process by the basin water cooperation structures, as a “show and tell”, and to judge if this is a sustainable approach.

4.3 SUMMARY

The study used qualitative methods to explore the research questions. The study insights provide answers to the six research questions, which consist of two main questions and four sub-questions. The research questions and participants' responses surfaced six main themes namely: (a) Drivers of regional water diplomacy—this theme helped to reveal the main reasons Southern African countries participate in the regional water cooperation project of the Southern African region. (b)

Drivers of transboundary water cooperation—this theme helped surface the real reasons for countries to participate in the transboundary water cooperation schemes and joint transboundary projects. (c) Relations among cooperating states—this theme reflected what the participants viewed as the nature and levels of cooperation among the regional member states that are cooperating on water. (d) Cultures of the cooperation arrangements—this theme reflected the attitudes and conducts of water_cooperation in the region, as per perceptions of the research participants. (e) Water rights distribution— this theme explained the practice and allocation of water rights, and helped shed light on what can be said of reasonable and equitable allocation of the region’s waters, and which actors do the allocation. (f) Water governance frameworks —this theme revealed who develops and administer water governance frameworks and mechanisms that are designed and effected in the region, and how. The areas include: conjunctive water governance mechanisms; attitudes towards private sector and non-state actor involvement in water governance; cross-sectoral influences between the cooperation in the water space and other sector cooperation arrangements; and how regional and transboundary water cooperation norm diffusion or flow occurs in the Southern African region.

From the responses of participants also emerged several drivers of regional water diplomacy in the Southern African region. The drivers are namely: (a) joint development of shared waters; (b) resilience against water disasters; (c) peace and security through water cooperation; (d) equity in resource sharing (fairness in utilisation); (e) optimisation of regional hydropower; (f) standardization of practices and laws; (g) role of water as catalyst for livelihoods and development; and (h) avoidance of causing harm to one another. The drivers can be broadly classified into two categories: (1) gains of regional water diplomacy— consisting of drivers such as joint development of shared waters, equity in resource sharing (fairness in utilisation), resilience against water

disasters, and optimisation of regional hydropower; and (2) enablers of regional water diplomacy—including peace and security through water cooperation, role of water as catalyst for livelihoods and development, avoidance of causing harm to one another, and standardization of practices and laws.

From the responses of participants, also, emerged the following specific drivers of transboundary water cooperation: (a) sharing of costs for water infrastructure investments (joint projects); (b) conflict prevention; (c) equitable and reasonable water utilisation; (d) common vision on resource management; (e) trust-building; and (f) good neighbourliness. The transboundary water cooperation drivers can be broadly classified into three broad categories: Firstly, interdependencies among riparian states—which accounts for the prevention of conflict and equitable utilisation. Secondly, influencers of water cooperation—which consists of trust-building, and good neighbourliness. Thirdly, policy harmonization—accounting for common vision on water; which manifest in joint river basin strategies, shared agreements, joint river basin strategies and infrastructure projects, and standardization of common parameters (practises and laws) which is sometimes used to measure and foster equitable utilisation and sustainable development.

Notably, many of the research participants suggest a stronger influence of regional cooperation to shaping norms and behaviour in transboundary water cooperation, and less the other-way-round. Participants also believe that regional water diplomacy has a propensity to yield strong bond and trust to the extent of deeper cooperation that often gets cemented through partnerships in joint water projects among neighbouring states.

The results led to several findings. One major finding is that the region has a somewhat structured approach for influencing practice and introducing new concepts and norms of cooperation in the water sector, following some level of consultative approaches. The study has also found that river basin and other subsidiary institutions of the regional economic communities in the continent are catalytic in the flow of norms from regional to the country levels, and are also conduits for reverse flow of the norms from local and member state level to provide feedback to the supranational institutions at the regional level. However, the study has found that while there appears to be certainty of the norm flow system from regional to community level, there is need for more effort to ensure the grounding of the norms. Mechanisms to introduce new norms presently lack longevity-based embedding multi-generational influences for the norms, as they are often project based.

On the openness of the water resource distribution practice to provide for water allocation for regional projects, the research results show that allocation is entrusted to government experts. It is another telling finding in the analysis of the responses from participants, therefore, that water right allocation of transboundary waters in the Southern African region is assumed to be only by riparian states, and other regional and basin institutions are excluded from the process. Each country delegation, guided by national interest, bargains for an equitable share of the resource utilising the international water law practice principles to support their claims for resource distribution. However, research participants believe that for better outcomes, water allocation should be tasked to shared watercourse institutions (the RBOs) which were viewed as more strategic and objective institutions. Arguably, water distribution by an RBO in a specific river basin would therefore also provide for water allocation for regional development purposes, over-and-above water allocation to meet riparian states water demands.

The next Chapter on Conclusions and Recommendations will delve deeper into discussing the results of the study. How the findings illuminate the concepts of the study, and how they link the research problem and consulted literature, will also consist the major discussion points in the next Chapter.

CHAPTER 5

CONCLUSIONS AND DISCUSSION OF RESULTS:

INTRODUCTION

The study set out to explore the drivers of water diplomacy and its practices in regional development and cooperation in Southern Africa. The qualitative case study examined the perceptions and experiences of several regional practitioners of purposively selected countries participating in each of three cross-border water projects in the region. Literature review-based findings were used to supplement this information.

This Chapter presents a discussion of the study results. Firstly, it presents a summary of the results of the study. Secondly, it discusses the results, also providing a synthesis of the results in comparison with previous research. Thirdly, it presents conclusions and practical recommendations of the study. The Chapter concludes with the presentation of recommendations for future research.

5.1 DISCUSSION OF RESULTS

The study set out to shed insights on the drivers of water diplomacy and its practices in regional development and cooperation in Southern African region. Of essence in understanding the issue of water diplomacy was to interrogate the very question of the region's states' participation in the regional and transboundary water cooperation agenda of Southern Africa—the rationale of even considering participating in the first place? Under normal scenario conditions scholarship of international relations and diplomacy suggests that states may participate in regional cooperation for a variety of reasons, but dominantly such involvement is with the realist's objective in mind, of gaining something from such participation (Dema, 2014; Kaushik, 2017).

The study approach, in attempting to answer the question, was to understand the drivers and incentives of water diplomacy, and what can be said of the relationship between them and their influence to other parameters of regional development and cooperation. Molnar, et al. (2017), as earlier presented, advance that the main global drivers of water diplomacy consist of two main factors: (a) the driver to grow and develop; which is the call for global frameworks to address economic risk; and (b) the environmental security concern. The view of Vanheukelom and Bruce (2016) in the same issue is that regionalism forces (both internal and external) tend to steer cooperation to flow in some certain directions. As presented earlier, incentive theory sees the gains of cooperation as instrumental in directing the course of cooperation—cooperation benefits tend to trigger countries' involvement in certain partnership arrangements (Isik, 2016; Njoka, 2016).

