



UvA-DARE (Digital Academic Repository)

Inclusive development and multilevel transboundary water governance

The Kabul River

Hayat, S.

[Link to publication](#)

Creative Commons License (see <https://creativecommons.org/use-remix/cc-licenses/>):
CC BY-NC

Citation for published version (APA):

Hayat, S. (2020). *Inclusive development and multilevel transboundary water governance: The Kabul River.*

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

2

METHODOLOGY AND ANALYTICAL FRAMEWORK

2.1 INTRODUCTION

This chapter presents the methodology and analytical framework in terms of six steps. I explain my method to review the literature (see 2.2), to assess the content of policies (see 2.3), my choice of case study (see 2.4), the key concepts used in the thesis (see 2.5), and how these are integrated in the institutional analysis approach (see 2.6); methodological limits (see 2.7) and my ethical approach (see 2.8).

2.2 LITERATURE REVIEW

The first step of my methodology was to undertake a literature review. The literature review for this thesis demonstrates the current state of knowledge about the research focus. The literature review informed the gaps in the scientific literature (see 1.3) and research questions (see 1.4), and the key concepts presented in this chapter. I systematically reviewed the literature on hydro hegemony (HH) and hydro institutionalism (HI); on ecosystem services (ESS); and in relation to the case study area. For the literature review, particularly on power, institutions and ecosystem services I covered the period from 1970 – 2017, while on HH and HI, I considered the period from 2004-2018. For the case study area, I covered the literature since 1860.

The publications I reviewed include: peer-reviewed journal articles, books and grey literature including official reports and communications, Memorandums of Understanding (MoUs) at multiple levels of governance, as well as the informal literature which I sourced through different archives in Pakistan. I searched for all these resources in various databanks such as Elsevier, Web of Science, JStor, Wiley, Nature, Science Direct and EBSCO. For literature on transboundary freshwater resources, I searched catalogues of specific journals such as *Water*, *Third-World Quarterly*, *Water Policy*, *Global Environmental Change*, *Water Alternatives*, *Regional Environmental Change*, *Water Resources Development*, *International Environmental Agreements*, *Water International*, *International Environmental Governance*, *Environmental Policy* and others. I also actively followed water-related articles in leading English newspapers of Afghanistan (*The Afghanistan Times*, *Daily Outlook Afghanistan*, etc.) and Pakistan (*The DAWN*, *The NEWS*, *The Express Tribune*, etc.) as well as international media sources such as the BBC and the Wall Street Journal. For the case study, I also reviewed the scholarly literature in the local languages.

2.3 CONTENT ANALYSIS

The second step was to conduct a qualitative content analysis. The content analysis method focuses on understanding the informal and formal laws and policies relevant for my multilevel case study. I analysed the content of laws and policies to identify: (1) the drivers of freshwater problems; (2) the pattern of inclusion for governance principles and instruments; (3) the way these principles and instruments address the drivers of freshwater problems; (4) the conditions of legal pluralism; and (5) the contribution of principles and instruments in achieving inclusive and sustainable development. Content analysis is a very useful method to determine major trends and perceive any changes in such trends or in the meaning of concepts as they are used in different texts (McLellan and Porter 2007).

In my thesis, the content analysis showed how governance principles have emerged from various levels of governance and how they are included in various governance frameworks through instruments (such as regulatory, economic, management, suasive, etc.). To conduct the content analysis, I followed four key steps: (a) defined my units of analysis based on the literature review which resulted in (b) two types of drivers (direct and indirect); (c) four categories of principles (political, social-relational, ecological and economic); and (d) four categories of instruments (regulatory, economic, management, and suasive).

In this regard, I reviewed five key institutions (i.e. customary international water law; the 1992 UNECE Water Law which has been opened up for global participation; the 1997 UN Watercourses Convention; the Human Right to Water and Sanitation, and the Sustainable Development Goals of Agenda 2030) at the global level; 14 at the transboundary level (3 colonial and 11 post-colonial); 14 at the national and local level in Afghanistan (2 precolonial, 1 colonial and 11 post-colonial), and 24 in Pakistan (2 precolonial, 3 colonial and 19 post-colonial) concerning water governance in the case study region of Afghanistan and Pakistan.

2.4 CHOICE OF CASE STUDY

I chose a unique and multi-faceted case study to understand a complex transboundary problem in its real-life context. Although, there is a general belief that a single case study has no external legitimacy, Easton (2010) and Yin (2013) argue that the results can be generalised from a single case study and can truly contribute to theory development. The case study method is suitable for steering research because it is based on several sources of evidence and has the advantage of using specific theoretical suggestions to monitor data collection and analysis (Baxter and Jack 2008; Stoecker 1991).

