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### Inclusive development and multilevel transboundary water governance

*The Kabul River*

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# 3

## APPROACHES TO TRANSBOUNDARY WATER GOVERNANCE

### **3.1 INRODUCTION**

The previous chapter discussed general aspects of power and institutional theory. This chapter goes into more detail about (neo-) realist and institutionalist theories in international relations before zooming into their application to water. Hence, this chapter addresses the question: How does power shape institutions and how do institutions limit the role of power in transboundary water governance at multiple geographic levels? To answer this question, this chapter will address subsidiary questions: How do realist and institutionalist perspectives differ in international relations as well as in transboundary water governance? How does power influence freshwater governance institutions at multiple geographic levels? How does a combined approach of water governance and institutions help understand the influence of power at multiple geographic levels?

To answer these questions, this chapter first discusses key approaches in International Relations (IR) i.e., realism and neo-realism (see 3.2) as well as institutionalism and neo-institutionalism (see 3.3). I then discuss concepts of hydro hegemony (see 3.4) and water governance and institutions (see 3.5) which are particularly relevant to transboundary water resources. Third, the concepts of power and institutions are presented as a hybrid approach to see how power shapes institutions and how institutions shape power (see 3.6) before inferences are drawn (see 3.7).

### **3.2 INTERNATIONAL RELATIONS (IR) APPROACHES IN TRANSBOUNDARY GOVERNANCE**

#### **3.2.1 Introduction**

Two of the important and relevant theories of international relations (IR) that will be discussed in this thesis are realism and institutionalism. These two theories lead to the debate on interaction between power and institutions in transboundary river basins. These theories are of particular importance for this thesis because the impact of both is noticeable on the literature and politics concerning environmental security, conflict and cooperative management.

#### **3.2.2 Realist and Neo-Realist Approaches in Transboundary Governance**

The theory of realism emphasises that all sovereign states are driven by their national interests (Keithly 2013; Meagher 2017). For some states the attainment of more resources or land might be the key goal (Mearsheimer 2007), while others may want to extend their own political or economic systems to other areas (Meagher 2017) and some states may merely wish to be left alone (Mearsheimer 2007). For realists, survival is key and this can be achieved by maximising power (Russell 2000; Sheldon 2003). All nation-states must rely on their own resources to safeguard their national interests and implement treaties with other states or maintain a desirable national and international order (Goddard and Nexon 2015). Pease (2012) presents four main assumptions of realism: first, the political state is the strongest actor to contest with other states in the global political system (Mearsheimer 2001); second, the administrative structure at global level is anarchic because no universal power exists that can impose rules over the countries (Lechner 2017; Ozkan

and Cetin 2016); third, rational actors in the global political system strive to enrich their own interests (Mearsheimer 2009); fourth, countries compete to gain power (Antunes and Camisão 2017).

The theory of realism has traditionally been widely accepted in the field because: first, realists argue that it is a realistic and practical approach (Bortolotti and Antrobus 2015; Horton 2017). Second, it is better able to explain outcomes of international relations (Booth 2011; Voinea 2013). Third, it draws on clear assumptions about human nature and behaviour which allow for predictions about conflict and cooperation among states (Mearsheimer 2007; Brown 2009). Realism has four main branches: (1) Classical realism which considers states as the only actors and gives importance to military power and maximisation of power (Mearsheimer 2009); (2) Neo-realism where states seek to survive within an anarchic system (Waltz 2010); (3) Defensive realism in which states are considered as security maximisers (Person 2017; Toft 2005a); and (4) Offensive realism where states are considered as power maximisers (Person 2017).

