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Inclusive development and multilevel transboundary water governance

The Kabul River

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5

GLOBAL WATER INSTITUTIONS AND ITS RELATIONSHIP WITH INCLUSIVE AND SUSTAINABLE DEVELOPMENT

5.1 INTRODUCTION

This chapter presents a summary of global water institutions followed by a thorough analysis of five key global institutions that are relevant to the governance of transboundary water resources. It identifies some of the relevant principles (i.e. political, socio-relational and ecological) and instruments (regulatory, economic, suasive and management). It also recognises the obligation for building a River Basin Organisation (RBO) and using dispute resolution mechanisms for problem solving. This chapter intends to answer the research question: How have global institutions for transboundary water governance evolved and what are the implications of these institutions for governing transboundary river basins without a regulatory framework? To answer this question, this chapter also addresses some subsidiary questions: (1) How have the key global institutions for governing transboundary water resources evolved? (2) Which governance instruments (principles and instruments) are included and which are excluded? (3) How can the establishment of RBO's reduce conflict and promote cooperation and in a transboundary river basin? (4) How has power influenced the inclusion/exclusion of instruments (principles and instruments)? To answer these questions, this chapter first presents a summary of global water institutions (see 5.2) and then assesses the evolution of five key institutions at the global level (see 5.3). Second, it identifies different instruments (including principles) within these institutions (see 5.4). Third, it discusses the power and politics of inclusion/exclusion of certain instruments (see 5.4). Fourth, it briefly highlights the role of river basin organisation in dispute resolution (section 5.5). Fifth, the last section (section 5.6) draws inferences for transboundary water governance at multiple levels.

5.2 OVERVIEW OF GLOBAL WATER INSTITUTIONS

The codification of water rules started with the development of treaties over transboundary rivers, underground aquifers and lakes (Dellapenna and Gupta (eds.) 2009; Eckstein and Sindico 2014). These rules were included in court judgements over various water matters, as well as in regional and national agreements (Guzmán-Arias and Calvo-Alvarado 2016; Mehta 2016). Presently global water institutions are shaped to ensure efficient and equitable distribution of shared water resources between states (McKinney 2011). Furthermore, they also to ensure that no substantial transboundary harm should occur to those who utilise the resource (Drieschova and Eckstein 2014; McKinney 2011).

The codification of governance principles for transboundary rivers at the global level started at the beginning of the 20th century. The International Law Association (ILA) codified the rule on the utilisation of water in international river basins in the non-binding Helsinki Rules (International Law Association 1967) (Mechlem 2003; Dellapenna 2011). Following this, The Ramsar Convention on Wetlands of International Importance (UNESCO 1971) was adopted in 1971 to protect and conserve ecosystems of extremely sensitive wetlands of global importance. One year later in 1972, the Stockholm Declaration on the Human Environment (The Stockholm Declaration 1972) included water governance principles in the Preamble and Principle II. In 1977, the Mar del Plata Action Plan in the First World Water Conference set the framework for the management of water resources

(Worthington 1977). In this Action Plan, the water supply for human consumption and agricultural utilisation purposes was clearly specified (Worthington 1977).

To continue, in 1986, the ILA non-binding Seoul Rules were applied to transboundary surface and groundwater resources (The Seoul Rules 1986). In 1992, the UN Conference on Environment and Development (UNCED) produced three primary versions related to governing water resources including: (1) the Rio Declaration on Environment and Development (The Rio Declaration 1992) which recognized 27 governance principles to be addressed as vital principles on the environment and development; (2) the United Nations Framework Convention on Climate Change (UNFCCC 1992) which covers climate mitigation and adaptation; and (3) the Convention on Biological Diversity (The Convention on Biological Diversity 1992) which primarily aims to protect global biodiversity. The legally binding UNECE regional Convention for the Protection and Use of Transboundary Watercourses and International Lakes was adopted in 1992 (UNECE 1992). This Convention was originally a regional agreement, but because of the amendment to Articles 25 and 26 all UN member states were invited to become parties (UNECE 2003) making it a global agreement. The 1999 Protocol on Water and Health (UNECE 1999) of the UNECE Convention protects human health and enhances wellbeing. Similarly, the United Nations Convention to Combat Desertification (UNCCD 1994) was adopted to address the harmful effects of land cover changes and climate variability on socio-economic opportunities, food production, and water resources sustainability. In 1997 the United Nations Watercourses Convention, inspired by the Helsinki Rules, was adopted and has been in force since 2014 and is binding on all 36 ratifying parties.

