

AN ABSTRACT OF THE THESIS OF

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Title: Water Governance in Afghanistan

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Susanne Schmeier

Ensuring long term water security is the essential pathway towards development, prosperity, and stability in Afghanistan. However, the country is faced with water challenges that can be ascribed to governance failure at multiple levels of governance rather than to the resource base itself. Hence, studying the water governance system in Afghanistan is crucial, and assessment of the existing system is the first step. To date, there has been no systematic study to benchmark and diagnoses the strengths and weaknesses of the existing water governance system. The current study addressed this gap by analyzing and assessing water governance in Afghanistan qualitatively and quantitatively at multiple levels, using the OECD water governance principles and indicators framework. The thesis answered to the following questions:

- 1- How can the analysis of a developing country contribute to further developing the OECD water governance indicators framework?
- 2- How is the performance of the Afghanistan water governance system against OECD water governance principles?
- 3- What are the strengths and weaknesses of the Afghanistan water governance system?

The OECD water governance principles and indicators framework applied well in the Afghanistan context and provided a holistic and better analytical framework for the study.

Qualitatively using existing literature and semi-structured interviews, the OECD water governance principles well captured the strengths and weaknesses of the existing water governance system at multiple levels of governance. The analyses showed that the existing water governance system in Afghanistan is weakly functioning against all the twelve OECD water governance principles.

Similarly, quantitatively using surveys, the OECD indicators framework well benchmarked the robustness of the existing governance system. The quantitative assessment also confirmed that the existing water governance system is poorly functioning against OECD principles. The system is suffering from either shortage or weak implementation and functioning of water governance frameworks, institutions, and mechanisms. Most of the indicators either do not exist or not implemented in the current water governance system. None of the 36 indicators are fully functioning.

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Nawid Rasooly, Author

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ANDMA	Afghanistan National Disaster Management Authority
ANDS	Afghanistan National Development Strategy
ANPDF	Afghanistan National Peace and Development Framework
ARD	Afghanistan Rural Development
AUWSSC	Afghanistan Urban Water Supply, Sewerage Corporation
AUWSSC	Afghanistan Urban Water Supply, Sewerage Corporation
CSO	Central Statistical Organization
DABS	Da Afghanistan Breshna Sherkat
EU	European Union
FAO	Food and Agriculture Organization
GIRoA	Government of the Islamic Republic of Afghanistan
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
I-ANDS	Interim Afghanistan National Development Strategy
IAs	Irrigation Association
IDB	Islamic Development Bank
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
KFW	Kreditanstalt für Wiederaufbau
MAIL	Ministry of Agriculture Irrigation and Livestock
MEW	Ministry of Energy and Water
MFA	Ministry of Foreign Affairs
MoF	Ministry of Finance
MoPH	Ministry of Public Health
MPs	Members of Parliament
MRRD	Ministry of Rural Rehabilitation and Development
MUDL/MUDH	Ministry of Urban Development and Land/Housing
NEPA	National Environmental Protection Agency
NPP	National Priority Program
NWNRD	National Water and Natural Resource Development
OECD	Organization for Economic Co-operation and Development
RBA _s	River Basin Agencies/Authorities
RBC _s	River Basin Councils
SCLW	Supreme Council of Land and Water
SCWAM	Supreme Council for Water Affairs and Management
SIGAR	Special Inspector General for Afghanistan Reconstruction
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WRID	Water Resources and Irrigation Development
WUAs	Water User Associations

Chapter 1. Introduction

Water is the core of sustainable development and the cornerstone of economies, societies, and cultures. As a substance with no substitute and a crucial driver of development, it has importance to all actors, including households, farmers, entrepreneurs, politicians, environmentalists, scientists, and sometimes even terrorists. However, freshwater resources are limited and unevenly distributed. Alongside these variabilities, weak capacity of institutions, adverse impacts of climate change, and population growth created significant water challenges and incentives for conflicts among actors and even sometimes posed security threats (Gleick, 2014; Wolf, 2007).

While water challenges are persisting, the solutions highly depend on the conscious decisions and actions towards the water at multiple levels of government and across the sectors (OECD, 2018). The question is not only "what to do" but also "who does what?" "why?" "at which level of government?" and "how?" (Akhmouch, Clavreul, & Glas, 2018). Thus, Water Governance as the practice of coordination and decision making becomes central, and the efficiency, effectiveness, inclusiveness, transparency, and predictability of decisions highly depend on the robustness of the water governance system (Zwarteveen et al., 2017).

Water governance systems have inextricable links with other systems (i.e., political, socio-economic, and environmental) and sectors (i.e., food, energy, trade, mining, and security). Nevertheless, often, the panacea for various water and non-water problems are proposed in isolation of each other, without acknowledging water as the foundation and not considering the

complex interdependence. This depreciation of the linkages often led to the poor performance of the sectors and systems and even failure.

This type of failure is undeniable in the case of Afghanistan, a country that is suffering in the last four decades from the plague of war that has multiple complex dimensions. In 2001, the international community decided to help Afghanistan towards reconstruction, poverty reduction, economic growth, stability, and prosperity. Since then, political and socio-economic reforms started with the technical, financial, and military support of more than 45 countries present in Afghanistan. The international community had provided a vast amount of money, and diverse sets of studies, policies, strategies, and projects have been implemented in various sectors and dimensions for reconstruction and improving Afghanistan's condition.

For instance, according to Special Inspector General for Afghanistan Reconstruction (SIGAR) from the fiscal year 2002 to 2019, the United States had provided around USD 114 billion in nine most significant active US funds in Afghanistan. From that, around USD 100 billion has been already disbursed primarily on Afghanistan's national security forces, promoting the rule of law, human rights, improving public health and education, fighting widespread corruption and the narcotics trade, expanding electric and transportation infrastructure, and furthering economic development (SIGAR, 2018, 2019).

Also, since 2002, the EU together with members states had provided around Euro 1 billion each year for the development of Afghanistan primarily concentrated on peace and political stability, the rule of law, governance, agriculture and rural development, health, and gender aspects (EU, 2009, 2019). Moreover, other international donors, such as the World Bank,

had provided more than USD 2.75 billion for financing a large number of development and emergency reconstruction projects (Crouch, 2014). Similarly, many other international organizations ADB, JICA, IDB, KFW, GIZ, and many more supported the construction processes of Afghanistan through various projects and invested millions of dollars.

The international community support was valuable and needed. Nevertheless, water and its vital linkages with the implemented policies and projects for the sustainability of efforts, have been overlooked. This way, not only the water sector remained in isolation from other sectors, but also, various donors had fragmentarily implemented a limited number of cherry pick water-related policies and projects without a proper strategic vision. Hence, after almost 19 years of hard work, sacrifices, and spending billions of dollars, Afghanistan's general political and socio-economic systems remained as fragile as 19 years back. On top of that, now Afghanistan is faced with water shortage, poor quality of water, droughts, floods, and other severe environmental disasters.

Sustainable Water Management is critical to Afghanistan's stability, economic growth, and poverty reduction efforts. Afghanistan has relatively abundant renewable surface water resources – estimated around 57 billion cubic meters each year (Mahmoodi, 2008). However, it has one of the lowest storage capacity in the world estimated at 80 m³/capita/year (Thomas, 2016b). Only around 63 percent of the population has access to improved drinking water sources, and only around 36 percent of the population using safely managed drinking water services (CSO, 2018).

Also, The country's economy is primarily based on agriculture that (licit agriculture) contributes 32% to the country's Gross Domestic Product (GDP), where more than 80% of its people's income depends on agrarian activities (GIRoA, 2012; Sinfield & Shroder, 2016). However, due to the shortage of irrigation and water infrastructures, the inefficiency of existing infrastructures, and inadequate institutional capacity, only 1.8 million ha out of total 7.8 million ha of arable lands are under cultivation, 44 percent of the population is facing food insecurity, and 27 percent of the population is facing food insecure very severely (Mahmoodi, 2008; Sinfield & Shroder, 2016; Thomas, 2016b).

Moreover, Afghanistan has a vast potential for producing hydroelectricity (estimated at 23000 MW), and reliable and cheap electricity is critical to its socio-economic development, and stability. However, still, Afghanistan is one of the lowest producers of hydroelectricity estimated at 670 MW in 2012 with electrification between 30 - 38 percent, an nearly 80 percent of electricity is imported from (downstream) riparian countries -Turkmenistan, Tajikistan, Iran, Uzbekistan, and Kyrgyzstan (Ahmadza & McKinna, 2018; Saljuki, 2013).

Furthermore, Afghanistan is one of the most vulnerable countries to climate change in the world, particularly concerning droughts and floods (Thomas, 2016a; UNEP, 2014). Besides being a drought-sensitive country, climate change is shrinking its water resources rapidly, causing prolonged droughts that made traditional farming difficult. Even many people (primarily farmers) have been forced to leave their farms or cultivate drought-resistant crops such as poppy and opium (Iqbal, Donjadee, Kwanyuen, & Liu, 2018; Shroder, 2016b, 2016d). Similarly, flooding patterns and intensities are also becoming very severe due to climate change that takes hundreds of lives yearly and creates costly damages (Shroder, 2016b).

Water is essential for livelihoods and economic development of individual people, communities, and the country, which is a basis for stability. Moreover, “water crises are largely governance crises,” and many water-related problems can be ascribed to governance failure at multiple levels of governance rather than to the resource base itself (Wostl, 2017). Furthermore, weak water governance systems pose an (implicit) risk of conflict, which could undermine stability.

Thus, studying the water governance system in Afghanistan is crucial, and assessment of the existing system is the first step. To date, there has been no systematic study to benchmark and diagnoses the strengths and weaknesses of the existing water governance system, which is in place for the last two decades. The present study will address this gap by assessing the system from twelve different angles.

The assessment is operationalized by the application of the Water Governance Framework Indicator, which is based on twelve principles of water governance proposed by the Organization for Economic Cooperation and Development (Akhmouch, Clavreul, & Glas, 2018; OECD, 2018), which is discussed in detail in the following.

1.1 Research Objective

In the next month, the 2019 presidential election result will be announced, and the new government will take the lead. The next government must take firm steps regarding water resources for the reduction of poverty, improving the economy, environment, security, peace, and regional cooperation. Hence moving forward is only possible if there is a clear understanding of the existing water governance system in the country.

Thus, the objective of this thesis is threefold; first, it tests the application of the OECD Water Governance Indicators Framework in Afghanistan and provides new insights from a developing country with a relatively different context for improvement of the framework. Second, it analyses the existing water governance system and practices of Afghanistan at multiple levels. Third, it assesses and benchmarks the existing water governance system, identifies its strengths and weaknesses.

All the mentioned objectives will be achieved by answering the following questions:

- 4- How can the analysis of a developing country contribute to further developing the OECD water governance indicators framework?
- 5- How is the performance of the Afghanistan water governance system against OECD water governance principles?
- 6- What are the strengths and weaknesses of the water governance system in Afghanistan?

1.2 Background

Afghanistan is located at the heart of Asia, connecting South to Central Asia and bordering with six countries; Tajikistan, Uzbekistan, and Turkmenistan from North; Iran from West, Pakistan from East and South, and China from Northeast (Figure 1). It has an area of 652,237 square kilometers and a population of around 38 million, where 25 percent of them live in urban areas (UN-HABITAT, 2015; UN, 2019). Afghanistan has fantastic topography with an average elevation of 1100 meters above the sea level and with more than 7 km of difference in the altitude ranging from 258 m at the Amu Darya in the Northwest to 7492 m at the Naushaq in the Northeast. This difference in the altitude shows its hydrologic cycle energy potential (Shroder, 2016a).

In terms of climate, Afghanistan is in the dry zone of the south of Asia, which has a continental type of climate with temperatures ranging from -20°C to 45°C . It is a mostly arid country with varying precipitation ranging from less than 50 mm in the Southwest to 1100-1400 mm in the Northeast. More than 50 percent of the country receives less than 300 mm precipitation, and about 50 percent of precipitation occurs in winter between January to March and another 30 percent between April and June (FAO-Aquastat, 2012).

Afghanistan has relatively abundant water resources where over 80 percent of its water resources originate in Hindukush mountains, and estimation of water resources varies in each study. Afghanistan receives around 57 bcm/year surface water, and around 18 bcm/year groundwater, as renewable water resources (Mahmoodi, 2008). According to the Water Sector

Strategy (2008), Afghanistan uses only 33 percent of its water resources, where agriculture is the primary user, with 97 percent of the total water usage.

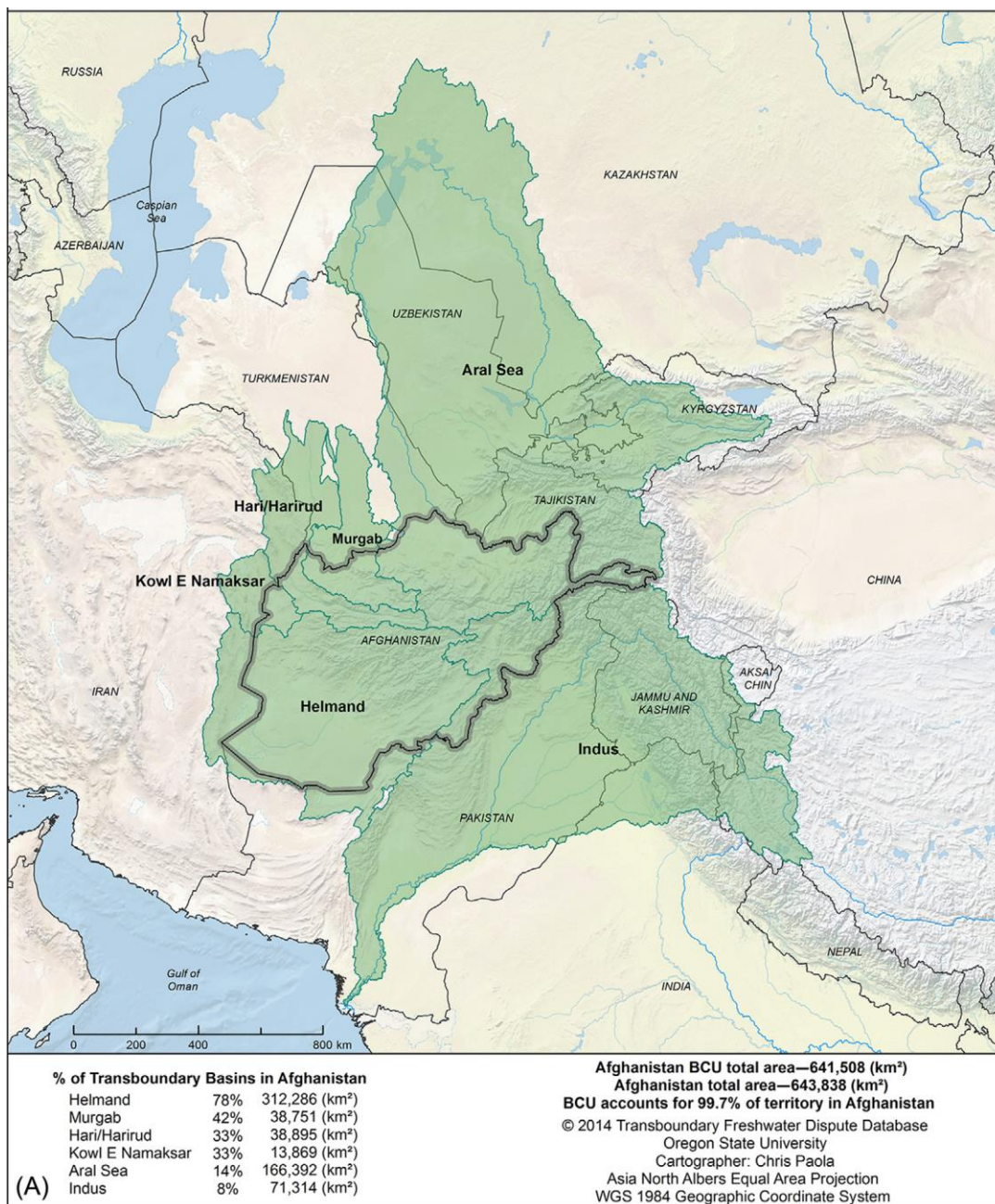


Figure 1: Map of Afghanistan and its connection with the regional river basins of Central and Southwest Asia - Source: (OSU-TFDD, 2014)

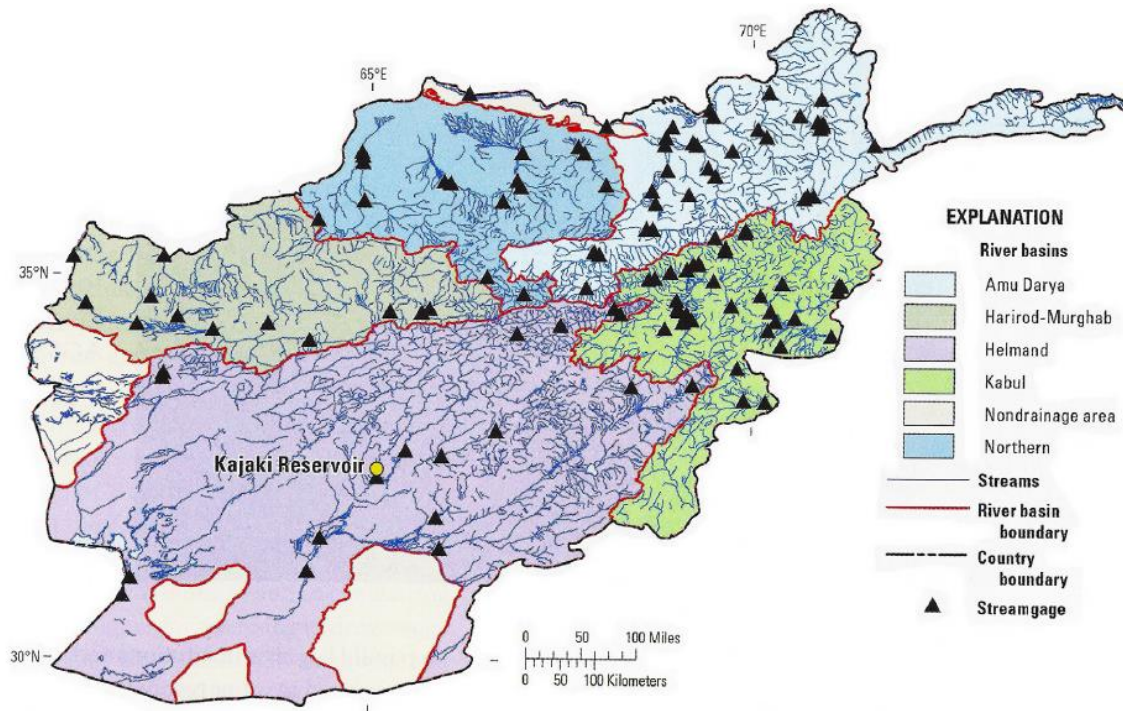


Figure 2: Afghanistan River Basins – Source: credits to Thomas, J. Mack in (Shroder, 2016a)

Afghanistan has five river basins where four of them are transboundary, shared with Pakistan, Iran, Turkmenistan, Uzbekistan, and Tajikistan (Figures 1 and 2):

Kabul River Basin

The Kabul River originates at Hindukush mountain around 100 km in the west of Kabul city in Afghanistan, flows eastward entering Pakistan, and eventually confluence with the Indus River at Attock (Figure 1). It has around 700 km length, where the main tributaries are Logar, Panjsher, Laghman-Alingar, and Kundar Rivers (Shroder, 2016a). It is the only river in Afghanistan, which is the tributary of a river system that ends in the Indian ocean (FAO-Aquastat, 2012). Kabul River drives from 12 percent of land area in Afghanistan and flows through or around 11 provinces, which is the home for around 11 million population.

It provides 26 percent of the total water resources of Afghanistan that support the demands of major cities such as Kabul, and 300,000 ha agriculture lands. Similarly, it also supports around 50000 ha agriculture lands in Pakistan before its confluence with Indus (Shroder, 2016a). The river basin itself has an area of around 67000 km², where around 80 percent is located in Afghanistan (Shroder, 2016a). The Kabul River has a variable flow between 33 – 460 m³/s; however, due to climate change and recent droughts, the river has been almost dried many times during years, notably around Kabul city.

Helmand River Basin

The Helmand River basin is one of the largest basins in Afghanistan and covers about 41% of the total area of the country. It is shared between Afghanistan 81.5 percent, Iran 15.5 percent, and Pakistan 3 percent (Oregon State University-TFDD, 2017). It starts at Hindukhush mountains and flows in a southwesterly direction for approximately 1300 km toward the Afghan-Iranian border, where it branches as distributaries into the landlocked Sistan depressions (King & Sturtewagen, 2010).

The overall basin is fed by the waters of Helmand River and its tributaries, primarily the Arghandab, Musa Qala, and Arghistan rivers. There are two other rivers in the basin, namely Farah and Khash rivers, which are not tributary of Helmand River but fall in Sistan depressions. These rivers form approximately 11% total mean river flow of Afghanistan that primarily used for agriculture purposes. The basin has significant importance for the Afghanistan economy, stability, and is the home for around 11 million people, where 7.5 million are Afghans (Oregon State University-TFDD, 2017).

Amu Darya River Basin

Amu Darya (Oxus) originates in the Wakhan corridor of Afghanistan and flows through southern borders of Tajikistan and Uzbekistan, and eastern border Turkmenistan with Afghanistan, respectively (Figures 1).

The Nile-sized Amu River has a length of 2540 km, basin area of 309000 km² and discharge of around 2000 m³/year/s, where 30 percent of this water is generated in Afghanistan, 61 percent in Tajikistan, and 7 percent combined in Uzbekistan and Turkmenistan. However, the upstream countries only use around 18 percent of the total discharge - Afghanistan 7 percent and Tajikistan 11 percent - while the downstream countries use around 80 (Ahmadzai, 2016) percent of the total discharge - Uzbekistan around 47 percent and Turkmenistan around 33 percent (Ahmadzai, 2016). The extensive use of water for agriculture purposes by downstream countries caused severe environmental disasters where Aral Sea shrinkage is one of the prominent examples.

On the Afghanistan side, it has called the Panj-Amu river basin (due to the name of its main river, Panj), with an area of around 96000 km² that forms around 31 percent of the total basin. (LandellMills, 2013). The basin covers five provinces, namely, Badakhshan, Takhar, Kunduz, Baghlan, and Bamiyan, which drains mostly northeastern part of Afghanistan. It has primarily three tributaries, namely Kunduz, Taloqan (Khanabad), and the Kokcha rivers, and the main Panj River. The basin is the breadbasket of Afghanistan and home for more than five million population.

Harirod Murghab Basin

This basin is transboundary, covered 12 percent land area of Afghanistan and drained primarily by two rivers. First, the Harirod River that has 1124 km length that starts in Afghanistan, enters the Islamic Republic of Iran through Herat province of Afghanistan and eventually dries out in Tejen Oasis in Turkmenistan (FAO-Aquastat, 2012; Thomas & Warner, 2015). The second river is Murghab River that flows northward Badghis province and enters Turkmenistan, where the water is used from water supply and irrigation purposes through the Kara Kum canal (Figures 1).

Harirod River is the primary source of water for Dosti Dam, which is constructed in 2004 by Iran and Turkmenistan in the downstream, that supply water to major cities such as Sarakhs and Mashhad.

Northern River Basin

The northern basin is the only non-transboundary basin that covered around 12 percent area of Afghanistan. It originates from the northern slopes of Hindukush and flows towards the Amu Darya. The main rivers are Shirin Tagab, Sarepul, Balkh, and the Khulm, where most of these rivers dry before reaching Amu-Darya (FAO-Aquastat, 2012).

Often, water management and governance practices in transboundary basins are contested by riparian states. Afghanistan does not have water-sharing agreements with its downstream riparian countries over transboundary rivers except the Helmand treaty (which is agreed between Afghanistan and Iran over the Helmand River). Despite that agreement, the relation between Kabul

and Tehran over water has been the most intense compared to other Afghanistan riparian states, as both countries accused each other of not respecting the treaty. Nevertheless, transboundary agreements are the cornerstone of regional cooperation and must be respected.

1.3 A Century of Water Policy and Management in Afghanistan (1919-2019)

This section will provide historical information about the Afghanistan context concerning water policy and management. Most of the countries in the world followed similar and typical paths regarding water policy and management (Wostl, 2015). However, Afghanistan is among the few countries that are unique in the mentioned practices. Thus, understanding the evolution of water policy, management, and governance in Afghanistan will provide the full picture to understand the narratives, analyses and will enable us to make judgments on contemporary decisions and practices.

From 1919 to 1980

In the last century, central governments and central regulations played an active and dominant role in the water policy worldwide by hierarchical top-down command-control approach (Wostl, 2015). Also, according to Allan (2003), from 1900 to 1980s, the development and management of water resources were shaped by the “Industrial Modernity” paradigm with the underlying assumptions that; nature could be controlled, and large-scale infrastructures are the symbol modernization. In that era, the focus of governments was to develop large scale infrastructures where often it is also called “Hydraulic Mission” (Reisner, 1993).