Neo-realism is the most relevant in this thesis. Neo-realism is defined by its ordering principle ‘anarchy’ and by the distribution of competencies (Gorissen 2016; Humphreys 2007; Waltz 2010). The principle of anarchic organisation of the international structure is dispersed which means that there is no recognized central authority and that all sovereign states are formally equal in this system (Powell 1994; Andreatta and Koenig-Archibugi 2010). These states act for self-help and pursue their own interests and do not subordinate their interest to the interests of other states (Mearsheimer 2014). For states, the dynamic force of survival is central in influencing their behaviour and in turn states acquire more offensive capabilities to enhance their relative power (Ngan 2016; Pashakhanlou 2009; Toft 2005a). Because states can never be sure what the future of other states will look like, there is a lack of trust between states, which means they have to protect themselves against relative power losses. This is labelled as the security dilemma which is the result of trust deficiency in uncertain situations (Mearsheimer 2014). The wish and comparative capability of each state to enhance its relative power is mutually exclusive, leading to a power balance which shapes international relations (Toft 2005b).

Another relevant theory for this thesis is Hegemonic Stability Theory (HST) which states that the international system remains more stable when a single country is the dominant world power (or hegemon) (Gilpin and Palan 1987; Goldstein 2005: 81-82). A hegemon deploys its ‘preponderance of power’ when it exercises leadership either through diplomacy, coercion or persuasion (Goldstein 2005: 81). The fundamental notion behind HST is that the strength of the global system in terms of politics, international law, etc., relies on the hegemons to develop and implement the rules of the system (Liu and Ming-Te 2011; Silvia and Stanaitis 2013). For a country to rise to the level of hegemon, it must have some qualities (Adams-Jack 2015). First, it must forge political stability, military and economic strength and strong national power to make new international laws and organisation or strengthen the existing laws and policies in terms of implementation (Toft 2005a); second, a growing economy (Silvia and Stanaitis 2013); and third, a superior geographic position, technological innovation, ideology, superior resources, and other factors (Yilmaz 2010; Liu and

Ming-Te 2011). According to Mearsheimer (2001), the hegemon creates, shapes and maintains the system by coercion as long as it is in its interest. Neo-liberals approach, the neo-realists in this regard argue that the hegemon wants to uphold its dominant position without incurring the implementation costs, thus endows influence to those institutions that support their own interests (Dirzauskaite and Ilinca 2017; Kromah 2009). This happens through institutions which favour the hegemon, but also offer protection and stability to the rest of the world (Ikenberry 2005; Ikenberry 2008; Dirzauskaite and Ilinca 2017). With the decline of the hegemon, the institutions do not automatically disintegrate because they were created in a way that benefited all stakeholders (Keohane 2005; Koremenos et al. 2001) instead, they acquire a life of their own. The hegemon bears the costs because it is good for all actors and thus creates stability in the system (Ikenberry 2014). However, it is also possible that the decline of a hegemonic power may lead to the possibility of a collective power, or the disintegration of the regime (Snidal 1985; Morris 2015). This theory could be downscaled to regional level – something I will try to come back to in the last chapter.

### 3.2.3 Institutional and Neo-Institutionalist Approaches in Transboundary Governance

Neoliberal institutionalists contend that countries act in their own interests, yet hold a positive view on cooperation. Keohane argues that cooperation among the states can create tension as it is not an easy task, but states also know that there could be potential benefits from cooperation (Keohane 1988). Snidal (1991) believes that relative gains are likely to have minimal impact on collaboration when the absolute benefits of collaboration are substantial (Snidal 1991 cited in Keohane and Martin 1995). Institutions offer a coordination mechanism which allows states to take advantage of the potential benefits of cooperation. This ‘built-in focus’ increases the opportunity for collective outcomes (Keohane and Martin 1995: 45). Institutionalists argue that states through cooperation seek to maximise their absolute gains and care less about the relative gains of other states (Rees 2010). In this approach, cooperation and peace can be achieved by norms, regimes, and institutions that mediate between the international power arrangements and the negotiations that take place within them (Jägerskog 2001 cited in Rees 2010: 12).