2.4.1 Importance of the Case Study Method

The case study method is appropriate for examining the 'how' of research questions; when the research covers existing phenomenon, such as dealing with the issues of water quality and quantity or the problem related to power politics in transboundary river basins, which is located within a real-life context; where the researcher has less control over the events or people involved; or the boundaries are vague between the phenomenon and context (Yin 2013). The real-life problem of existing and future water challenges make the case study method appropriate for analysing the role of power politics in transboundary water sharing. The case study method can provide practical evidence of how power influences institutions and how institutions in turn influence power in Transboundary Rivers.

2.4.2 Choice of a Case Study

I chose the case of the Kabul River Basin (KRB) for the following reasons (McMurray and Tarlock 2003; Hanasz 2011; Renner 2013; Vick 2014; Azam 2015; Akhtar and Iqbal 2017; Kakakhel 2018):

Uniqueness: (a) Both countries contribute water to the KRB and are simultaneously up- and downstream; (b) Afghanistan would now like to develop the KRB unilaterally and to increase its access to the waters for its socio-economic development leading to conflict with Pakistan which argues that as first user it has historical rights, and because the KRB is one of the densely populated basins of Afghanistan and Pakistan (with a population density of 93 persons/km² accommodating an estimated 7 million); (c) The Kabul River is extremely susceptible to the impacts of climate change as this river is primarily fed by glaciers and snow-melt unlike other rivers that are mainly recharged by rainfall; (d) The Kabul River lacks formal river basin institutions; (e) There is relative lack of interest from scholars because of the long conflict in the basin.

Affinity: A major portion (80%) of the Kabul River length is located in Afghanistan while the major deposit of water flow is from Pakistan. The Kabul River in both countries is mainly located in the tribal areas. The Pakhtun inhabitants of the KRB across the border follow a non-written ethical code called ‘*Pakhtunwali*’ (Barfield 2003; Ali 2013; Mehsud 2015), which is a system of law and governance that is preserved and still in use in the tribal areas (Banting 2003). This ethical code and other customs in the KRB are not easily understandable for outsiders (Renner 2013). Having a tribal background (as I belong to the Yousafzai Tribe), and the Pashto language as my mother tongue, I have familiarity with local culture, social practices and following Pakhtun ethical code of conducts (*Pakhtunwali*), which gives me an added advantage to conduct the KRB case study.

Generalizability: The KRB case provides an opportunity to replicate the case study in other transboundary river basins where power asymmetries exist between the countries, political institutions are weak, where there is lack of, or no, coordination at all among the different levels, and where the riparian countries suffer from the problems of instability and insecurity.

Having selected the KRB case, I continued to conduct a desk study to create the existing state of knowledge on transboundary water governance between Afghanistan and Pakistan. As the KRB is an underdeveloped river basin, a very limited amount of scientific literature is available. Most of the available literature is grey-literature (published by IUCN, IWMI, the World Bank, NATO, and USAID etc.) or in the local languages, and includes project reports by various water and non-water related ministries. The available academic literature on the KRB mostly focuses on quality related issues in the Kabul River; however, in the last few years the focus has moved to include climate change, flow regimes and governance-related challenges mainly by international research think-tanks. The scholarly literature focusing on the performance of institutions and their contribution to inclusive development is yet to be taken into account. It was therefore important to collect primary data and address the research questions in the context of the case study.

To obtain primary data for my case study, I conducted 70 interviews (30 in Afghanistan, 40 in Pakistan) and two focus group discussions. Details of the interviewees’ (excluding code & names), professional background, organisation and country are provided in Annex C. Due to security issues it was not recommended to visit Afghanistan during the fieldwork, so most of the interviews about freshwater governance in Afghanistan were conducted during international

conferences/seminars/workshops at a neutral location. Some of the interviews were also conducted through Skype and with Afghans residing and working in Pakistan. Afghan foreign missions and students studying in Pakistan or in the Netherlands were also a great help where they connected me with relevant people. These interviews covered international, national, and local levels of freshwater governance in the KRB. Through a purposive sampling technique, a total of ten interviewees were chosen from both Afghanistan and Pakistan. Additionally, snowball methods were applied to identify the other interviewees. I conducted the interviews in three phases (i.e., in 2015, 2016 and 2017). These interviews lasted between 30 to 90 minutes each, covering questions concerning institutions, power, principles and instruments, ESS, water quality degradation and quantity reduction, current and potential threats to freshwater system and its remedies, and issues related to inclusive and sustainable development. Key approaches in the thesis were applied to examine the data derived from the interviews and were integrated with the outcomes of the content analysis and literature review. This helped in understanding the theoretical gaps and in generalizing results which were valuable in the development of the conclusions and recommendations of my thesis.