From the 1919s to the 1980s, Afghanistan was ruled by kings and presidents (primarily the by King Mohamad Zahir Shar) in a hierarchical top-down mode. Starting from 1950, Afghanistan, like the rest of the world, started its “Hydraulic Mission” and constructed the Kajaki Dam as a part of the Helmand Arghandab Valley Authority Project with the support of the USA. The king was keen to build large scale water infrastructures. According to Cullather (2002) *“For Nehru, for Zahir Shah (the King of Afghanistan), for China today, the great blank wall of a dam was a screen on which they would project the future”* (p. 13).

In that period, some major hydraulic infrastructures have been constructed in Afghanistan, and their “Hydraulic Bureaucracies” have also been duplicated. For example, the Tennessee Valley Authority (TVA) model was transferred from the US to Afghanistan for the Kajaki dam operation (Whitney, 2006). Moreover, in 1973, the Helmand River Treaty has been agreed with Iran during the Kingdom period, signed by the Prime Minister of Afghanistan Mohammad Mosa Shafiq.

From 1980 to 2000

In the 1970s, the west started to criticize the “Hydraulic Mission,” and as a result, it changed the water policy direction and led to emerging new water management paradigms and policies globally. According to Allan (2003), in the 1980s, the “Industrial Modernity” paradigm changed to “Reflexive Modernity - Green,” where the emphasis was on the importance of environment and negative impacts of the large-scale infrastructures. The founding assumptions for this paradigm were that nature could not be controlled, and more water should be allocated to the environment.

Later in the 1990s, the “Reflexive Modernity- Economical” paradigm, inspired by economist, has been introduced. The rationality of this paradigm was to allocate water more efficiently with an emphasis on the economic value of water. Hence, these paradigms have shifted the direction of water policy and gave the leadership roles to non-state and private sector actors, and subsidiarity, decentralization, privatization, and the market-based policies became the panacea for water management. This trend was very pronounced in the urban water supply and sanitation sectors (Wostl, 2015).

However, during this period, where other countries were busy testing different water policies and water management paradigms, Afghanistan had moved toward collapse, and civil war and water were not the focus for the governments. The instability not only constrained Afghanistan to complete the construction of the planned dams but also many of the constructed infrastructures have been destroyed. Moreover, importantly, due to instability, Afghanistan never experienced Green and Economic paradigms of water management.

The absence of these two paradigms of water management has impacted Afghanistan in two different dimensions. First, the absence of the green paradigm led to the absence of environmentalism and green movements in Afghanistan. Hence, the environment remained an ignored dimension in the public policy, and the nonappearance of environmentalism kept the people in isolation from environmental knowledge and its importance. As a result, environmental frameworks and institutions not have been developed, and even today, there is a massive shortage of environmental knowledge, capacity, institutions, and civil society organizations in Afghanistan.

Second, the absence of the economic paradigm of water management led Afghanistan to not acknowledge the economic value of water and its efficient allocation through policies and frameworks. As a result, the economic dimension of water remained unknown and hence prevented Afghanistan from developing related institutions and restricted the growth and participation of the private sector in the water management and service provisions.

From 2000 to 2019

According to Allan (2003), in the 21st century, a new paradigm has emerged for water management; “Reflective Modernity – Institutional and Political.” The rationality of this paradigm is based on inclusive participation through political institutions to address water issues among stakeholders within a basin. Thus, Integrated Water Resources Management (IWRM) has been introduced as the solution for water problems of the world, and again globally, this paradigm shifted the direction of water policy from the market, privatization to giving more leadership roles for groups, communities, and water user associations (Wostl, 2015).

In 2001, Afghanistan started a new page in its history. In 2002, after the Tokyo Donors Conference, the National Development Framework (GIRoA, 2002) was developed, and the first three years of the temporary and transitional administrations, the focus was to address immediate issues such as humanitarian needs, voluntary refugees return, establishing primary institutions, reforming political systems, and preparation for a democratic election. Despite the devastating drought in Afghanistan (1995-2002), water resources were not the priorities on the agenda.

In 2004, Afghanistan adopted its constitution and developed a strategic policy framework for the water sector (GIRoA, 2004). In 2005 the Supreme Council for Water Affairs and

Management (SCWAM) as the highest decisionmaking body for the water sector had been established, which was chaired by the First Vice President of the Islamic Republic of Afghanistan. Also, in the same year, the Technical Secretariat of the SCWAM had been established with the primary task of collecting, reviewing water sector documents, and presenting to the SCWAM. The Technical Secretariat was chaired by the Deputy Minister of Ministry of Energy and Water.

In 2006, the elected Government of the National Assembly developed the Interim Afghanistan National Development Strategy (I-ANDS), which was aligned with the Millennium Development Goals (GoIRA, 2005). It was presented at the London Conference as the development roadmap of Afghanistan for 2006/7 and 2007/8, where Water Resources was under the pillar three “Economic and Social Development” and sectoral policy number three “Infrastructure and National Resources” (Figure 3). The objective of (I-ANDS) was to strategize the investments in Afghanistan. The international community endorsed the implementation of the I-ANDS through Afghanistan Compact along with financial pledges.

In the I-ANDS, the goals were to rehabilitate the irrigation infrastructures, improving domestic water supply both for urban and rural areas, improve groundwater resources management, introduce IWRM, implement legislative and regulatory reforms to improve governance system for private sector participation and market, the establishment of river basin system, and enhance the capacity of public utilities to maintain services sustainably both physically and financially (GoIRA, 2005).

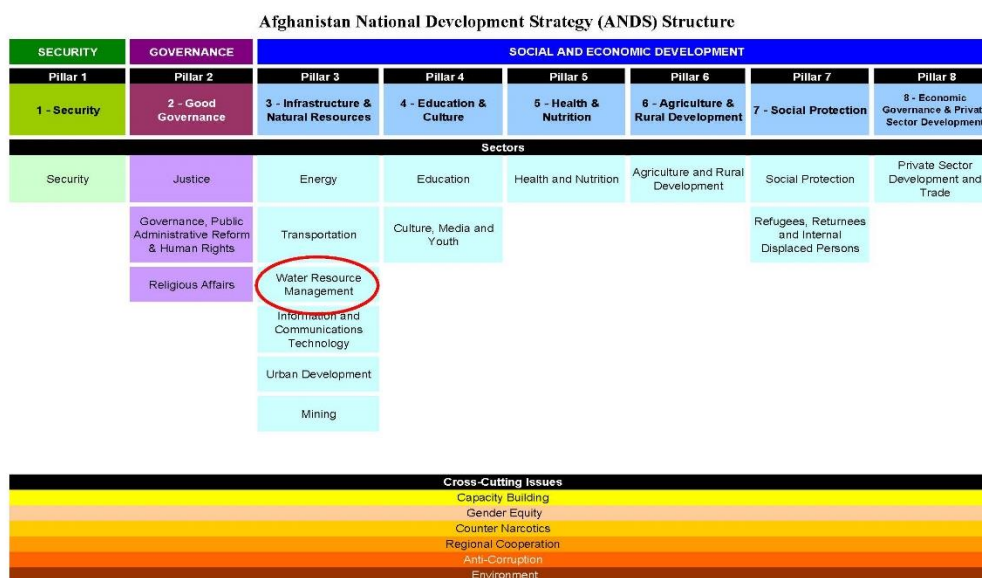


Figure 3: ANDS Structure - Source: (ANDS, 2008)

In 2007, the Environment Law was approved, and in 2008, aligned with the I-ANDS, the Afghanistan National Development Strategy (ANDS) has been developed (GIROA, 2008a). The problems in ANDS were defined in a consultative, bottom-up participatory approach. Efforts were made to ensure the consultation with sub-national levels (provinces and districts), and the objective was to target the most needed priorities while considering all aspects of the social and economic life and diversity of the country. Hence, Water ranked among the top issues in the country.

ANDS established the government policies and strategies for the next five years (2008-2013) and the panacea for all water issues of Afghanistan was introduced through the enigmatic concept of IWRM and river basin approach, while also having bold emphasizes on the investment for water storage facilities, multipurpose dams, and irrigation systems (ANDS, 2008).

Thus, IWRM became the foundation for water management and led to significant reforms and changes in the water governance system of Afghanistan.

In 2008, the Water Resources Strategy (2008-2013) aligned with the ANDS objective had been drafted whiting nine-chapter and approved by seven line-ministers and general director of the National Environmental Protection Agency (NEPA) of Afghanistan (GIROA, 2008b). The strategy was based on “parallel” and “progressive” (building bureaucracies along with infrastructures) approach. Its focus was to bring significant reforms in the water governance system, primarily in the legal, institutional, and organizational aspects, develop infrastructures and operationalize the IWRM in Afghanistan. Moreover, the strategy stressed to development of human and institution capacity and updating water sector information. The water sector strategic outcomes were expected to be achieved within three terms; short term, medium-term (until 2013), and long term (until 2023).

In 2009, the existing (1991) Water Law was revised and adjusted according to IWRM principles. Hence IWRM formally adopted in Afghanistan though the Water Law and led to significant changes in the water sector (at least in a bureaucratic sense), including changing the unit of water management from political boundaries to river basins. Moreover, the adoption of IWRM led to reform of water-related institutions including ministries, the establishment of River Basin Agencies¹ (RBAs), River Basin Councils (RBCs), Water User Associations (WUAs), Irrigation Associations (IAs), and Afghanistan Urban Water Supply, Sewerage Corporation (AUWSSC).

¹ Agency and Authority has been used interchangeably in various documents

In 2010, following the Kabul Conference and ANDS initiatives, the MEW under the Afghanistan Rural Development (ARD) Cluster started to develop the National Priority Program (NPP) for the National Water and Natural Resource Development (NWNRD). National Priority Programs are the priorities of the government, aligned with ANDS, that should be implemented within three years, in a more coordinated and coherent fashion due to limitation of the fund. The objective of the NWNRD is to “*ensure effective utilization, together with proper management, of existing water and other natural resources to accelerate agricultural productivity and provide safe drinking water and a hygienic environment, with viable rural energy options for rural prosperity.*” NWNRD has two main components where the first component was related to water, namely; Water Resources and Irrigation Development (WRID).

Thus in 2012, aligned with the ANDS under the ARD Cluster and NPP 1 (NWNRD), the WRID component has been developed by the MEW. The objective of the WRID component is to “*improve access of farmers and rural communities to water to support food security, improve agricultural production, and reduce poverty.*” The component is based on IWRM, dealing with the social, institutional, and natural systems, and comprised of six sub-components; Institutional Reform and Capacity Development, Land and Water Monitoring, Irrigation Development, Water Resources Development and Management, Flood Protection and Management, and Rural Water Supply, Sanitation and Hygiene Promotion. The WRID is still a living document due to delay and not achieving the results on time.

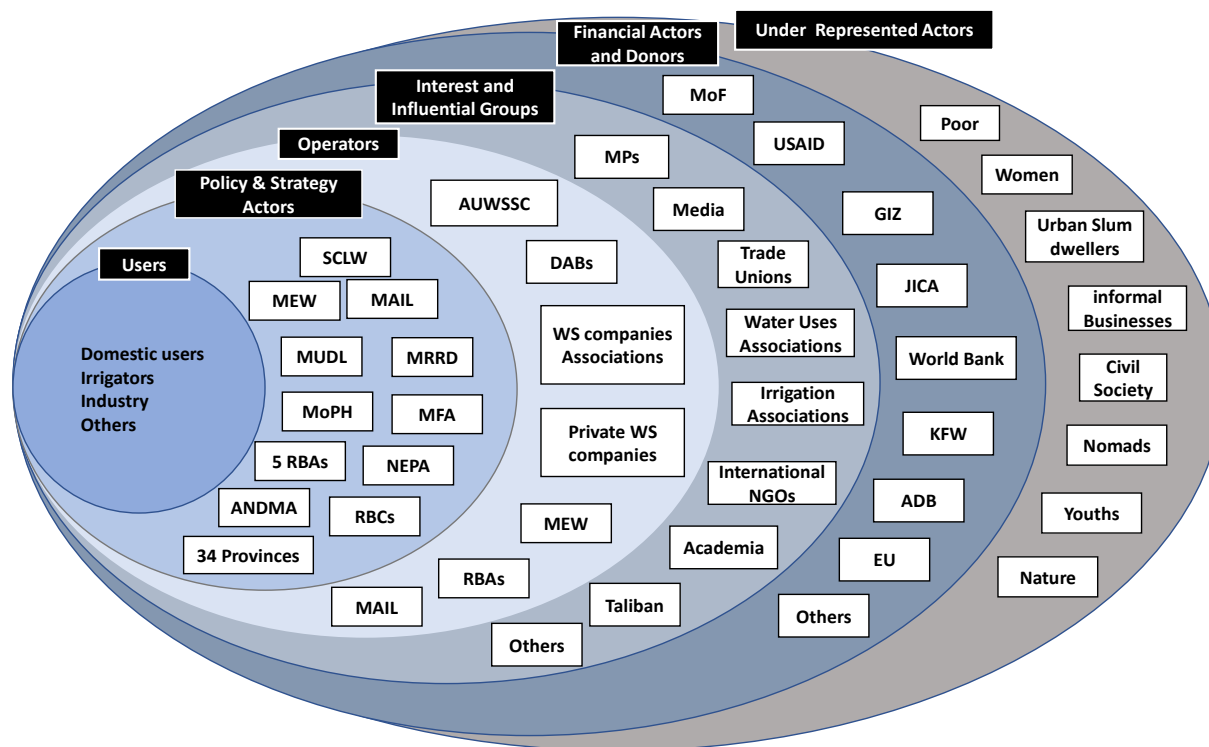
Lastly, in 2017, the National Unity Government substituted the ANDS and developed the Afghanistan National Peace and Development Framework (ANPDF) 2017-2021 as an overarching governance Framework in the country in the form of a five-year strategic plan for

moving beyond poverty and achieving self-reliance. This Framework is aligned with the NPPs and considers them as an “*outcome-focused thematic programs that guide ministries towards collective problem-solving.*” Thus, regarding water, the WRID component still should be valid and aligned under this umbrella Framework.

1.4 Water Stakeholders in Afghanistan

According to OECD (2015) Stakeholder is a “Person, group or organization who has an interest or stake in a water-related topic, may be directly or indirectly affected by water policy, and/or have the ability to influence the outcome positively or negatively.” Various categories of stakeholders are present at the national level in the water sector of Afghanistan (Figure 4).

At the International levels, besides international donors, the downstream riparian countries of Afghanistan (Tajikistan, Uzbekistan, Turkmenistan, Iran, and Pakistan) are also the major stakeholders.



ADB	Asian Development Bank
ANDMA	Afghanistan National Disaster Management Authority
AUWSSC	Afghanistan Urban Water Supply, Sewerage Corporation
DABS	Da Afghanistan Breshna Sherkat
EU	European Union
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
JICA	Japan International Cooperation Agency
KFW	Kreditanstalt für Wiederaufbau
MAIL	Ministry of Agriculture Irrigation and Livestock
MEW	Ministry of Energy and Water
MFA	Ministry of Foreign Affairs
MoF	Ministry of Finance
MoPH	Ministry of Public Health
MPs	Members of Parliament
MRRD	Ministry of Rural Rehabilitation and Development
MUDL/MUDA	Ministry of Urban Development and Land
NEPA	National Environmental Protection Agency
RBAs	River Basin Agencies/Authorities
RCSs	River Basin Councils
SCLW	Supreme Council of Land and Water
USAID	United States Agency for International Development

Figure 4: Afghanistan Water Sector Stakeholders Map - adopted from OECD

Chapter 2. Literature Review

Governance has a long history, and traditionally it was associated with government and exercising power (Kjaer, 2004). The concept was not widely used during the post-world war. However, recently, the governance concept re-emerged with the new meaning “something more than government” and coincides with the period that existing socio-economic and political systems came under pressure due to globalization and democratization (Chhotray & Stoker, 2009; Kjaer, 2004). Hence, in the last few decades, governance has been one of the challenging and fashionable concepts that offer critical insights to our understating of the contemporary social, economic, and political world.

Governance is a construct, flexible concept, a multidimensional and interdisciplinary term that covers many problems and embedded in many disciplines with varying meanings (Chhotray & Stoker, 2009; Vymětal, 2007). This variation of meaning often makes the concept vague, as Pierre and Peters (2000) argue that it “is notoriously slippery” (p. 7). Scholars considered governance in terms of both structure and process, the theory is not coherent, and it is difficult to get a clear understating of what the governance theory is about, and yet commonly agreed definition is lacking (Kjaer, 2004). Nevertheless, the objective of this chapter is to review the existing theories and make sense of governance as the core concept and then focus on the water realm.

According to Kjaer (2004), etymologically governance can be traced back to Greek verb “Kubernan” (to pilot or steer) that has been used by Plato concerning making rules. The Concise Oxford dictionary translates the term governance in two different meanings; first (in old-

fashioned), it is translated as “rule” and “control,” and second, it is translated as “action or manner of governing.” Both translations point to the political connotation of the term associated with government, structure, and hierarchy (Katsamunska, 2016; Vymětal, 2007).

Here understating the role of government in the governance and their mutual influence on each other is central to the discussion. As Pierre (2000) argues, “*governance denotes a conceptual or theoretical representation of coordination of social systems and, for the most part, the role of the state in that process*” (p. 3). He divides the meaning of governance into two categories: first, the state-centric or “old governance,” which is about the capacity of political institutions to “steer” the society; and second, which is more society centered focusing on coordination and self-governance in different types of partnerships and networks (Rhodes, 1997). Thus, broadly in theories, governance has been defined either something near to government (state-centric or “old governance”) or something broader than government (i.e., policy network or “new governance”).

First, aligned with the society and network perspectives or “new governance,” this school of thought promotes the diminishing role of the formal institutions and beliefs that governments have lost their capacity to govern societies, and any meaningful control over societies comes through networks (Rhodes, 1997). On the extreme, Rhodes argues for governance without government in the public sector and defines governance as the “*self-organizing, inter-organizational networks characterized by interdependence, resource-exchange, rule of the game, and significant autonomy from the state*” (Rhodes, 1997, p. 15). Further, he adds, “*Governance’ means there is no one center but multiple centers; there is no sovereign authority because*

networks have considerable autonomy” (Rhodes 1997, p. 109). Rhodes stand fits public policy and public administration discipline.

Along the same line, Rosenau (1995) argues that “*Global governance is conceived to include systems of rule at all levels of human activity - from the family to the international organization- in which the pursuit of goals through the exercise of control has transnational repercussions*” (p. 13). This definition fits the international relations discipline, which is traditionally dominated by realists. However, the realist paradigm has been challenged due to globalization, the growth of non-governmental, and global organizations.

On the other side, the state-centric or “old governance” scholars praised and critiqued the first school of thought simultaneously (Kjaer, 2004, 2011). They believe that Rhodes's views have been influential, and policy networks facilitate coordination and enhance efficiency in the implementation of public policy (Katsamunskaja, 2016). However, they critique that there is nothing new about networks, and they have always existed in the form of interest groups where some of them collaborated with states (Kjaer, 2011). Moreover, the growth of networks at local and transnational levels further complicating the accountability structures, and networks also can block the implementation of policies (Kjaer, 2004; Pierre, 2000).

This second school believes that governance is something close to government as Peters (2000) argues that governance is “*the capacity of government to make and implement policy, in other words, to steer society*” (p. 1). Also, this group of scholars believes that the state role is in transformation mode rather than reduction, and the state still has the predominant role and power for steering the society (Katsamunskaja, 2016; Kjaer, 2011; Pierre, 2000; Pierre & Peters, 2005).

“The role of the state is not decreasing but rather that its role is transforming, from a role-based in constitutional powers towards a role based in coordination and fusion of public and private resources” (Katsamunska, 2016, p. 137).

Moreover, Pierre and Peters (2005) argues that better performance in the four key dimensions of governance namely, 1) articulating a common set of priorities for society, 2) coherence, 3) steering, 4) accountability, require high level of institutional capacity including institutional resources (i.e., human and financial resources), institutional integrity and access to information, where government or state have central position and upper hands. Further, they argue that governance is about state-society relations, and they propose the five state-society interaction models or modes of governance that are operating in contemporary governance systems (Pierre & Peters, 2005).

And finally, some use the governance both in the old and new ways such as world bank as it defines *“Governance is the institutional capacity of public organizations to provide the public and other goods demanded by a country's citizens or their representatives in an effective, transparent, impartial, and accountable manner, subject to resource constraints”* (WorldBank, 2000, p. 48) This is a broad definition which is typical for an international organization that promotes the concept of “good governance” which emphasis some principles namely, participation, the rule of law, transparency, responsiveness, consensus, equity and inclusiveness, effectiveness and efficiency and accountability (ESCAP, n.d; OECD, 2007a).

On the other sphere, (Treib, Bähr, & Falkner, 2007) argue that governance generally about the change in governments nature and the existing literature that categorized modes of

governance as “old” or “new” is of analytical value, as some governance modes maybe historically “new” or “old” based on empirical contexts. Further, they argue that there is a need for an analytical categorization that could explain the typical properties of governing modes, and believe that existing understandings may be classified based on their emphasizes on “politics,” “polity,” or “policy” dimensions of governance.

Governance related to politics dimension focuses on the constellation of actor-networks, power relations, and the role of public and private actors and their relationships in the processes of policy formulation (Treib et al., 2007). The Rhodes stand (mentioned above) could be classified in this category. Also, governance mode related to the polity dimension focuses on institutions and conceive governance as the system of rules that shapes the behavior of actors (Treib et al., 2007). Emphasize is on different modes of governance (Hierarchy, community, associations, network, and market), their interdependence, and their guiding rules (Treib et al., 2007). The Rosenua stand on governance is aligned with this category as he emphasizes the rules for shaping the action of social actors. Lastly, governance may also be defined as a mode of political steering that refers primarily to policy dimensions (Treib et al., 2007). The emphasis here is on the steering instruments that state can apply in various forms (command and control, incentives, and supply) to achieve specific social outcomes (Treib et al., 2007).

Lastly, based on the existing literature, Claudia simplifies and explains the modes of governance into three, namely, hierarchy network and market (Wostl, 2015). She argues that in reality, none of the mentioned modes of governance (including Treib et al., 2007) exist in isolation from each other (Wostl, 2015). She further continues that mentioned characterizations are a source for potential conflicts, and there is a need for a hybrid governance system where

governance modes are balanced (Wostl, 2019). She validates her arguments based on comparative analysis of water governance in the Netherlands, Germany, Australia, China, and South Africa, and concludes by highlighting the importance of meta-governance as social learning reflexive process for improvement of governance approaches to address social needs (Wostl, 2019)

According (Chhotray & Stoker, 2009), the rise and interest in governance in the last few decades reflect the changes and complexities in our societies, which are shaped primarily by twin forces, namely, globalization and democratization. Hence the mentioned changes and complexities, along with other factors such as population growth, climate change, and development, also influenced water management practices. Like others, water systems and models also faced challenges to capture these changes. Hence, the water sector also became involved in the governance debate to capture the complexity of water delivery processes for social needs and provide the context for water management practices (Wostl, 2017).

For instance in many occasions such as the Hague World Water Forum (2000), the Hague ministerial declaration on 21st Century Water Security (2000), and the Bonn Freshwater Conference (2001), all of the participants emphasized on the importance of water governance as the key for water challenges (Kjellén, Tropp, & Jiménez, 2015; Rogers & Hall, 2003). Moreover, The UN-Water Development Report (2006) claimed that water crises are profoundly due to failure in water governance, and it pointed to “*mismanagement, corruption, lack of appropriate institutions, bureaucratic inertia and a shortage of new investments in building human capacity as well as physical infrastructure*” as the leading causes (WWAP, 2006).

As a result, water governance gained popularity and has been viewed as one of the most crucial aspects for water security and sustainable water management (Biswas & Tortajada, 2010; OECD, 2011; Rogers & Hall, 2003; Saleth & Dinar, 2004; Tortajada & Contreras-Moreno, 2005; Wostl, 2015; WWAP, 2006). Since the past two decades, it has been evolved with various meanings (Biswas & Tortajada, 2010; Lautze, de Silva, Giordano, & Sanford, 2011; Wostl, 2015; Zwarteveen et al., 2017), where the number of publications increased from 20 in the year 2000 to around 600 in the year 2016 (Wostl, 2017).

Global Water Partnership (GWP) defines water governance as a “*range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services, at different levels of society*” (Rogers & Hall, 2003). Also, the United Nations Development Program (UNDP) defines water governance as the “*political, social, economic, and administrative systems in place that influence water's use and management. ... It determines the equity and efficiency in water resource and services allocation and distribution and balances water use between socio-economic activities and ecosystems*”(UNDP, 2004).