The three important forms of institutions include regimes, constitutions, and social institutions. A regime is denoted by the process of giving something the character of an institution while constitutions are spoken or written law and the techniques for making laws themselves (Badie et al. 2011). The interactions between citizens within a society is regulated by social institutions which leads to the creation of a social order (Tuomela 2007). Similarly, constitutions legalize the relationships amongst the state, its citizens, and their representatives, and thereby create a civil mandate (Murphy 2007; Weingast 1993). Regimes often exist on the international stage, where international agreements and treaties are designed (Keohane 1982; Young 2014). Markets are also considered as economic institutions (Reis 2012; Weingast 1993). Some earlier theories state that institutions can influence individuals in two ways: they can encourage individuals within institutions to enhance benefits (regulatory institutions, also referred to as rational choice institutionalism), or to act out of duty (normative institutions) (Valli 2015). Generally, the empirical literature on institutions includes historical institutionalism (Capoccia 2016; Steinmo 2008; Tilly 1984), neo-

institutionalism (Tsakatika 2004; Lecours 2005; Ball and Craig 2010; Bates and Block 2013) as well as modern transaction cost theories of institutions (Nolan and Trew 2015; North 1990). In this section I will explain institutionalist and neo-institutionalist approaches along with their strengths and weaknesses.

Institutionalism takes into account the processes that affect the formation of rules and norms as authorised guidelines for social behaviour and the actual outcomes of such processes (Puffer et al. 2016; Scott 2008a). The theory on institutions fundamentally describes how these processes are formed, implemented, altered (Scott 2005; Suddaby et al. 2013), and discarded (Katsikas et al. 2016) over time and space and how they become increasingly resilient (Scott 2008b).

Institutions include normative, cognitive, regulatory elements and related activities as well as means which give strength and importance to social life (Palthe 2014a). Institutions can be communicated through various types of carriers, such as symbolic systems, relational systems, routines, and objects (Palthe 2014b). Usually, institutions function at different levels of governance, from global to local and interpersonal relationships (Guirdham 2011). Institutions provide stability and are also subject to incremental and irregular change processes (Tokaranyaset 2013). It is argued that “institutional theory is policy-making that indicates the formal and legitimate characteristics of government structures” (Kraft and Furlong 2012: p.81). Furthermore it can be claimed that “institutional theory is a broadly recognised theoretical posture that points out rational myths and legitimacy” (Scott 2008a: p.183).

Moving from this, neo-institutionalism advocates that “institutions matter” since they form various administrative methods and apply a sovereign influence on political results (Steinmo, Thelen, and Longstreth 1992: 7). Neo-institutionalism offers a way of seeing institutions outside the outmoded view, explaining why and how institutions evolve in a particular way within a given context (Leicht and Jenkins 2009; Lewis 2015). Neo-institutionalism suggests that institutions operate in an open environment in the presence of other institutions, labelled as the institutional environment (Caravella 2011; Vijge 2013). Therefore, institutions are a critical variable in policy analysis while structuring the contribution of social, economic and political forces and can affect policy outcomes (Bulmer, 1998, p.369). Wider contextual factors shape institutions where the main objective is to survive and gain legitimacy (Deephouse and Suchman 2008; Glover et al. 2014). To achieve this, they should be economically successful as well as legitimised within the institutional world (Powell and Staton 2009; Glover et al. 2014). According to Hay (2002), neo-institutionalism stresses on the arbitrating role of the institutional setting in which political developments take place. By considering institutions more as social structures and taking into account the effect of institutions on individual preferences and actions, neo-institutionalism has stimulated away from its institutional origins and has become a descriptive discipline within politics (Lecours 2005). Neo-institutionalism should not be reflected as a coherent and integrated theoretical perception, but to a certain extent as involving various conflicting choices (Awesti, 2007, p.8–9). Institutional approach correlate MLG by offering a situation of inadequate impact of stakeholders in policy making. Its relation to power is explored below (see 3.6).