2.5 THE CONCEPTUAL APPROACH

This section discusses the following concepts and approaches that form the building blocks of the theoretical framework (see Chapter 3): (a) multilevel governance (b) power (c) institutions (d) legal pluralism (e) inclusive and sustainable development. Chapter 3 discusses in more detail theories of relevance to transboundary water governance.

2.5.1 Multi-Level Governance (MLG)

Water is governed at multiple geographic levels making it vital to analyse the academic literature on Multi Level Governance (MLG) approach. The academic literature on bilateral cooperation and global governance can guide states to develop international treaties (Keohane 1982). Theories in the social sciences are fragile in terms of their competence to realize the multi-layered and contextual dynamics of such governance systems (Harrison 2012; Ostrom 2007). Scientists have investigated that globalisation extends political authority to local and international institutions (Pattberg and Stripple 2008; Andonova et al. 2009) and to non-state actors in international governance (Keck and Sikkink 1999). In this thesis, I have drawn on the MLG approach to understand the interaction among institutions (both formal and informal) and their performance at multiple geographic levels. MLG can be defined as an arrangement for making binding decisions that comprise a variety of politically independent but otherwise mutually dependent actors – private and public – at different levels of territorial aggregation in more-or-less continuous negotiation [...] (Schmitter and Kim 2005). ‘Multilevel’ refers to the connectedness between different political and geographic levels (national, sub-national, supranational), while ‘governance’ indicates the interdependence between public authorities and non-governmental actors at various geographic levels (Bache and Flinders 2004: 3).

The MLG approach points to mutual changes in political mobilisation, decision-making and the restructuring of political structures. In particular it specifies: (a) the involvement of sub-national

authorities in policy formulation; (b) the mobilisation of social actors at regional and state levels; and (c) the creation and institutionalisation of intergovernmental agreements (Piattoni 2010). In general, MLG literature specifies that political power moves at the same time in two directions: up to the international level of governance and down to local communities (Pierre and Peters 2000: 1), but gradually local communities gain more political power within the state and in an international atmosphere (Eckerberg and Joas 2004). There are two types of MLG: Type-I usually has features that are revealed in federalist thinking, involving authority and clear accountability in non-overlapping jurisdictions (Marks and Hooghe 2003). Type-II denotes the recognition of overlapping jurisdictions and a multifaceted fluid patchwork of numerous intersecting authorities that address policy problems (Bache and Flinders 2004; Hooghe et al. 2002).

There are three different dimensions of MLG. The first one is called ‘centre vs periphery’ (e.g., decentralised systems of governance); the second is ‘domestic vs international’ (i.e., structured modes of international cooperation); and the third is ‘state vs society’ (e.g. by involving of NGOs and civil society organisations in authoritative decision-making and policy implementation) (Piattoni 2009). The relevant actors’ vertical interdependencies at various levels of governance happens where advanced levels of government are anxious with results at a lesser level when there are mutual duties (Tasan-Kok and Vranken 2011). Compared to government-led arrangements, MLG is based on more inclusive, comprehensive, and horizontally interacted relations among political, socio-cultural, and business elites where confidence among the participants is high, despite conflicts and oppositional agendas (Swyngedouw 2005). Furthermore, MLG recognises the significance of incorporating scientific technical information with the indigenous knowledge of society (Jasanoff et al. 2004).

The conceptual lens in political sciences can be broadened with the MLG approach (Kohler-Koch and Rittberger 2006: 38) which can also highlight the importance of different levels of governance within modern forms of governance (Awesti 2007: 5). It encourages a re-evaluation of the traditional conflict between international and local policies (Bache and Flinders 2004: 94). The approach highlights the value of endless, non-hierarchical and interacted relationships between diverse levels of government (Bernard 2002; Peters and Pierre 2004).

Although the general characteristics may be the same, the literature presents the challenges for different forms of MLG: for example, there are no strong and visible lines of responsibility and expressive democracy (Peters and Pierre 2004: 85) and the development of systems that adhere to the rules and work in our legal systems or to understand the meaning of ‘meta-governance’ (Daniell 2012; Glasbergen 2011). Additionally, the local implementation of federal regulations in this area may be inadequate and regulated from top to bottom and often not locally compatible (Burby and May 1998). The MLG approach is primarily descriptive and does not contain any binding guidelines (Panara 2015).

Explaining the tensions of MLG approaches is applicable in this thesis as the sovereignty of state and government centralisation become outdated in addressing existing and potential transboundary

water challenges. Therefore, highlighting direct linkages between multiple levels of governance is the central focus in my thesis (Type-1 MLG i.e. transboundary, national, provincial, and local). The structure of transboundary water governance institutions has similar weaknesses as MLG. Those identified in the literature are: lack of cohesion and harmonisation among sub-systems and various policies as well as the difficulties of securing compliance and authorisation (Enderlein et al. 2010). Therefore, the applicability of Type-1 MLG allows examining the freshwater governance framework at multiple geographic levels. This contributes to input legitimacy (political equality) and output legitimacy (policy implementation) i.e., equality in reality as well as on paper.