The above-presented definitions of water governance are derived from practical considerations rather than theoretical efforts, which do justice with the complexity of the concept (Wostl, 2017). However, the mentioned definitions are broad, although the UNDP definition of water governance is more concrete and specific compared to GWP. The fundamental commonality between them is that both consider governance as a system or structure rather than process or practice, which is aligned with the “state-centric” or “old governance” or “polity” modes of governance.

On the other hand, some scholars defined water governance by empathizes on processes and practices of water governance rather than structure or systems, which are aligned with the “society-centric” or “new-governance” or “politics” modes of governance. For instance, The Water Governance Group at the IHE-Delft Institute for Water Education defines water governance as “*the practices of coordination and decision making between different actors around contested water distributions*” (Zwarteveen, 2015; Zwarteveen et al., 2017). Also, the Water Governance Group in the University British of Columbia defines water governance as “*the decision-making process through which water is managed*” (Norman, Bakker, Cook, Dunn, & Allen, 2010).

Moreover, on the extreme Claudia based on the work of (Young, 2013) defines water governance as the “*social function that regulates development and management of water resources and provisions of water services at different levels of society and guiding the resource towards a desirable state and away from an undesirable state*” (Wostl, 2015, p. 26). It is believed that this way of thinkings allows for decoupling government from governance and thus allows thinking for a variety of mechanisms through which societies achieve the function of governance and consider the prospect of providing governance without government (Young, 2013).

On top of all the variations in the definitions, there are also various frameworks for assessing water governance at different levels. (Hooper, 2006; Jacobson, Meyer, Oia, Reddy, & Tropp, 2013; OECD, 2015b; van Rijswick, Edelenbos, Hellegers, Kok, & Kuks, 2014; Zwarteveen et al., 2017).

The variety of meanings, definitions, and frameworks probably imply that water governance is still evolving as a scholarly field. As Araral and Wang (2013) based on extensive literature review of water governance also concluded that, yet it is not an organized established field of scientific scholarship; there is little consensus on the definition of water governance, the concept has been approached from disciplinary orientations, and it has not evolved into a multi and inter-disciplinary agenda, literature is descriptive and argumentative with less theoretical coherence, and there is no consensus on how to approach the study of water governance. Further, they call for water governance 2.0 focusing on input from theories of public economics, new institutional economics, political economy, and public administration (Araral & Wang, 2013).

Nevertheless, since 2001, the governance concept also started in Afghanistan due to the same mentioned dual forces, namely, democratization and globalization. Afghanistan established a democratic government and had been connected to the world. The full control of the government over polices had been questioned due to the plurality of institutions, organizations, networks, and changes in societies. Although at that moment, the governance focus was not water or environmental aspects, but that was the starting point of governance debate in all aspects. Hence, in 2003, the EU promoted the principles of “good governance” in the water sector, which led to the transformation of the state role (at some level) and the establishment to the variety of institutions in the sector.

Consequently, Afghanistan established a water governance system, which was something just more than the government, that also called “state-centric” or “old governance” by the second group of scholars. It was also similar to the “polity” Treib et al. (2007) classifications. Ideally, water governance in Afghanistan conceived as a system of rules, and the focus was on the

institutions to increase the capacity of the government to set a commonly agreed set of priorities and policies, bring coordination and coherency, implement policies, and improve accountability.

Hence, assessing the water governance system in Afghanistan requires assessing a range of political, institutional, and administrative rules, practices, and processes within the government. As mentioned above, various definitions and frameworks exist that can serve as an analytical framework to assess the system. However, for this research, the OECD stand is more attractive, as it is state-centric and has concrete emphasizes on the system of rules, processes, and exercise of authority.

OECD defines governance as the “*exercise of political, economic and administrative authority necessary to manage a nation’s affairs.*” This definition falls within the “old governance” or state-centric school of thought (OECD, 2007b).

Moreover, OECD has a more appealing definition of water governance that covers both systems and processes. OECD defines Water Governance as a “*range of political, institutional and administrative rules, practices and processes (formal and informal) through which decisions are taken and implemented, stakeholders can articulate their interests and have their concerns considered, and decision-makers are held accountable for water management*” (OECD, 2015). The OECD definition of water governance is similar to what Wostl (2019) called the “water governance system” as the “*interconnected ensemble of political, social, economic, and administrative elements that performs the function of water governance. These elements embrace institutions as well as actors and their interactions*” (p. 6).

Similarly, the OECD Indicators Framework is also state-centric that has the capacity to assess the governance in the formal structure of the government at different levels (OECD, 2018). Thus, here, the OECD definition has been adopted, and the Indicators Framework has been utilized as the analytical framework, as it allows looking in the government for the search of governance. The Frameworks is based on OECD water governance principles and applied in many countries, that provided valuable knowledge (OECD, 2014a, 2014b, 2019a).

Chapter 3. Research Method

This research is a case study on Afghanistan, designed on a mixed-method that provides the opportunity to collect a variety of data and perform in-depth analysis over a specific spatial-temporary scale (Creswell, 2014). It had three phases; first, qualitatively, water governance has been analyzed using existing literature; second, qualitatively, the analysis has been reinforced using semi-structured interviews; and finally, quantitatively, the water governance has been benchmarked using surveys.

The OECD Water Governance Indicator Framework (Figure 5) has been used as an analytical framework (OECD, 2018). “Framework provides a set of assumptions, concepts, values, and practices that constitute the way of viewing the specific reality” (Binder, Hinkel, Bots, & Wostl, 2013). It is based on the twelve principles of water governance (Figure 6), composed of 36 water governance indicators, and a checklist consist of 106 questions concerning water governance.

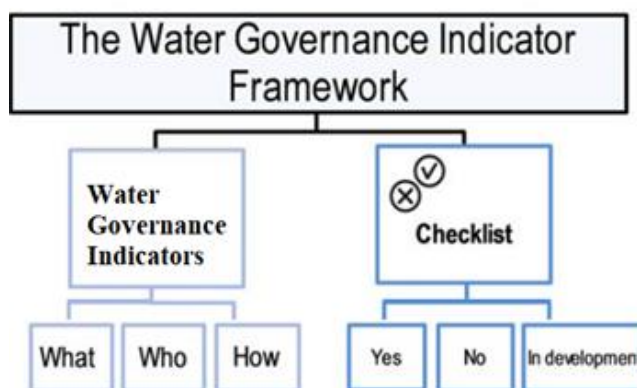


Figure 5- Water Governance Indicator Framework (OECD, 2018)

The principles are rooted in the broader principles of good governance and provide an outline to assess water governance and understand the performance of a system (OECD, 2018). The principles are developed by the OECD Water Governance Initiative (WGI), which is a multi-stakeholder platform, consist of over 100 delegates from public, private, and non-profit sectors. In 2015, the principles were adopted by the OECD ministers council (Akhmouch et al., 2018).

The framework is conceived as the tool to assess the state of water governance policy frameworks (What), institutions (Who) and mechanisms (How), and is consists of 36 water governance indicators, dedicated for the principles (three indicators for each principle), that capture the existence and level of implementation of water governance principles against mentioned dimensions, through subjective judgments. The checklist documents the existence of the policy, legal, and institutional frameworks and tools that can be used as guiding tools for the writing process.

Apart from the OECD framework, as mentioned above, there are also many other water governance frameworks, which well-defined and robust (Hooper, 2006; Jacobson et al., 2013; van Rijswick et al., 2014; Zwarteveen et al., 2017). However, most of these frameworks focus on a specific function (i.e., water resources, water supply), scale (i.e., basin, sub-basin, a region), and governance dimension (i.e., transboundary, institutions, regulation, capacity).

The current study attempts to provide answers for the mentioned research questions and assess water governance at the country level both vertically and horizontally. The objective is to

assess the full water governance system and cycle rather than focusing on a specific function or dimension and provide a better-generalized overview of the context.

Hence, the OECD framework is well applicable for the mentioned purposes in the Afghanistan context and has been chosen due to several reasons. First, this framework can assess water governance at country level, both vertically at multiple levels of governance (i.e., national, basin, sub-basin) and horizontally across the water and related sectors (i.e., health, agriculture, urban). Second, the framework has the capability to systematically assess the full cycle of water governance, starting from the policy formulation to monitoring and evaluation, both horizontally and vertically. Third, it has the nuanced capability that not only assesses the policy frameworks or institutions but also assesses the required mechanisms for their implementations. Fourth, the framework can correctly generalize by serving as an umbrella for the generalization of existing studies under twelve principles. Fifth, it has the fitness to apply both qualitatively and quantitatively simultaneously. Finally, it can present a quick overview of water governance in a context.

Moreover, the framework has been developed by the OECD Water Governance Initiative through a bottom-up multi-stakeholder participatory approach. In 2015, the framework was adopted by the OECD, and in 2017, it was tested in ten developed and developing countries (OECD, 2018, 2019a, 2019b). Application of this framework in the context of Afghanistan will allow comparing different water governance systems, and in turn, assess the performance of the framework in a relatively different context.

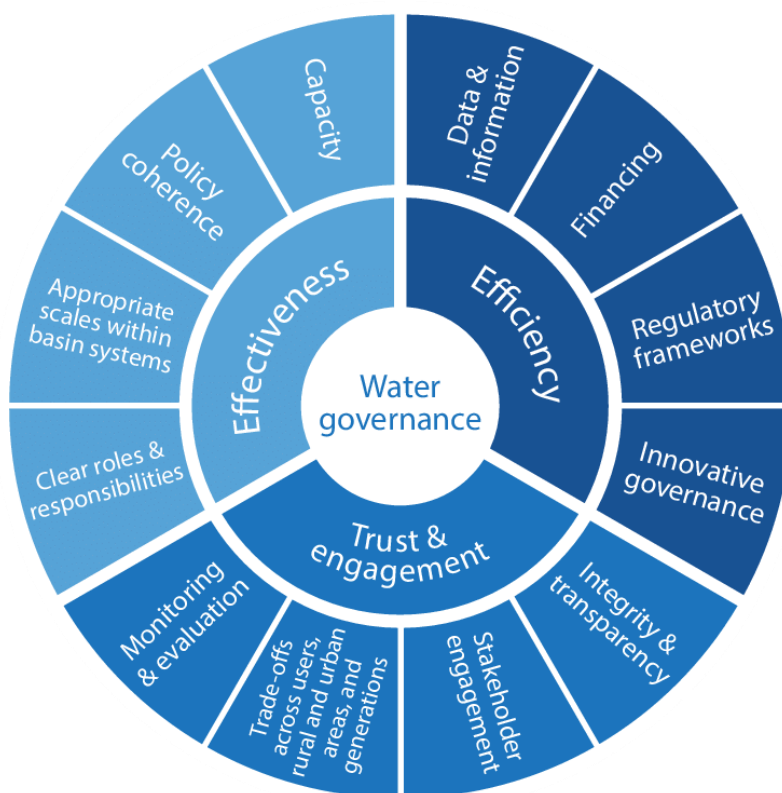


Figure 6: OECD Water Governance Principles - Source: (OECD, 2015)

In the first stage, all the relevant available peer-reviewed and gray literature on Afghanistan have been collected using different databases (i.e., OSU, Web of Science, google scholar), Afghanistan institutions, international organizations, NGOs, websites, and the collected data has been organized based on their relevancy to each water governance principle. Then, the water governance of Afghanistan in the last two decades has been analyzed using collected data against twelve water governance principles.

In the second stage, after analyzing the water governance system of Afghanistan using literature, a total of seven interviews (four top-level government officials from the core water-

related ministries MEW, MAIL, MUDL, MRRD, and three experts - two international organization USAID and GIZ employees, and one academia) have been conducted concerning the twelve water governance principles in Afghanistan. The interviewees have been selected based on their positions and snowball. Interviews ranged from one hour to three hours, the interviews were conducted in Dari and Pashto languages through online internet tools (i.e., Skype), and the quotes are translated by myself into English. Only one interview has been audio-recorded, and the rest has been carefully transcribed and noted.

This study included human subjects and was subjected to the Institutional Review Board (IRB). An application has been filed at Oregon State University, which is approved in October 2019 (please see the annex). All requirement of the IRB has been met for this research. According to IRB conditions for this research, the participants must remain anonymous, and thus their identifiable data (such as name, position, and place of work) must not be public, and they are not used in the quotes. Instead, here, phrases such as an official in the government or an expert have been used in the quotes.

The last stage was benchmarking water governance using 36 indicators (Figure 7), and the participant has been requested to choose an option for each of 36 Water Governance Indicators based on their subjective judgments.

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5

Figure 7: Scorecard of indicator

Chapter 4. Analysis of Water Governance at Multiple Levels

This chapter provides an answer to the second research question and assesses the water governance system of Afghanistan at multiple levels against twelve OECD water governance principles (Figure 6). The analysis is based on the existing peer-reviewed and grey literature, government documents, minutes of meetings, news articles, and semi-structured interviews.

Principle 1- Roles and Responsibility

The first principle of water governance emphasizes the existence and implementation of legal and institutional frameworks, focusing on water law, and clarity of roles and responsibilities of institutions across the water sector (OECD, 2018). The existence of well-defined roles and responsibilities among policymakers, implementers, operators, and regulators is crucial for better coordination and water governance. Usually, water law defines the roles and responsibilities of actors, and it should have the capacity to identify and address the gaps, conflict of interests, and overlaps through effective coordination across the water sector at all levels of government.

First concerning the legal aspects, in 2009, Afghanistan formally adopted its water law, written within seven chapters namely, 1-Provisions and Institutional Setup, 2-Water Resources Management, 3-River Basin Authorities, 4-Water Use, 5-Water Resources Protection, 6-Dispute Resolution, and 7- Final Provisions (GIROA, 2009). It is a modern law, based on IWRM principles and aligned with Islamic jurisprudence. It acknowledges water as the public property, free of cost (excluding services cost), drinking water priority, and gives the government the authority for its protection and management.

The water law defined ambitious goals and milestones to reform the sector and address water security issues. For instance in the chapter two “Art 10” the water law assigns MEW to develop national water resources policies and strategies, water use plans for various purposes, collect and analyze hydrological data, develop warning systems for flood protections, issues water permits, establish RBAs and WUAs and construct, rehabilitate and maintain various water infrastructures.

However, most of the provisions are not met yet. Currently, at the national level, there is no water resources policy or strategy to guide the water sector in a relatively long-term vision, except water-related NPP, which is a program. The irony is that before the adoption of the water law, the water sector strategy (2008-2013) existed, but it has not been updated after the year 2013 as a was required, and now it is an expired document.

There might be several reasons for that; first, in 2014, Afghanistan was in a critical stage where, from one side, the international community reduced their supports, and most of the collation forces left Afghanistan. From the other side, at the same time, the government has been changed, and the National Unity Government took the lead. The changes at the start created a lack of motivation for some of the decision-makers in the sector due to job security concerns in the new government. Second, in 2017, the National Unity Government developed the ANPDF as the overarching framework and replaced the ANDS, which was the foundation for the water sector strategy. Hence, these changes delayed the development or update process of the water sector strategy.

Later in 2017, MEW formed a working group with related ministries to revise and update the sector strategy (MEW, 2017b). They had some meetings, but it suddenly stopped and not continued. This interruption and weak follow up show that, at the ministry level, there is no proper road map that should have consistency and follow up mechanisms. Even the President of Afghanistan acknowledged this issue in one of the SCLW meetings and emphasized the importance of roadmap in the implementation of plans (GIRoA, 2017). This situation created space for decision-makers to escape some responsibilities by focusing on routine works.

Regarding hydrological data, despite the enormous investment in the water sector through both the government and international donors, still, Afghanistan is faced with an acute shortage of data on its hydrological cycle. There is no clear understanding of the existing renewable water resources, except for some old estimations, which might have changed in the last decade due to climate change (FAO-Aquastat, 2012; Shroder, 2016a). Groundwater and quality of water resources are even more ambiguous, and except for some part of the Kabul River Basin, there is a lack of overall information in the country. Hence the shortage of data limited the capacity of the government to design effective policies for improving sector efficiency and environmental sustainability.

Also, concerning water use plans, there is no comprehensive water plan that exists in the country to address water allocation for different uses. Similarly flood early warning systems and measures for flood protection, they are still in the embryonic stage, which is confirmed by flood damages this year. According (IOM, 2019), from January to August 2019, around 72 people have been killed due to floods, and around 208078 people have been directly affected. These statistics show that the “Art 10” and “Art 12” of water law that directly emphasis the

development of measurement, including warning systems for the flood protection, has been not implemented.

Lastly, for water permits, MEW has the responsibility according to the water law to license an issue permits for any use of more than five cubic meters per day “Art 19” and “Art 21”. Nevertheless, MEW with the other line ministries failed even to start this assignment. More than 50 private water supply companies are extracting groundwater just in Kabul city without any water extraction permit or license. Similarly, more than hundreds of private commercial soft drink companies actively extracting groundwater for their commercial purposes without any regulation and permits. This irresponsible use of water also shows the lack of enforcement of water law in the country.

Besides the mentioned provisions, many other provisions in the water law are also not implemented, which are not discussed here due to limitations of the scope for this thesis. Thus, in summary, the 2009 Water Law has not been implemented for the most part and has been a failure.

This conclusion is also aligned with most of the participant's views. A high-level decisionmaker in the government stated: *“we cannot say that the water law not implemented at all, it is implemented in some parts, but most of the provisions have problems either technical or overlap and vagueness that hamper the implementation of water law.”* Also, one of the experts in the sector mentioned, *“we have water law, but unfortunately, it is in the shelves with a centimeter of dust on it.”*

The followings might be the reasons for the weak implementation and enforcement: water law was drafted in a prescribed way by limited number of policymakers under the influence of international organizations and donors, in an attempt to reform the water sector of Afghanistan and introduce the principles of “good” water governance (Warner & Thomas, 2014; Wegerich, 2010). In 2009, the law has been founded on an imported western IWRM model (please see the second principle) without having enough information and knowledge from the ground realities. It ignored, for the most part, the traditional and indigenous water management practices (i.e., removing Mirab system), power dynamics (i.e., ignoring the role of local governance and influential peoples).

This issue also has been echoed by Jelle Beekma (an international expert in Kunduz River Basin Program) in a personal communication on 1st April 2009 with (Wegerich, 2010) that *“The most unfortunate factor during the development of the law was maybe that the international presence in preparation of the water law has been quite strong yet often detrimental rather than constructive.”* Also, Walter Osenberg (German Agro Action Kunduz) stated that *“The different drafts water sector strategy (which was the base for the water law) are not really a strategy yet and suffer from the different viewpoints of the various donors and national institutes”* (Wegerich, 2010).

Other reasons such as, the overall political situation and weak rule of law in Afghanistan, ambiguity in the provisions, negative competition, lack of coordination and political will in the government especially within the line ministries, lack cooperation from the people, financial barriers and environmental crises are also the major factors that weighting in the failure of the water law implementation in Afghanistan.

Currently, the government of Afghanistan is working on revising the 2009 Water Law according to the need of the country, considering the lessons learned from the last couple of decades of water management and governance. While again, controversies (i.e., competition between ministries, isolation of some actors) exist around this topic, but it is out the scope of this thesis.

Concerning the institutional arrangements of the water sector, the first chapter “Art 8” and “Art 9” of water law define the responsibilities of government institutions assigning: MEW for planning, development, and management of water resources; MoM (later transferred to MEW) in close coordination with the MoPH and NEPA for researches, identifications and protection the groundwater resources; NEPA for protection and quality control of surface water resources; MAIL for identification of irrigation norms and research; MUDL for provision of domestic and drinking water supply, wastewater disposal and sewerage infrastructures and all the related service in the urban areas; and MRRD for rural water supply, sanitation and construction of small water system in rural areas. Finally, the Supreme Council of Water Affairs Management (SCWAM) (later changed to Supreme Council of Land and Water) serves as the top decision-making body and platform in the country to coordinate and facilitate the implementation of policies, laws, strategies, and projects (Figure 8).

Supreme Council of Land and Water

The existed Supreme² Council for Water Affairs Management (SCWAM) has been changed to the Supreme Council of Land and Water (SCLW) according to the Presidential Decree no 3 of 8th April 2015 (GIRoA, 2015) for the integration of land and water. Its mandate

² Supreme or High has been interchangeably used in various documents

is to approve, oversight, coordinate, and support the implementation of water and land-related policies, strategies, and projects. According to the mentioned Decree, SCLW is chaired directly by the President of Afghanistan and the permanent members are: the Afghanistan CEO, Special Representative of the president in the good governance, six government ministers (Minister of Energy and Water, Minister of Agriculture, Irrigation and Livestock, Minister of Rural Rehabilitation and Development, Minister of Economics, Minister of Justice and Minister of Mines and Petroleum), Director of Land Independent Authority, General Director of Statistics, General Director of National Environmental Protection Agency, General Director of Local Governance, Once person for the Private Sector, one person from the Civil Society and Mr. Tariq Formuly (an individual where his name is in the decree as mentioned).

Later other related members in the sectors which were not listed in the main decree as members, have been added, such as the Minister of Urban Development and Housing (in 2019 it changed to Ministry of Urban Development and Land where the Land Independent Authority has been merged with the Ministry of Urban Development and Housing), General Director of Water Supply, Sewerage and Environmental Affairs and many more.

In general, integrating the land aspects with the water and changing the old SCWAM to the SCLW was the right move to enhance the integration of water with the land. However, the performance and efficiency of the council were asymmetrical, and the water dimension has been less attractive compared to the land dimension due to some issues. The reasons for the skew performance of the council, apart from its political dimension (BBC, 2018; Sputnik, 2018), the performances of the Technical Secretariat for Water is central.

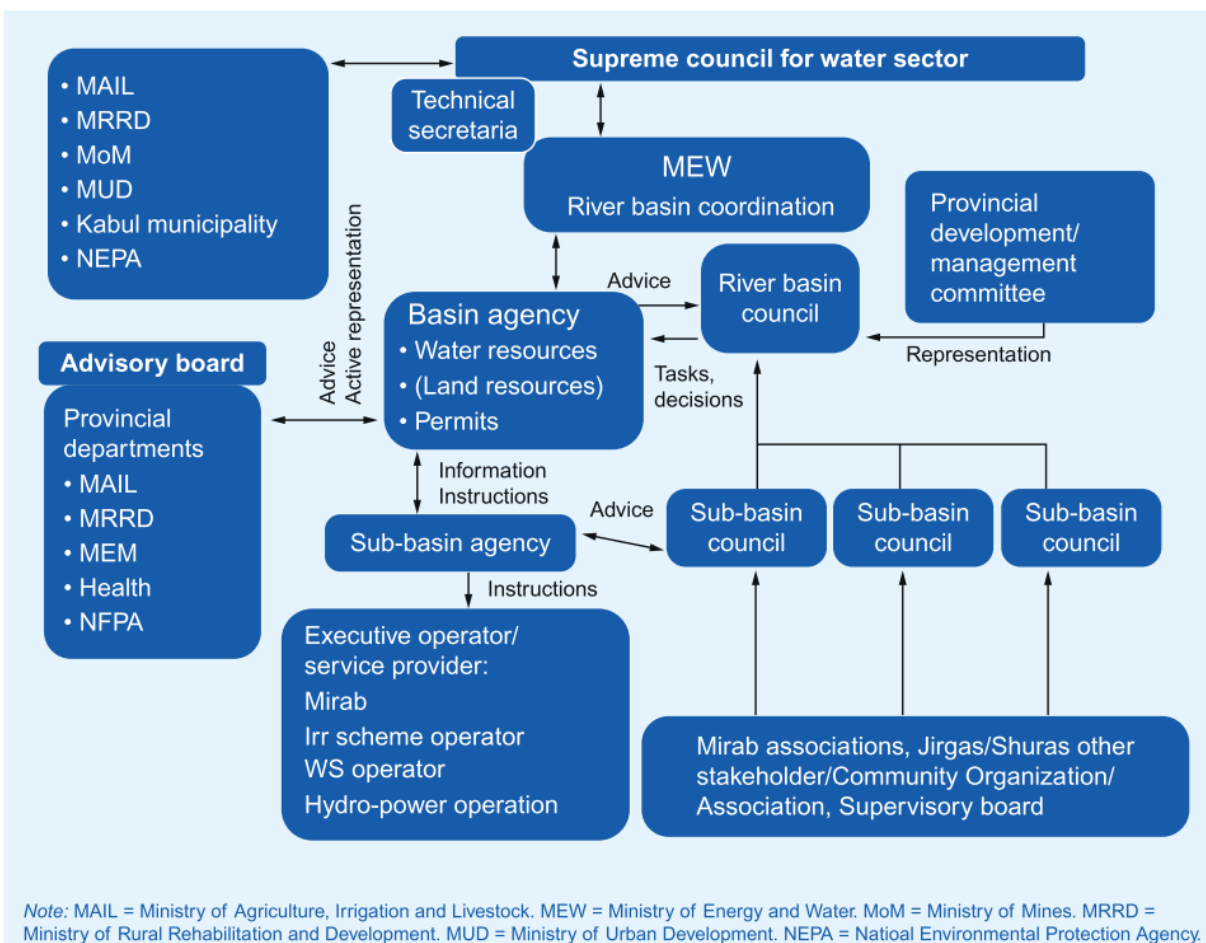


Figure 8: Water Sector Institutional Framework – Source (Shroder, 2016c)

According to the mentioned Decree, the Independent Land Authority of Afghanistan, in coordination with the presidential office, is responsible for managing the Technical Secretariat of the SCLW. Keeping MEW as an observer, and authorizing the Independent Land Authority for Secretariat affairs, might help the council efficiency concerning land, but indeed not water. Probably the reason for this kind of authorization was either due to a need to focus more on the land aspects, as the War Lords and local people usurped most of the Afghanistan lands, or

political. The President was motivated to reclaim the usurped lands and pass the land law and policies through this council, as he did.