The ILA's scholars wrote the non-binding Berlin Rules on Water Resources in 2004, which include principles of customary international law concerning the management of freshwater resources. The Berlin Rules replace the Helsinki Rules by adopting principles of human rights and international environmental law. The Berlin Rules consist of both codified and customary principles that relate to water resources (International Law Association 2004). The Human Rights Committee (UNHRC) as well as the General Assembly (UNGA) of the United Nations adopted two separate resolutions on the Human Right to Water and Sanitation in 2010 (UNGA 2010a; UNGA-HRC 2010). These resolutions recognise the human right to water and sanitation. The 2008 Draft Articles of International Law Commission on the Law of Transboundary Aquifers (International Law Commission 2008) have been reviewed three times by the member states of the United Nations. There continues to be disagreement among the participant states regarding the draft articles especially regarding whether it should be accepted as a policy statement, international framework agreement or non-binding text (Conti 2017). Following that, the member states of the UN adopted the Sustainable Development Goals (SDGs) in September 2015 (UNGA 2015). These are 17 goals and 169 targets which are built on the earlier construction of the eight Millennium Development Goals (UN Millennium Declaration 2000) where water is a cross-cutting theme in various goals.

5.3 KEY GLOBAL WATER GOVERNANCE INSTITUTIONS

In the overview of global water institutions above I have discussed 16 key institutions that were negotiated at the global level. This section emphasises five key institutions that are relevant to the analysis of transboundary water governance in this thesis. These include: (1) Customary International Water Law; (2) the 1992 UNECE Water Law; (3) the 1997 Watercourses Convention; (4) The Human Right to Water and Sanitation; and (5) the 2015 Sustainable Development Goals of Agenda 2030. Some of these institutions are binding global conventions (i.e., 2 & 3); non-binding declarations (i.e., 4) or goals (i.e., 5) agreed upon by countries. These five institutions are directly relevant for my analysis of the transboundary level (see Chap 6), national, and sub-national level of Afghanistan (Chap 7) and Pakistan (Chap 8) and multilevel (Chap 9) water governance in the Kabul River Basin.

5.3.1 Customary International Water Law

Customary international water law has been formally approved in the two UN water laws and codified in the 1966 informal Helsinki Rules and the 2002 Berlin Rules. Customary water law reflects existing state practice (Giordano and Wolf 2003; Rahaman 2009). It includes political principles (e.g., information exchange between riparians, obligation to cooperate, notifying riparian states about emergency situations and planned measures to avoid water flow interruption, limited territorial sovereignty, and dispute resolution); social-relational principles (e.g., equitable and reasonable utilisation and capacity building); and ecological principles (e.g. protecting and preserving groundwater recharge zones as well as ecosystems) (McIntyre 2011).

Customary law imposes substantive (using water in an equitable and reasonable manner) and procedural (obligations to cooperate in good faith) obligations on countries sharing watercourses (Shaarawy 2016). Principles of customary law can potentially play a vital role in dispute resolution concerning water resource sharing among those countries that are not yet party to the 1997 Watercourses Convention (McIntyre 2007).

The principles of customary international water law has evolved from various theoretical approaches such as:

- a. **Absolute Territorial Sovereignty Doctrine:** It allows a riparian of the shared water resource to utilise the water freely which is flowing in its territory without any consultation and irrespective of the consequences (Correia and da Silva, 1999). This approach eventually encourages the upstream state to divert all water resources in a transboundary river basin without considering the dire needs of downstream state (McCaffrey, 1996). Most water experts and scholars are not in favour of this doctrine as it does not represent evolving international law (Birnie and Boyle, 1994; Salman and Uprety, 2002).
- b. **Absolute Territorial Integrity Doctrine:** It is established on the claim that the lower riparian of a transboundary basin has the right to receive uninterrupted water flow of good quality. This

indicates that the upstream riparian cannot divert or interrupt the flow without the permission of the downstream riparian. This approach reassures the lower riparian of a transboundary basin to demand the healthy and continuous flow of water from the upper riparian irrespective of the priority (Barandat and Kaplan 1998). States that are downstream riparians in a transboundary river basin always support this doctrine as it allows them to use the shared water resources in an unaltered way. Due to its limited role in state practice, scholars and water practitioners rejected this concept (Birnie and Boyle 1994).