In the current research, the drivers of country participation were examined for the countries treated as the units of analysis in the study—the transboundary cooperating states in the selected river basins. Although the context of 'water cooperation' is much broader than 'water governance' (Sindico, 2016), the study assessed the water cooperation drivers to also shed light in comprehending the drivers of transboundary water governance. This was to aid responsiveness of the research participants—water governance tends to be an abstract concept generally, but water cooperation is generally much easier to understand. Furthermore, the rationale was that 'water cooperation', as a broader concept, also embraces the dimensions of water governance as originally defined by Rogers and Hall (2003)—to include political, social, economic and administrative systems' influence to water use and water management. Normatively, good water cooperation relies strongly on these governance dimensions for it to be considered responsive and sufficient for the sustainable water development principle (Hussein, et al., 2018; Sindico, 2016). At the core

of transboundary water governance, also, is the issue of water diplomacy. In this sense, drivers of water cooperation were considered as the same as the drivers of water diplomacy and governance, for the purposes of the analysis in the present research.

5.1.1 RELATION BETWEEN WATER DIPLOMACY AND WATER GOVERNANCE

Limited research work has been done in the area of international relations in the context of water diplomacy and water governance. The present study has explored three prominent theories of water diplomacy which can be used as lenses in the analysis of water diplomacy in the context of water governance and international relations in the research. The theories are themselves premised on three theoretical framing concepts, namely institutionalism, hydropolitics, and water and international relations. The work of Rattanesevee (2014) on institutionalism, De Stefano et al. (2017) on hydropolitics, and the work of Swatuk (2015) on water diplomacy, served as an analytical basis for the research. De Stefano et al. (2017) describes international relations as necessary to reduce tensions in the hydropolitical regime in water cooperation. Rattanesevee (2014) presents international relations as catalytic for cooperative institutionalization. Swatuk (2015) perceive water diplomacy as a potential maximiser for economic and political cooperation benefits.

The study has found that the issue of water diplomacy in Southern Africa is more prominent when it pertains to transboundary water cooperation than it is in regional cooperation. It is therefore to a large extent a concept attached to the region's hydropolitics in as far as river basin cooperation is concerned. Notable of the scholarship of water diplomacy in this context of hydropolitics and transboundary water governance also, is the issue of norm diffusion, norm flow, and norm convergence. In this regard, Inga Jacobs presents two claims on norm convergence in shared waters

cooperation: top-down influence (cooperation principles handed down by international practice, being accepted for cooperating nations); and bottom-up influence, in which international rules of cooperation arise from national and local levels (Jacobs, 2010). In this work, Jacobs singles out eight norms of cooperation on shared water in a top-down norm-flow from the United Nations (UN) system on water: (a) equitable use; (b) sovereign equity and national integrity; (c) avoidance of significant harm; (d) information exchange; (e) prior notification; (f) environmental protection; (g) consultation with other riparian states; and (h) peaceful resolution of conflicts (Jacobs, 2010). The study finds that in Southern Africa all these norms are applicable with varying emphasis, depending on the river basin. Most of these norms are essentially drivers of the region's hydro-diplomatic arrangements. Regarding the norm of peace and security, which is also a driver of regional cooperation in Southern Africa, the study finds that the emphasis in the region is on conflict prevention as opposed to general conflict resolution. The region's water diplomacy driver of policy harmonisation combined with the transboundary water cooperation drivers of 'good neighbourliness' and 'trust building' generally help create an enabling environment for both transboundary and regionwide water diplomacy in the area of peace and security. In consequence, the study has found, the major water constraint in regional development in Southern Africa is often funding, and not conflict over the water resource.

Water governance deals with politics, institutions and strategies. The institutional dimension of water governance is a strong element and enhancer of the water diplomacy in Southern Africa. The study finds that the region has a strong belief in transboundary water institutions, and uses them as coordination agents and vehicles for regional and international norm diffusion, to instil a culture of cooperation over water in the region. According to Rattanesevee (2014), institutions are known to be vitally important in the theoretical explanation and analysis of the international

cooperation and regional integration process of states. Institutions are at the centre of international relations practice, with their roles as provided for in most theoretical explanation of international cooperation. Hatton (2011) further argues of institutions as monitoring agents and catalysts of the international relations process. The study finds that in Southern Africa, river basin institutions are rated high priority in advancing transboundary water diplomacy—shared water governance and cooperation on water. The region's transboundary river basin organisations are relatively young, with the oldest established in mid-90s. Their mandates are still considered limited to technical advisory support to the Member States, but the study finding is that there is a loud call for expanding the diplomatic and governance role of the river basin organisations (e.g., a call for them to be involved more in transboundary water allocation, and resource development).

Applying the hydropolitical lens to international relations, De Stefano et al. (2017) identified several factors that can cause hydrological tensions depending on their combination, namely: (a) water availability; (b) salience of the river; (c) climate change (Gleditsch, 2012); (d) peacefulness of riparian relations; (e) level of democracy; (f) existence of transboundary treaties (Brochmann, 2012; (g) commercial trade (Dinar et al., 2015); (h) upstream-downstream relationships; and (i) specific design of international water law agreements (Dinar et al., 2015). These factors, often considered the first call for evaluation, are used as a check on the causal links between drivers of potential tension over water and conflict. One of the findings of Stefano et al. (2017) is that dam development in upper riparian systems has propensity for high potential for hydropolitical tensions. This indicates the need for deeper consideration of the water infrastructure development issue in analyses of shared transboundary cooperation. The study has found that while this principle is true in general, in Southern Africa the hydro-diplomatic practice has tended to make it is possible for neighbouring riparian states to collaborate in infrastructure development, such that

the upstream dam infrastructure can be co-owned with the downstream country. This has tended to reduce or diffuse potential tensions. The study has also found that in instances where some countries were excluded from joint water schemes, water diplomacy arrangements are often invoked through which the countries are brought on board either through a water-right compensation or a follow-up joint project—an example of application of water diplomacy and transboundary water governance in water infrastructure development. The study has found that there are mixed perceptions regarding the compensation solutions though.

5.2 SYNTHESIS WITH PAST RESEARCH

5.2.1 REVIEW OF METHODOLOGICAL LITERATURE ON WATER DIPLOMACY

Farnum (2018) argues the field of diplomacy is undergoing transformation, engaging non-traditional methods and actors. This dynamic necessitates that water diplomacy practices and approaches likewise align to emerging changes to remain relevant. Notably, scholarship of hydro-diplomacy also posits that river basin organizations (RBOs) are central to all tracks of water diplomacy engagements. Chandrapanya et al. (2017) presents the case of the Mekong and a few other river basins to illustrate how the absence of sincere engagement triggers tensions within a river basin, leaving vulnerable populations very much uncertain of their future water, food, and energy security.

Three methodological approaches to water diplomacy were reviewed in this research, which could have strong relevance for the Southern African region. These are namely: (a) Multi-Track Water Diplomacy Analysis (by Huntjens et, al., 2016); (b) The Caspian Sea Methodology (by Akhmadiyeva and Abdullaev, 2019); and (c) Water Diplomacy Framework (by Islam and Susskind, 2013).