The inconspicuous role of the MEW has been noticed in the council, and MEW reactivated the Technical Secretariat for water in the MEW (which was active in MEW before changing the formation of the council from SCWAM to SCLW) to focus on water issues (again division of land and water). The Deputy Minister of Water chairs in the MEW, and members are primarily government officials. Anything that SCLW discusses related to water should come into agenda through the Technical Secretariat for Water with coordination of the Independent Land Authority of Afghanistan and the president's office and thus should be also follow up by the related authorities.

The problem with the Technical Secretariat for Water is that it has no road map, no exact plan and timeline, no working groups, and most importantly, weak coordination and follow-up mechanisms along with limited logistic support. In 2017 and 2018, the secretariat functioned relative consistent in terms of meetings; however, the analysis of agendas and minutes of meetings on the same years showed that there is minimum consistency in the topics in each of those meetings. For instance, in one meeting (date 02/05/2017), the secretariat discussed the curriculum of water-related faculties in the country for capacity building of the water sector, and the dean of the Water Resources faculty of Kabul Polytechnic University presented the future plans (MEW, 2017a). Unfortunately, since then this topic never been discussed and followed up anymore.

Another example concerning the follow up, on the 5th of March 2015, the fourth National Water Conference has been held in Kabul city. In the declaration of the conference, around 35 issues have been identified and endorsed by the SCLW (Haidarzada, 2017). The Technical Secretariat has been assigned to monitor the implementation of those interventions by different organizations and report back from the progress to SCLW. None of them has been followed up nor implemented, and never been reported back and discussed in SCLW meetings.

SCLW, has been affected by this type of transitory performance, as the secretariat has the responsibility to identify essential issues and put on the table for the SCLW discussions. Since a clear vision for the sector is lacking in the secretariat, their discussions do not have consistency and follow up, thus it has also affected the SCLW agendas and efficiency. Moreover, power dynamics in the council, centralization, and workloads on the President and overall situation of the country are central aspects to the analysis, that are not discussed here.

In summary, the SCLW functioning efficient for land issues; however, regarding water issues, the council is functioning relatively weak due to the mentioned challenges. Hence, it hugely affected the progress of the sector. SCLW as the highest decision-making body in country should be strategically used as the platform to remove water governance and management barriers, by focusing on far important aspects including water security and transboundary issues. Utilizing this important platform as some type of show-off stage (by water sector officials) in front of the President, and by discussing less important small issues, will waste the opportunity, to address important issues, and even can remove water from the discussion agenda of the government (as it is going to that direction lately, discussed below in the third principle).

Here are some of the participants views in this regard.

“The council is for big country level water-related issues where it cannot be solved at the single ministry. It is not for discussing small things, such as guidelines, or small plans and projects. Unfortunate this council is usually busy with less important issues” (an expert in the sector)

“The council is performing better compared to the past, and the secretariat performance is also improved.” (high level decisionmaker in the government)

Ministry of Energy and Water (MEW)

MEW as the responsible institution for the development and management of water resources in the country, has the following structure (Figure 9). The focus of analyses is the Deputy Ministry Division for water. Just by looking at the organogram of the MEW, one can easily observe the overlaps and duplications in its organizational arrangements.

For instance, the General Directorate of Water Management, which is a grade one directorate (red color), has three sub directorates (grade 2), and surprisingly one of them is the Water Law Directorate. Their job is to collect water data and manage water resources in the country including operations of some hydraulic infrastructures. But according to the Water Law “Art 12,” the River Basin Authorities has the same mandate which is stated as follow *“[The RBA will have the function and power] to develop plans and manage water resources in accordance with National Water Resources Policy and in line with the needs and conditions of the basin”*.

Also, a closer look at the organizational arrangements of a River Basin Agency, for instance, Panj-Amu River Basin Agency (Figure 10), also confirms the duplications of the tasks, as Water Management Directorate in the agency structure has the same responsibility as the General Directorate for Water Management in MEW.

Similarly, by looking to one of Panj-Amu's Sub River Basins organizational arrangement, for instance, Taloqan Sub River Basin Agency (Figure 11), again the duplication is prominent, as there is a large department for Water Management Affairs including departments for water data management and O&M in the SBA structure. Hence these kinds of arrangements and duplications show the ambiguity of roles and responsibilities within MEW.

Moreover, in the MEW structure (Figure 9) why the Water Law Department is not under the direct supervision of the Deputy Minister just like the Directorate of Water Policy? Or why these two are separate? OR why the directorate of Program and Policy are separate? Furthermore, why the groundwater is managed by the Department of hydrogeology completely separate in isolation of the River Basin Agencies, and even not under the supervision of the General Directorate of Water Management? All these questions point to the overlaps, duplications, and inconsistency in the organizational arrangements of the MEW.

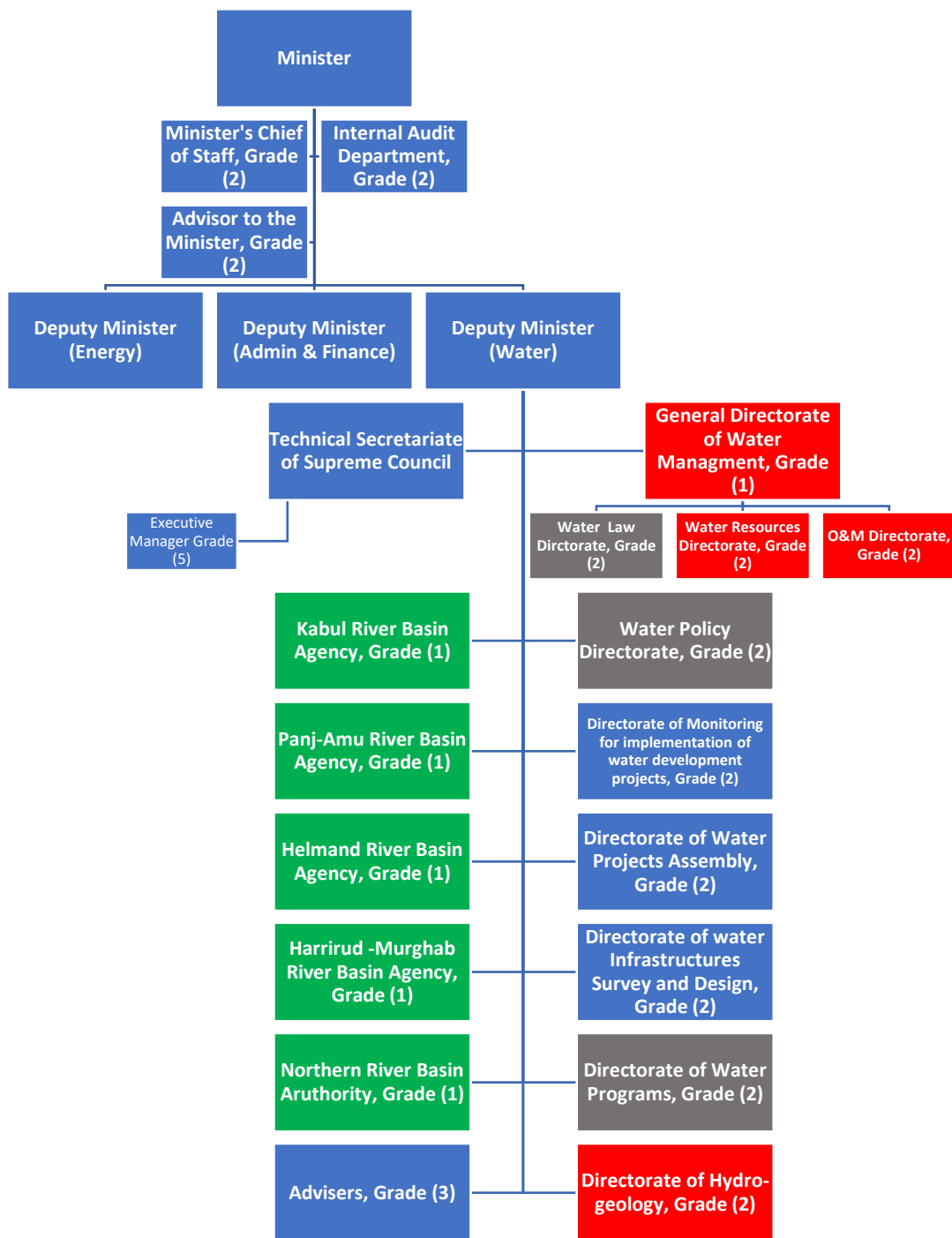


Figure 9: MEW Organizational Arrangement - Source (MEW OLD Website)

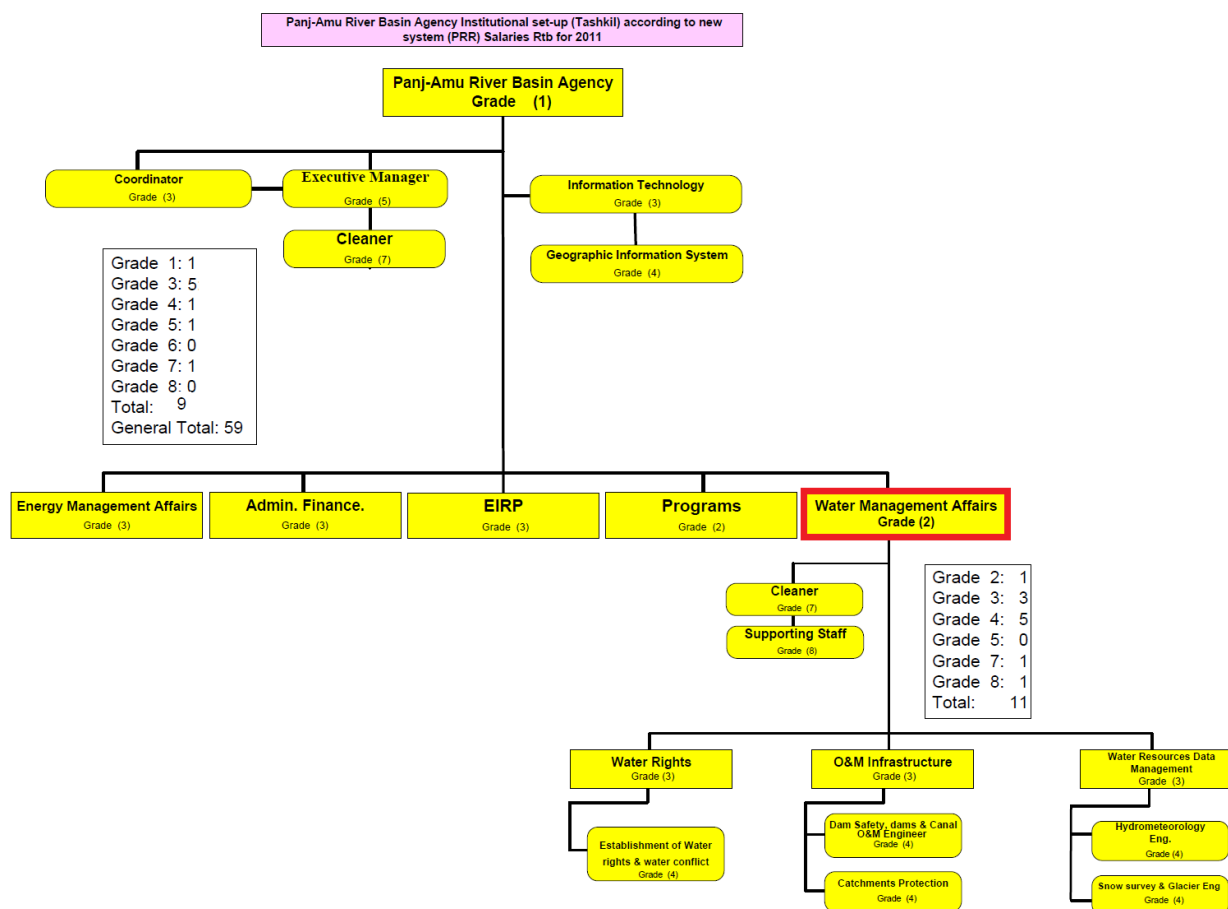


Figure 10: Panj-Amu River Basin Organizational Arrangement- Source (LandellMills, 2013)

On top that, systematic mechanisms are also lacking in the sector to diagnose gaps and overlaps. Also, as there is no independent mandate regulatory body in the in the water sector, regulatory reviews are also lacking to assess the water sector performance (at least the major actors), identify gaps, overlaps, duplications, and provide analytical reports on the water governance system. A limited number of studies exist, which are primarily conducted by donors focused on specific projects or issues such as water quantity, quality, climate change, which provide valuable information on that specific dimensions that could be used as informative tools (Thomas, Osmani, & Wegerich, 2011; Thomas & Warner, 2014).

Here are some of the statements from the participants concerning roles and responsibilities:

“They [officials] know about overlaps and duplications, but they are not willing to address. Why? I tell you, because each department has its own projects, funded by donors, and if they transfer the responsibilities, it means they must also transfer the donor support. They do not want that.” (an expert in the sector).

“The reason some directorates are helping other directorates and doing multi-tasking, what you call overlaps, is because the responsible directorates do not have sufficient capacity. We cannot wait for them; someone should do the task and we must keep going” (a high level decisionmaker in the government)

“Some directors have been the director since 2001, they have strong political supports, better network and they are powerful, minister, deputy ministers and even donors listen to them. I will not name, but it is very hard to reform their departments.” (a high level decisionmaker in the government).

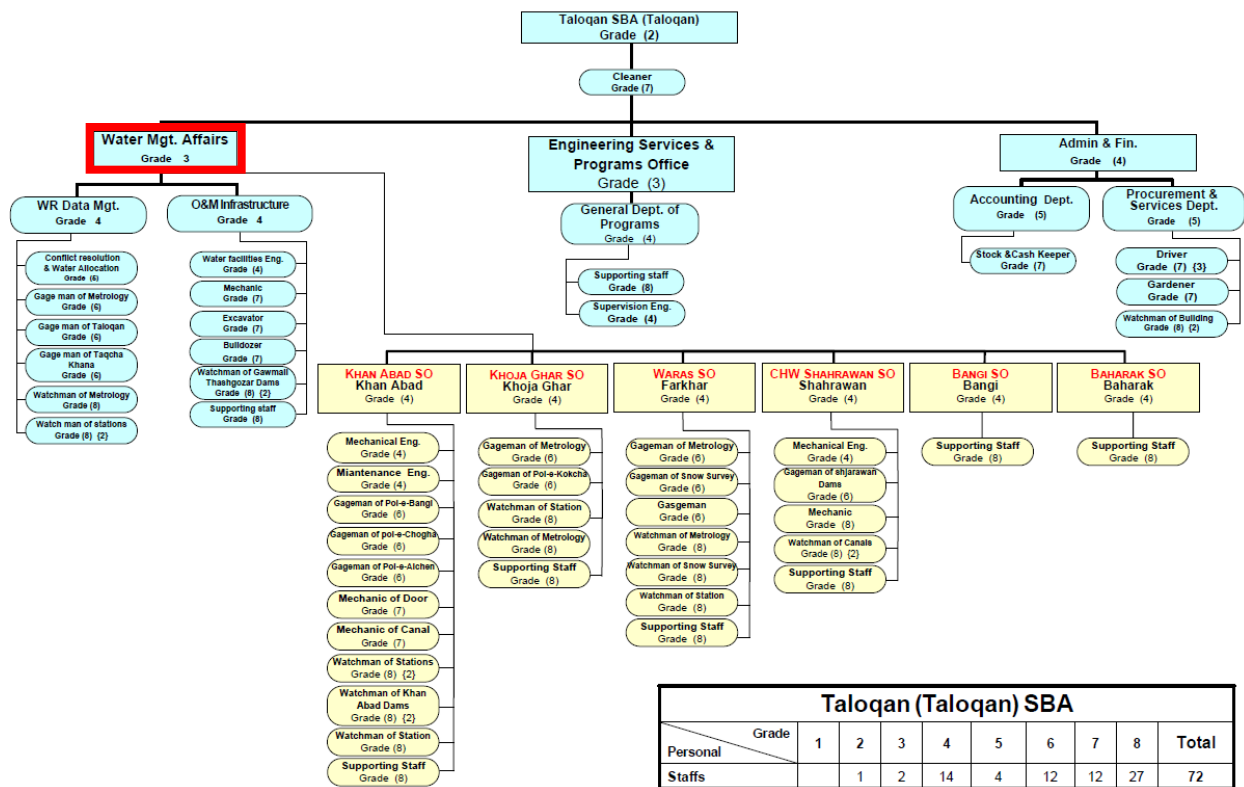


Figure 11: Taloqan Sub-River Basin Organizational Arrangement – Source (LandellMills, 2013)

Principle 2: Scale

The second principle of water governance is about the implementation of Integrated Water Resources Management (IWRM) policies and strategies, the existence and functioning of River Basin Organizations (RBOs), and managing water at its appropriate scale within the basin governance system for better coordination and reflection of local condition.

“Integrated Water Resources Management (IWRM) is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment” (GWP, 2011).

Water management practices and tools, should respond to the long-term social, environmental, and economic aspects of the water, and make the best use of water. It should promote sound management of hydrological cycle, adaptive and mitigation strategies based on clear and coherent mandates, and through effective basin management planning, consistent with the national policy and local conditions. Moreover, water management practices and tools should promote multi-level cooperation among actors and riparian countries in the case of transboundary basins (OECD, 2018).

Since 2003, the international donors promoted “good” water governance principles and influenced the government of Afghanistan to place formally the “holy trinity” - integrated water resource management (IWRM), river basin management (RBM) and participation through decentralized decision making via multi-stakeholder platforms (MSPs) - at the core of water resource management (Warner & Thomas, 2014). The push was towards more devolution and

reducing the central government power over decision making and transferring the decision-making power to basin organizations and water users.

Warner's "holy trinity" is the cornerstone of RBOs, and thus, the RBOs organizational structures came under the lens of the GIZ Water Sector Reform Project, where they were responsible for reporting to the Minister of Energy and Water. The Ministry piloted the Panj-Amu River basin based on the new model with the financial support of the EU through GIZ and Landell Mills (an international consultancy). They changed the unit of water management from administrative boundaries to the natural river basins and created River Basin Councils (RBCs) and River Basin Agencies (RBAs). These reforms were aligned both with the IWRM model and good governance principles, where probably the objectives were to promote participation, transparency, accountability, and inclusion in the decision-making processes for conflict resolution and efficient, effective, and sustainable water allocation and management.

Later in 2009, this new model for water management has been formally adopted through the water law, and the panacea has been accepted without any confrontation in the government and no one presented any reasonable justification for its adoptions (business as usual). From the government, the only vague justification was that due to war, organizations and institutions lost their capacity and efficiency and thus, IWRM is the solution (Mahmoodi, 2008). From the donor's perspective, Afghanistan was as an open ground to test the new model, as Afghanistan was highly depended on the donor's fund. This international support also made it easy for the proponent of this model to access Afghanistan as an open ground and promote the IWRM as the cure of all water problems.

Following the ratification of the water law in 2009, Afghanistan officially has been delineated to five river basins. The water law assigned MEW “Art 10 and 13” to establish River Basin Agencies (RBA), Sub-Basin Agencies (SBA) River Basin Councils (RBC) Sub-Basin Councils (SBC), Water User Associations (WUAs). Similarly, water law also assigned MAIL “Art 11” to establish the Irrigation Associations (IAs).

Panj-Amu River Basin (PARB) was central to reform as it was the first basin that the Afghanistan government piloted in 2003. Initially, the RBA (as technical and operation body) and RBC (as a decision-making body consists of water users) have been established in PARB. But due to the massive size of the basin and logistic issues, the basin has been divided into sub-basins that led to the establishment of SBAs and SBCs. From 2007 to 2014 (which was the end of the EU support for the basin), around 91 WUAs have also been established (Ahmadzai, Azizi, & behzad, 2017).

Contrastingly, Kabul River Basin (KRB) was reformed partially, and only RBA and SBAs have been established. MEW failed to establish RBC, SBCs, and WUAs in KRB. Also, in Harirod-Murghab basin (funded by the Asian Development Bank), only RBA, SBAs, RBC, and a few numbers of WUAs have been established. Moreover, in the Northern basin, RBA, SBAs, and a limited number of WUAs have been established, and RBC and SBCs have been ignored. And finally, in Helmand River Basin, all the reform agenda remained on the paper due to security issues (Ahmadzai et al., 2017).

Regarding (IAs), MAIL has established a total of 350 IAs in four river basins, namely, Kabul, Northern, Panj Amu, and Harirod Murghab, out of the mandated establishment of 30000 IAs around the country (Ahmadzai et al., 2017).

Moreover, not only that, in most part, reform remained on paper and not completely implemented in any river basin, but also, there is not much information about the performance of the established RBOs, except two studies on the performance of PARB. One study concluded that at the lower scale (between WUAs and IAs) in PARB, the organizations helped reduce the conflict horizontally (Ahmadzai et al., 2017). On the other hand, according to (Warner & Thomas, 2014) who did research on the performance of the RBOs (RBC and RBA) in the Taloqan and Lower Kunduz sub-basins of PARB (comprised of three provinces, Takhar, Kunduz and Baghlan) during dry years 2008 and 2011, concluded that; the performance of RBOs have been patchy and imported model was ignored mainly but the sporadically “ad-hoc RBO” (a non-democratic top-down formation primarily consist of government authorities) is working reasonably well. It is important to note that Warner and co are realists, looking to the issue from the critical hydro-hegemony lenses, and the proponent of state power in water discussions.

Never the less, despite some critical scholars concluded that IWRM is not working in Afghanistan (Thomas et al., 2011; Warner & Thomas, 2014), what really shocking is the following statement from a high-level decision-maker in the government who has been involved in these processes: *“This question [implementation of IWRM] is same as the Goal 6, Target 6.5, and Indicator 6.5.1 of Sustainable Development Goals (SDGs).” The Last version of the country report, where I was one of the leads in its preparation, shows that we have achieved 5 percent out of 100.*” The official also sent this document by email.

If that estimation is right by authorities, it means that in more than 15 years, only five percent of IWRM has been implemented, and even the implemented reforms are also not in the ground and not functioning anymore. IWRM is still an imagination in Afghanistan. The judgment for the performance of the government and its international partners, who were the reform supporters, is left to the readers. Here the fundamental question is why IWRM is not working in Afghanistan?

Before answering this question, here it is assumed that IWRM is mean to the end rather than being the end itself. IWRM is a general concept; it is an excellent model if it has a positive impact on water management, and the way around. The blueprints never work and it must be contextualized according to the context where it is applied.

Here are a few reasons that might be contributed to the dysfunctional of IWRM in Afghanistan. First, as mentioned above in the background, according to Allan (2003) countries in the west experienced five different paradigms of water management. IWRM is located on the fifth paradigm (political and institutional), and it has social, economic, and political roots in those countries that led to its success and acceptance as a sanctioned discourse. The introduction of such concept as a blueprint without contextualization in a completely different context like Afghanistan, that not followed the same path as the west, without much-grounded study and understanding of the ground realities and actual water management and governance practices, was the first mistake (Thomas, 2016b).

(Figure 12) Shows water management paradigms in the West, Global South, and Afghanistan (in blue). It is self-evident that Afghanistan followed a different path compared to

the west and most of the countries in the south. Afghanistan completed the construction of its first-ever dam in the 1950s, and between the 1980s and 2000, instability not only disturbed Afghanistan efforts to advance its hydraulic mission but also many of existing infrastructures have been destroyed. Hence, there is a considerable gap in water infrastructures between Afghanistan and other countries. Currently, Afghanistan as a land lock country and despite being an upstream country with relatively abundant renewable water resources has one of the lowest storage capacities 56 m^3 per capita per year compared to its neighbors (downstream); Tajikistan 3690 m^3 , Uzbekistan 750 m^3 , Turkmenistan 1181 m^3 , and Pakistan 155 m^3 (Knoema, 2015).