- c. **The Sovereign Equality Doctrine:** According to this concept, every riparian state is entitled to utilise water of a transboundary river inside its premises without affecting the legal rights and interests of other riparian states. Furthermore, all riparian states have mutual rights and obligations as well as entitlement to equitably share the benefits of a shared river basin. This concept is broadly known as the concept of sovereign equality or limited territorial integrity (Salman 2007; Schroeder-Wildberg 2002). Table 5.1 below presents the main principles of customary international law and their main objectives, while Table 5.2 contains information on incorporating the principles of customary law into international treaties and conventions.

5.3.2 The 1992 UNECE Water Law and its 1997 Protocol

Since the regional UNECE Water Convention (UNECE 1992) has now been opened for international participation, I discuss this here. The UNECE Water Law has been ratified by 43 Parties (including 42 states and those countries sharing transboundary waters in the region of the UN Economic Commission for Europe). It aims to improve the protection and management of transboundary surface waters and groundwaters. The main principles and instruments of the 1992 UNECE Water Law include political (information exchange, notifying about planned measures as well as emergency situations, dispute resolution, and obligation to cooperate); social-relational (public access to data and information, equitable and reasonable utilisation); and ecological principles (Best Available Technology Not Entailing Excessive Costs, EIA, ecosystem conservation and protection, basin as the unit of management, prevention of pollution, monitoring, precautionary principle, polluter pays).

On March 17, 1992, the UNECE Water Law was made available for signature in Helsinki where it came into force on October 06, 1996. The Convention was eventually converted into a global legal framework for enhancing transboundary water cooperation after the modification was adopted on February 06, 2013. If countries outside the UNECE region ratify the Convention, it would become universally applicable (UNECE 2016: p. 5). However, due to low participation of the non-UNECE countries in the negotiation process, the legitimacy of the Convention can be questioned. The Convention includes general provisions: to prevent, control and reduce transboundary impact (Art. 3); monitoring (Art. 4); research and development (Art. 5); information exchange (Art. 6); responsibility and liability (Art. 7); information protection (Art. 8) (UNECE 1992). Establishing a River Basin Organisation (RBO) to protect and manage transboundary water resources (Art. 10). The Convention is evaluated during the Convention's Meeting of the Parties while its implementation is overseen by the secretariat.

In the follow-up to the Convention, the parties adopted a Protocol on Water and Health (UNECE 1999) which is legally binding and entered into force in 2005. It aims to protect human health and enhance human well-being through improved water management. It includes the precautionary principle (to control water-related disease), the polluter-pays principle (to ensure that the polluter will bear the costs of pollution), the limited sovereignty principle (to ensure that the activities of one riparian state avoid harming another state or its environment), the intergenerational equity principle (to make sure that the ability of future generations are not compromised while meeting the needs of the current generation), protection of water resources protection, governing water resources at an appropriate geographic level, efficiently using water resources, awareness creation, ensuring public participation and access to information in decision-making regarding integrated water management, water and health, ecosystems conservation and protection, protection of vulnerable people against water-related disease and ensuring equitable access to water (Art. 5). The Protocol addresses issues of water resources and health of ecosystems, but primarily focuses on disease prevention (Art. 4, 5, 8, 12, and 13) in transboundary surface water and groundwater.

5.3.3 The 1997 Watercourses Convention

The ILC was requested in 1970 by the UNGA to formulate concrete international guidelines for transboundary water use similar to the 1966 Helsinki Rules (McCaffrey 1999; Dellapenna and Gupta 2008). This led to the adoption of the Convention on the Law of the Non-Navigational Uses of Transboundary Water Courses which was adopted in 1997 by states (McCaffrey 1999). As of 2019, this Convention has been ratified by 36 states. It takes the special situation and needs of developing countries into account. It describes an international watercourse as ‘a system of surface and groundwaters which crosses borders of states’ (Art. 2). The Convention has both procedural rules and substantive norms for riparian states of shared watercourses. The key objective of the Convention is to ‘safeguard the conservation, protection, management, development, and utilisation of transboundary water resources as well as promote the sustainable and optimal utilisation of shared water resources.’ Specifically, Article 5 and 6 of the Convention on equitable and reasonable utilisation and participation are very relevant in the context of transboundary water resources. Article 5 encourages the riparian states to develop and use transboundary water resources in an efficient and equitable manner with a view to achieve optimal and sustainable utilisation and benefits by taking into account the interests of the riparians states. It also educates riparian states about the rights of utilisation and the duty to cooperate with each other on the protection and development of the watercourse. Additionally, Article 6 describes factors which are related to the equitable distribution of water resources including geographic, hydraulic, climatic, economic, and social (including attention to dependent populations), existing and potential water usage, and its protection and usage, among others.