5.2.1.1 MULTI-TRACK WATER DIPLOMACY ANALYSIS

As earlier introduced, Huntjens et, al. (2016) present the Multi-Track Water Diplomacy Framework to support in the complex issues of water diplomacy and the desired levels of cooperation. The framework was developed in the context of a research project seeking to attain practical benefits of water diplomacy—Making Water Cooperation Work. Notable of the water diplomacy framework, also, was to desire to avail more options for institutional arrangements, methods, and tools to support water cooperation within or beyond the watershed setting.

The framework was tested and fine-tuned in the Jordan and Brahmaputra case-study basins, which involved literature analysis, multi-stakeholder dialogues, and in-depth interviews. It consists of five main key interacting components for understanding factors affecting water cooperation: (a) Basin wide context and Situation specific context; (b) Structure/institutions; (c) Actors/agency; (d) Action situation; and (e) Outputs, Outcomes and Impacts (Huntjens et, al., 2016). Importantly, the action situation is categorised into three lenses: Past Action Situations; Action Situation – present; and Future Action Situations (zone of possible effective cooperation-ZOPEC). The ZOPEC derives from what in literature of negotiation theory is referred to as ‘zone of possible agreement (ZOPA)’, which refers to, “a set of possible agreements that are more satisfactory in terms of perceived interests of each potential party, than the non-cooperative alternative to agreement” (Sebenius 1992, p.333). The ZOPEC also considers a combination of viable future action situations.

While the present study may not have used a formal and structured format, the analysis followed a path similar to that followed by Huntjens et, al. (2016) in that is also drew effectively from

literature analysis and in-depth interviews. It did not engage multi-stakeholder dialogues but the literature analysis did consider in much depth the outcomes of regional multi-stakeholder dialogues (especially recommendations from the multi-stakeholder interactions on regional water cooperation). The equivalent of the ZOPEC in the current study, would be defined by actions and agreements leading to the apex of the region's cooperation continuum. The institutional dimension, for example, advocates for strengthening and increasing the mandate of river basin institutions, so to strengthen the supply of tangible infrastructure development, which has been found to bind the cooperating states strongly and thereby potentially reducing irreversible tensions and conflict situations. Research participants also feel that if the water allocation responsibility can be assigned to river basin institutions, the chances of realising equitable, sustainable and holistic water allocations would be increased.

5.2.1.2 THE CASPIAN SEA METHODOLOGY

The study of the Caspian Sea methodologies attracted interest in the present research, mainly in light of the application of the methodologies in understanding the history, present circumstances and future prospects of the water diplomacy and management issues. The Caspian study utilised the hydro-social cycle concept, and management paradigms by Akhmadiyeva and Abdullaev (2019) to review the effectiveness of regional cooperation. In this respect it examined dominant paradigm shifts in water management in the Caspian Sea and tracking water management developments as represented by the changes using technical, environmental, and socioeconomic indicators in the studied five historical periods. Noteworthy of the study, is the application of the hydro-social cycle concept as an analytical lens in the examination of each paradigm. The hydro-social nexus at play manifests at the intersection of water management, legal and social norms, the

state, and the environment. This analytical lens views water as embedded in the social arena by individuals' rights, social norms and water resources, as well as the social fabric of the societies in the developed relationship with water. Application of these social construct tools followed a deliberate historical analysis in the phases of history of the Caspian Sea' water governance over the years.

The present study, while not precisely utilising the management paradigms scope in a tracked historical sense, like the Caspian Sea study it utilised the analytical frame of the historic development junctions to guide the analysis of the data collected from the participants. The hydro-social context then came into play in interrogating the question of the role of private sector and non-state actors in transboundary and regional water diplomacy. The study has found that there is a historical build-up in the basin cooperation from the previous regime of agreements, with the latter agreements becoming hugely sophisticated in their call for sustainability, and the application of the reasonable utilisation and equity principles. The study recommendations are those of increased social inclusion in the management and development of the region's water resources (even at transboundary scales)—the call for more private and non-state actor involvement in the governance of the region's water resources.

5.2.1.3 WATER DIPLOMACY FRAMEWORK

Islam and Susskind (2013) introduced the Water Diplomacy Framework (WDF) as a tool for cooperation of states over shared water resources, to help cooperating states in handling complex decisions in the issue of equitable and sustainable joint utilisation of shared waters. The WDF was then offered as an alternative to the traditional techno or values-focused solution methods to water management and governance (Islam and Susskind, 2013; Islam and Repella, 2015). It starts by

asking the question: “Who decides who gets water and how? The WDF aims to understand and resolve water related problems” (Islam & Susskind, 2018, p.4). According to the authors, the WDF recognises both the constraints to knowledge – objectivity of observations versus subjectivity of interpretation – and the contingent nature of man’s action. The approach stresses that all parties have a legitimate right of concern regarding an accepted intervention’s evidence, implications of the future intervention and the basket of proposed solutions. These parties may consider producers and users of water knowledge, technical experts, managers, decision makers, policy makers, and politicians. Further, the WDF asserts that parties are by requirement to seek consensus on mutual value creation and guiding principles in the negotiation of a resolution.

Islam and Susskind (2018) present the application of the WDF in the case of Israel and Jordan cooperation of the shared waters of the Jordan river, which was applied within the principles of the Jordan’s 1994 Peace Treaty. Jordan did not have water storage capability within its own boundaries, and so the agreement was to store Jordan’s water share in Lake Tiberius (in Israel) during the rainy season, for release to Jordan during the dry season. Israel also accepted to assist in the construction of the water transfer infrastructure to minimise water loss in conveying the water to Jordan. A win-win solution was therefore realised as Israel was able to get the treaty it desired most, while Jordan (on the other hand) achieved a solution to meet its dry season water needs. The tool can then be said to have allowed water to be treated as a ‘flexible resource’ in this cooperation arrangement (Islam & Susskind, 2018).

The present research may have not utilised the Water Diplomacy Framework in its analysis but there is general commonality in the application of the concept, in that the second part of the research questions follow similar principles of this practice in the resource’s allocation and

management decisions. Like the study by Islam and Susskind (2013), it directly asked the question of who does the allocation, and the parameters that determine the final allocation. The current research also sought to understand the dominant cultures in the resource utilisation and management of the region's transboundary river basins and aquifers. The finding was that water negotiation and allocation in Southern Africa is presently the privy of government institutions. Like in the Jordan-Israel experience as presented in the Islam and Susskind (2013) study, in Southern Africa the practice is such that the country without good dam storage sites can store its water or share in a riparian watercourse in another country, and share the costs (e.g., Incomati River Basin (Eswatini-South Africa water scheme), and Orange-Senqu River Basin (Lesotho-South Africa water scheme)).