Thus, transposing a new paradigm (IWRM), where actors not followed a similar path and have different beliefs of water management, is often problematic (Allan, 2003). As a result, in the last 18 years, IWRM had different meanings between the donors (western countries) and the governments of Afghanistan. For the donors, IWRM was about institutions for participation in decision making, better water allocation, and managing conflict of interest, while for the government of Afghanistan, primarily it meant development of new infrastructure and dams or continuation of hydraulic missions to improving water storage capacity for water security and economic development (Thomas, 2016b).

Realizing the infrastructure shortage and looking at endogenous (population growth, food security, development) and exogenous (i.e., climate change, rapid melting of glaciers) factors, the infrastructure motivation is a valid point from Afghanistan decisionmakers, that need to be pondered. No matter how much robust institutions, policies, laws, and organizations exist, but if there is lack of instruments and tools (dams, water storages, water measurement infrastructures,

data) to manage water resources to address water security especially during water shortages and floods, the system will not work, and the decisions will be contested (Warner & Thomas, 2014).

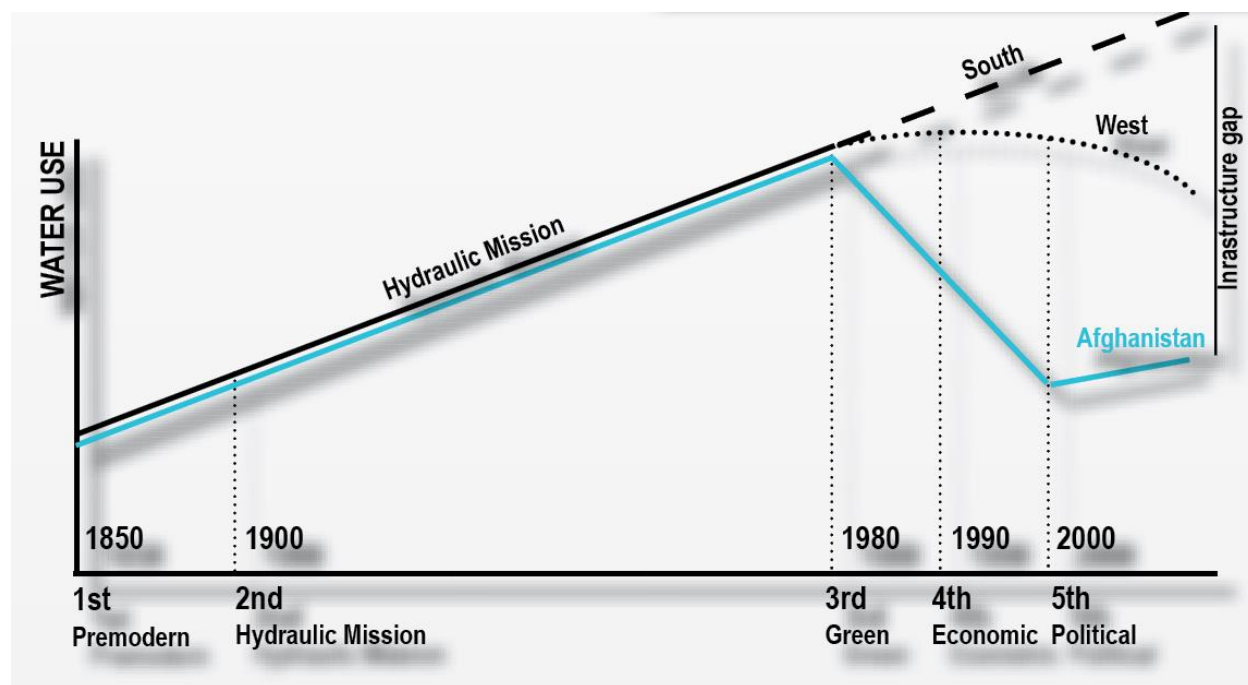


Figure 12: Neo-liberal modernity and the water sector in semi-arid countries and Afghanistan – Source: adapted from (Allan, 2003)

In the followings, a few statements from the participants are presented:

“It [IWRM] has not been internalized in Afghanistan context and there was and is not that much capacity still in the government to do that.” (An expert in the sector)

“In the last 15 years we were not able to establish institutions nor to build infrastructures, after this we will use the 50/50 IWRM. Meaning that we will focus on 50 percent institutions and 50 percent on infrastructures.” (a high-level decisionmaker in the government)

“IWRM is an accepted model in the world, and it is working everywhere in the world.

The problem is that government failed to construct large dams, now the government is focusing on small dams, better than nothing, and it [IWRM] will work” (a high-level decisionmaker in the government)

“This is something [contextualization] that is lacking not only in the water sector but also in all other sectors too. Consultants often just copy and paste ideas from other countries and get their money. Later no one asks.” (an expert in the water sector)

“I was involved in these discussions and projects [IWRM] since the beginning. Unfortunately, we were not able to do anything... Because it [IWRM] is not Afghanized” (an expert in the sector)

Second, even if we forget the infrastructure part of the discussion and only consider the social and political aspect of IWRM, still it is not a fit model for Afghanistan yet. Allan (2003), using Douglas four “ways of life” (that members of society identify which is based on cultural theory), mapped the IWRM as a social and political process. (Figure 13) Shows the four “ways of life” where seeking or avoiding control, and conforming or not conforming are the underlying tendencies. It also shows some of the processes in which the individuals and groups relate to each other in the four ways of life. Allan (2003), located each paradigm of the water management on the four “ways of life” diagram, and concluded that IWRM is located at the center.

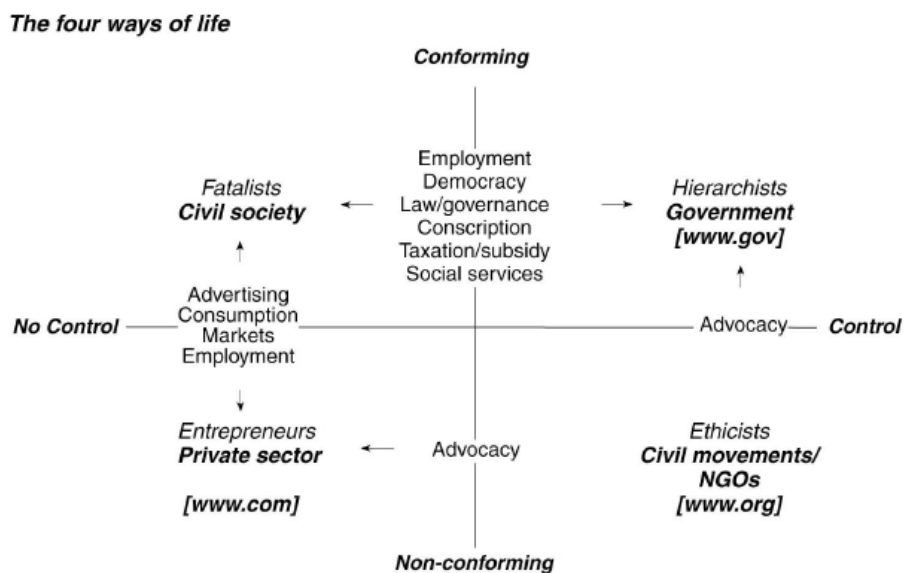
If the above theory is correct, according to that theory, implementation of IWRM requires the capacity of the actors who are engaged in the shown four “ways of life”; Civil Society,

Private Sector, NGOs, and Government Bureaucracies. Thus, the capacity of the mentioned actors is the prerequisite for the implementation of IWRM. However, in the year 2003, this was not the case in Afghanistan and is not even now. Currently, for water, there is no active civil society, no water-related NGOs, embryonic private sector, and the weak rule of law and governance. Thus, the ground for the implementation of the IWRM was not ready and probably is not yet.

On top of that, IWRM is about the integration of different sectors for better coordination, development, and management of water resources. It is useful to apply IWRM in a context where there is a limitation on the supply side, competition between various sectors, and where the focus is on-demand management. However, this was not the case in Afghanistan, yet there is no limitation on the supply side, and except agriculture as the primary user, other sectors (i.e., environment, industry, domestic) are at its embryonic stages and are negligible. This argument does not mean that the environment is not essential, but the environment is not a stakeholder in the Afghanistan context yet.

Third, focusing only on the Afghanistan side (in case of transboundary basins) rather than the overall basin (including other countries) was probably another factor that limited the implementation of IWRM in Afghanistan. In one hand, ignoring transboundary aspects prevented the government to address institutionally transboundary water issues in the last two decades, and hence also prevented the donors to support Afghanistan in developing necessarily water infrastructures for its water security. On the other side, this ignorance of infrastructure debate also demotivated the decisionmakers in the government towards IWRM and created the dichotomy in the perspectives.

Besides the mentioned reasons, lack of political will, security, financial needs, shortage of capacity at all levels, miss understanding of IWRM as a concept and miss communication between decisionmakers and donors, might be the other reasons that contributed to the weak implementation of the reform and dysfunctional of IWRM in Afghanistan.



Mapping the water management paradigms on to the four ways of life

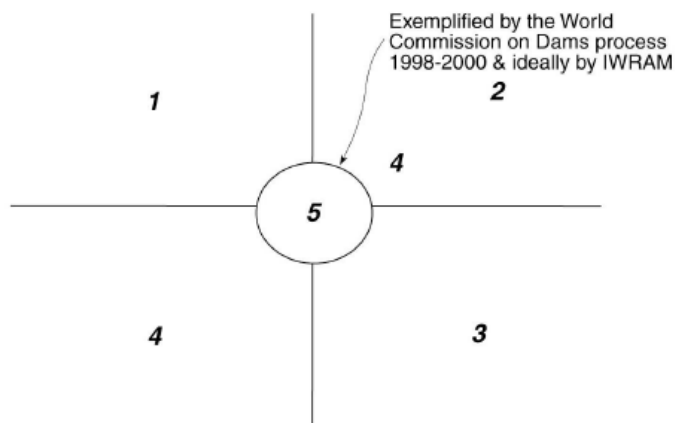


Figure 13: The four ways of life and water management paradigms – Source (Allan, 2003)

Principle 3: Policy coherence

According to OECD, the objective of this principle is to encourage and promote coherent policies through effective cross-sectoral coordination between various sectors (water, energy, environment, agriculture, health, spatial planning, and land use). It encourages coordination mechanisms for policy coherence at all levels of the governing system, including ministries, public agencies, and cross-sectoral plans and strategies. Also, it motivates for coordinated management, use, and protection of the water while considering the policies that affect the availability, demand, and quality of the water resources. Moreover, this principle also encourages identifying the barrier for introducing coherent policies within the governing system and providing options that can bring coherence among conflicting sectoral strategies and water management.

In Afghanistan, ANPDF (2017-2021) sets the overarching policy of the government for aligning the sectoral policies and strategies. Accordingly, NPPs are thematic programs that guide ministries toward coherent policies, strategies, and collective actions. Most NPPs require the involvement of more than one ministry that needs to synchronize budgets, schedules, and resources as appropriate (MoF, 2019).

Also, according to ANPDF, coordination is at the heart of the National Development Strategy, to align, Cabinet, policy priorities, and budget to prevent fragmentation. The coordination happens as follow;

- 1- Political leaders (the President, CEO and Cabinet) set national goals and overall development objectives

- 2- Inter-ministerial Cabinet Councils (high/supreme councils), aligned with NPPs formulate and manage development policies and programs, set development priorities, negotiate a competing budget, oversees policymaking, eliminate fragmentations, monitor progress, and facilitate measures for development in their respective sectors. There are seven (High/Supreme Development Councils namely; High Council for Education, Cultural and Human Capital Council; High Council for Poverty Reduction, Service Delivery and Citizen's Engagement; High Council for Infrastructure Development, High Council for Rule of Law and Anti Corruptions; High Council for Urban Development; High Council for Land and Water; and finally High Council for Economic which serves as overarching forum and making final decision on economic policy and budgetary allocations. These are the high-level decision-making and coordination mechanisms at the sectoral levels that are chaired directly by the president of Afghanistan.
- 3- Ministries (often more than one) work towards achieving NPPs through inter-ministerial working groups
- 4- The NPPs receive budget through the national budget process, and their performance will be reviewed annually.
- 5- Ministers execute activities, and each minister is responsible for the implementation of policies, programs, and projects related to his/her ministry.

Hence, there is no shortage concerning the existence of cross-sectoral policies, strategies, and programs on papers, and channelized inter-ministerial working bodies for horizontal coordination of water policy. However, in practice, the implementation and coordination within mentioned NPPs and different ministries across water-related policies, have been a fundamental

problem (Ahmadzai et al., 2017). Not only that the old NPPs have not been implanted (in the most part), but also, the National Unity Government introduced a list of following ten new NPPs (MoF, 2019), based on ANPDF, where some of the old NPPs have been modified, packed and labeled as New NPPs, listed below:

1. Private Sector Development
2. National Infrastructure Plan
3. Effective Governance Program
4. National Justice and Judicial Reform Plan (NJRP)
5. Citizens' Charter Program
6. National Comprehensive Agriculture Development Priority Program
7. Urban Development Program
8. Extractive Industries
9. Human Capital Development Program
10. Women's Economic Empowerment Program

Now the main question is which NPPs (old or new) are a priority to the government of Afghanistan? Water Resources are ignored ANPDF (Figure 14) in contrast to ANDS, which under the ARD cluster, had a specific dedicated NPP for water resources (NPP1- National Water and Natural Resources Development Program). The concern is if until 2021, the primary focus of the government will be on the mentioned list of new NPPs which are based on ANPDF, then water resources are ignored from the political agenda. Thus there will be no comprehensive water management and development program in the coming years, and accordingly, no policy or strategy to promote cross-sectoral coherence between water and related key areas (Urban, Agriculture, Industry, and Environment).

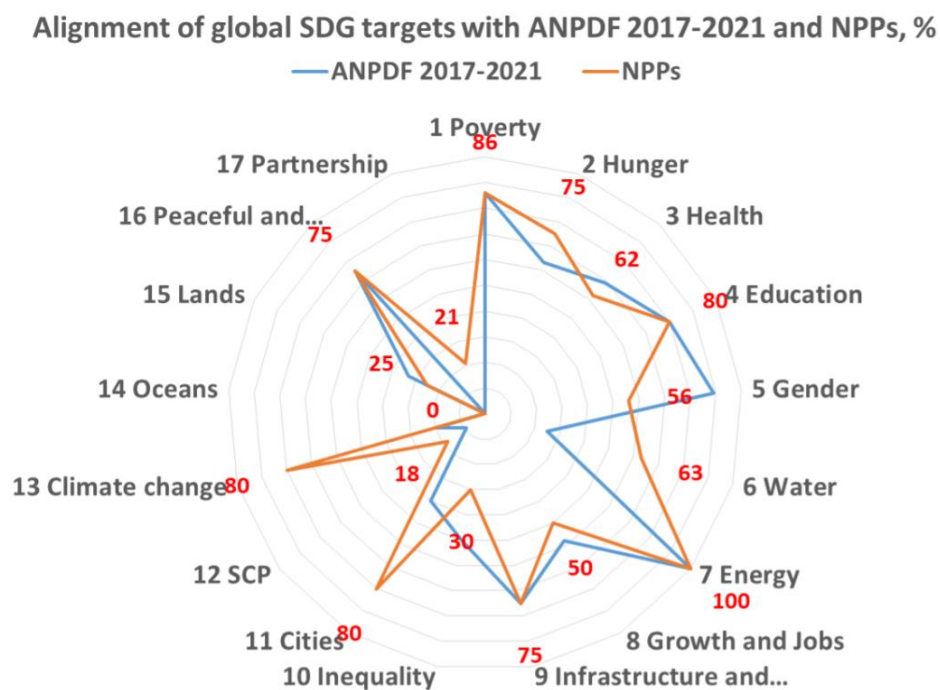


Figure 14: Alignment of global SDG targets with ANPDF 2017-2021 and NPPs in percentage - Source (GIROA, 2019)

Broadly, this ignorance might be shaped by the political rift between the Ministry of Finance (MoF) as the lead to these programs, and the Ministry of Water and Energy (MEW) as being one of the most political, controversial, and impractical Ministry of Afghanistan. To shed light on this rift, MoF and MEW are divided between the President of Afghanistan and CEO of Afghanistan, respectively, due to the 2014 election complications and formation of the National Unity Government. Both leaders have the majority power to nominate Ministers for the Ministries that belong to them but in coordination and agreement between each other. The president nominated the Ministers (two persons until now) for MoF, and the CEO nominated the Minister of MEW (lately fired by the President).

This kind of appointees often created a dichotomy in the government of Afghanistan as the MoF generally feels that they have the mandate to report to the president of Afghanistan, but

not as much as to the CEO. This issue has been raised in the media many times and acknowledged by the CEO himself in one of his interviews with Tolonews on 31st August 2019, that only MoF (not the other ministries) behaved in that way (Tolonews, 2019a).

On the other hand, MEW Minister also behaved reluctantly towards the President. There are reports that the MEW minister rejected the President's order to work with his senior infrastructure adviser (also the current Minister of MoF). Astonishingly, even after the dismissal of the MEW Minister by the President of Afghanistan due to his poor performance (especially regarding Machalgho Dam), CEO contested the decision of the President, and the Minister went to the office on the next day, signed around USD 20 M contracts. He was insisting on continuing his job until the Presidential Palace Security dropped him out of the office (BBC, 2018; Sputnik, 2018).

Hence, this is a unique type of politicization of water in Afghanistan. Often countries politicize water positively to bring water to the highest political priorities and agenda. However, in Afghanistan, it looks the way around, and this kind of issue at the top level hugely affected the sector. It delayed the implementation of projects, including the water-related NPPs, created space for poor regulation and monitoring, and even probably for corruption. Also, this political play might be one of the reasons that water is ignored both in ANPDF and new NPPs.

Besides political aspects, the following reasons might also contribute to the poor coordination and implementation of NPPs;

- 1- Poor capacity within ministries,

- 2- Poor agenda setting for inter-ministerial bodies, and poor reporting and follow up mechanisms as described above regarding SCLW Technical Secretariat for water.
- 3- Harmful competition between ministries and duplication of tasks primarily for having donors and their supports (Ahmadzai et al., 2017)
- 4- Centralization of tasks, constraints of time and overload of works on the President

Principle 4: Capacity

This fourth OECD Principle on capacity emphasizes on the capacity and competency of responsible water authorities. It focuses on the identification of the capacity gap, promoting merit-based, transparent hiring processes, matching the knowledge of employees with the problem, and capacity building of water professionals, institutions, and stakeholders.

Generally, since 2001, the capacity building of civil servants has been one of the primary priorities of government and international community active in Afghanistan. Since then, thousands of employees of the Afghanistan government have been capacitated through various short-term training programs both inside and outside of Afghanistan primary with the technical and financial support of international organizations such as USAID, GIZ, JICA, World Bank, ADB, and many more. GIZ has been actively involved in the capacity building of the Water Sector, and between 2011 and 2017, they trained around 3,000 employees from all institutions in the water sector of Afghanistan (GIZ, 2017; JICA, 2013; USAID, 2019).

Also, in the last decade, Afghanistan received various bachelor and master scholarship schemes from different countries and organizations, such as French Government, JICA, World Bank, ADB, USA-Fulbright, DAAD, NFP, Chevening, Rotary, and many more. Several Afghan youths and professionals went outside the country and studied in top universities of the world and learned the necessary skills to address the capacity gaps in Afghanistan. These are all the efforts from the international community, helped Afghanistan to have a relatively professional workforce after forty years of war.

However, Afghanistan's government performed very poorly in this regard. Before 2016, the Independent Administrative Reform and Civil Service Commission (IARCSC) as an overarching body for the recruitment, hiring, capacity building of civil servants in Afghanistan was a relatively dysfunctional organization, where most of its appointees were on political bases. Also, as there was lacking any specific mechanism to identify the capacity gaps in the (water-related) institutions, the integration of educated professionals in the public sector was a problem. Moreover, a portion of these trained professionals, either ignored government jobs (due to less salary), or they did not come back to Afghanistan after completion of the programs.

Hence, the lack of clear understanding from the capacity gap in the public sector and having transparent mechanisms and hiring policies negatively affected the capacity building programs, primarily conducted by the international community and donors (USAID, 2019).

This unsatisfactory performance of the IARCSC finally has been noticed by the National Unity Government. In 2016, the IARCSC itself went through a comprehensive reform that

improved its performance and transparency. Currently, the following range of laws, regulations, and hiring procedures exist and are partly implemented in some water-related ministries.

- Procedure on Recruitment of Civil Servants
- Procedure on Recruitment of Civil Servants through Competitive Mass Recruitment Exams
- Procedure on Handling Civil Servants' Complaints
- Special Procedure on Performance Appraisal of Regional Offices
- Special Procedure on Recruitment of Grade 1 – 5 Civil Servants through Capacity Building for Results (CBR)

Ministries have the responsibility to work in close coordination with IARCSC to identify the capacity gaps and needs of the respective ministry and prepare a timeline for the hiring process and implementation of the reform. Nevertheless, again, the water sector, especially MEW is lagging far behind.

Here are some of the statements from the participants:

“Every ministry or organization has many guidelines on human resources, but the issue is the implementation.” (a high-level decision-maker in the government)

“There is no water capacity in the sector. Afghanistan universities have outdated curriculums, most of the water-related professors even do not have one publication in any international journal. This situation has negatively affected the new graduates” (an expert in the sector)

IARCSC is still a deplorable functioning organization. We had some open positions, directorate level, at our ministry, they [IARCSC] took the applicants' exams. After a week, we

received many complaints from the applicants concerning the exam questions. The complaints were that the questions were bizarre. For example, for a water-related directorate, instead of water-related questions, they [IARCSC] asked the applicants in the exam that; what is the height of the Bamyan Statue [a historical place in Afghanistan]? (a high-level decisionmaker in the government)

Principle 5: Data and information

This principle is concerned with the production, update, and timely sharing of consistent and comparable water and related data and information to inform policy and decisions. It emphasizes the importance of defining requirements for cost-effective data production and methods for data sharing. Also, it stresses the importance of coordination among data-producing organizations and users at the level of government. Moreover, this principle acknowledges the importance of stakeholder's engagement in the design and implementation of the water information systems and calls for the design of harmonized water information systems at basin levels (including transboundary) to foster coordination, confidence, comparability, and reciprocity.

Data collection on water resources in Afghanistan started around the 1960s and continued until the 1980s. While at that time, there was not any digital information system, but the data has been recorded on the "water books," which are the annual publications of water records in Afghanistan. From the 1980s to 2007, the data collection process has been interrupted due to war, and the data collection networks have been damaged. Thus, no data has been collected in between the mentioned years.

In 2007, the MEW started to rebuild its networks, and today, it has around 125 Automatic Hydrological Stations, including 43 Cableways, 26 Automatic Weather Stations, and 30 Automatic Snow Survey Stations (Hamilton, 2013). Also, foreign organizations active in Afghanistan converted the “water books” data into online digital database formats that are accessible online (USGS, 2019).

Data collection on the hydrological cycle is fragmentarily happening. However, there are no updated, timely-shared, consistent, and comparable water information systems that serve as the base for decision making among stakeholders. Also, the shortage of data and information is not only limited to the hydrological cycle, but also, there is very little information about the quality of water, sectoral demands, and environmental needs.

Regarding institutions in charge of data collection, there is enormous fragmentation in the water sectors and even within one organization. Concerning the quantity of the water, MEW has the mandate and the tools to collect, arrange, process, produce, harmonize, and disclose official water-related statistics (both for surface water and groundwater). The best way to do this is by enabling RBAs to collect relevant data on each basin. However, legally speaking, according to “Art 12” of the Water Law, the river basins are not mandated to collect data (there is no such wording in the water law) while, in practice, they operate and manage some hydrological stations. As a result, the data collection task is divided between seven departments just in MEW (five river basins, general directorate for water management, and directorate of hydro-geology). The boundary of responsibilities for these departments are not clear, and all these departments disclose water-related data. As a result, despite having some functioning hydrological stations, there is no coherent, consistent, and harmonized data available in the sector yet.

On the quality aspects of the water, according to the Water Law “Art 29” and “Art 31”, NEPA and MoPh are mandated to set the quality standards for different use purposes while MEW and RBAs in close collaboration with RBCs are mandated to control and supervise the quality of water resources respectively. However, in practice, RBAs, and RBCs (incase existed) are not working on the quality aspects of the water resources. NEPA is working as a regulator towards disposal of wastewater on surface water bodies, MoPH is working towards controlling the quality of drinking water, and department of Hydro-geology in MEW is working towards collecting data on the quality of the groundwater (with support of international NGOs). Thus, surface waters quality remained utterly unknown in all Afghanistan, while limited data on groundwater resources quality, focused just in the capital, is available. On top of all these overlaps, MRRD is also working on the quality aspects of water in the rural areas (through its international partner such as DACAAR), and they are also disclosing data on the quality of water resources.