### 3.3 Hydro Hegemony (HH)

Scholars working on transboundary water have developed the theory of Hydro Hegemony during the last two decades. It was first formally coined in 2004 by the London Water Research Group (LWRG) based at School of Oriental and African Studies (SOAS) London, King's College London; and the London School of Economics and Political Science (Zeitoun and Warner 2006). These scholars examine power asymmetries by taking into account the varying intensities of conflict and geographical position of the riparian States and between riparians states. The evolution of hydro hegemony is summarised in Table 3.1.

**Table 3.1:** Evolution of hydro hegemony (HH) concept

Year	Context	Objectives	Contribution to the Theory
2004-2006	Conceptualisation & theorisation of HH	Politicising water-based relations using IR theories	Analysing power, position & exploitation potential in transboundary rivers
2007	HH & water resource sustainability	Ensuring equitable & efficient use of water resources	Political stability, socio-economic growth; counter-HH strategies
2008	HH & International Water Law (IWL)	Linking water resources with international law to counter HH	Integration of international legal principles in negotiation
2009	Transboundary water governance institutions	Role of the relative distribution of power for resolving water disputes	Contribution of institutions in conflict management
2010	HH & critical hydro-politics	Effective implementation of transboundary water management	Enhancing stakeholder participation in freshwater negotiations
2011	The use of soft power in transboundary rivers	Evaluating the impacts of soft power	Soft power influences choices & treaties to manage, delay, or perpetuate conflict
2012	Bilateral management through common basin governance	Initiating discussions concerning peace & development	Ensuring equity, human rights & social justice
2013	Transboundary water interactions and the UN Watercourses Convention	Applying transboundary level rules & conventions for improved water resources management	Management & governance through political processes
2014	HH theory to inform virtual water trade	Exposing relationships between access to water, global trade, and power	Virtual water shaped by material, bargaining, & ideational powers
2015	Power shift & HH	Political & economic changes challenge the regional balance of power	Donor's investment leads to power changes & new kind of relationships
2016- & beyond?	Countering multilevel HH	Multilevel institutional analysis of transboundary rivers	Inclusive and sustainable development approaches to depoliticise transboundary rivers

HH scholars draw from the realist/neo-realist accounts of power (e.g. Mearsheimer 2001; Lukes and Haglund 2005, see 2.1.2) and hegemony (e.g. (Gilpin 2005; Lustick 2002); institutionalist/neo-institutionalist theories of regimes (Keohane 1982), knowledge and discourse (Hajer 1995), water conflict (e.g. Wolf 2004), and water conflict intensity (e.g. Yoffe, Wolf, and Giordano 2003), and has roots in sovereignty theory in law. In this context, some scholars (Zeitoun and Warner 2006;

Zeitoun and Allan 2008; Woodhouse and Zeitoun 2008; Daoudy 2009) have revealed that different forms of power regularly used in water-based relations include incentives (e.g. treaties), coercion (e.g. pressure), manipulation (e.g. threat of military operations) and perception change control (e.g. through knowledge construction). These forms of power, used in various combinations, allow one riparian state to influence another state and thus control the flow of shared water resources. It has been observed that hegemonic struggle varies from institutionalised rules not requiring enforcement (Finnemore and Sikkink 1998; Lukes and Haglund 2005) to a direct threat (hard power) to a situation where power and consent are only implied (soft power).

HH scholars claim that powerful riparian states can gain maximum benefits from shared rivers; however, if the powerful riparians intend to control the flow or persuade co-riparians to take decisions in line with their own preferences, there may be different water outcomes (Zeitoun and Warner 2006: 439). The outcomes may include, (i) benign outcomes (e.g. when states agree to cooperate in situations of water stress); (ii) neutral restrictive outcomes (e.g. when human rights are not fulfilled); (iii) obstructive oppressive outcomes (e.g. when states intervene to allocate water according to their own preferences); and (iv) contested control outcomes (when changing water-related circumstances may ignite a conflict due to no agreement) (Woodhouse and Zeitoun 2008: 117). HH may be ‘negative and dominative’, in which the hegemon desires to maintain power asymmetries and structural inequalities (Zeitoun and Warner 2006: 439). Sometimes, a powerful riparian state can take a leading position to provide benefits to all riparian states and share the water resources more equitably as has occurred in the Orange River Basin (Turton and Funke 2008). Sometimes, colonial legacies influence power-based outcomes in river basins (Sanchez and Gupta 2011), for example favouring lower riparians Egypt and Sudan on the Nile (Waterbury and Whittington 1998). These treaties are biased and are in favour of the more powerful states (Dinar 2000; Cascão 2008).