2.5.2 Power

Water is so important for all aspects of society that power is wielded to maintain control over water. This section explains how power is relevant for the analysis of transboundary river basins. International Relations (IR) scholars from the realist and neo-realist schools focus on power as key to explaining outcomes of international cooperation (Schmidt 2007). Empirically, power has been measured by the size of population, strong economy and military capabilities (Nye 2004: 178), but more complex interpretations include the idea that ‘power is the capability to influence the behaviour of others to get an anticipated outcome’ (Nye 2004: 181). The drive for survival and the actualisation of self-interest are the primary factors influencing the behaviour of actors involved (Kagan 2003). Power has two types i.e., hard power and soft power where hard power is associated with military capabilities and economic strength, while soft power includes diplomatic channels and intimidation in relations between states or between states and international organisations (Wilson 2008). States sometimes have difficulty in controlling and using soft power, but this does not reduce the importance of this form. (Vedrine and Moisi 2001). If a country develops its institutions and strictly follows rules that encourage other countries to channel or modify their activities in the way they prefer, it will not need expensive carrots and sticks (Nye 2004).

While violence, coercion and oppression are terms of hard power, they can also be implemented, monitored and measured through intervention-based measures. Daoudy (2009) and Turton et al. (2006) established these concepts further and point to two broad forms of power: ‘*puissance*’ and ‘*pouvoir*’ where *puissance* is potential power or physical power while *pouvoir* is actualised power. *Puissance* is the most visible form of power such as military capabilities, strong economy and knowledge supremacy (Strange 1987), as well as dominant geographic position and support from strong international allies (Zeitoun and Warner 2006). The *Pouvoir* kind of power talks about the rules for controlling the game (Lukes and Haglund 2005). Some scholars (Lukes and Haglund 2005; Strange 1994) recognize a third kind of power employed through the knowledge structure i.e., to implant ideas into the weak’s minds where the weak genuinely believe that the assessment of the strong is true and right (Strange 1994: 176). The concept of hydro-hegemony (HH) is basically developed by combining the above mentioned three forms of power. It is eventually rooted in realism / neo-realism, which inadequately explains how cooperation in an anarchic system arises at several geographical levels (Warner and Zeitoun 2008). Power and HH theories are discussed in detail in Chapter 3.

2.5.3 Institutions

Through history, societies have institutionalised customary rules into formal rules to address water issues. Hence, it is critical to understand institutions. Normally, institutions are norms and rules which are identified under firm situations by a social group's members which are either sovereign or controlled by a peripheral power (Rutherford 2001 in Raadgever and Mostert 2005). These rules are created by actors, which hamper and support their behaviour (Héritier 2007). Institutions and regimes are identical and very related ideas as both appoint the procedures that shape behaviour of humans by weakening the confusion of the numerous number of possible but clear set of instructions (Raadgever and Mostert 2005). In the scholarly literature, the word 'institution' has now largely replaced 'regime'. Institutions can be constitutive, regulative and procedural and affect the system, the actors in the system and their activities (Duffield 2007).

In neo-institutionalism (see 3.3.3), the word 'institution' denotes the informal and formal rules that govern the behaviour of actors (Douglass 1990). According to Helmke and Levitsky (2004: 37) 'formal institutions are openly codified, in the sense that they are established and communicated through channels that are widely accepted as official', while 'informal institutions are socially shared rules, usually unwritten, that are formed, communicated and executed outside of formal legitimate channels'. Although, informal institutions are unwritten, they may be more influential than formal ones (Douglass 1990). In the past, the literature on governance largely bypassed and ignored the contribution of local customs (Sokile and Van Koppen 2004) but this has changed dramatically (Delgado and Zwartveen 2008; Zwartveen and Boelens 2014). This is because, in reality, the role of these informal mechanisms cannot be overstated, especially in transboundary river basins where no formal water sharing mechanism or treaty exists (e.g., Kabul River Basin). Unlike formal institutions, the informal ones are not intentionally formed at one moment; they rather evolve through centuries of continuous communication in response to the existing situations (Saleth and Dinar 2004a). The strength of institutions varies at different geographical levels, for example, at the lowest institutional level, it is argued that informal arrangements take precedence over formal ones (Sokile and Van Koppen 2004). Institutional and neo-institutional approaches as well as hydro-intuitionism are discussed in more detail in Chapter 3.