To summarize, not only that mechanisms and information systems are lacking for gap identifications, but also there is no institution(s) in charge of coordinating, collecting, processing, harmonizing, producing, storing, and officially disclosing of water-related data and statistics in Afghanistan.

Hence, the shortage of data and information systems can be one of the factors that limited water governance and the capacity of the government to develop effective and efficient water policies and to make decisions based on the evidence from the ground. For example, currently at the country level, due to the shortage of data, the consumption patterns and water demand is unknown. This ambiguity impacted the water policy direction, and now the focus is only on the

supply side through building infrastructures. Similarly, limited data on the hydrological cycle hampered the government efforts in the protection of water resources, environment, prediction of floods, and protection of people.

Here are some of the quotes from the participants:

“For now, we have some data regarding the surface water resources quantity, but we do not have any database or information system yet. Our proposals [for establishing for the sector] are in procurement processes.” (a high-level decisionmaker in the government)

“In the last 18 years, more than enough data has been collected especially by foreign partner organizations, foreign army forces, and tons of money has been spent. The government did not try to collect those data officially from the partner organizations. Now, most of them left Afghanistan or completed the projects, and hence the data is lost.” (An expert in the sector)

“Only data is not enough, although we have a problem with the shortage of data too. The data should be converted to information, and accordingly to knowledge. Always when a problem arises, the shortage of data is the first excuse. But honestly, what we did with the data that we have in hand? Nothing. For instance, even we do not have a simple runoff model for the smallest catchment of Afghanistan.” (a high-level decision-maker in the government)

Principle 6: Finance

The sixth OECD principle is concerned with the capabilities of governance arrangements for mobilizing and allocating water finance efficiently and transparently. It promotes governance arrangements that help in raising revenues for water institutions. Also, it promotes the adaptation of sound and transparent practices for budget allocation and minimizing the burdens. Moreover, it emphasizes the importance of strategic financial planning for assessing the short-medium and long-term financial needs of the sector.

On the allocation side, generally, budgets are negotiated based on NPPs in the development councils (SCLW), and the final decision is subjected to the review of the High/Supreme Economic Council before enter to the national budget. The national budget process allocates funds to NPPs, and Ministries are required to synchronize budgets and overlaps, and they are subjected to an annual review of their performance (ANPDF, 2015). Also, international donors, aligned with the NPPs and overall development strategy of Afghanistan, allocate funds to individual projects in the water sector.

Under the ARD Cluster for the implementation of the first component (Water Resources and Irrigation Development) of NPP1 (National Water and Natural Resource Development), a total of USD 1,585.41 is required (Table 1). From the required total, around USD 1,153.06 is the committed amount both by, Afghanistan Government (USD 362.2), and international donors (USD 790.8). Afghanistan government commitments are more focused on the construction of dams and irrigation infrastructures, while the international donors are more focused on softworks (improving governance and management capacity) and rehabilitation of existing infrastructure.

There is also a financial gap of USD 432.35, which is required for the implementation of the NPP1 first component.

Table 1: Budget required for ARD cluster NPP1 first component – Source: (GIROA, 2012)

Three Year Budget (USD m)	Total	Committed	Required
Sub-Component 1: Institutional Reform and Capacity Development	19.50	0.00	19.50
Sub-Component 2: Land and Water Monitoring	9.98	0.00	9.98
Sub-Component 3: Irrigation Development	395.35	334.6	60.75
Sub-Component 4: Water Resources Development and Management	973.01	770.76	202.25
Sub-Component 5: Flood Protection and Management	59.70	17.70	42.00
Sub-Component 6: Rural Water Supply, Sanitation, and Hygiene Promotion	127.87	30.00	97.87
Total	1,585.41	1,153.06	432.35

On the collection side, according to Islamic Law and Water Law, water is free and has no price; however, people are required to pay the service cost of water delivery. Under this rule, only urban domestic and industrial water supply qualify for this principle of water governance, as combined shapes around the two percent of the total consumption of renewable water resources.

Regarding domestic water supply, the provision of the urban water supply and sanitation is primary the task of Afghanistan Water Supply, Sewerage Corporation (AUWSSC), which is corporatized urban water and sewerage utility that operates in 43 cities of Afghanistan. From a total of 25 % of the urban population in Afghanistan, only 25% of them have access to piped water, and sanitation is even lagging far behind water supply (CSO, 2018; UN-HABITAT, 2015). Rural water supply is primarily based on local groundwater wells, constructed either by

local people and communities or international organizations. Hence, there is no provision of water in rural areas in the form of piped water.

AUWSSC is the only institution in the government of Afghanistan that has the mandate to collect revenue for water service provisions.

Table 2: Key Performance Indicators for AUWSSC in 2017 - Source: (Worldbank, 2019)

Indicator	AUWSSC
Network length (km)	4,124
Average Distribution Hours	7.01
Water Production (m ³)	49,432,058
Water Distribution (m ³)	32,061,483
Active Connections	186,857
Water Sales (AFN)	723,656,306 [USD 9,591,340]
All Revenue (AFN) [USD, current exchange rate]	850,308,227 [USD 11,269,985]
Collections (AFN, without tax)	421,817,819 [USD 5,590,770]
Collection Ratio (Collections / Revenues)	0.50
Operating Costs (AFN)	528,246,157 [USD 7,001,370]
Operating and Administration Costs (AFN)	565,862,270 [USD 7,499,940]
Operating Cost Coverage Ratio (Water Billings / Operating Costs)	1.37

Also, some private actors are active in the water sector, such as private water supply companies, soft drink beverage producers such as coca-cola, and bottled water companies that are using water for business purposes. Nevertheless, they are not regulated yet, and there is no much information about their revenue collections. Besides, there is no specific arrangement for water extraction charges, pollution charges, and payment for environmental services.

Water pricing constraint in Afghanistan created very unbalance collection and allocation dynamics and hampered the financial sustainability of all water sector investments. There are institutions in the ground that can allocate funds properly; however, due to the mentioned limitations, the collection side is far lagging the allocation side.

Here are some of the quotes from the participants in this regard:

“In one of the meetings of SCLW, we presented a costly water policy. After the presentation, the President was not happy, and he asked, what is the value of water? Can anyone please explain the monetary revenue of this policy? We did not have answers, because usually water-related policies, strategies, and projects are designed with a concentration on the investment side rather than revenue.” (a high-level decisionmaker in the government)

“Water is free according to our [islamic and water] laws, and if something is free, there is no revenue from that, and hence except AUWSSC, none of the institutions collect revenue from water” (A high-level decisionmaker in the government)

“We have the plan to change the law and make water as an economic good soon” (a high-level decisionmaker in the government)

“Placing a price on water or environmental services and then making it accept by people is a complicated task in Afghanistan and it needs another generation to work on this.” (an expert in the sector)

Principle 7: Regulatory

This principle of water governance assesses the existence, implementation, and enforcement of sound regulatory frameworks in pursuit of the public interest. It emphasizes the importance of comprehensive, coherent, and predictable regulatory frameworks with dedicated regulatory institutions and required capacity. This principle also stresses the importance of transparent, participatory, and non-discriminatory rules, mechanisms, and processes within regulatory bodies. It encourages the existence of clear enforcement rules, procedures, and incentives for achieving cost-effective regulatory objectives and justice.

First, concerning the existence of regulatory framework related to water, besides the water law, only a few, probably three regulations exist in the sector namely, Regulation on Water Quality Control and Protection; Regulation on Bed, Boundary of Water Resources and Infrastructures; and Regulations on the Registration of Private Sector Water Supply Companies.

Regulation of the water sector is very dispersed among various institutions, and it has been one of the ignored aspects of water governance due to historical anarchy and the weak rule of law in Afghanistan. In the current water governance systems, ministries are at the same time policymakers and regulators. Broadly, MEW, along with NEPA, MoPH, and other line ministries, have the mandate of regulation concerning water uses and protection, and water infrastructures.

However, this kind of arrangement and responsibilities not only overloaded the ministries but also hampered the regulation process, as most of the institutions cannot work simultaneously as both policymakers and regulators due to a shortage of capacity. Moreover, due to ambiguities

in the responsibilities of the mentioned institutions, regulation is happening at a very superficial level (almost none). As a result, not only water resources, especially groundwater is irresponsibly extracted and used, but also, water resources quality is degrading at an alarming rate, and the water infrastructures are functioning quite poorly.

This lack of regulation is quite noticeable in urban water supply and sanitation services. As mentioned above, the Ministry of Urban Development and Land (MUDL) has the mandate to decide on water supply and sanitation policies in the urban areas. In the meantime, MUDL should also work as the regulator for the operators (AUWSSC, private water supply, and sanitation companies) that are active in the urban areas. MUDL has only one directorate (directorate for water supply, sewerage, and environmental affairs) with 17 personals, that has the mandate to handle water supply and sanitation policies as well as to regulate and manage 34 provinces' urban water supply and sanitation services (MUDL, 2018).

Ideally, in 2010, AUWSSC was converted to a fully corporatized urban water and sewerage utility with six Strategic Business Units (SBUs) in provinces, mandate to provide water supply and sewerage service for all urban areas of Afghanistan, owned by its stockholders, namely MoF (40%), MUDL (35%), MoE (10%), NEPA (10%) and KM (5%). MUDL, as the responsible institution for the water supply and sanitation policies in the urban areas, also has been mandated to temporarily act as the regulator for the urban water supply and sanitation service, including AUWSSC, until an independent regulatory body is established. However, after almost a decade, still, MUDL is acting as a dysfunctional temporary regulator in the urban water domain with minimal capacity and efficiency.

This kind of poor regulation affected the urban water supply and sanitation services. AUWSSC, as the primary urban water supply and sewerage utility in the country, performed unsatisfactorily in the last decade. Despite having around USD 100 million initial assets and direct support of three ministries, various international donors such as World Bank, GIZ, KFW, USAID, and many more, still, at maximum, it covers only 25 percent of Kabul city with piped water supply, primarily central and luxurious neighborhoods. Its sanitation department has been inactive until 2017, and currently, has no sewerage services in any city of Afghanistan.

Moreover, poor regulation led to the establishment of many unregistered private water supply companies, especially in Kabul, that are providing poor services without any regulations. These private companies are extracting groundwater from the aquifers without any technical considerations and directly supply to households without any treatment. On top of that, their pricing mechanisms are unregulated, and in some areas, they charge customers three times higher compared to AUWSSC prices (which is considered as the government utility). Usually, these private companies are active in the districts where mostly poor communities are living. Thus, from the equity and social justice perspectives, the provision of services also has been inequitable and unjust as the poor are paying more for the bad quality of services.

Here are some quotes from the participants in this regard:

“There are water-related regulatory frameworks, but most of them are not implemented”

(a high-level decisionmaker in the government)

“If we consider all the sectors, there is no regulatory body to work independently for water and related regulations. However, if we consider stakeholders or at ministry levels, there

are institutions but are not functioning as required.” (a top-level decisionmaker in the government)

“They [ministries] are at the same time policymakers, implementers, regulators, and operators. The question is, who should regulate, or check the ministry if they are doing well? This setup created the space for ministries to hide many of their problems.” (an expert in the sector)

Principle 8: Innovative water governance practices

The eighth principle is concerned with the implementation of innovative water governance approaches. It encourages social learning, cooperation, lessons learned from good practices and failures, piloting new approaches, and a strong science and policy interface that can lead to better water governance.

This principle is not much applicable to the Afghanistan context. Generally, the Afghanistan governance system has been open to innovative ideas. However, specifically, a framework to promote innovative water management and bringing science and policy together at the national or sectoral levels, do not exist. Similarly, there is no such institution(s) or mechanism(s) to promote innovative ideas in the water governance system of Afghanistan.

This shortage of innovative ideas and frameworks might be due to several factors, including the shortage of capacity, lack of water-related research centers, labs, water-related education programs, the disconnection between academia, universities, policymakers, and practitioners, and probably financial barriers.

Here in the following, some of the participants' perspectives are presented:

“We are very interested in innovation, and we always search for people who have innovative ideas for the sector. I think most of the tasks we do in Afghanistan are innovative as it is the first time that gets implement in Afghanistan” (a high-level decisionmaker in the government)

“What kind of innovative ideas? If you mean bringing innovative water governance ideas to Afghanistan from other countries, that is what we are trying to do in the last 18 years. But if you mean innovative ideas from inside of Afghanistan, I think, for now, we are far from that.”

(an expert in the sector)

“This question is out of context for Afghanistan” (a high-level decisionmaker in the government)

Principle 9: Integrity and transparency

This principle is defined broadly (not necessarily water-specific), which is concerned with mainstreaming transparency and integrity across the governance system for fostering trust and accountability in decision-making processes. It emphasizes the implementation of legal and institutional frameworks, norms, codes of conduct and charters for accountability, right to information, independent investigation, and diagnoses of existing and potential drivers of corruption.

Generally, Afghanistan is ranked among the countries which are suffering from corruption, primarily in the last two decades. However, since the establishment of the National

Unity Government, there have been some improvements in this regard, which are broadly related to the water sector as well. Concerning the frameworks, the government approved “Afghanistan National Strategy for Combatting Corruption” which has six pillars namely, 1) Political Leadership and Empowering Reformers; 2) Ending Corruption in the Security Sector; 3) Replacing Patronage with Merit; 4) Prosecuting the Corrupt; 5) Following the Money; 6) Improving Economic Institutions (GIRoA, 2018).

Also, in 2016, Afghanistan approved and adopted the National Procurement Law to create a transparent and efficient procurement system (GIRoA, 2016). In 2018, MEW had signed two Memorandum of Understandings (MoU) with the Construction Sector Transparency Initiative (CoST) and National Procurement Authority of Afghanistan for disclosure of information about publicly funded infrastructure projects (Merzaie, 2018). Moreover, At the ministry level, recently, the government started producing ministry-level anti-corruption action plans, beginning with Finance, Mining and Petroleum, Commerce and Industry, Communication and Technology, and Transport ministries. On top of that, the Afghanistan Civil Service Law also empathizes on code of conduct that promote transparency and accountability.

Concerning the institutions, the National Unity Government established two key anti-corruption bodies namely; 1) Supreme council of Governance, Rule of Law and Anti-Corruption, which is mandated to provide political support and oversight of anti-corruption reforms; 2) the Anti-Corruption Justice Centre (ACJC), which is mandated to fight impunity through investigating, prosecuting and adjudicating cases of grand corruptions. Also, the Supreme Audit Office, as the strongest pillar of the national integrity system, has the mandate for improving public accountability and fiscal transparency through auditing and overseeing the financial

activities of the government, government-funded organizations, and public-private partnerships (Arib, 2018).

Moreover, in 2015, according to Transparency International, the judiciary system had been recognized as the weakest link in the Afghanistan governance system. Despite the separation of power, the judiciary system has been often manipulated by the executive power and is perceived to be the most corrupt institutions in the country (Arib, 2018). Thus, in recent years, the Afghanistan government prepared a reform plan and took some firm steps on the enhancement of the judicial system, including replacement, dismissal, and prosecuting of authorities.

Furthermore, Independent Joint Anti-Corruption Monitoring and Evaluation Committee (MEC) and some civil society related organizations such as the Integrity Watch Afghanistan, are the other institutions that are actively working toward integrity and transparency in all aspects of the governance, including water.

Transparency and integrity are the principles of good water governance. Improving this dimension of governance will have massive impacts on the water sector's efficacy and efficiency.

The majority of participants did not discuss this principle in many details, and they just generally spoke about the Afghanistan government. In the followings, the most related quotes are presented:

“We have some frameworks in this regard [transparency and integrity] at the ministries level, about the implementation, I would say it is somewhat implemented.” (a high-level decisionmaker in the government)

“This is [transparency and integrity] generally one of the main problems of the government. Recently we saw that some institutions and some people from the inside [whistle blowers] exposed some cases. I hope the government takes those cases seriously.” (an expert in the sector)

Principle 10: Stakeholder engagement

This principle promotes stakeholder’s engagement in water policy design and implementation and emphasizes the existence and implementation of legal frameworks, institutions, and mechanisms for promoting engagement at all levels of governance. It calls for inclusiveness and equity through mapping stakeholders with their responsibilities and motivations, including underrepresented actors, such as youths, the poor, women, and indigenous people. Also, it underscores the importance of clarity in the goals of engagement, line of decision making, transparency, accountability, mitigation of power asymmetry, capacity building of non-expert actors, and timely reviewing the outcome of stakeholders’ engagement.

Assessing the stakeholder’s engagement is not an easy task as the water sector is very fragmented, and there is no single way of engagement in the governance processes. Engagements in the water sector are in various forms that could be broadly categorized into two general categories; formal and informal. Here the analysis is focused on the formal engagement of stakeholders in the water decision making processes. It is important to note that engagement is

different from participation, as engagement is the umbrella term (Figure 15), and has different levels (OECD, 2015a).

The water law forms the backbone of water governance in Afghanistan, and it explicitly calls for engagement in water-related decision-making processes at all levels of governance. However, yet, few provisions of the law have been implemented fragmentarily. At the top national level, supreme councils are the platforms for engagement where stakeholders “participate” in the policy or project decision-making processes. The permanent and non-permanent members (those who are related to agenda) are invited for these meetings. Although there are shortcomings with this kind of participations as explained above, overall, often, it has the potential to provide the platform for stakeholders to raise their voices.

At the ministry level, Technical Secretariats, and often some working groups (i.e., Urban Water Group, Hygiene Technical Working Group) are the primary platforms for stakeholders’ engagement. Typically, at ministries, the engagement goes to level five and six between the “core” stakeholders (i.e., government institutions, service providers). However, concerning the “non-core” stakeholders (i.e., civil society, local people, poor, youths, women), engagement goes only to level two (consultation) at most, and often decisions related to policies and projects are made in a top-down approach.

At the basins level and sub-basin level, according to water law, RBCs and WUAs are primarily the platforms for stakeholder’s engagement in decision-making processes. However, most of these platforms are at its nascent stages, and even some basins are not equipped with such mechanisms (Ahmadzai et al., 2017). Thus, the efficacy of the mentioned platforms on

stakeholders' engagement in the decision-making processes concerning policies and projects at the basin level is unknown yet.

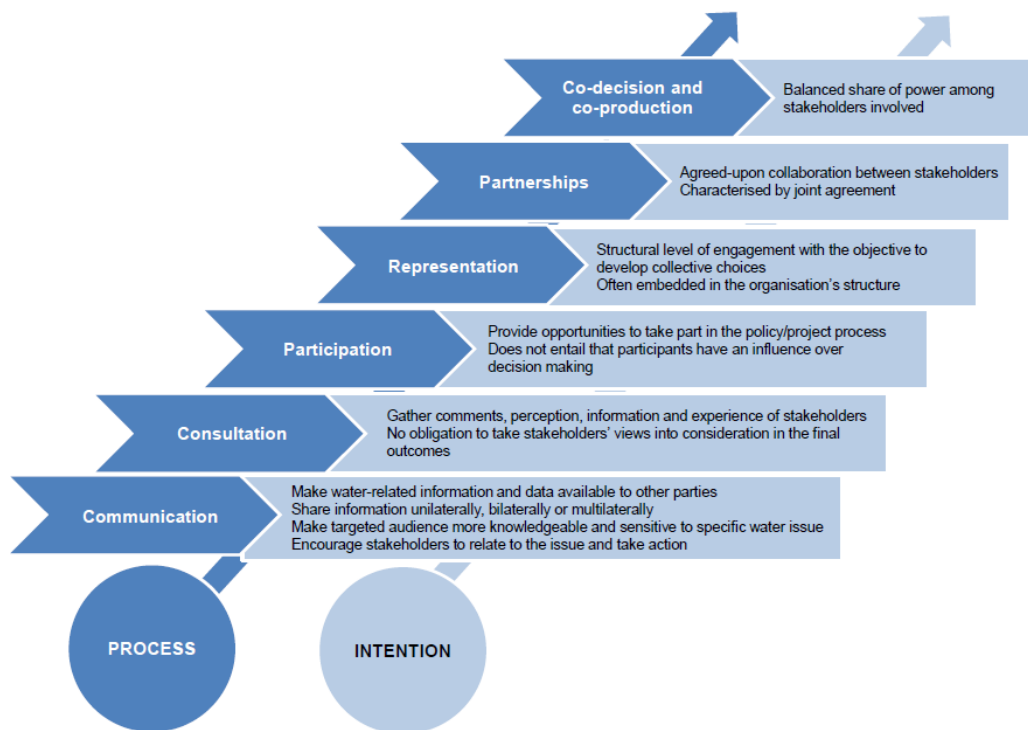


Figure 15: Levels of stakeholder engagement - Source:(OECD, 2015a)

Here in the following, some of the quotes from the participants are presented:

“Usually, at the end of the day, policies and projects are decided top-down, primarily by government institutions... We have financial and logistic limitations to include all stakeholders in the processes.” (high-level decisionmakers in the government)

“There is not any dedicated law or institution for stakeholders' engagement, but we have tried to include most of the stakeholders [in the policy and projects design phases] including

civil societies and citizens. Often it increased the cost of the projects and took too much time to get design and reach consensus. I think first we need to capacitate the stakeholders and then invite them in design processes.” (a high-level decisionmaker in the government)

“Often, the projects are proposed by communities, where our community mobilizing teams go to the site and identify those projects. So yes, stakeholders are directly involved in some projects.” (a high-level decisionmaker in the government)

“Stakeholders engagement is crucial in the design phase of water-related policies and projects because later, it will help and make easy the implementation phase. I do not think they [the government] often do that” (an expert in the sector)

Principle 11: Trade-offs across water users, rural and urban areas, and generations

This indicator is concerned regarding trade-offs, and assess the existence of frameworks, institutions, and mechanisms that help to manage trade-offs and equity through; nondiscriminatory participation, empowering local authorities, rural-urban partnership, and water risks awareness. Here the analyses are focused on the equity concerning services provisions.

The water law has prioritization of use by placing the priority to humans, animals, and other usages, respectively. Except that, there is no other legal framework in the water sector to promote equity in water services provisions, rural-urban dynamics, and generations. From the institution's perspective, similarly, as the regulatory body is missing for services provision, hence

there is no such specific organization in the water sector to look for equity issues, protect the vulnerable groups and address user's complaints. From the existing water-related services, as mentioned above, only a small portion of the urban areas are covered and almost all the rural areas are lacking any kind of water service provisions.

Indeed, this principle and general equity matters in contexts where there is a limitation on access, strong regulations, and massive asymmetry in the provision of services for the users. This is not the case in Afghanistan, as water resources extraction is not regulated, and everybody can dig a well and extract as much water as they want for their purpose, including industrial, commercial, and domestic uses.

This poor performance of government concerning the rule of law, regulations, and service provisions led to a hopeless situation and in the meantime, anarchism where citizens do not expect the government to provide services, but themselves find ways for access to water, by any means, whether legal or illegal. In this kind of context, the question of equity is very complicated. On the one hand, the government does not feel the responsibility for the provision of services equally. On another hand, it does not prevent citizens from any illegal and unsustainable measurement for access to water equally.

“I cannot point to any specific legal framework or institution for water equity, but MEW as a strong entity works in these aspects” (a high-level decisionmaker in the government)

“For us, equity and equal development [of provinces, rural and urban] are very important and the government has specific attention to this aspect during the allocation of budget.” (a high-level decisionmaker in the government)

“Equity is a crucial dimension of good water governance; until now, I do not see any work that has been done in this aspect in Afghanistan.” (an expert in the sector)

Principle 12: Monitoring and Evaluation

This principle of OECD encourages regular monitoring and evaluations of water policy and governance. It emphasizes on the existence of dedicated institutions for monitoring and evaluation purposes with reliable, transparent, and timely monitoring and reporting mechanisms and enough degree of independence.

In general, Monitoring and Evaluation (M&E) has been one of the overlooked dimensions of the Afghanistan governance system. Concerning the water policy and governance, frameworks for regular monitoring and evaluation are lacking. As a result, water sector line ministers largely remained in a vacuum concerning the M&E dimension of their performances. At the project level, often donor-funded projects have monitoring and evaluation reports, conducted by the international organization, or the same projects team, that provide valuable information, fragmentarily.

However, due to lack of capacity in the water sector and the government of Afghanistan, these reports are not synthesized together to provide sectoral wide information and support informed decisions towards water policy and governance. Besides, each report is different as key performance indicators are also lacking in the sector, which creates another layer of complications for the synthesizing of the existing studies.

Concerning the institutions, each ministry has an internal audit or M&E department; however, these departments are not independent of the control of the ministers. Also, most of them not have the required capacity to perform M&E tasks. Besides, lack of proper monitoring and evaluation mechanisms and financial resources further reinforced the barriers towards M&E endeavors and thus resulted in massive ambiguity concerning the outcome and performance of water-related decisions, policies, projects, and even led to corruption.