The Watercourses Convention includes some important principles including political (information exchange; notification about planned measure and emergency situations, dispute resolution, and obligation to cooperate); social-relational (prior informed consent as well as equitable and

reasonable utilisation); and ecological principles (EIA, prevention of pollution, ecosystems conservation and protection, invasive species, and basin as the unit of management).

Each riparian state is obliged to provide data and information to co-riparians of a shared watercourse (Article 9) concerning the condition and proposed uses (Article 12) so that other states have sufficient time to study the intended water use and object if the use is considered harmful (Article 14). Thus it restricts states to avoid harming their co-riparian states by considering all appropriate measures while utilising water resources of an international watercourse in their territories (UN Watercourses Convention 1997: Art. 7) (Fitzmaurice 1997). The Watercourses Convention is limited in its scope to specify how priority should be given in terms of utilising an international watercourse (Art. 10). However, it sets out guidelines for dispute resolution among riparian states including: (a) a mediation or referral request from a third party; (b) negotiation; (c) setting up a commission of inquiry to establish a procedure; (d) providing information to the Commission; and (e) dispute submission in the International Court of Justice (Art. 33). The Convention calls upon states to take concrete steps to prevent pollution-related damage (Art. 21), the introduction of invasive species (Article 22), and to enforce a responsibility on states that damage to a shared watercourse should be remedied or compensated (Art 22). The Watercourses Convention has specific provisions for damages to international watercourses due to natural calamities such as drought or erosion. It encourages participating states to inform co-riparians about the watercourse related emergencies which might disturb them, for instance water borne diseases or floods (Art. 27). Since the time of its adoption, the Watercourses Convention has taken more than 17 years to enter into force and so far 36 states have ratified the Convention - while still many countries particularly the upstream ones - have not yet ratified it (Gupta 2016b). The Convention is recognized as a milestone which helps in the setting up of international water law (Krishna and Salman 1999).

5.3.4 The Human Right to Water and Sanitation

Most states have ratified either a human rights convention or signed on to a political declaration which identifies the human right to water and sanitation. This basic right proposes to guarantee access to water and sanitation services as a human right vital to the recognition of all human rights. Some countries enforce this right actively, while in others it has remained a normative principle.

The Resolution on the Human Right to Water and Sanitation of the UN General Assembly (UNGA 2010b) requests states and international organisations to encourage efforts to approve the right to water and sanitation and support its application through technology transfer, improved financing, and building capacities. The Resolution of the Human Rights Commission of the United Nations General Assembly (UNGA-HRC 2010) obliges states to ensure the application of the Resolution, even when dealing with third-party suppliers. Such application needs to be supported by other related principles e.g., accountability for human rights violations, mainstreaming gender equity and non-discrimination, EIA, transparency in development and application. Various states have supported these Resolutions. Although the Watercourses Convention does not explicitly prioritise

the right to water and sanitation services as a right, the adoption of these two Resolutions makes clear that this should be seen as a priority (Salman 2012; Trigueros 2012).

5.3.5 The Sustainable Development Goals (SDGs) of Agenda 2030

The United Nations General Assembly approved the Sustainable Development Goals (SDGs) and Agenda 2030 in 2015 (UNGA 2015). The ‘plan of action’ that SDGs offer include the integration of poverty alleviation, environmental sustainability, and economic development by 2030. The SDGs visualizes ‘a world where we endorse our obligations concerning the human right to clean and safe drinking water as well as improved sanitation and hygiene’ (Paragraph 7). Goal 6 of the SDGs is the water-related goal that aims to cope with global water issues related to economic and human activities. Goal 6 of the SDGs is a cross-cutting goal that is linked to all other development goals. This particular goal ensures the accessibility and sustainable management of water and sanitation for all. In essence, it goes beyond drinking water, sanitation, and hygiene and emphasises the centrality of water resources to sustainable development, and the key role that clean and safe drinking water, improved sanitation, and hygiene play in achieving other goals related to health, education, and poverty reduction. Agenda 2030 was adopted by all UN Member States and specialised agencies to protect the planet, alleviate poverty, and make sure that people have freedom of choice, enjoy peace and prosperity.