2.5.4 Legal Pluralism

Since water institutions have developed at different levels of governance, they are not always coherent. Legal pluralism is a situation whereby diverse rules are applicable to identical legal jurisdiction (Bavinck and Gupta 2014: 1). Diverse actors can set different rules that can have contradictory implications and costs for the same population and the resources on which they depend. Empirically, this approach was employed to define the interface between colonial laws and customary practices (Benda-Beckmann 2001). However, it is now used to understand the dynamics of pluralism (Nobles and Schiff 2012) by observing: (a) the disintegration of the legitimate system (Koskenniemi and Leino 2002); and (b) the occurrence of various rules in a single system (Tamanaha 2011). Plural legal system can happen in both ways i.e., 'horizontally' (when diverse

rules are applied at the same geographical level) and ‘_vertically’ (when different rules are shaped at different geographic levels) (Conti and Gupta 2014). Thus, the concept of legal pluralism is interpreted differently in different disciplines: law and anthropology use the same concept but with diverse methodological approaches. In this thesis, I focus on legal pluralism in freshwater governance.

At the international and regional levels, the ability of communities of practice has improved diversity in global law (Cullet 2013). Furthermore, the disparity between customary and formal water use principles at the national and sub-national levels may not only hinder access to water and its equitable allocation (Boelens 2009; Gupta and Lebel 2010) but can also lead to legal pluralism.

In this thesis, I apply the legal pluralism typology presented in Table 2.1. This shows that when there are different rules applicable to the same jurisdiction, it is critical to address them if there are clear contradictions between the rules. When there is indifference, i.e. when there are different rules, only one set applies in practice, there is only need to intervene if the rules in practice are problematic. Where there is mutual support, there is no need to intervene. Where there is accommodation, participatory approaches attempt to align both sets of rules.

Table2.1: Adaptation of the typology of legal pluralism to water governance

Quality/Intensity	Weak relations	Strong relations
Contrary	Type 1: Indifference Goals/principles/instruments included in water law frameworks lack operational relationship, although they theoretically apply to same situations.	Type 2: Competition There is contradiction between goals/principles/instruments included in water law frameworks, which apply in the same jurisdiction.
Affirmative	Type 3: Accommodation Recognition of goals/principles/instruments included in water legal frameworks but are not formally integrated in one single law or code, although they might be in practice.	Type 4: Mutual support Goals/principles/instruments included in water law frameworks support each other as a result of explicit arrangement or provision made in the legal frameworks.

Source: Bavinck and Gupta 2014

2.5.5 Inclusive Development (ID)

As stated in 0, while sustainable development aims at addressing social, ecological and economic aspects, the application of sustainable development approaches in some parts of the world has tended to emphasise the economic aspects over and above the social and ecological aspects. Hence, I have used the inclusive development (ID) approach which emphasises the social and ecological aspects. Adopting an ID approach in transboundary water governance requires ensuring equitable and sustainable distribution of water resources among all stakeholders including the poor, less powerful, vulnerable, and marginalised in order to protect and enhance their dignity and engage them actively in the development

processes. Equality, efficiency and sustainability dimensions are essential to improve freshwater governance. These dimensions are multi-faceted and require renegotiating the political context. Since the ID approach calls for social, ecological and relational inclusiveness, I therefore adopt this approach as a guiding norm for my thesis. However, where necessary I also look at economic ‘growth’ related issues (Gupta et al. 2015; Gupta and Pouw 2017; Gupta and Vegelin 2016; Rauniyar and Kanbur 2010).

There are three main components of ID: first, social inclusiveness which promotes overall well-being for the poorest, vulnerable and most marginalised through capacity building (Fritz et al. 2009) and institutionalising equitable principles, participatory approaches including the use of local knowledge, and non-discrimination (Lawson 2010). Second, relational inclusiveness tackles the direct and underlying drivers of inequitable development (Lawson 2010) through addressing the underlying power dimensions. Third, ecological inclusiveness supports development within the carrying capacity of the earth and enhanced human resilience (Gupta et al. 2015; Gupta and Vegelin 2016). Although the neo-classical notion of efficacy proposes that well-organized allocation of natural resources would result in sustainable development, a number of case studies indicate that uncertainties of time preference, the strong focus on economic growth and the substitution of natural capital, using technology and innovation can result in exclusion in development (Basu and Shankar 2015). I adapt the three components of ID (i.e., social, ecological and relational) in my analytical framework to explore how trade-offs between them can be minimised and to test the performance of freshwater governance frameworks at multiple levels of governance in Chapters 6, 7 and 8 of my thesis.

2.6 INTEGRATED INSTITUTIONAL ANALYSIS

The above concepts are now integrated within an institutional analysis model. A conceptual framework is a useful tool that identifies the researcher’s world view of the research topic and defines his/her assumptions and preconceptions (Lacey 2010). I will now incorporate the concepts of multi-level governance, power, institutions, legal pluralism, and inclusive development in my institutional analysis model (see Figure 2.1). This model is inspired by the Young et al. (2005) framework.