Essential elements of hydro hegemony theory are: (a) hydro-interactions (the relationship over shared-water resources among riparians) which range from cooperation to conflict with various intensities in between (see (Furlong 2006; Zeitoun and Mirumachi 2008; Zeitoun and Warner 2006); (b) asymmetric power relations (where one riparian state is powerful and the other one is weak in a transboundary river basin) (Zeitoun and Warner 2006; Warner and Zeitoun 2008); (c) exploitation potential (resource capture strategies of a powerful country to affect water quality or quantity by developing dams and reservoirs over the shared water resources) (see (Allan 2003; Warner 2006); and (d) the geographic position of riparian states in a transboundary river basin (Zeitoun and Warner 2006). The physical geography of a river has a substantial effect on the quantity, quality, and nature of relations among riparian states. The geographic position of a riparian state in a transboundary river basin plays an essential role in determining the foreign policy and negotiating process of riparian states. Furthermore, it also influences the degree of similarity or difference of interests and capabilities among them (Dolatyar and Gray 2000). Different elements of HH and how they influence different situations are demonstrated in Table 3.2.



**Table 3.2:** Influence of geographic power on material, bargaining and ideational power

Elements of Political Power		Elements of Geographic Power		
		Upstream Riparian (UR) Position	Downstream Riparian (DR) Position	River length & drainage area
Material	<b>Economy</b>	UR can potentially divert river waters to enhance trade and aid (Kehl 2017) UR is more likely to attract (more) foreign direct investment (Warner et al. 2014) UR can potentially prevent/increase pollution (Arfanuzzaman and Syed 2018)	DR has access to fertile flood plains; Agricultural production/trade dependence (Kehl 2017) DR may control the port, hence trade (Kehl 2017)	Having a longer river length and higher drainage area can increase water-related power (Arfanuzzaman and Syed 2018; Kehl 2017)
	<b>Military</b>	Negligible, no causal relationship	Negligible, no causal relationship	Negligible, no causal relationship
	<b>Population</b>	Negligible, no causal relationship	Negligible, no causal relationship	Negligible, no causal relationship
	<b>Technology</b>	Negligible, no causal relationship	Negligible, no causal relationship	Negligible, no causal relationship
	<b>Pol. Stability</b>	Negligible, no causal relationship	Negligible, no causal relationship	Negligible, no causal relationship
Bargaining	<b>Strategic relations with powerful states</b>	UR has a better negotiating position as it can divert the water (Brochmann and Hensel 2011; Kehl 2017; Song and Whittington 2004) UR could potentially coerce DR (Menga and Mirumachi 2016)	DR has weak negotiation power in non-navigable rivers (Brochmann and Hensel 2011; Dinar et al. 2013; LeMarquand 1977)	Negligible, no causal relationship
	<b>Power of ideas</b>	UR could use water/climate information to shape ideas and norms (Petersen-Perlman and Fischhendler 2018)	DR could attracting support from powerful international actors including researchers (Abdolvand et al. 2015; Eynon 2016; Hensengerth et al. 2012)	Negligible, no causal relationship

HH Theory has been applied in various transboundary river basins: in the Nile (Link et al. 2010), Tigris and Euphrates (Warner 2006), Upper Jordan Waterscape (Zeitoun et al. 2013), Amu Darya Basin (Wegerich 2008), Orange (Turton and Funke 2008), and Brahmaputra (Lahiri and Sinha 2012) basins. Various scholars have evaluated HH theory in terms of its contribution in water resource literature. Some of the significant strengths and weaknesses of HH theory are presented in Table 3.3 below.