It has eight targets to tackle the global water crisis and also addresses transboundary water issues. These include achieving: (1) support in building capacities of developing countries in different water- and sanitation-related programmes and activities; (2) efficient water use across all sectors as well as addressing water-scarcity related issues by promoting sustainable withdrawals and supply of freshwater; (3) the support and active participation of local people in enlightening governance of water and sanitation; (4) the application of Integrated Water Resources Management (IWRM) at all geographic levels; (5) enhanced water quality by reducing pollution; (6) reasonable and equitable access to safe and affordable drinking water worldwide; (7) access to sufficient and equitable sanitation and hygiene for all by taking into account the needs of girls, women, and other vulnerable groups; and (8) the conservation and protection of water-related ecosystems.

Agenda 2030 calls on all states to treat the different Goals in an inter-connected and inter-linked manner. Therefore, it is not unexpected to see that the other 16 SDGs and its various targets have strong direct and indirect connections with water. For instance, target 3.3 of Goal 3 aims to cope with water-borne diseases while 3.9 strives to decrease illness and deaths from water pollution. Similarly targets 11.5, 12.4, and 15.1 of Goals 11, 12 and 15 respectively ensure protection, conservation, restoration, and sustainable utilization of both terrestrial and inland freshwater ecosystems and their services. Target 15.8 strives to limit the impacts of invasive species on freshwater ecosystems. The review of SDGs specifies that non-water related goals are linked with water-related Goal 6 in one way or the other. For example, more investment in the water sector can lead to achieving Goal 1 on poverty alleviation (UNGA 2015); achieving food security to end hunger and promote sustainable agriculture (Goal 2); and enhancing access to reliable, affordable, modern,

and sustainable energy for all (Goal 7). One of the necessary elements that can hamper sustainable development is the uncertain impacts of climate change. In this regard Goal 13 aims to tackle such challenges. Target 13.3 of Goal 13 is linked transboundary water governance where states are encouraged to include climate change into national level policies and planning.

Goal 16 of the SDGs is motivated by the concept of ‘good governance’ which encourages sustainable social development by promoting inclusive and peaceful societies. It specifically emphasizes establishing global cooperation by creating, efficient, accountable, and transparent institutions at all geographic levels. Moreover, target 16.7 of the SDGs is closely linked to one of the important principles of inclusive development that aims at participatory, representative, and inclusive decision-making at all geographic levels. Such principles aim to enhance the legitimacy of decision-making and empower those without a voice, e.g., dam building by an upstream riparian can negatively affect the downstream riparian because downstream states rely on the regular water flow for fisheries and agriculture. In such circumstances the participation of downstream riparians may enrich the quality of decision-making. Target 16.10 of the SDGs encourages the participation of the public in accordance with national law and international agreements (UNECE 1998). Public participation is one of the important elements of inclusive development which can only be effective if there is adequate and equitable access to information.

Table: 5.1: Global institutions governing transboundary water resources

Institution Ratification	Parties	Goals/Objectives	Principles & Instruments
Customary international water law	Only applicable to parties of the 1992 UNECE Water Law	To empower public, provide them appropriate resources, and to enable cooperation over the world's fresh water resources	political (information exchange, notification about planned measures and emergency situations, dispute resolution, obligation to cooperate, limited territorial sovereignty); social-relational (equitable and reasonable utilization, capacity building); and ecological (ecosystem conservation and protection)
The 1992 UNECE Water Law	43 Parties (including 42 states and all UNECE countries sharing transboundary waters	To enhance methods and improve national efforts for the safety and management of both surface and groundwaters in a transboundary river basin	political (notification about planned measures and emergency situations, information exchange, dispute resolution, and obligation to cooperate); social-relational (public access to information, equitable and reasonable utilisation); ecological (EIA, BATT, basin as the unit of management, pollution prevention, precautionary principle, monitoring, polluters pay, and ecosystem conservation and protection)
The 1997 Watercourses Convention	36 States	To create a framework for the utilisation, improvement, maintenance, administration, and safety of international watercourses, whilst encouraging optimum and sustainable usage thereof for current and future generations, and accounting for the distinct situation and requirements of	political (notification about planned measures and emergency situations, information exchange, dispute resolution, and obligation to cooperate); social-relational (prior informed consent, equitable and reasonable utilisation); ecological (pollution prevention, EIA, basin as the unit of managementecosystem conservation and protection)
The Human Right to Water & Sanitation (2010)	All states have ratified either a human rights convention or accepted a political declaration which recognises the HRWS All UN member States	To identify the human right to clean water and improved sanitation and recognize that these are vital to the recognition of all human rights To protect the planet, eradicate poverty, and make sure that all people enjoy peace and prosperity	The human right to water & sanitation
The Sustainable Development Goals of Agenda 2030			social-relational (human right to water and sanitation, poverty alleviation, food security, capacity building, participation of public, reduced inequality, intergenerational equity, sustainable urbanization, food security, rights of women, youth, & indigenous peoples); ecological (ecosystem conservation and protection, precautionary principle, pollution prevention, and invasive species)