This framework, requires an analysis of the non-institutional drivers and context of a problem, the institutions that deal with the problem, the instruments within the institutions, the actors on which the instruments are levied, analysis of the effectiveness of the instruments in changing the behaviour of the actors given the drivers in terms of impacts in relation to certain goals, and then based on the analysis of the contextual effectiveness of the instruments – a proposal to redesign them. This framework has been modified to accommodate multi-level governance by examining the drivers, institutions and instruments at multiple levels of governance (see Table 2.2). The relationship between instruments has been analysed using the legal pluralism approach. The impacts are assessed against the goals of socio-relational, and ecological inclusiveness where the ecosystem services of water have also been incorporated. Power is analysed in the context, as well as in relation to how it

influences the formation of rules. In adapting the framework, I have been inspired by the work of other PhD colleagues – Margot Hurlbert (2016), Kirstin Conti (2017), Pedi Obani (2018) and others.

Table 2.2: Adapted Young’s framework Vs original framework

Elements	Definition	Adaptation in this thesis
Institutions	The set of rules, decision-making procedures, norms (principles), and programmes that describe social practices	At <i>multiple levels of governance</i> , taking into account how <i>power</i> influences these institutions
Instruments	Isolation of specific principles and tools, or incentives and disincentives used to change behaviour	The application of <i>legal pluralism</i> Categorised as: - <i>Regulatory</i> - <i>Economic</i> - <i>Suasive</i> - <i>Management</i>
Actors	Organisations, communities, persons, or states participating in or affected by instruments	Same
Drivers	Causes of biophysical phenomenon or anthropogenic behaviours that affect actors’ behaviour (e.g. changes in land cover, climate change, urbanisation, and economic growth)	Direct and indirect drivers, context including <i>power</i>
Performance of instruments	Resource’s biophysical condition (i.e. abundant, clean and safe vs scarce and polluted)	How instruments impact on socio-relational and ecological inclusiveness (<i>ID</i>)
Redesign	Improving the performance of current institutions and principles to address ongoing actor stress of actors and drivers	Same