**Table 3.3:** Strength and weaknesses of hydro hegemony theory

<b>Strengths</b>	<b>Weaknesses</b>
Explains important role of power in transboundary water management and allocation (Casção 2008) especially when treaties are made in an asymmetric environment (Zeitoun et al. 2013: p.201); Explains hydro-political interactions by reference to power (e.g. see (Frey and Naff 1985)	Ignores the role of institutions (Selby 2007); Assumes state sovereignty as an uncontested attribute in international relations (Zeitoun and Warner 2006)
Illustrates how power is exercised (Zeitoun et al. 2013: p.201)	Unable to explain how and why cooperation emerges (Selby 2013); Views inter-state interactions as zero-sum power games, (Lopes 2012)
Highlights and inform the law about the injustices (Woodhouse and Zeitoun 2008)	Can never address issues of justice (Zeitoun 2013)

### 3.4 WATER GOVERNANCE AND INSTITUTIONS

Water governance and institutions scholarship tend to focus on what needs to happen as well as what is already happening. These include discussions on the role of power explained above. Water governance scholars claim that institutions are formal and informal cooperative processes on water that aim at genuine cooperation, reducing transaction costs and leading to positive-sum interactions (Lopes 2012) using the latest science.

Water governance scholars call for covering all kinds of water i.e., surface, underground and reclaimed or recycled sources, all uses of water and all users of water (Hayat and Gupta 2016). This research analyses both individual and collective actions as well as decision-making for water resource development, allocation and utilisation (Rutten and Mwangi 2014). Due to the formal nature of rules in terms of their administrative arrangement, policy environment, and the legal framework, (Salman and Bradlow 2006), water governance can be conceptualised as interactions between water law, water policy and water administration (Saleth and Dinar 2000) as well as in relation to sociological and anthropological elements of water (Zwarteveen and Boelens 2014). Water governance considers both the formal as well as informal perspectives (Sehring 2009). There are a variety of factors that influence these three formal dimensions of water institutions (Saleth and Dinar 2003). For logical purposes, these elements can be clustered into endogenous elements (e.g., water conflicts, water inefficiency, degradation of water infrastructure, and water scarcity) that are internal to the water sector and exogenous elements (e.g., natural calamities including floods and

droughts, international commitments, changing social values, political reforms, technical progress, demographic growth, and economic development) that are outside the strict boundaries of water governance (Saleth and Dinar 2004b; Hashemi et al. 2015). Since both the internal and external elements are linked in one way or the other, and their comparative effects differ by situation, it is quite difficult to separate their distinct roles or to generalise the direction of their effects (Saleth and Dinar 2000 2004a).

Water governance refers to a set of social, political, administrative, and economic procedures that oversee the development, management and regulation of water resources at multiple levels of governance (Rogers and Hall 2003). More specifically, institutions can be termed as procedures that define action sets; offer incentives; regulate outcomes, use, provision, and management; and explain action positions (Saleth and Dinar 2006). Veeman and Politylo (2003: 322) see institutions as “social decision systems that provide rules for the use of resources and for the distribution of resultant income or other benefit streams”. This indicates that human actions are shaped and stabilised by institutions. However, the shaped human actions could in turn affect future institutions. In this regard, tradition and customary practices also become rules when society adapts them. These informal and formal rules define the social roles of individuals and groups in a particular situation of human relations (O’Riordan and Jordan 1999). Thus, water institutions may be thought of as consensual arrangements of behaviour constituting water conventions, or as rules and entitlements that define individual and group choice sets.

Water governance has taken place at multiple geographic levels (Barraqué 2011; Yang et al. 2014). Growing competition over freshwater resources has resulted in the generation of specialised literature within International Relations, which observe the conditions for cooperation and conflict in terms of water resources. The relationship between political decision-making and environmental stress have been well acknowledged in various academic articles examining the different scales at which water is managed during the 1950s (Toynbee 1946; Wittfogel, 1956).