5.3 CONTENTIONS TESTED IN THE STUDY

The study design established a set of four contentions that were tested in the research, through findings from analysis of the results of the study and reviewed literature. The contentions were namely: (a) water diplomacy is an enabler of governance processes of shared watercourse systems; (b) understanding the dominant traditions of water diplomacy in water cooperation arrangements can help increase trust-building levels for joint resources management in the water cooperation continuum; (c) non-state actor institutions are also crucial role players for sustainable transboundary water cooperation; and (d) the driver incentives of cooperation tend to determine the direction and speed of cooperation in joint water projects.

While quite an elusive claim, the contention that understanding the dominant traditions of water diplomacy in water cooperation arrangements can help increase trust-building levels for joint resources management in the water cooperation continuum, was also validated by the findings of

the current study. The case of South Africa participating in joint schemes with several member states (e.g., with Lesotho, Eswatini and to some scale, Namibia), the study has found, has shown reduction in the negotiation period of the later agreements. Further, the study has found that the time to agree on the principles of the joint water scheme is shortened when there is already a basin-wide cooperation framework—suggesting that the increasing tradition of cooperation in broader water governance and management space does aid to enhance the level of trust to the extent of joint and long-lasting deeper cooperation in joint water infrastructure projects.

The contention that non-state actor institutions are also crucial role players for sustainable transboundary water cooperation, was also not strongly validated even though it is plausible as an approach generally. While acknowledged as important for transboundary water governance (as per literature review-based findings), respondents' views were for the private sector and non-state actors' involvement only in supporting the design and implementation of the cooperation frameworks and policies. They were not necessarily viewed as potential process leaders for transboundary water cooperation in any significant way.

The assertion that the driver incentives of cooperation tend to determine the direction and speed of cooperation in joint water projects received strong support by many respondents in the study. Participants believe that the joint projects that were studied aid to strengthen cooperation among the beneficiary states. The projects have helped incentivise speedy signing of basin and regional agreements that lay the overall foundation for cooperation. In this cooperation, downstream countries are more motivated by incentives like increase of information-sharing, and assurance of water supply, as they are more vulnerable to over-extraction of the water resources by the upstream states. Downstream countries also have vulnerability to flooding and so they would like the

upstream countries to have firmer obligations for information-sharing. The study also revealed, according to the feedback from the participants and literature review, that the dominant type of basin resource utilisation also tends to determine the direction of cooperation. For example, need for hydropower cooperation and industrial development water has resulted in increased dam-synchronisation cooperation arrangements in the Orange-Senqu River Basin, while the heavy irrigation water allocation and inter-basin water transfers in the Incomati basin have yielded more water-demand-focused cooperation, with more tight water sharing agreements on allocation and cross-border flow.

Perhaps the most hugely affirmed contention of the study is that of water diplomacy being an enabler of governance processes of shared watercourse systems. Water diplomacy, the study has found, draws a lot from regional diplomatic frameworks. This particular contention was particularly validated from responses that related to the experience of the SADC region—SADC consists of the major part of the Southern African region. Responses of participants suggest that regional integration frameworks such as the SADC treaty (1992), Regional Indicative Strategic Development Plan, Regional Water Policy and Strategy, and Regional Protocol on Shared Watercourses (2000), together with the 5-yearly iterative Regional Strategic Action Plans, have handed down and diffused through the norms for standardization of practice and expectations in the water cooperation in the Southern African region. In the SADC region, river basin cooperation draws a lot from the tenets and principles of the SADC Water Protocol, SADC Treaty and international water law frameworks. The spirit of solidarity, reasonable and equitable utilisation, regional self-dependency, and prevention of significant harm to one another, have had considerable influence in the way river basin organisations formulate their strategies and

agreements on water. Some of the basin cooperation agreements are even explicit in identifying with the international law agreement of the time.

5.4 CONCLUSIONS AND PRACTICAL RECOMMENDATIONS

5.4.1 CONCLUSIONS

The present study offers some important contributions in the body of knowledge of water diplomacy theory and practice especially within the transboundary water cooperation space. Very few studies have attempted to deal with the issue of understanding the real drivers of water diplomacy in both the regional and transboundary water cooperation contexts.

The study has made some important finding in relation to the practices that manifest in the different case projects. In the Incomati case, for instance, the study noted that: (a) in the joint project, shared costs tend to go towards the elements of the project that benefit both the cooperating countries, and any country-specific beneficiary components has to be funded by the beneficiary country (e.g., hydropower component in Maguga Dam funded by Eswatini, because it only benefits that country); (b) It is acceptable practice that basin states that are not participant to the joint scheme may have to be compensated somehow (e.g., guaranteeing downstream Mozambique some minimal releases from the system/reservoirs, even if not participant to the joint project); (c) The joint infrastructure projects may also stimulate agreements on basin-wide cooperation (e.g., Joint Komati project triggered formulation of the bigger-scale IncoMaputo water sharing Agreement); (d) The countries can agree (or declare in agreement) future intended projects as way of advance form of notification; and (e) Joint project cooperation tend to demand several layers of agreements for smooth functioning of the cooperation arrangement (i.e., the local project agreements need harmonisation with the principles of a basin-wide overarching cooperation framework, e.g. the

Komati River Basin Treaty (project agreement) needed the basin cooperation agreement (bigger basin treaty/agreement, or framework agreement)).

Dominant practices in the Kunene cooperation scheme, according to the findings of the study, include that: (a) Trust in joint water schemes can rise to the levels such that a water utility from another cooperating country can be entrusted with managing the joint water scheme, functioning totally in the other country (e.g., Namibian water utility firm (NamWater) operates the plant within the Angolan boundaries on behalf of both countries); (b) In joint projects, water cooperation products can be used in either country to benefit other shared projects (hydropower in Namibia used to power later phases of the joint cooperation scheme); (c) Joint water cooperation projects facilitate long-lasting transboundary cooperation due to the long-term dependency on one another between the cooperating states (e.g., the water transfer canal from Angola to Namibia has created a life-long dependency on this water system, and there does not appear to be any better solution to beat this arrangement in the foreseeable future).

The dominant practices in the Lesotho Highlands project, according to findings of the study, reveal that: (a) There is general acceptance that the upstream use of the resource will be different from that of the downstream country, and having the upstream county water utilisation as less consumptive as possible makes the cooperation to be even more smooth (upstream Lesotho–hydropower, and downstream South Africa–domestic, industrial and leisure); (b) There is recognition that economic capacities of the partnering countries are different, and so investment ratios in the project investment may differ; (c) The national peace of the cooperating countries is key to sustenance of the project relationship; (d) When the joint water cooperation scheme is successful, it stimulate the birth of other similar cooperation projects, and thereby intensify the

culture of cooperation in the river basin (e.g., Lesotho-South Africa water transfer scheme has given birth to the Lesotho-Botswana water transfer scheme); and (e) Bilateral or smaller-scale project cooperation is not devoid of wider cooperation in multi-state basin arrangements (e.g., Namibia, the downstream-most country in the Orange-Senqu basin still has keen interest in the plans of the upstream Lesotho-South Africa scheme cooperation).