Table 5.2: Major principles & instruments in the key global water institutions

	Customary international Law	1992 UNECE*	1997UN WCC*	2010 UNGA	2015 SDGs
Political Principles					
Information Exchange					
Notification of Emergency Situations					
Notification of Planned Measures					
Obligation to Cooperate					
Disputes Resolution					
Limited Territorial Sovereignty/ Do Not Harm					
Environmental Principles					
Basin as the Unit of Management					
BATT					
Conjunctive Use					
EIA					
Invasive Species					
Monitoring					
Prevention of Pollution					
Precautionary Principle					
Protected Areas for water					
Protected Recharge and Discharge Zones					
Ecosystem Preservation and Protection					
Polluters Pay					
Social Principles					
Capacity Building					
Equitable & Reasonable Utilisation					
Human Right to Water & Sanitation					
Intergenerational Equity					
Poverty Alleviation					
Prior Informed Consent					
Priority of Use					
Public Access to Information					
Public Awareness & Education					
Public Participation					
Rights of Women, Youth, & Indigenous Peoples					
Food Security					
Human Well-being					
Quality Education					
Clean Energy					
Economic Growth					
Infrastructure					
Reduced Inequality					
Sustainable Urbanisation					
Responsible Consumption & Production					

* **Legally Binding; Source:** Modified from Conti 2017

5.4 INVENTORY OF KEY PRINCIPLES IN GLOBAL WATER INSTITUTIONS

This section reviews governance principles for operationalising the fifth component of the theoretical framework (see 2.6). Global water institutions include many principles and are crucial for understanding the architecture of transboundary water governance. The term ‘principle’ is applied by legal scholars to a theoretical value or law pertinent to specific cases (Alpa 1994). It is also applicable to an instrument (i.e. objectives of water quality) (ibid). As this thesis focuses on inclusive development as a goal of water governance, I emphasise the social/relational focusing on how power can be shifted to local people through, inter alia, the adoption of procedural and substantive principles (e.g. public participation and access to information, human right to water and sanitation, priority of use, public awareness and education, equitable and reasonable use, poverty eradication capacity building, priority of use, and intergenerational equity) and ecological (pollution prevention, monitoring, EIA, ecosystem conservation and protection, protection of water recharge and discharge) components. Although the standing of these principles in international law varies, they are considered as equally important. In this thesis, all the principles that are analysed were identified through both the literature review and a review of the important global water institutions. The following are the main categories of principles.

5.4.1 Political Principles

Political principles that were identified through the review of literature and key global water governance institutions include: the principle of sovereignty, obligation to cooperate, dispute resolution, exchange of information, notification about planned measures and of emergencies.

5.4.2 Socio-Relational Principles

Water law consists of various principles including both substantive and procedural, which I have grouped into socio-relational principles. These include: public awareness, education, participation, and access to information, equitable and reasonable use, the human right to clean drinking water and improved sanitation, rights of women, youth and indigenous people, priority of water use, and capacity building. The principle of equitable and reasonable utilisation obliges states to distribute water (particularly transboundary waters) equitably and appropriately as per their purposes. The 1997 UN Watercourses Convention as well as the 2008 ILC Draft Articles include the principle of equitable and reasonable utilisation. The challenges related to the equitable and reasonable use of transboundary waters between the riparians of an international watercourse are specifically addressed by Articles 5 and 6 of the 1997 UN Watercourses Convention. The equitable use terminology explicitly refers to justice and fairness (including both distributive and procedural) whereas the reasonable utilisation does not specifically translate into the most effective use). Moreover, Article 5 (2) exemplifies the notion of equitable participation of all the member states of a transboundary river as well as intergenerational equity and alleviation of poverty.

5.4.3 Ecological Principles

Ecological principles that are identified in this thesis review of literature and global water governance institutions include: ecosystem protection and conservation, monitoring, Environmental Impact Assessment (EIA), preventing transboundary rivers from pollution, and protection of water recharge and discharge zones.