Broadly, water management under certain rules can be divided into five phases. Initially, freshwater resources were managed collectively by communities through societal norms using simple infrastructures that required less monitoring and slight maintenance (Hellin et al. 2018; Pahl-Wostl et al. 2007). Customary water governance practices dates back to 2500 BC when Umma and Lagash (the two Sumerian city-states) drafted a treaty for ending a water conflict along the Tigris River (Wolf 2002). Subsequently in the second phase, when states emerged, the agrarian state was introduced, for instance, in Ancient Egypt, Mesopotamia and China (Ruddell and Sanchez 2012). In the third phase during the post-industrial revolution, water was tactically used outside irrigation and was stretched to all dynamic activities including the energy sector (Pingali 2012). During the eighteenth to nineteenth centuries, this practice was happening principally in Western Europe with the growth of transportation, the establishment of large-scale and significant agriculture, urbanization, and alteration of human settlements (Mosello 2015). In these two phases, a rich body of water institutions have evolved (Yoffe et al. 2003).

The Food and Agricultural Organisation (FAO) of the United Nations has revealed that from AD 805-1984, more than 3000 freshwater treaties were drafted (Hamner and Wolf 1998). The fourth phase is characterised by the predominance of state regulation and the rise of the private sector. During this period, large hydroelectric and irrigation projects were designed and employed as tools of regional politics for economic development of less developed countries (Mosello 2015). These governance modalities resulted in imbalances between the cost bearer and those who enjoy the benefits. Such imbalances occur when existing laws are not properly implemented by the state to protect the population and environment (Ciervo 2009; Mosello 2015). During this period, the state introduced a large number of rules for water governance. These were often inspired by scholarly works, such as those coming from the Institute of International Law (IIL). In 1911, through the Madrid Declaration, the IIL recommended the formation of joint water commissions to avoid modifications of transboundary rivers and discouraging basin alteration unilaterally. Furthermore, the recommendation in the Madrid Declaration led to the development of the Helsinki Rules of 1966 which introduced two essential water governance principles concerning the obligation of avoiding ‘significant harm’ and the ‘equitable utilisation’ of water resources among co-riparians of a transboundary river basin (Caponera 1985).

The UN asked the International Law Commission (ILC) in 1970 (i.e., four years post Helsinki Rules) to codify the rules for the non-navigational uses of transboundary watercourses. This assignment led to the adoption of the Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention 1997). This Convention endorsed the principles of ‘avoiding significant harm’ and ‘equitable and reasonable utilisation’. It also shaped a framework for information and data sharing, conflict resolution, protection and preservation of shared water resources, and the instrument for joint management among the states sharing transboundary watercourses (Wouters 2000). More details regarding the legal institutions of water governance are provided in Chapter 5.

### 3.5 THE INTERRELATED ROLE OF POWER AND INSTITUTIONS

As discussed above, the role of institutions in changing human behaviour and shaping political outcomes gave birth to ‘Neo-Institutionalism (NI)’ (Crawford and Ostrom 1995; Rutherford 1995). NI was built on the attributes of the ‘old or Historical-Institutionalism (HI)’ (Peters 2000). Hall and Taylor (1996: 940) outline three distinctive characteristics of HI: (1) it emphasises the power asymmetries associated with the operation and development of institutions; (2) it integrates institutional analysis for political outcomes along with the contribution of other factors; and (3) it takes a view on institutional dynamics that underline path dependence and unplanned consequences. However, this can be seen as challenging the views of those who argue that environmental rules reveal preferences of actors who have exerted power during regime creation (Dimitrov 2003). To this, (Young 2004: p.215) argues that even ‘powerful actors are limited by their understanding of the institutional options available to them, a fact that highlights the role of knowledge in the growth of institutions’.