Very recently, the government started its efforts in this regard. In 2016, according to the presidential decree 115, Independent Joint Anti-Corruption Monitoring and Evaluation Committee (MEC) has been established with is comprised of six members where three of them are Afghan nationals and remaining are international experts - recommended by the international community present in Afghanistan (MEC, 2019). The Committee is an independent institution that has the following mandate:

- Monitoring and evaluating the anti-corruption efforts in Afghanistan institutions and entities of the international community in Afghanistan.
- Monitoring and evaluating the effectiveness, transparency, and accountability of the international community aid.
- Issuing recommendations to the government and international organizations for bringing reforms and ensuring transparency and accountability.
- Monitoring the status of implementation of issued recommendations.
- Providing Quarterly reports on the status of implementation of the Committee's recommendations and the overall situation of corruption in the country and submitting it to the President, Parliament, International Community and the Public through a press conference.

This committee had some achievement since its establishment. Lately, the most obvious example is exposing massive corruption in the MFA of Afghanistan that led to the resignation of

the MFA minister (Tolonews, 2019b). However, the water sector line ministries, especially MEW is remained out of their lenses yet.

Here are some of the statements from the participants in this regard:

“Each ministry has M&E frameworks and institutions, and they monitor and evaluate the respected ministry projects... Unfortunate for water policy and governance, still we did not have performed M&E.” (a high-level decisionmaker in the government)

“There is no shortage of frameworks for M&E, but the problem is the capacity of institutions who are responsible for this task. They do not have enough capacity to perform this task [M&E] individually... Since most of the projects are donor based, hence the M&E is performed by the projects its self, and the responsible institutions [for M&E] are not well involved.” (a high-level decisionmaker in the government)

“This thing [M&E of water policy and governance] never exist in the sector, otherwise our condition [water governance] would not be like today.” (an expert in the sector)

Chapter 5. Results and Discussions

This chapter has provided answers to the first and third questions and quantitatively benchmarked water governance in Afghanistan through surveys using OECD Water Governance Indicators Framework (OECD, 2015b). A total of seven participants (four top-level government officials (from the core water-related ministries MEW, MAIL, MUDL, MRRD) and three experts - two international organization employees and one academia) have participated in this survey. As mentioned above, for each of the principles, three indicators are dedicated, which discuss the existence and level of implementation/functioning of Frameworks (What), Institutions (Who), and Mechanism (How) related to the same principle.

Overall the framework very well applied in the Afghanistan context and well captured the realities at multiple levels of governance, both qualitatively and quantitatively. The principles, provided a comprehensive analytical framework qualitatively (previous chapter), while the Indicators, correctly benchmarked the water governance system quantitatively in Afghanistan. Each principle and indicator are discussed separately in the following.

There is one general comment that emerged during the application of the Indicator framework, concerning the six answers options, which is valid for all principles and indicators. It has been noticed that the five answers options are defined in a way that some of them can cover a long-rang, from almost nothing to almost everything. For instance, the answer options “in place partly implemented,” can cover from 1 percent of implementation to 99 percent of implementation. Hence, often, the participants asked that if there is a middle answer in between (i.e., less than 25 % implemented, less than 50 % implemented, or less than 75%). Breaking

down the answers in the order mentioned above might increase the precision of the framework (as well as complexity).

Principle 1- Roles and Responsibility

The OECD defined three indicators for this principle in the Framework (Table 3) and has been applied well in the Afghanistan context.

Based on the first indicator (1.a), the majority (71 percent) of the participants believed that the water law exists in Afghanistan, and it has been partly implemented. Broadly the framework captured reality, and this is also aligned with the analysis in the previous chapter. However, here again, partly implemented is a long-range, the exact precision (the exact percentage) is not apparent. Lack of any middle-ground option in the answers might be the reason that some participants also think that water law is either under development or in place not implemented. The weighted average score for this indicator is 3.57 out of 5, which points to the existence but not the implementation of the water law.

Concerning the indicator (1.b), it has been noticed that the second indicator (1.b) is defined relatively broad, and it was hard for the participants to assess all the sector institutions' "existence and functioning" based on one indicator. Often when the question was asked, the interviewees' answers were only focused on the institutions that they are employed by (i.e., MEW, MAIL) rather than the whole sector. For the interviewees, it was somewhat hard to have all the information about the sector. This broadness might also be due to the scale of this study (sector-wide) that covers all water-related institutions. Most of the participants, 57 percent, believe that institutions exist and partly functioning.

Table 3: Principle 1- Roles and responsibilities

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functio	In place, partly implemented/functio	In place, functioning
	0	1	2	3	4	5
Principle 1: Roles and responsibilities	Indicators		Response			Weighted Average Score
	Indicator 1.a: Existence and level of implementation of a water law					3.57 (In place, not implemented)
	Indicator 1.b: Existence and functioning of ministry, line ministry, central agency with core water-related responsibilities for policy making					3.42 (In place, not functioning)
	Indicator 1.c: Existence and implementation of mechanisms to review roles and responsibilities, to diagnose gaps and adjust when need be					1.71 (Not in place)
Total Weighted Average Score of the Principle		2.9/5				

Similarly, overall, the indicator reflected reality as there are institutions in the ground and functioning partly as discussed in the previous chapter, but again partly functioning is a long-

range. It has been scored 3.42 out of 5 based on a weighted average of the participants' responses.

Finally, regarding the third indicator (1.c) related to governance mechanisms, more than 85 percent of the participants think that the mechanism is either not in place or is under development. The result of the framework is also aligned with the analyses in the previous chapter. This indicator has been scored 1.71 out of 5 based on a weighted average of the participants' responses.

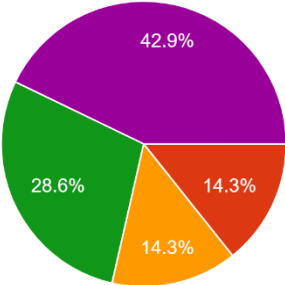
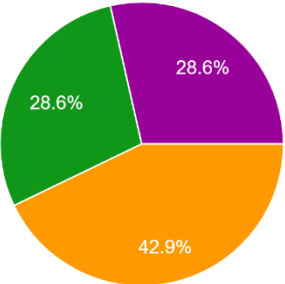
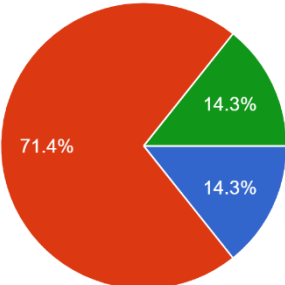
Overall the weighted average score of the principle is 2.9 out of 5, which means the principle exists, but is not implemented in the water governance system of Afghanistan.

Principle 2: Scale

The second principle has been applied very well in the Afghanistan context, and the OECD has defined three indicators for its assessment (Table 4).

The first indicator in this principle (2.a) concerning the implementation of the IWRM strategies and policies in Afghanistan, it captures very well the condition. The majority of participants (around 57 percent) thought that IWRM strategies and policies are either under development or existed but not implemented. The rest of the participants believed that this indicator is partly implemented. Overall, the assessment of the indicator is aligned with the reality and analytical assessment in the previous chapter. The weighted average score for this indicator is 3 out of 5 that confirms its existence but not implementation.

Table 4: Principle 2 - Scale

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioning	In place, partly implemented/functioning	In place, functioning
	0	1	2	3	4	5
Principle 2: Scale	Indicators		Response			Weighted Average Score
	Indicator 2.a: Existence and level of implementation of integrated water resources management policies and strategies					3 (In place, not implemented)
	Indicator 2.b: Existence and functioning of institutions managing water at the hydrographic scale					2.85 (Framework underdevelopment)
	Indicator 2.c: Existence and level of implementation of co-operation mechanisms for the management of water resources across water-related users and levels of government from local to basin, regional, national and upper scales					1.14 (Not in place)
Total Weighted Average Score of the Principle		2.33/5				

Similarly, concerning the second indicator (2.b), which about the RBOs, most of the participants (around 72 percent) believed that either the framework is under development or they

are in place but not functioning. This indicator result also matches the qualitative analyses in the previous chapter and reflects reality. The weighted average score for this indicator is 2.85 out of 5.

Lastly, regarding the third indicator (2.c) in this principle, most of the participants (around 71 percent) believed that the cooperation mechanisms across water-related users and levels of the government are not in place. One of the participants selected the “not applicable” answer, and he meant by this answer that even the authorities are not aware that such mechanisms can exist. This result is similar to the qualitative analysis, and the weighted average score for this indicator is 1.14 out of 5 that points to its shortage.

The overall weighted average score of the second principle is 2.33 out of 5, which means that the framework is still under development in the water governance system of Afghanistan.

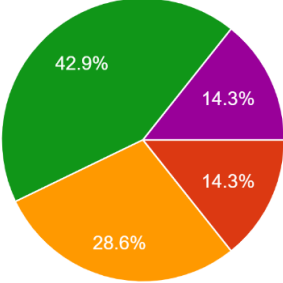
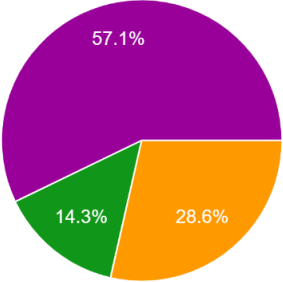
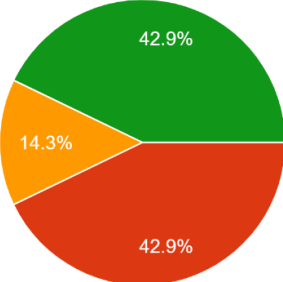
Principle 3: Policy coherence

The third principle of water governance has been also well applied in the Afghanistan context and produced valuable information. The OECD defined the following three indicators for this principle (Table 5).

Concerning the first indicator in this principle (3.a), which is about frameworks for sectoral policy coherence, the participants do not have consensus. Around 42 percent of them believed that the framework does not exist or is under development, while the other 42 percent of the participants thought that it is in place but not implement. The qualitative analysis showed that the frameworks exist, but implementation is the problem. Again, this kind of dichotomy in the

answers might be either due to the broadness of the indicator question or answer options. The weighted average score for this indicator is 2.57 out of 5.

Table 5: Principle 3 - Policy coherence

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 3: Policy coherence	Indicators			Response		Weighted Average Score
	<p>Indicator 3.a: Existence and level of implementation of cross-sectoral policies and strategies promoting policy coherence between water and key related areas, in particular environment, health, energy, agriculture, land use and spatial planning</p>					<p>2.57 (Framework under development)</p>
	<p>Indicator 3.b: Existence and functioning of an inter-ministerial body or institutions for horizontal co-ordination across water-related policies</p>					<p>3.28 (In place, not functioning)</p>
	<p>Indicator 3.c: Existence and level of implementation of mechanisms to review barriers to policy coherence and/or areas where water and related practices, policies or regulations are misaligned</p>					<p>2 (Framework under development)</p>
Total Weighted Average Score of the Principle				2.61/5		

The second indicator in this principle (3.b) was also related to the Afghanistan context, and most participants (around 57 percent) believed that institutions for horizontal coordination exist and partly functioning in the water governance system of Afghanistan. This conclusion also matches the qualitative analysis. However, the rest of the participants believed that the mentioned institutions are either under development or in place but not functioning. The weighted average score for this principle is 3.28 out of 5.

The third indicator (3.c), is about mechanisms for improving sectoral policy coherency. The majority of participants (around 55 percent) believed that it does not exist or is under development, while the rest of the participants thought that it is in place but not implemented. The result is the same as the previous chapter analyses and the weighted average score for this indicator is 2 out of 5, which points out that it is under development.

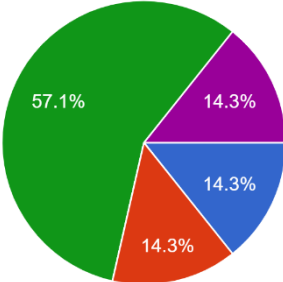
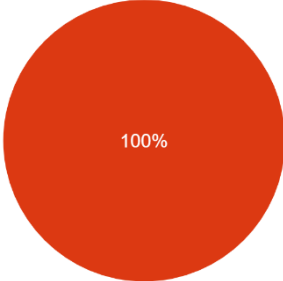
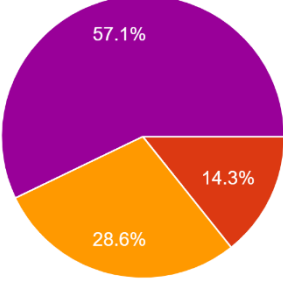
Overall, the indicators captured well the situation in the water governance system of Afghanistan, and the principle scored 2.61 out 5, meaning that the principle is under development.

Principle 4: Capacity

The fourth principle of water governance has been well applied to the Afghanistan context. OECD defined three indicators for assessing this principle, which is different in the structure (What, Who, How) compared to other principles (Table 6).

The first indicator (4.a) is about the existence of transparent hiring frameworks. Aligned with the analysis part, most of the participants (57 percent) believed that frameworks exist but, it has not been implemented. The weighted average score for this indicator is 2.42 out of 5.

Table 6: Principle 4 - Capacity

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 4: Capacity	Indicators		Response			Weighted Average Score
	<p>Indicator 4.a: Existence and level of implementation of hiring policies based on a merit-based and transparent professional and recruitment process of water professionals independent from political cycles</p>					<p>2.42 (Framework under development)</p>
	<p>Indicator 4.b: Existence and functioning of mechanisms to identify and address capacity gaps in water institutions</p>					<p>1 (Not in place)</p>
	<p>Indicator 4.c: Existence and level of implementation of educational and training programmes for water professionals</p>					<p>3 (In place not implemented)</p>
Total Weighted Average Score of the Principle			2.14/5			

Concerning the second indicator in this principle (4.b), different from the usual structure of the framework, the indicator is defined in the form of a mechanism rather than an institution. Aligned with the analysis part, all the participants (100 percent) believed that it does not exist in the water governance system of Afghanistan. Thus, the weighted average score for this principle is 1 out of 5.

The third indicator in this principle has been defined in the form of training or educational programs. Most of the participants (around 57 percent) believed that capacity building programs for water professionals exist and implemented in the sector. The analysis part concluded that most of these capacity-building programs are conducted by international organizations or countries rather than the government of Afghanistan itself. The weighted average score for this indicator is 3 out of 5.

Overall, the weighted average score of the principle is 2.14 out of 5, which indicates that the framework for this principle is under development in the water governance system of Afghanistan.

Principle 5: Data and information

The fifth principle was also applicable to the Afghanistan context and well reflected the situation. The OECD defined three indicators for its assessment (Table 7).

Concerning the first indicator in this principle (5.a), aligned with the previous chapter analysis, most of the participants (71 percent) believed that there is no information system in the

water governance system of Afghanistan. The weighted average score of this indicator is 1.71 out of 5, which points to its lack of existence.

Table 7: Principle 5 - Data and information

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 5: Data and information	Indicators		Response			Weighted Average Score
	<p>Indicator 5.a: Existence and functioning of updated, timely shared, consistent and comparable water information systems</p>					<p>1.71 (Not in place)</p>
	<p>Indicator 5.b: Existence and functioning of public institutions, organisations and agencies in charge of producing, co-ordinating and disclosing standardised, harmonized and official water-related statistics</p>					<p>2.28 (Framework under development)</p>
	<p>Indicator 5.c: Existence and level of implementation of mechanisms to identify and review data gaps, overlaps and unnecessary overload</p>					<p>1.42 (Not in place)</p>
Total Weighted Average Score of the Principle					1.8/5	

Similarly, concerning institutions in charge of water-related data activities (5.b), only 28 percent of the participants believed that mentioned institutions exist and partly functioning. The majority of participants, aligned with the previous chapter, believed that mentioned institutions either do not exist or are under development. The weighted average score for this principle is 2.28 out of 5, which confirms that the mentioned institutions are under development.

Concerning the third indicator in this principle (5.c), most of the participants (71 percent) believed that any mechanism for identification of data gaps and overlaps in the sector is missing. This conclusion also matches the analysis part, and the weighted average score for the indicator is 1.42 out 5 that reflects the shortage of mechanisms.

The sum of the average score for the fifth principle is 1.8 out of 5 that confirms the shortage of information systems, institutions, and mechanisms for water-related data in the water governance system of Afghanistan.

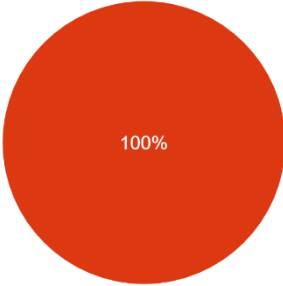
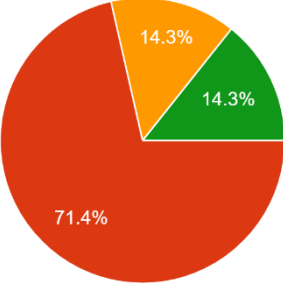
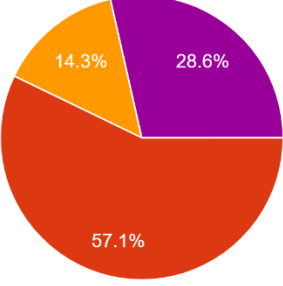
Principle 6: Finance

This principle was applicable in the Afghanistan context, and based on the three indicators (Table 8) defined by the OECD for its assessment, it revealed that finance is one the most overlooked dimensions of water governance in Afghanistan.

The first indicator concerning the frameworks for revenue collection (6.a), all the participants agreed that such frameworks for enabling water institutions to collect necessary revenue to meet their mandates do not exist in the Afghanistan water governance system. This shortage might be due to the reason that according to Islamic law and water law, water is free

and does not have any monetary value. The entities only can collect revenue if they provide services. In Afghanistan except for AUWSSC, there is no such entity, and thus there is no framework in this regard yet. The weighted average score for this indicator is 1 out of 5.

Table 8: Principle 6 - Finance

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 6: Finance	Indicators		Response			Weighted Average Score
	Indicator 6.a: Existence and level of implementation of governance arrangements that help water institutions collect the necessary revenues to meet their mandates and drive water-sustainable and efficient behaviours					1 (Not in place)
	Indicator 6.b: Existence and functioning of dedicated institutions in charge of collecting water revenues and allocating them at the appropriate scale					1.42 (Not in place)
	Indicator 6.c: Existence and level of implementation of mechanisms to assess short-, medium- and long-term investment and operational needs and ensure the availability and sustainability of such finance					1.42 (Not in place)
Total Weighted Average Score of the Principle					1.28/5	

Similarly, concerning the second indicator (6.b), which is about institutions in charge of collecting revenue, as mentioned above, except AUWSSC, there is no other entity to collect revenue from water services provisions. Hence the majority of the participants (around 71 percent) believed that such institutions do not exist. This assessment matches the analyses part, and the weighted average score for this indicator is 1.42 out of 5.

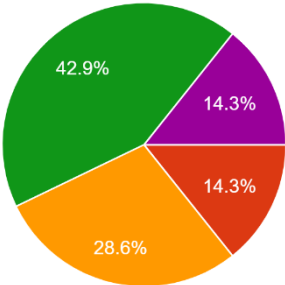
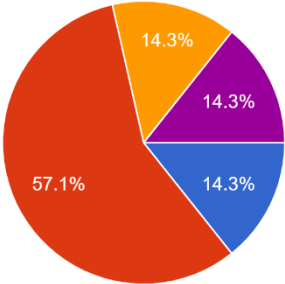
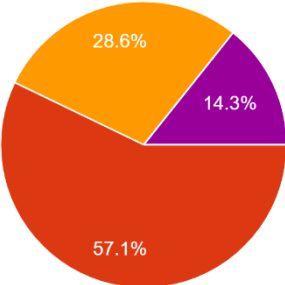
Concerning the third indicator (6.c), which is about the assessments of financial needs, most of the participants (57 percent) believed that such a mechanism does not exist. However, some of the participants (28 percent) believed that it exists and partly implemented. This dichotomy might be due to the reason that the indicator assesses financial mechanisms for different periods (short, medium, and long term). There might be some estimation of financial needs in each organization primarily for the short term, and thus the probably the participant considered mentioned estimation in their answers too.

The weighted average score for this principle is 1.28 out of 5, which indicates that financial aspects are one of the ignored dimensions in the water governance system of Afghanistan.

Principle 7: Regulatory

The seventh principle of water governance benchmarked the regulatory aspects of water governance in Afghanistan. The OECD has defined three indicators for the assessment of this principle (Table 9).

Table 9: Principle 7 - Regulatory

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 7: Regulatory	Indicators		Response			Weighted Average Score
	<p>Indicator 7.a: Existence and level of implementation of a sound water management regulatory framework to foster enforcement and compliance, achieve regulatory objectives in a cost-effective way, and protect the public interest</p>					<p>2.57 (Framework under development)</p>
	<p>Indicator 7.b: Existence and functioning of dedicated public institutions responsible for ensuring key regulatory functions for water services and resources management</p>					<p>1.42 (Not in place)</p>
	<p>Indicator 7.c: Existence and level of implementation of regulatory tools to foster the quality of regulatory processes for water management at all levels</p>					<p>1.71 (Not in place)</p>
Total Weighted Average Score of the Principle			1.9/5			

The first indicator (7.a) benchmarked the existence and level of implementation of regulatory frameworks in the water governance system of Afghanistan. There is less consensus

among participants, as most of them believed that frameworks exist but not implemented. This view is also similar to the analysis part that indeed, there are some frameworks in the ground, but implementation is the problem. On the other hand, some of the participants believed that frameworks do not exist or are under development. The weighted average score for this indicator is 2.57 out of 5.

The second indicator for the assessment of this principle (7.b) benchmarked the existence and functioning of dedicated institutions for regulatory purposes. The majority of the participants (around 57 percent) believed that dedicated institutions for ensuring regulatory aspects do not exist in the water governance system of Afghanistan. As discussed in the analysis part, indeed, currently in the system, a single institution is at the same time policymaker, implementer, operation, and regulator. The weighted average score for this indicator is 1.42 out of 5.

The third indicator (7.c) benchmarked the existence of tools and mechanisms for improving the quality of regulatory purposes. Again the majority of participants (around 85 percent) believed that such mechanisms do not exist or are under development. The weighted average score for this indicator is 1.71 out of 5.

Overall the principle scored 1.9 out of 5 based on a weighted average and confirmed that the current system is suffering from lack of regulation and is one of the weakest points in the current water governance system of Afghanistan.

Principle 8: Innovative water governance practices

The eighth principle of water governance, which is about innovation in the water governance system has been received relatively with not much interest by the participants. Most of the participants felt that this question is not so much related to the Afghanistan context yet, as Afghanistan is still struggling with basics. Nevertheless, the OECD has defined three indicators for its assessment (Table 10).

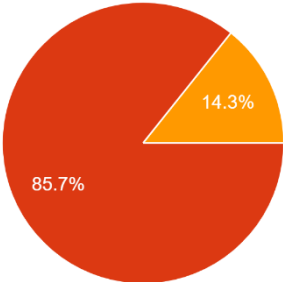
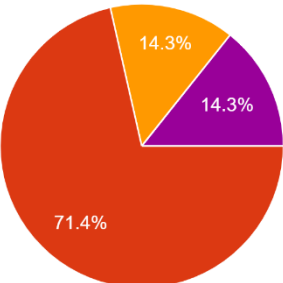
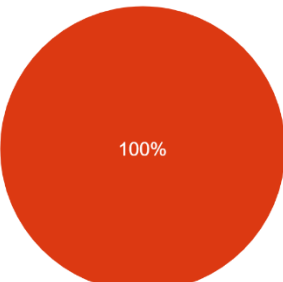
Concerning the first indicator (8.a), which is about frameworks to foster innovations, most of the participants (around 85 percent) believed that it does not exist. This assessment is well-aligned with the analysis section of the study. The rest of the participants believed that such frameworks might be under development, and the weighted average score for this principle also 1.14 out of 5.

Similarly, for the second indicator (8.b) of this principle, which is about institutions for fostering innovation through social learnings and experimentations, again, the majority of the participants (around 71 percent) believed that such institutions are missing in the current water governance system of Afghanistan. The weighted average score for this principle is 1.57 out of 5.

Moreover, concerning the third indicator (8.c) for the assessment of this principle, which is about knowledge sharing mechanisms, all the participants believed that such mechanisms do not exist in the current water governance system of Afghanistan. The weighted average score for this indicator is 1 out of 5.

The weighted average score of this principle is 1.23 out of 5 that fairly reflects the shortage of innovations in the current water governance system of Afghanistan.