Source: Building further on Gupta, Van Der Grijp, and Kuik 2013

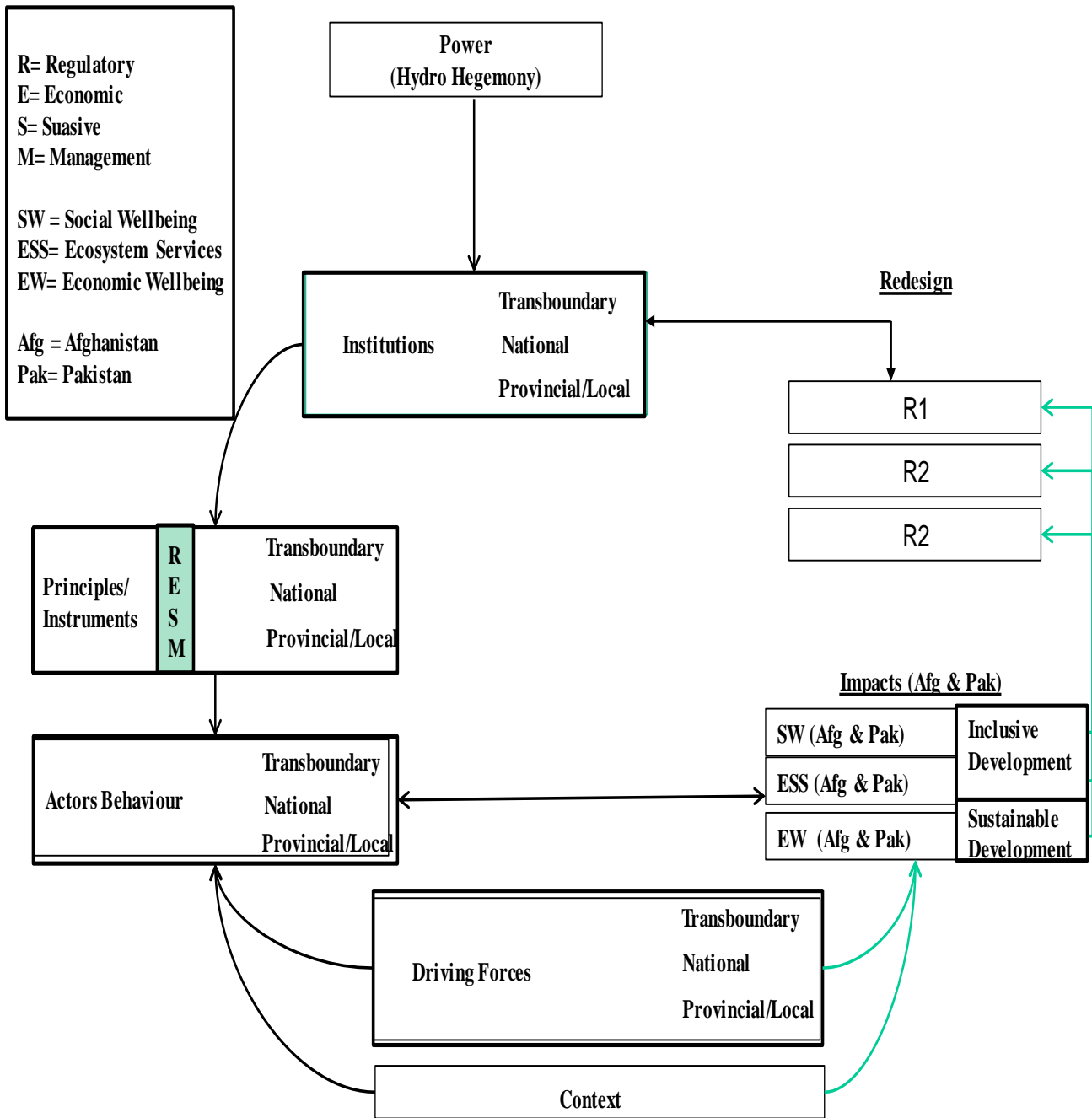


Figure 2.1: Schematic of conceptual framework

2.6.1 Defining Key Terms in the Institutional Analysis Framework

Before moving further, it is important to define and explain a few of the other terms used here. As seen above, institutions refer to the rules, decision-making procedures, norms (principles), and programmes that describe social practices. Principles are drawn from institutions and are the formal and informal legal norms with general application to all similar situations (Alexy 2000). Finnemore and Sikkink (1998: 891) define norm as the ‘standard of appropriate behaviour for actors with a given identity’. Hence, principles reflect the general guideline against which behaviour can be tested. There are different meanings of principles at the international level including: (a) a basis of international law, (b) an essential norm of international law that needs to be taken into consideration in the relations between the states, and (c) ‘a measure of the changing rules of international law’ (De Sadeleer, 2002: p.237). I conceptualise principles as rules with broad implications in my investigation because these are enclosed in several sources of law and policies and which are invoked through different instruments of governance. I have therefore put particular emphasis on the principles reflected in the instruments of water policy and have consciously framed the structure of institutions at multiple geographic levels.

To continue, instruments are used by the state and other authorities to guarantee sustenance and outcome or prevent social change (Majoor and Schwartz 2015; Vedung and Van der Doelen 1998). Although literature from instrumentalist and functionalist approaches sees instruments as technical, pragmatic, rational and neutral, political sociologists emphasize that instruments are neither rational nor merely technical, but rather disclose the balance of power (Kassim and Le Galès 2010), notions of social control, and the interactions between the citizens and government (Majoor and Schwartz 2015). Table 2.2 shows that instruments are tools used in specific laws, policies or customs governing a transboundary river and include the rules, principles or measures used to affect behavioural change. Instruments can be categorised based on: (a) the mechanisms or resources which the instruments apply to, (b) the purpose of the instruments, (c) the mode of application, or (d) the impact of the instruments (Rivera 2004).

In my thesis, instruments are arranged according to who uses them (at multiple levels of governance), for whom (which actors), and are grouped as (i) regulatory (including different governance rules and binding policies), (b) economic, (c) suasive, and (d) management. It is essential to note that economic instruments can be part of regulatory instruments and that the distinction between these different instruments is very difficult to make. Regulatory instruments encourage or exclude certain activities and comprise of permits and licencing measures, sanctions and environmental impact assessments. Economic instruments promote attitude and behavioral changes through different market signals or financial incentives or disincentives and include: (i) property rights, (ii) taxes, (iii) tradable quotas, (iv) duties, and (v) grants and subsidies (Rivera 2004). Suasive instruments effect behaviour through significant tools including (i) awareness campaigns, education and training, (ii) award mechanisms and (iii) disclosure requirements (Vedung and Van der Doelen 1998). Management instruments usually include processes of self-regulation and voluntary management by the actors (Rivera 2004).

The pros and cons of these four categories of instruments are further distinguished in the available literature (Majoor and Schwartz 2015) which further reflects the authors' capacity and capability to apply a mix of instruments (Howlett 2000; McLellan and Porter 2007). I examine a range of water governance instruments at multiple levels of governance on the basis of this categorization. These instruments are adopted by both states and private/non-State actors. I believe the instruments to be valuable and hence further examine the core principles in each of the instruments and refer them to the three components of inclusive development.