From the perspective of sociological institutionalism (SI), the influence of institutions is seen in almost every aspect of human life (Schofer et al. 2012). They can be habits and social protocols, cultural templates and frames of meaning (O'Riordan and Jordan 1999). From this viewpoint, institutional practices and techniques are seen to be embraced not on grounds of judiciousness but because of their embeddedness in society, culture, and organisational identity (Pai and Sharma 2005). These are aspects which may be significant in the study of local informal and formal institutions in water resources management (Hall and Taylor 1996; Peters 2000). Levi (1990) is of the view that formal rules can empower some groups where underprivileged groups may try for institutional change by retreating from their agreed position from the existing institutional arrangements. Collective action can be one form through which they withdraw their consent but it might also happen when many individuals take decentralised actions.

Williamson (2000) argues that informal rules can provide the experience within which formal institutions are rooted and classifies four levels of institutions: First, informal institutions or institutions of embeddedness; second, the high-level formal rules e.g., property rights, laws, and constitutions; third, the institutions of governance, which manage day-to-day dealings to reduce transaction costs; and fourth, the prices and quantities indicated in different agreements. For Bandaragoda (2000), numerous rules related to water are designed to constrain the socially undesirable behaviour in the distribution and use of water. The capability to attain the predictable effect depends largely on the institutional engagements that form the incentives and restrict human action (Alaerts 1997; Barrett et al. 2005).

There are number of institutions that must be examined in an attempt to change or strengthen hydro-institutional arrangements. First, the rules for water diversions from streams, rivers, lakes and even groundwater. Second, those rules or policies that set the conditions for allocating and reallocating water among different users (Easter 2004: p.1):1). The third set of institutions are the laws establishing water use rights (Agyenim 2011). Thus, institutions are dependent as well as independent variables; they shape and are shaped by the strategy of individual actors. When preferences shift, the institutions shift accordingly in order to balance power.

### 3.6 CONCLUSION

Using a lens of water governance and institutions is worthwhile in enlightening the reasons for conflicts over freshwater and their intensities as well as poor freshwater governance. Similarly, the concept of hydro hegemony explains the role of state power in sharing transboundary water resources with its riparian countries. As becomes evident, power can influence multilevel transboundary water governance institutions by: including or excluding relevant water and non-water related actors, including or excluding various water and non-water related issues and thereby shaping the agenda or preferences of different actors involved in the political/negotiation process, and when there is power asymmetry between actors in relation to (i) geographic, (ii) material, (iii) bargaining, and (iv) ideational power. The resultant institutions which are created by states with visible power asymmetries are fragile, inefficient, ineffective, and unsustainable. Institutional

theories on the other hand claim that cooperation, and eventually peace, can nonetheless materialise through the development of rules which may act as an arbitrating element between the power arrangements of the global system. It promotes cooperation in trade, human rights and collective security among other issues even if there is anarchy. Such cooperation often emerges as different issues have different power constellations.

Hydro Hegemony (HH), water governance, and institutionalism are different theoretical approaches to transboundary water cooperation and conflict that are difficult to integrate within a single explanatory framework, but which balance each other and can be engaged to describe diverse parts of the research question and sub-questions on which this thesis is based. Whether they can be integrated into a ‘hydro-institutionalism’ approach will be discussed in Chapter 10. In reality, the complex interplay of power and institutions is indeed a hybrid approach where, on one hand power influences transboundary water outcomes when there are asymmetric power relationships among riparians, while on the other hand, informal and formal institutions restrain the role of power politics in transboundary freshwater resources. Furthermore, there might be (a) unresolved historical non-water related issues (e.g. border dispute) and (b) lack of scientific and societal information that may hamper institution building and strengthening in the water sector. Hence, it is necessary to evaluate the role of power in in/excluding actors and issues; and how existing institutions can be improved based on diffusing unresolved historical issues first and then by providing additional scientific and societal information which could perhaps change the perceptions of riparian States in water negotiations.