Overall, the study has found that the SADC regional Protocol on Shared Watercourses plays a central role as a guide in the transboundary water projects in many Southern African countries, and it also draws a lot from the principles of international water law (e.g., UN Convention). Also, in Southern Africa, regional water diplomacy is strongly hooked on region-wide cooperation, and draws strongly from principles and visions of regional economic development. It is also the finding of the study that river basin institutions in Southern Africa are viewed as micro-regions of the regional integration agenda. River basin institutions can therefore be said to be crucial part of the Southern African water diplomacy, and its regional development and integration. This finding also validates the theories of Schmeier (2013) who argue of the need for effective RBOs because their effectiveness defines the “the extent to which an RBO contributes to behavior changes among riparian actors, ultimately contributing to the solution of the collective action problem that prompted the RBO’s establishment and the promotion of joint governance of water-related collective action problems in the basin” (Schmeier 2013, 26).

The study has also found that water diplomacy operates under the environment of national diplomatic relations, but the former also serve to strengthen the latter (e.g., in the case of the Lesotho-South Africa water scheme, South Africa immediately gets concerned when national politics in Lesotho are not going right because this can jeopardise operations of the Lesotho

Highlands joint water project which is central to the economy of South Africa). This also shows the importance of water diplomacy to bi-national international relations of the two countries, and likewise its influence and contributions to peace and stability of the region.

While water diplomacy may not have a list of techniques that aid to pinpoint when it is happening, understanding the drivers of diplomacy could serve as identifiers of the key parameters to checklist against. The pursuit of a deepened understanding of water diplomacy in the study took on board the clear difference that while water cooperation can be a goal in itself, water diplomacy is more used as ‘means for goals beyond water (stability, peace and cooperation)’ (Schmeier, 2016). The drivers of water diplomacy therefore, likewise can be used to reveal a scale beyond the water cooperation space, and used to show the contribution of water to regional development and integration.

So, precisely, what are the drivers of water diplomacy in the Southern African region? The study found that regional water diplomacy in Southern Africa is driven by the following factors: (a) joint development of shared waters; (b) resilience against water disasters; (c) peace and security through water cooperation; (d) equity in resource sharing (fairness in utilisation); (e) optimisation of regional hydropower; (f) standardization of practices and laws; (g) role of water as catalyst for livelihoods and development; and (h) avoidance of causing harm to one another. Regional water diplomacy can also manifest in transboundary water cooperation, where these drivers find most application and impact, together with other drivers specific to transboundary water cooperation.

The present study, working within the context of the regional cooperation context, did also examine the specific drivers of transboundary water cooperation, which in some instances can also be viewed as the incentives of the water cooperation. These were found to be as follows: (a) sharing

of costs for water infrastructure investments (joint projects); (b) conflict prevention; (c) equitable and reasonable water utilisation; (d) common vision on resource management; (e) trust-building; and (f) good neighbourliness. These are elements that define the practices and conduct around water cooperation, development, management and utilisation in Southern Africa, according to the findings of the study. These are also the elements that can aid as indicators for the delivery of water diplomacy in Southern Africa, and the role of water diplomacy in contributing to solving a variety of water conflicts, and in this sense as a tool for sustainable water resources management.

5.4.2 PRACTICAL RECOMMENDATIONS

The following is a set of recommendations, provided to serve as a guidance framework for the water diplomacy, and intended to help with the realization of the goals of regional cooperation and development in the Southern African region:

1. Establish of a formal coordinating body for Southern African river basin organizations, so to better direct their operations, and to optimize and synchronize their contributions towards regional development.
2. Expand the mandate of the river basin organizations to coordinate and facilitate water infrastructure development, and to be able to allocate water in the river basins within their jurisdiction.
3. Reform river basin organizations governance structures to effectively be responsible to manage all shared waters, and thus minimize fragmented management of the region's two shared water resources (surface and ground).
4. Mainstream effectively the private sector and non-state actor in the governance of transboundary waters of the region.

5. Re-define all the region's waters (surface and ground) to be regional resource, which even though still managed by riparian states and coordinated by river basin institutions, can be available for direct allocation to regional development courses of the region.
6. Mainstream the regional value chain approach in river basin planning, and the development of the region's water resources.
7. Instil a culture of collaborative and joint planning and financing of shared programme, for the successful management of shared water resources, taking advantage of the economy of scales.
8. Promote joint assessments and joint collection of data by river basin organisations.
9. Promote more integrated planning and application of strategic nexus arrangements that link water to regional development.

5.4.3 RECOMMENDATIONS FOR FURTHER RESEARCH

The following are recommendations for further research to advance the body of knowledge of regional water diplomacy and the governance of shared waters in support of regional integration contexts.

1. Replicate the study using a mixed methods research approach, to benefit from the quantitative analysis test strength of dependent variables (e.g., significance of relationships in identified study variables).
2. Undertake deeper evaluation of the circumstances of each country in participating in the Southern Africa region utilizing a multi-criteria analytical examination of the parameters considered in analyzing the influences of water to regional integration in the study.

3. Evaluate virtual water contributions and footprint assessment of the case study projects to regional development, also considering contribution to the regional industrialization and global value chains.
4. Applying the mixed study approach, undertake a quantitative analysis in testing the contentions of the study to ascertain the statistical significance of the claims for validation or lack of it.

REFERENCES

- Aggestam, K., & Sundell-Eklund, A. (2014). Situating water in peacebuilding: revisiting the Middle East peace process. *Water International* 39(1), 10-12. doi: 10.1080/02508060.2013.848313.
- Akhmouch, A., Clavreul, D., & Glas, P. (2018). Introducing the OECD Principles on Water Governance. *Water International*, 43(1), 5-12.
- Alasuutari, P. (2015). The Discursive Side of New Institutionalism. *Cultural Sociology*, 9(2), 162–184.
- Arfanuzzaman, M.D. (2017). Economics of transboundary water: an evaluation of a glacier and snowpack-dependent river basin of the Hindu Kush Himalayan region. *Water Policy*, 20(1), 90-108.
- Badubi, R.M. (2017). Theories of Motivation and Their Application in Organizations: A Risk Analysis. *International Journal of Innovation and Economic Development*, 3(3), 44-51.
- Baerlein, T., Kasymov, U., & Zikos, D. (2015). Self-Governance and Sustainable Common Pool Resource Management in Kyrgyzstan. *Sustainability*, 7(1), 496-521.
- Balanos, A.B. (2016). *A step further in the theory of regional integration: A look at the Unasur's integration strategy*. Lyon, France: Université Lyon Publishing.
- Barkley, J., Marina, R., & Rosser, V. (2017). Complexity and institutional evolution. *Evolutionary and Institutional Economics Review*, 14 (2), 415–430.
- Benoot, C., Hannes, K., & Bilsen, J. (2016). The use of purposeful sampling in a qualitative evidence synthesis: A worked example on sexual adjustment to a cancer trajectory. *BMC Medical Research Methodology*, 16 (21), 1-12. doi: 10.1186/s12874-016-0114-6.