5.5 ROLE OF RIVER BASIN ORGANISATIONS IN DISPUTE RESOLUTION

In recent decades, various River Basin Organisations (RBOs) were created by the riparian states of transboundary river basins to cope with the existing and potential challenges of shared water resources (Petersen-Perlman and Fischhendler 2018). These challenges include flood forecasting on the basis of sharing data and information among member states of transboundary river basins, such as the Mekong Basin (Wang et al. 2016); fixed and equitable distribution of shared water, for example, the Indus water sharing between India and Pakistan (Sattar et al. 2017); preventing waste from flowing downstream, e.g. in the catchment area of the Danube River Basin (Gasparotti 2012); improving water quality along the North Sea and entire Elbe River (Mangi 2016); or recovering the depleted fish stocks, for instance in Lake Victoria (Silsbe and Hecky 2008). In all the above examples, RBOs have contributed efficiently in settling disputes and bringing riparian states closer. However, the role of RBOs vary from basin to basin in strengthening water governance institutions, collaboration among riparian states and settling water-related disputes (Dinar 2009; Zawahri 2008).

There are two types of design characteristics which distinguish the design of River Basin Organisations: (a) organisational structure (b) and the governance mechanisms (Huitema and Meijerink 2017). The organisational structure further consists of seven categories: (1) the membership structure (e.g. to see whether all riparians states are members of the RBOs or just a portion) (Schmeier 2015); (2) scope of functions (e.g. whether RBOs focus exclusively on navigation or non-navigational issues as well including managing fisheries, monitoring of water utilisation and allocation) (Huitema and Meijerink 2017); (3) principles of international water law (e.g. whether the principles of international water law are customary and codified and therefore make a contribution to the sharing, regulation and protection of a watercourse) (Stoa 2014); (4) the degree of institutionalisation and legalisation of the RBO (e.g. the degree to which it is capable to create and device river basin management planes for the states and various other participants in the river basin) (Tir and M. Stinnett 2011); (5) the organisational structure of the RBOs (e.g. RBOs performance in river basin management) (Schmeier 2012); (6) the secretariat (e.g. the role of the secretariats in the institutionalised international environmental policy including water) (Saruchera and Lautze 2015); and (7) financing of the RBO for a more efficient governance of the watercourse (GIZ 2014).

Similarly, governance mechanisms also include the tools and instruments for river basin management to guarantee cooperation, cooperative management and transboundary water resources development. This includes: (i) policy-making tools (e.g. making alliances with co-riparians while

governing transboundary water resources) (Schmeier 2015; Schulze 2012); (ii) data and information-sharing mechanisms for exchange of data and information (which is crucial for transboundary water governance) (Gerlak and Schmeier 2016; Schmeier et al. 2016; Thu and Wehn 2016); (iii) monitoring mechanisms (e.g. compliance monitoring and environmental monitoring where the former denotes the monitoring of actors' performance and the latter discusses the activities that aim at seizing the condition of the river basin and its natural environment at a specific point or over a period of time) (Wingqvist and Nilsson 2015); (iv) dispute-resolution mechanisms (e.g., promoting cooperation among riparians of transboundary river basins) (De Bruyne and Fischhendler 2013; Huitema and Meijerink 2017); (v) mechanisms for stakeholder involvement (e.g. evaluating the role of various external actors involved in the distribution and allocation of water resources, for instance local support and Non-Governmental Organisations (NGOs), epistemic communities as well as other international or regional institutions that may have an influence (Carr 2015).

RBOs have a crucial role to play in the implementation of (particularly goal 6) e.g. implementing the IWRM approach and establishing transboundary water cooperation (Hooper 2003; Hooper 2017). Furthermore, RBOs contribute towards the equitable and reasonable utilisation of international watercourses and multilevel legal frameworks, including global conventions on water which define the general rules and principles for water cooperation (Mukhtarov and Gerlak 2014). There are three main areas that can particularly help in understanding the importance of RBOs. First, is RBO effectiveness i.e., to what extent RBOs actually influence transboundary water governance (Huitema and Meijerink 2017). While research on water governance has largely focused on whether and under which endogenous and exogenous situations RBOs help to properly manage shared water resources, the causes for why some RBOs improve the situations of a transboundary river basin while others have generally failed are still generally unknown (Schmeier 2012 2015). Second is the challenge of seeing extra and evolving actors in a transboundary river basin. Furthermore, the introduction of new actors makes water resources governance extremely complex (Seegert et al. 2014). Various water and non-water related actors from CSOs, NGOs/INGOs or large-scale institutionalised RBOs, as well as representatives of the academic community, the private sector, and international organisations need to be included in transboundary water governance. Understandings of the institutional design of RBOs can assist in developing a mechanisms for incorporating new actors into the activities of river basin governance (Schmeier 2015). Third, the environmental challenges and changes in the environment as well as the capability of an RBO to deal with them, place increasing demands on transboundary water resource management. RBOs are therefore required to recognise the task of measuring changes and developing appropriate reactions (Schmeier et al. 2016).