2.7 KEY LIMITATIONS OF THE THESIS

There were a few methodological limits in this thesis. First, some of the pre-colonial and colonial laws and policies (such as 'Riwajat-i-Aabpashi' or called 'Customs of Irrigation') were utilised for the content analysis at the local level in Pakistan. As most of these laws and policies were in native Pashto and Persian languages, I had to trust informal interpretations on some occasions. However, to ensure reliability, I compared the outcomes across some legal databases. The hard sources of laws and policies were mainly examined at the international level, while soft policies and laws were analysed where there was evidence of customary international water law. Furthermore, the national laws and constitutions of countries were examined at the national level as they are solely responsible for the legal basis for policy direction at the national and sub-national levels.

Second, the number of stakeholders that were interviewed for the case study were constrained by limited time, financial resources and bureaucratic bottlenecks. Second, various important stakeholders that were interviewed for the case study had various constraints including time and financial resources as well as bureaucratic constriction. It was also particularly difficult to interview some of the stakeholders from key ministries (such as defence, foreign and interior) as well as from the military research and information wing who are indirectly involved in water-related decision-making in both Afghanistan and Pakistan. They were simply unwilling to participate in the study despite several requests. It was also difficult to conduct interviews with influential local people (identified by fellow villagers) who questioned the main objectives of the research and were scared of being recognized and prosecuted by the irrigation officials. Conducting interviews with such people could have helped in framing various water governance insights for future research. This underlines the limitations of water governance in transboundary river basins at the local, provincial, and international levels.

Third, flow data provided by the Government of Pakistan is not sufficient to accurately characterise how data limitation influences the norms and principles locally, provincially, nationally, and regionally. Additional features of governance such as accountability, adaptiveness, non-water related actors, participation, and politics are not addressed comprehensively for the same reason. Fourth, there is a lack of research studies in the underdeveloped Kabul River Basin (KRB). There is very limited relevant published work and that is mostly carried out by international donors (i.e., Asian Development Bank, Department for International Development, the World Bank, etc.) and research think tanks (IUCN, WWF, IWMI, and SIWI, etc.).

Finally, apart from the flow and utilisation data, Afghan Government officials working in water-related organisations are strictly prohibited to discuss their views on shared-water resources particularly with researchers and officials from Iran and Pakistan. Therefore, most of the findings in the accessible official policy documents were cross-verified with water experts from INGOs, donor organisations and research think tanks working in Afghanistan. In Pakistan, the big hurdle was to get access to the official agreements and master plan of USD 62 billion worth of China-Pakistan Economic Corridor (CPEC) projects (see 8.2.1); which according to some leaked reports to the international media and leading Pakistani newspapers (such as The DAWN, The NEWS, The Express Tribune) are related to China's geo-strategic influence and the development of commercial agri-businesses by having access to fresh- and marine-water of Pakistan.

Additional limitations were including the views of indigenous Pakhtun women at the local level in the KRB due to cultural barriers where it is almost impossible to interview a Pakhtun woman. I could try to include the voices of Pukhtun women by considering the gender aspects in my analysis but it would have been inadequate as had to rely on a female researcher. The changing geo-political and geo-strategic situation in the region has significantly affected the mobilization across the border for common people in both Afghanistan and Pakistan. It is very unfortunate that the KRB has, for four decades, hosted the conflict in the region.

2.8 RESEARCH ETHICS

I am affiliated with both IHE Delft, Institute for Water Education and the University of Amsterdam for my PhD while my research was funded by NUFFIC's Netherlands Fellowship Programme (NFP). Additionally, after utilising the NFP scholarship, I secured partial funding from the Higher Education Commission (HEC) of Pakistan. I have presented parts of my research at international conferences, workshops, and seminars during my PhD. Additionally, parts of my thesis findings were published in peer-reviewed articles. I have always included details of both affiliations and funding sources in my oral presentations and articles.

In my research design, I followed the ethical rules of the AISSR¹ at the University of Amsterdam. These rules provide specific guidelines for conducting human research, including prior permission for conducting interviews, ensuring confidentiality, and anonymity. Moreover, at the start of each interview, I always introduced myself as a PhD researcher associated with IHE Delft and the University of Amsterdam. I presented an official letter from the affiliated institutes to the respondents and informed them about their roles and purpose of the research.

I fixed appointments for conducting interviews with the representatives of business communities and officials from NGOs/INGOs/donor agencies by submitting a letter of introduction to the heads of those organisations. During the interviews, I avoided voice recording devices due to the sensitive nature of some of the information shared by the interviewees. Although all the respondents allowed

¹ AISSR Ethical Procedure and Questions: <http://aissr.uva.nl/research/ethics-and-integrity/ethics-and-integrity.html>

to note-taking during the interviews, I still assured them about the confidentiality and anonymity of the process. I have also anonymised the names of individuals, communities and households in order to protect their identities (see Annex C)².

² AISSR ethical consideration are not technical and too general and obvious to be referred