- Biggs, E. M., Bruce, E., Boruff, B., Duncan, J.M.A, Horsley, J., Pauli, N., & McNeill, K. (2015). Sustainable development and the water–energy–food nexus: a perspective on livelihoods. *Environ. Sci. Policy*, 54, 389–397.
- Borer, D. A. (2014). Problems in the Intelligence-Policy Nexus: rethinking Korea, Tet, and Afghanistan. *Intelligence and National Security*, 29(6), 811-836.
- Börzel, T.A. (2015). Theorizing Regionalism: Cooperation, Integration, and Governance. In T.A. Börzel & T. Risse (Eds.). *Handbook of Comparative Regionalism*. Oxford: Oxford University Press.
- Börzel, T.A., & Risse, T. (2017). From the euro to the Schengen crises: European integration theories, politicization, and identity politics. *Journal of European Public Policy*, 25(1), 83-108.
- Bossuyt, J. (2016). *The Political Economy of Regional integration in Africa: The Economic Community of West African States (ECOWAS)*. Nairobi, Kenya: ECDPM
- Bovensiepen, J. (2018). *The Promise of Prosperity: Visions of the Future in Timor-Leste*. Honolulu, USA: ANU Press.
- Brinkmann S., & Kvale, S. (2014). *Interviews: Learning the craft of qualitative research interviewing*. London, England: Sage Publications.
- Byiers, B., & Vanheukelom, J. (2014). *What drives regional economic integration? Lessons from the Maputo Development Corridor and the North-South Corridor*. Maastricht, Netherlands: ECDPM.
- Cheung, Y.T., Wang, M.P., Li, H.C., Kwong, A., Lai, V., & Chan, S.S. (2017). Effectiveness of a small cash incentive on abstinence and use of cessation aids for adult smokers: a randomized controlled trial. *Addictive Behaviours*, 66, 17- 25.

- Cornwell, K., Inder, B., & Guarav, D. (2015). *Measuring Poverty and Well Being in Timor-Leste*. Melbourne, Australia: OECD Publishing.
- De Felice, D., & Janesick, V. J. (2015). Understanding the Marriage of Technology and Phenomenological Research: From Design to Analysis. *CAHSS Journals*, 20(10), 1576-1593.
- De Lombarde, P., Saucedo, E., & Edgar, J. (2017). *Indicator-Based Monitoring of Regional Economic Integration. Fourth World Report on Regional Integration*. Washington, D.C.: Springer International Publishing.
- Dosenrode, S. (2018). *Federalism as a Theory of Regional Integration*. Oxford, England: Oxford University Press. doi: 10.1093/acrefore/9780190228637.013.148.
- Egeberg, M., & Trondal, J. (2016). *An Organizational Approach to Public Governance: Understanding and Design*. Oxford, England: John Wiley & Sons Ltd.
- Flogera, Z. (2018). *Knowledge Co-Production for Climate Change Adaptation: The Transnational Case Study of Wave*. Delft, Netherlands: University Twente
- Fusch, P., Fusch, G.E., & Ness, L.R. (2018). Denzin's Paradigm Shift: Revisiting Triangulation in Qualitative Research. *Journal of Social Change*, 10 (1), 19–32.
- Galdas, P.M. (2017). Revisiting Bias in Qualitative Research: Reflections on Its Relationship with Funding and Impact. *The International Journal of Qualitative Methods*, 16, 1-2.
- Guo, R. (2015). Exploitation of Natural Resources in Cross-Border Areas. *Cross-Border Management*, 1, 281-300.
- Hadi, M.A. (2016). Ensuring rigour and trustworthiness of qualitative research in clinical pharmacy. *International Journal of Clinical Pharmacy*, 38 (3), 641-646.

- Hartzenberg, T., & Erasmus, G. (2017). *Monitoring Regional Integration in Southern Africa*. Cape Town, South Africa: Tralac trade law centre NPC.
- Hatton, L. (2015). *Theories of European Integration*. London, England: CIVITAS Institute for the Study of Civil Society.
- Ho, S. (2017). Introduction to ‘Transboundary River Cooperation: Actors, Strategies and Impact’. *Water International*, 42(2), 97-104.
- Hussein, H., Menga, F., & Greco, F. (2018). Monitoring Transboundary Water Cooperation in SDG 6.5.2: How a Critical Hydropolitics Approach can Spot Inequitable Outcomes. Sustainability. *Sustainability*, 10. doi:10.3390/su10103640.
- Işık, M., & Gül, M. (2016). Economic and social structures of water buffalo farming in Muş province of Turkey. *Revista Brasileira de Zootecnia*, 45(7), 400-408.
- Jacobs, I. (2014). *The Politics of Water in Africa: Norms, Environmental Regions and Transboundary Cooperation in the Orange-Senqu and Nile Rivers*. New York, USA: Bloomsbury Publishing.
- Jarkeh, M.R., Mianabadi, A., & Mianabadi, H. (2016). Developing new scenarios for water allocation negotiations: a case study of the Euphrates River Basin. *International Association of Hydrological Sciences*, 374, 9–15.
- Kallhoff, A. (2014). Why societies need public goods. *Critical Review of International Social and Political Philosophy*, 17(6), 635–651.
- Kaufmann, W., Hooghiemstra, R., & Feeney, M.K. (2018). Formal institutions, informal institutions, and red tape: A comparative study. *Public Administration*, 96(2), 386-403. doi: 10.1111/padm.12397.

- Khaldi, K. (2017). Quantitative, Qualitative or Mixed Research: Which Research Paradigm to Use? *Journal of Educational and Social Research*, 7(2), 15-24.
- Kleinschmidt, J., & Pérez, P.G. (2017). Differentiation theory and the ontologies of regionalism in Latin America. *ReVista Brasileira de Política Internacional*, 60(1), 1-21.
- Koehler, J., Rayner, S., Katuva, J., Thomson, P., & Hope, R. (2018). A cultural theory of drinking water risks, values and institutional change. *Global Environmental Change*, 50(1), 268-277.
- Kooiman, J. (2016). Critical Reflections on Interactive Governance: Self-Organization and Participation in Public Governance. In J. Edelensbos & I.van Meerkerk (Eds.). *Interactive Governance and Governability* (pp. 29-50). Northampton, Massachusetts: Edward Elgar publishing, Inc.
- Krishnan, P. (2016). The Case for State-Led Trade Policies in Economic and Human Development. *Independent Study Project (ISP) Collection*. 2443.
- Latham, J.R. (2016). *The Research Canvas: A Framework for Designing & Aligning the DNA of Your Research Study*. Colorado, U.S.A: Organization Design Studio. Ltd.
- Lenz, T., & Burilkov, A. (2017). Institutional pioneers in world politics: Regional institution building and the influence of the European Union. *European Journal of International Relations*, 23(3): 654–680.
- Lorraine, M., Thirsk, L. M., & Clark, A. M. (2017). Using Qualitative Research for Complex Interventions: The Contributions of Hermeneutics. *International Journal of Qualitative Methods*, 16(1), 1-10.
- Mabhaudhi, T., Mpandeli, S., Nhamo, L., Chimonyo, V.G.P., Nhemachena, C., Senzanje, A., & Modi, A.T. (2018). Prospects for Improving Irrigated Agriculture in Southern Africa: Linking Water, Energy and Food. *Water*, 10(12), 1-16.