5.6 INFERENCES

These five institutions provide the global setting, definitions, principles, instruments and dispute resolution mechanisms within which transboundary water challenges between states need to be explored. The analysis of these five key institutions indicates that only two global institutions (i.e.

the 1997 Watercourses Convention and 1992 UNECE Convention) have binding instruments for their respective parties to make them effective in ensuring cooperation in transboundary river basins. In UNECE case, the EU parties already have close cooperation and a number of other binding agreements and mechanisms for dispute resolution on almost all bilateral issues among the members. Due to these strong cooperation mechanisms, the power of stronger countries has been neutralised and the UNECE Convention was signed despite some existing contentious issues. However, in global institutions such as the UNWC, differential power relations among states can influence its effectiveness, which is evident from the fact that only 36 states have ratified the Convention as of 2018.

Additionally, UNECE includes the polluters-pay principle (economic instrument) while the UNWC only uses a pollution prevention (the ‘no harm’) principle (without any enforceable economic instrument). This step demonstrates the efforts to bring the majority of the countries to ratify the UNWC, which is an indicator of how powerful actors have been successful in influencing the Convention. Exclusion of economic instruments (i.e. polluters-pay) are usually beneficial for polluting and for powerful countries since they can continue to pollute Transboundary Rivers without any economic repercussions. Furthermore, although the UNECE mentions equity, it is the UNWC that unpacks the principle of equitable and reasonable sharing of water between states. This allows weaker and often downstream countries to gain more access to water – which may be one reason why upstream countries did not ratify the latter Convention. The lack of champions to steer the treaty such as the EU or G20 (Gupta 2016b), treaty congestion during the 1990s (Weiss 1992) and lack of awareness and capacity to take advantage of the Conventions are some of the prominent issues for the low rate of ratification.

Since international law provides mostly general guidelines without enforcement mechanisms, it creates space for stronger countries to use power for advancing their interests in case of shared water resources. Moreover, legal principles and clauses are ambiguous and contradictory in international water laws, which creates more diplomatic space for powerful states to disregard international water law without significant negative consequences (Dinar 2006; Sand 2016). From a neo-realist perspective, the UNWC is unlikely to reduce inter-state conflicts since it is not ratified by most upstream (and often powerful) countries.

However, despite these weaknesses and the influence of powerful states in not ratifying these agreements, there are a number of effective instruments within the UNWC that are useful in addressing transboundary water issues, especially in situations when transboundary river basins are governed without regulatory frameworks, such as the KRB. For example, since there is no existing transboundary treaty in the KRB, lessons from the UNWC can be learnt with respect to equitable and reasonable use (see 5.2.3), which can provide relevant guidance for a potential agreement as described in the following chapters on the KRB case study. As mentioned earlier (see 5.3.1 and 5.4.2), the principles of absolute territorial sovereignty and absolute territorial integrity are no longer useful in providing guidance for effective water cooperation in the KRB. However, the concept of limited territorial sovereignty upon which UNWC is based, stipulates that riparian states have

equitable rights to shared water utilisation (Rieu-Clarke 2005). Articles 5 and 6 also reflect the concept of limited territorial sovereignty.

The identified principles and instruments from the five global institutions will be applied for analysing Afghanistan and Pakistan, as well as transboundary level water governance issues. However, the focus of analysis will be on Articles 5 and 6 in relation to the equitable and reasonable utilisation. The current analysis indicates that the notion of equitable and reasonable use of freshwater resources are very relevant in the KRB case study. Articles 5 and 6 aim to balance differing benefits across the political borders of the states, so that ‘all member states gain maximum benefit from the water uses without harming each other’ (ILA 2001). Among the many advantages of Article 5 and 6, an important one is the recognition of the rights of both upstream and downstream states. These principles will be applied to analyse water governance mechanisms at transboundary level (chapter 6), in Afghanistan (chapter 7), Pakistan (chapter 8). The following chapters will also explore how these principles and instruments can help in (re)designing a transboundary water cooperation mechanism in the KRB.