- Manfredo, M.J., Vaske, J.J., Rechkemmer, A., & Duke, E.A. (2014). *Understanding Society and Natural Resources: Forging New Strands of Integration Across the Social Sciences*. London, England: International Association for Society and Natural Resources.
- Martinez-Santos, P., Aldaya, M.M., & Llamas, M.R. (2019). *Integrated Water Resources Management in the 21st Century: Revisiting the paradigm*. London, England: CRC Press.
- Matchaya, G., Nhamo, L., Nhlengethwa, S., & Nhemachena, C. (2019). An Overview of Water Markets in Southern Africa: An Option for Water Management in Times of Scarcity. *Water*, *11*(5):1-16. doi: 10.3390/w11051006.
- Mattoussi, W., & Seabright, P. (2014). Cooperation against Theft: A Test of Incentives for Water Management in Tunisia. *American Journal of Agricultural Economics*, *96*(1), 124-153.
- Meissner, R., & Jacobs, I. (2016). Theorising complex water governance in Africa: the case of the proposed Epupa Dam on the Kunene River. *International Environmental Agreements*, *16*(1), 21-48.
- Mianabadi, H., Mostert, E., Pande, S., & van de Giesen, N. (2015). Weighted Bankruptcy Rules and Transboundary Water Resources Allocation. *Water Resources Management*, *29*(7), 2303–2321.
- Mogomotsi, P.K. (2016). The complexity of the economic conception of water: revisiting water resources management in developing countries. *ResearchGate*, *1*, 87-91. doi: 10.2316/P.2016.836-009.
- Moser, A., & Korstjens, I. (2018). Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European Journal of General Practice*, *24*(1), 9-18.

- Muller, M., Chikozho, C., & Hollingworth, B. (2015). Water and Regional Integration: The role of water as a driver of regional economic integration in Southern Africa. *Water Research Commission*, Technical Report No 2252/1/14.
- Ndaguba, E. A. (2018). Peace operations in Southern Africa: Challenges and prospects for the Southern African Development Community Standby Force. *The Journal for Transdisciplinary Research in Southern Africa*, 14(1), 1-8.
- Orsucci, F.F., Musmeci, N., Aas, B., Schiepek, G., Mario A., Reda, M.A., Canestri, L., Giuliani, A., & de Felice, G. (2016). Synchronization Analysis of Language and Physiology in Human Dyads. *Nonlinear Dynamics, Psychology, and Life Sciences*, 20(2), 167-191.
- Pahl-Wostl, C. (2017). An Evolutionary Perspective on Water Governance: From Understanding to Transformation. *Water Resour Manage*, 31(1):2917–2932. doi: 10.1007/s11269-017-1727-1.
- Palinkas, L.A., Horwitz, S.M., Green, C.A, Wisdom, J.P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Adm Policy Ment Health*, 42(5), 533-44.
- Peter, J., & Daniel, J.S. (2016). Evolving Views on Monetary Policy in the thought of Hayek, Friedman and Buchanan. *Journal on Review of Australian Economics*, 29(4), 351-370.
- Petersen-Perlman, J. D., Veilleux, J.D., & Wolf, A. T. (2017). International water conflict and cooperation: challenges and opportunities. *Water International*, 42, 105-120.
- Rattanaseevee, P. (2014). Towards institutionalised regionalism: the role of institutions and prospects for institutionalisation in ASEAN. *SpringerPlus*, 3(1), 2-10. doi: 10.1186/2193-1801-3-556.

- Renner, T., Meijerink, P., & van der Zaag, P. (2016). The evolution of regional cross-border water regimes, the case of Deltarhine. *Journal of Environmental Planning and Management*, 61 (10), 1701-1721.
- Ribeiro, N.B., & Johnsson, R.M.F. (2018). Discussions on water governance: patterns and common paths. *Ambiente & Sociedade*, 21, 2-20.
- Rosser, J.B., & Roser, M.V. (2017). Complexity and institutional evolution. *Evolutionary and Institutional Economics Review*, 14(2), 415–430.
- Salmoral, G., Schaap, N.C.E., Walschebauer, J., & Alhajaj, A. (2013). Water diplomacy and nexus governance in a transboundary context: In the search for complementarities. *Science of The Total Environment*, 690, 85-96.
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant*, 52(4), 1893–1907.
- Schreiner, B., & Baleta, H. (2015). Broadening the lens: a regional perspective on water, food and energy integration in SADC. *Aquatic Procedia*, 5(1), 90–103.
- Showkat, N., & Parveen, H. (2017). *Non-Probability and Probability Sampling*. Aligarh, India: e-PG Pathshala
- Sindico, F. (2016). *Transboundary Water Cooperation and the Sustainable Development*. Paris, France: UNESCO Publishing.
- Söderbaum, F., & Granit, J. (2014). *The Political Economy of Regionalism: The Relevance for International Waters and the Global Environment Facility*. Washington, D.C: Global Environment Facility.

- Spiegelberg, M., Baltazar, D. E., Sarigumba M.P.E., Orencio, P.M, Hoshino, S., Hashimoto, S., & Aiko Endo, A. (2017). Unfolding livelihood aspects of the Water–Energy–Food Nexus in the Dampalit Watershed, Philippines. *Journal of Hydrology*, *11*, 53-68.
- Swatuk, L.A. (2017). *Water in Southern Africa*. Durban, South Africa: University of Kwazulu–Natal Press.
- Torfin, J., Christopher K., & Ansell, C. K. (2016). *Handbook on Theories of Governance*. Edward, California, USA: Elgar Publishing.
- Ulibarri, N. (2015). Tracing Process to Performance of Collaborative Governance: A Comparative Case Study of Federal Hydropower Licensing. *Policy Studies Journal*, *43*(2), 283-308.
- Van der Brugge, R., & Roosjen, R. (2015). An institutional and socio-cultural perspective on the adaptation pathways approach. *Journal of Water and Climate Change*, *6*(4), 743-758. doi:10.2166/wcc.2015.001.
- Van Koppen, B., & Schreiner, B. (2014). Moving beyond integrated water resource management: developmental water management in South Africa. *International Journal of Water Resources Development*, *30*(3), 543-558.
- Viaggi, D., Zanni, G., & Raggi, M. (2014). Changing Perspectives on the Economics of Water. *Water International*, *6*(1), 2969-2977. doi:10.3390/w6102969
- Wairore1, J.N., Mureithi, S.M., Wasonga1, O. V., & Nyberg, G. (2015). Benefits Derived from Rehabilitating A Degraded Semi-Arid Rangeland in Private Enclosures in West Pokot County, KENYA. *Land Degrad. Develop*, *27*, 532–541.
- Walters, L., Bohlmann, H.R., & Clance, M.W. (2016). *The Impact of the COMESA-EAC-SADC Tripartite Free Trade Agreement on the South African Economy*. Pretoria, South Africa: Economic Research Southern Africa.

- Yasuda, Y., Hill, D., Aich, D., Huntjens, P., & Swain, A. (2018). Multi-track water diplomacy: current and potential future cooperation over the Brahmaputra River Basin. *Water International*, 43(5), 642-664.
- Yasuda, Y., Schillinger, J., Huntjens, P., Alofs, C., & De Man, R. (2017). *Transboundary Water Cooperation over the lower part of the Jordan River Basin: Legal Political Economy Analysis of Current and Future Potential Cooperation*. The Hague, Netherlands: Institute for Global Justice.
- Yilmaz, K. (2013). Comparison of Quantitative and Qualitative Research Traditions: epistemological, theoretical, and methodological differences. *European Journal of Education*, 48(2), 311-325.
- Zareie, S., Bozorg-Haddad, O., Loáiciga, H.A. (2021). A state-of-the-art review of water diplomacy. *Environment, Development and Sustainability*, 23(1), 2337–2357.

DEFINITION OF TERMS USED

- **Diplomacy.** The practice of conducting negotiations between representatives of states or groups, with the view to influence the conduct and decisions of foreign governments through negotiation, dialogue, and other nonviolent means (Encyclopedia Britannica, 2019).
- **Global Water Governance.** Water Governance at a global level.
- **Hydro-diplomacy.** The use of negotiation tools by states to balance interests related to national sovereignty while also strengthening regional cooperation with states that share common water resources; it is also often used a synonym of water diplomacy.
- **Hydropolitics.** The systematic study of cooperation and conflict between states over water resources that transcend international borders (Elhance,1999).
- **Integrated Water Resources Management.** Process which promotes the development and the coordinated management of water, lands and related resources, in order to maximize, in an equitable way, the social and economic well-being, without necessarily compromising the permanence of vital ecosystems (Global Water Partnership, 2000).
- **Regional Economic Integration.** The integration of goods, services, capital, and labour markets; in even broader views, it encompasses integration in economic activity that goes beyond economists' traditional categorizations of 'goods' and 'factors.'
- **Regional Integration.** The process whereby political actors in several distinct national settings are persuaded to shift their loyalties, expectations and political activities toward a new centre, whose institutions possess or demand jurisdiction over pre-existing national states. The end result is a new political community superimposed over pre-existing ones (Haas, 1968, p. 16).

- Regionalism. Processes and structures of region-building in terms of closer economic, political, security and socio-cultural linkages between states and societies that geographically proximate (Börzel, 2011, p. 5)
- River Basin. An area of land drained by a river and its tributaries.
- Water diplomacy. The use of diplomatic instruments to emerging or existing conflicts or disagreements over shared water resources with the aim to resolve or mitigate the differences for the sake of cooperation, peace, and regional stability (Huntjens, et al., 2016).
- Water Governance. Range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services at the different levels of society (Global Water Partnership, 2003, p. 16).

APPENDIX A

INDIVIDUAL CONSENT

You are being asked to participate in a research study conducted by Mr. Dumsani Mndzebele, Ph.D. Candidate in International Relations, in the Selinus University, Italy. The purpose of this study is to understand the dominant drivers and practices of water diplomacy in the Southern African region.

You have been selected to participate because you have some experience in transboundary water cooperation or regional cooperation. If you agree to be in this study, you will be interviewed. The interview will take approximately 30-45 minutes. The questions will focus on your experiences and perceptions regarding the issue of water diplomacy and water cooperation in shared waters in the context of regional development and integration. The Researcher will conduct the interviews, audio tape-record the responses, and summarize the responses along with responses from all others who are interviewed.

We feel there are no risks to you by participating in the interviews. Your identity and response would be kept confidential. The data will be stored at a secure location, for a period of seven years, and won't be shared with anyone else. Your name would not be used when reporting the findings from this research. All interview results will be assigned a pseudonym. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. You can choose not to answer and/or respond to questions if you do not want to. If you feel uncomfortable at any time, you are free to end your participation.

The researcher conducting this study is Dumsani Mndzebele, under the mentorship of Professor Salvatore Fava.

You may ask any questions at any time by contacting:

Dumsani Mndzebele - Researcher

Faculty Arts & Humanities

Selinus University of Sciences & Literature, Bologna, Italy.

dumi.mndzebele@gmail.com

OR

Professor Salvatore Fava

Email Contact: salvatore.fava@gmail.com

If you would like to talk with someone other than the researchers about the study or related concerns, please contact Selinus University Administration at: info@selinusuniversity.it

You will receive a copy of this individual consent form for your records.

Thank you for participating!

Statement of Consent

I have read the above information. I have received answers to questions I have asked. I consent to participate in this study.

(Name)

(Signature)

(Date and Place)

APPENDIX B

INTERVIEW PROTOCOL

Name (Coded):

Organisation (Coded):

Years of experience in the field:

Country/Nationality (Coded):

Date and place:

Interview Questions:

Q1: Generally, what do you think are the key elements (reasons) that make Southern African countries want to be part of the water cooperation agenda of the region?

Q2. What do you think drives the riparian countries to participate in transboundary water cooperation arrangements in the Southern African region?

Q3: In your view, how are water cooperation and water diplomacy benefiting from cooperation of other sectors, and how are they contributing to improve cooperation in other sectors, if it does?

Q4: In general, what can you say about the benefits of managing water from the regional context as opposed to the river basin or national contexts, if any?

Q5: How, in your view, should transboundary water allocations (surface and ground waters) between countries be done for truly equitable distribution, and by who?

Q 6: What do you think makes countries participate in joint water infrastructure projects in Southern Africa, and what is the regional significance of such projects?

Q 7: What, in your view, could be the role of the private sector or non-state actor institutions in such transboundary water cooperation for optimal results?

APPENDIX C

Faculty Arts & Humanities,

Selinus University of Sciences & Literature,

Bologna, Italy.

15th August 2021.

Dear Respondent,

RESEARCH INTERVIEWS

I am a Ph.D. Student of the above-named institution, conducting a research on the topic “Understanding the Dominant Drivers and Practices of Water Diplomacy in the Southern African Region.” You are among the selected experts considered as research participants for the study, and your response is required in achieving the purposes of this study. I sincerely request your assistance in participating in the interview to enable me to carry out my study successfully.

This work is purely for academic reason, so the information received from you shall be treated confidentially.

Thank you for your anticipated co-operation.

Yours faithfully,

Dumsani Hamilton Mndzebele