Table 10: Principle 8 - Innovative water governance practices

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 8: Innovative water governance practices	Indicators		Response			Weighted Average Score
	Indicator 8.a: Existence and level of implementation of policy frameworks and incentives fostering innovation in water management practices and processes					1.14 (Not in place)
	Indicator 8.b: Existence and functioning of institutions encouraging bottom-up initiatives, dialogue and social learning as well as experimentation in water management at different levels					1.57 (Not in place)
	Indicator 8.c: Existence and level of implementation of knowledge and experience-sharing mechanisms to bridge the divide between science, policy and practice					1 (Not in place)
Total Weighted Average Score of the Principle		1.23/5				

Principle 9: Integrity and transparency

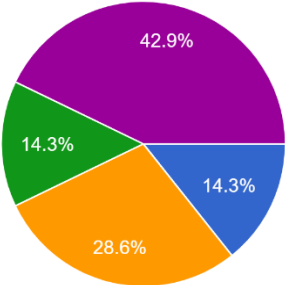
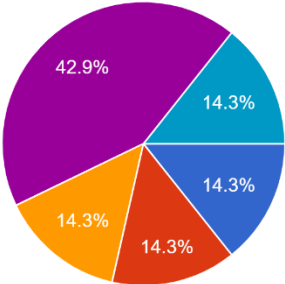
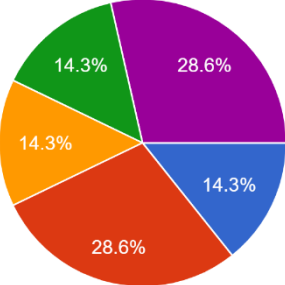
The application of the ninth principle of water governance has been complicated compared to the other principles in the Afghanistan context. The OECD defined three indicators (Table 11), which are very broad that can cover all the governance system of a country. Due to that broadness, the participants had difficulties in making their judgments. Moreover, these indicators also assess the function of courts, which are sensitive in some contexts. Nevertheless, the participants assess this principle as follow:

Concerning the first indicator (9.a) about frameworks for transparency and integrity, the participants had different views. Around 42 percent of them thought that frameworks exist and are partially implemented. The rest of them thought that frameworks are either under development or are in place but not implemented. The weighted average score for this indicator is 2.71 out of 5.

Similarly, concerning the second (9.b) and third (9.c), indicators which are about institutions and mechanism for transparency and integrity, again consensus are lacking among participants, and the weighted average score for second and third indicators is 2.85 and 2.14 out of 5, respectively.

The overall score for this principle is 2.56 out of 5, which concludes that this principle is still under development in the current water governance system of Afghanistan. The defined indicators for the assessment of this principle need more refinements and specifications.

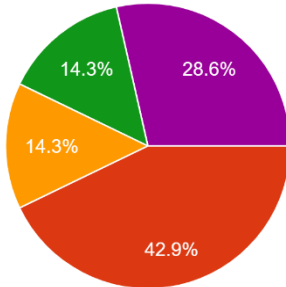
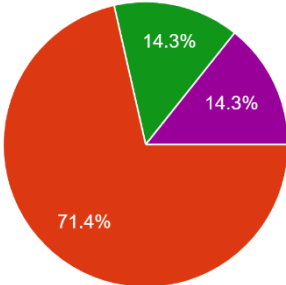
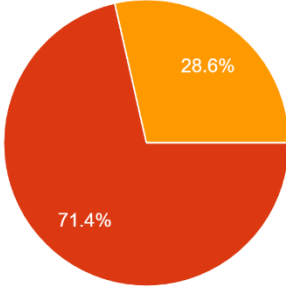
Table 11: Principle 9 - Integrity and transparency

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioning	In place, partly implemented/functioning	In place, functioning
	0	1	2	3	4	5
Principle 9: Integrity and transparency	Indicators		Response			Weighted Average Score
	<p>Indicator 9.a: Existence and level of implementation of legal and institutional frameworks (not necessarily water-specific) on integrity and transparency which also apply to water management at large</p>					<p>2.71 (Framework under development)</p>
	<p>Indicator 9.b: Existence and functioning of independent courts (not necessarily water-specific) and supreme audit institutions that can investigate water-related infringements and safeguard the public interest</p>					<p>2.85 (Framework under development)</p>
	<p>Indicator 9.c: Existence and level of implementation of mechanisms (not necessarily water-specific) to identify potential drivers of corruption and risks in all water-related institutions at different levels, as well as other water integrity and transparency gaps</p>					<p>2.14 (Framework under development)</p>
Total Weighted Average Score of the Principle					2.56/5	

Principle 10: Stakeholder engagement

This principle has been implemented well in the Afghanistan context based on the OECD defined three indicators (Table 12).

Table 12: Principle 10 - Stakeholder engagement

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 10: Stakeholder engagement	Indicators			Response		Weighted Average Score
	Indicator 10.a: Existence and level of implementation of legal frameworks to engage stakeholders in the design and implementation of water-related decisions, policies and projects					2.28 (Framework under development)
	Indicator 10.b: Existence and functioning of organisational structures and responsible authorities to engage stakeholders in water-related policies and decisions					1.71 (Not in place)
	Indicator 10.c: Existence and level of implementation of mechanisms to diagnose and review stakeholder engagement challenges, processes and outcomes					1.28 (Not in place)
Total Weighted Average Score of the Principle				1.75/5		

Concerning the first indicator (10.a), which is about the frameworks for engaging stakeholders in the design process of policies and projects, most of the participants (around 57 percent) agreed that such frameworks are either not in place or are under development. The rest of the participants believed that such legal frameworks for stakeholders' participation exist in the current water governance system, but its implementation has been patchy. The weighted average score for this indicator is 2.28 out of 5.

The second defined indicator for the assessment of this principle is about the existence of institutions responsible for the engagement of stakeholders in the processes (10.b). The majority of the participants (around 71 percent) believed that such institutions do not exist in the current system. This assessment is aligned with the qualitative analysis, and the weighted average score for this indicator is 1.71 out of 5.

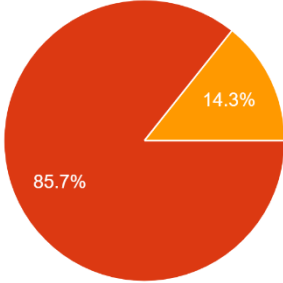
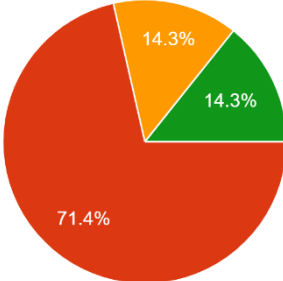
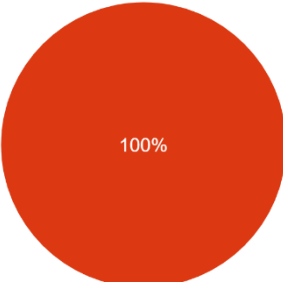
Similarly, concerning the third indicator for assessment of this principle (10.c), which is about mechanisms for diagnosing stakeholders' engagement challenges and outcomes, most of the participants (around 71 percent) believed that such mechanisms, in the current system of water governance in Afghanistan do not exist. The rest of the participants believed that such mechanisms are still under development. The weighted average score for this indicator is 1.28 out of 5 that confirms the shortage of such mechanisms.

Overall, the principle score is 1.75 out of 5, confirms that stakeholders' engagements in the decision-making processes are overlooked in the current system, and there is a shortage of frameworks, institutions, and mechanisms in this regard.

Principle 11: Trade-offs

This principle has been assessed in the Afghanistan context by the three indicators defined by OECD (Table 13).

Table 13: Principle 11 - Trade-offs

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/functioing	In place, partly implemented/functioing	In place, functioning
	0	1	2	3	4	5
Principle 11: Trade-offs across water users, rural and urban areas, and generations	Indicators		Response			Weighted Average Score
	<p>Indicator 11.a: Existence and level of implementation of formal provisions or legal frameworks fostering equity across water users, rural and urban areas, and generations</p>					1.14 (Not in place)
	<p>Indicator 11.b: Existence and functioning of an Ombudsman or institution(s) to protect water users, including vulnerable groups</p>					1.42 (Not in place)
	<p>Indicator 11.c: Existence and level of implementation of mechanisms or platforms to manage trade-offs across users, territories and/or over time in a non-discriminatory, transparent and evidence-based manner</p>					1 (Not in place)
Total Weighted Average Score of the Principle		1.18/5				

Concerning the first indicator (11.a), which is about assessing the existence and level of implementation of formal provisions or legal frameworks for fostering equity in the system, the majority of the participants (85 percent) believed that frameworks do not exist in the current water governance system of Afghanistan. The weighted average score for this indicator is 1.14 out of 5.

Similarly, regarding the second indicator for assessing this principle of water governance (11.b), most of the participants (around 71 percent) believed that such institutions for protecting water users and vulnerable groups do not exist in the current water governance system of Afghanistan. The weighted average score for this indicator is 1.42 out of 5.

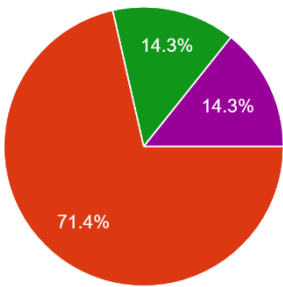
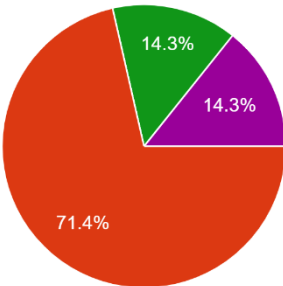
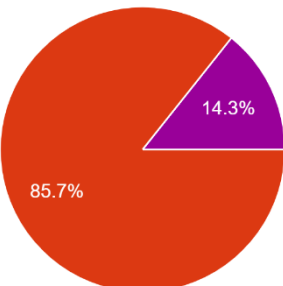
Likewise, concerning the mechanisms for managing tradeoffs (11.c), all the participants believed that such mechanisms also do not exist. The weighted average score for this indicator is 1 out of 5.

Overall the principle scored 1.18 out of 5, which indicates that equity is an ignored dimension and one of the primary weaknesses of the current water governance system in Afghanistan.

Principle 12: Monitoring and Evaluation

The twelfth principle of water governance has been assessed using three indicators (Table 14) and revealed that monitoring and evaluation is also one of the overlooked dimensions in the current water governance system of Afghanistan.

Table 14: Principle 12 - Monitoring and Evaluation

Legend	Not applicable	Not in place	Framework under development	In place, not implemented/f functioning	In place, partly implemented/fu nctioning	In place, functioning
	0	1	2	3	4	5
Principle 12: Monitoring and Evaluation	Indicators		Response			Weighted Average Score
	Indicator 12.a: Existence and level of implementation of policy frameworks promoting regular monitoring and evaluation of water policy and governance					1.71 (Not in place)
	Indicator 12.b: Existence and functioning of institutions in charge of monitoring and evaluation of water policies and practices and able to help adjust where need be					1.71 (Not in place)
	Indicator 12.c: Existence and level of implementation of monitoring and evaluation mechanisms to measure to what extent water policy fulfils the intended outcomes and water governance frameworks are fit-for-purpose					1.42 (Not in place)
Total Weighted Average Score of the Principle		1.61/5				

Regarding the first indicator (12.a) for assessing this principle, which is about frameworks for regular monitoring and evaluation of water policy and governance, most of the

participants (around 71 percent) believed that such frameworks do not exist in the current water governance system of Afghanistan. The weighted average score for this indicator is 1.71 out of 5.

Similarly, most of the participants (around 71 percent) believed that institutions in charge of monitoring and evaluation of water policy and practices (12.b) also do not exist. The weighted average score for this indicator is 1.71 out of 5.

Finally, likewise, concerning the existence of monitoring and evaluation mechanisms (12.c), most of the participants (around 85 percent) believed that such measurements do not exist in the current system. The weighted average score of this indicator is 1.42 out of 5.

Overall the twelfth principle of water governance scored 1.61 out of 5 in the current water governance system of Afghanistan. This assessment confirms that the shortage of proper mechanisms for monitoring and evaluation of water policy and governance is one of the main weaknesses in the current system.

Chapter 6. Conclusions

Ensuring long term water security is the essential pathway towards development, prosperity, and stability in Afghanistan. Following the idea that water issues are primarily governance issues, this study assessed the water governance system in Afghanistan both qualitatively and quantitatively. The study has been operationalized using the OECD water governance principles and indicator framework, which also provided the opportunity to test the framework in a developing country with a relatively different context.

Qualitatively based on the existing literature and seven semi-structured interviews, the water governance system has been analyzed against the OECD water governance principles and Indicators Framework. It has been concluded that the existing system is suffering from the following twelve dimensions:

- 1- Roles and responsibilities: The analyses showed that water law exists in the country, but its implementation has been largely ignored. Also, there are gaps, overlaps, and ambiguity in the roles and responsibilities of water institutions, and there are no mechanisms to diagnose these issues.
- 2- Scale: In the last decade, Afghanistan shifted the unit of water management from administrative boundaries to natural river basins, and IWRM has been formally adopted as the central paradigm of water management. However, the model is dysfunctional in Afghanistan, and there has been very little progress (5%) in the last couple of decades towards the implementation of IWRM.

- 3- Policy Coherence: The analyses revealed that Afghanistan has some frameworks and institutions in the system for improving cross-sectoral policies coherency; however, their implementation has been a significant problem.
- 4- Capacity: Currently, there is no clear understanding of the capacity gap in the water sector, and not such mechanisms exist to assess this issue. In the last couple of decades, many capacity building programs have been implemented primarily by donors active in Afghanistan. However, due to poor implementation of transparent hiring policies, still, the sector is faced with challenges.
- 5- Data and information systems: The analyses showed that Afghanistan is faced with a shortage of water-related data and water-related information systems that could serve as coordination, cooperation, and decision-making tools. Hence these issues limited the capacity of the government to define effective and efficient policies based on evidence.
- 6- Finance: The study revealed that finance is one of the overlooked dimensions in the current water governance system. Not only that, proper financial frameworks to acknowledge the economic value of water do not exist, but also there are no institutions to collect revenue from water-related activities for their functions (except one).
- 7- Regulatory: Few water-related regulatory frameworks exist; however, they remained on the paper and not implement for the most part. In the current system, the regulation function is fragmented among different institutions, which are also simultaneously policymakers too. This type of arrangement overloaded the

- institutions due to the shortage of capacity, and thus regulation is happening at a very superficial level.
- 8- Innovation: This principle was not much aligned with the Afghanistan context as the country is still busy with basics. Nevertheless, frameworks, institutions, and mechanisms to promote innovative ideas related to water governance are missing.
- 9- Integrity and Transparency: This principle was also defined very broadly by the OECD that covers almost all the governance, including courts. Its evaluation has been very difficult for participants. Nevertheless, frameworks and institutions exist for promoting transparency and integrity; however, their implementation was a challenge.
- 10- Stakeholders engagement: The current system is faced with a shortage of legal frameworks to ensure the engagement of stakeholders in the design processes of policies and projects. Similarly, there are not dedicated institutions to assure the stakeholders' engagement in the processes, nor there is any mechanism to identify the challenges of participation.
- 11- Tradeoff: Equity is a wholly forgotten dimension of water governance in the current system. Frameworks to promote equity are missing. Similarly, there are no institutions to protect vulnerable groups and nor mechanisms to address these kinds of issues.
- 12- Monitoring and Evaluation: M&E of water policy and governance are missing and never been performed. The system is lacking frameworks, institutions, and mechanisms to promote regular M&E functions.

Quantitatively, based on surveys, (Figure 16) summarizes the scores for the OECD water governance principles.

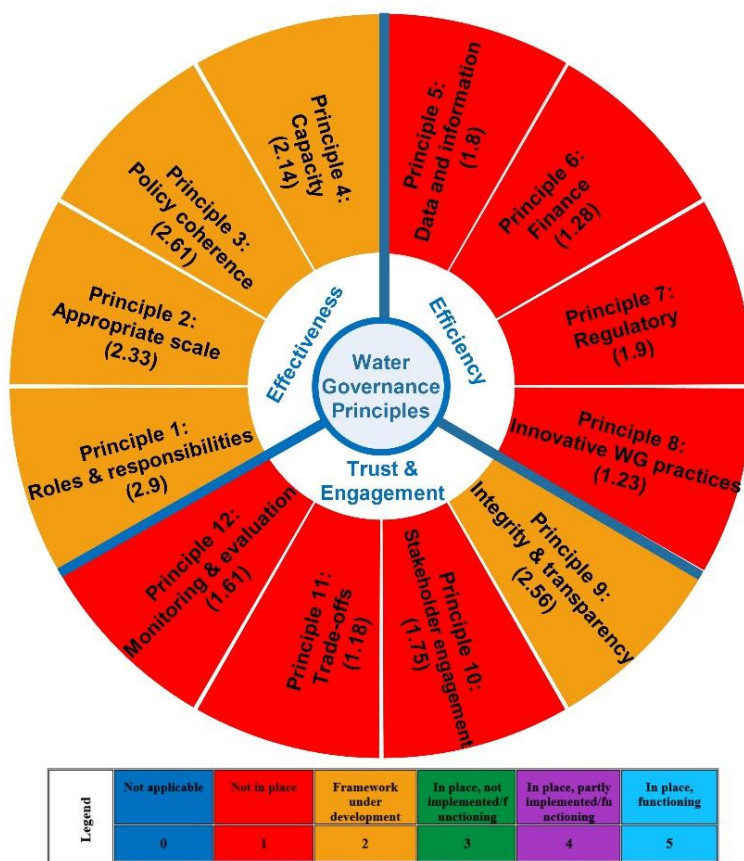


Figure 16: Summary of the scores for twelve principles

It is evident that also quantitatively, the assessment showed that the current system is functioning very weakly against OECD principles. The relative strengths are the existence of water law, IWRM policies, the existence of frameworks for cross-sectoral coherency, and some level of capacity. However, the rest of the principles do not exist and are completely ignored dimensions in the current water governance system of Afghanistan.

To be precise, the principles are further breakdown into frameworks (what), institutions (who), and mechanisms (how).

Frameworks (what): The assessment showed (Figure 17), that only for principle one and two frameworks exist, which are water law, and IWRM policies, respectively. Frameworks for the rest of the principles are either under development or do not exist. The total score for the existence and level of implementation of frameworks is 25.82 out of 60. This score indicates that the system is faced with a shortage of water governance frameworks.

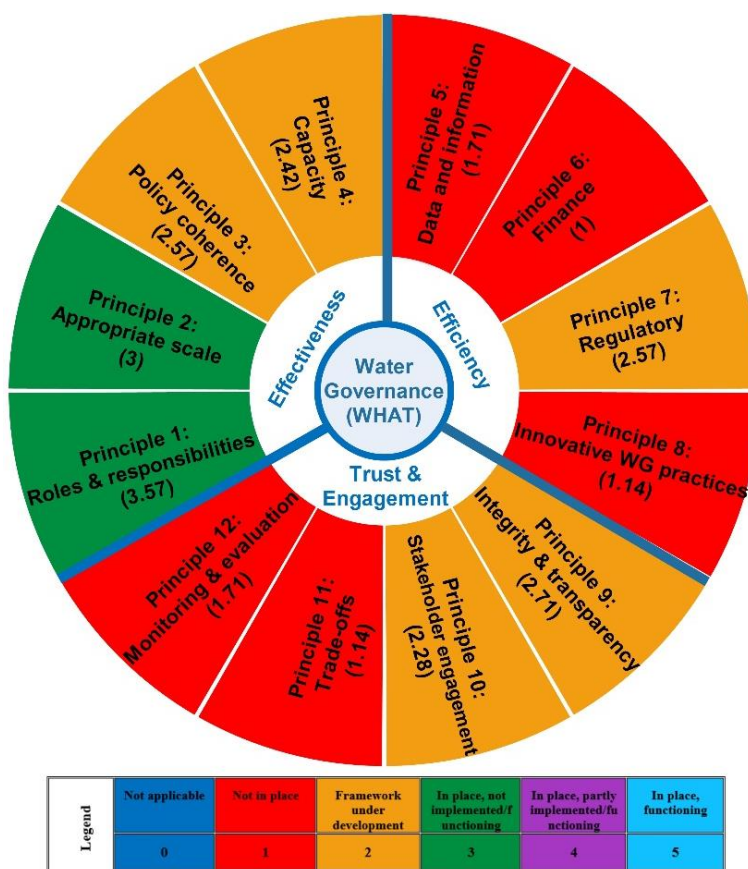


Figure 17: Summary of scores for frameworks (what)

Institutions (who): Similarly to frameworks, the assessment showed that the current system is also faced with a shortage of institutions to perform water governance functions (Figure 18). Except for the two principles, institutions are either lacking or are under development for the rest of water governance principles. The overall score for institutions is 24.93 out of 60 that confirms the shortage of institutions in the structure of the current water governance system.

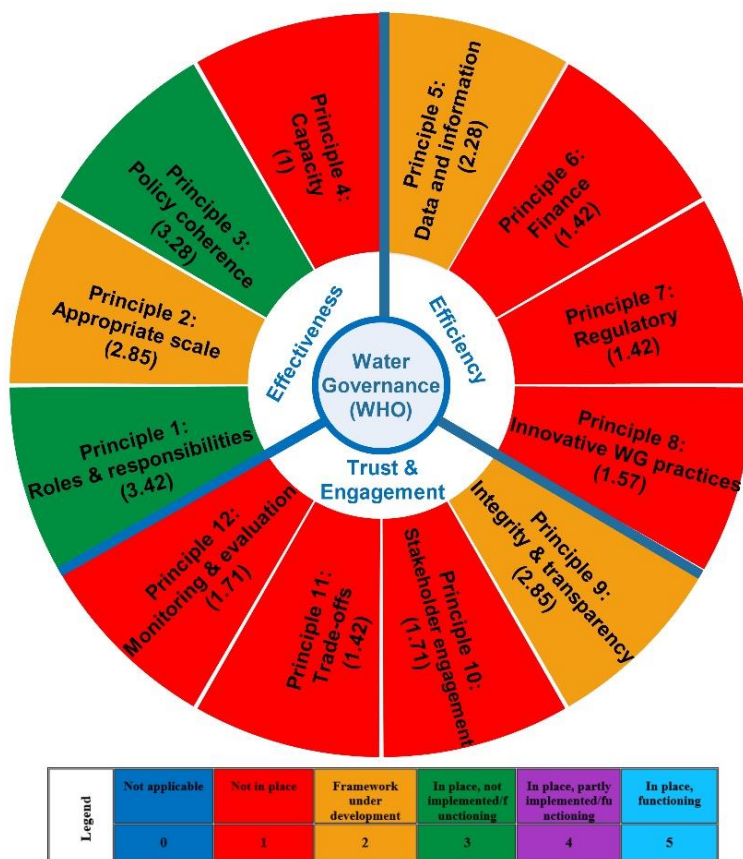


Figure 18: Summary of scores for Institutions (who)

Mechanism (how): The assessment revealed that the current water governance system is also suffering from the shortage of water governance mechanisms (Figure 19). Except for principle four, there are no other water governance mechanisms in the system to address OECD water governance dimensions. The overall score for frameworks is 18.95 out of 60 which confirms shortage.

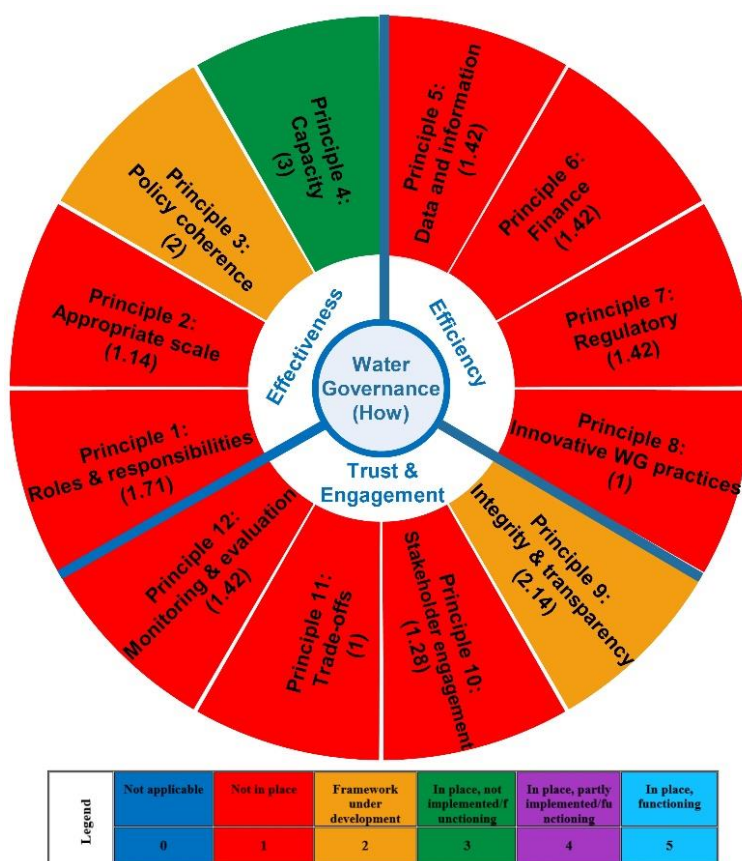


Figure 19: Summary of scores for mechanisms (how)

Further, if the findings are studied from the effectiveness, efficiency, and inclusiveness dimensions of the framework (Table 20), it is also evident the current water governance system in Afghanistan is not effective, nor efficient and inclusive. However, in relative comparison, the system effectiveness is higher than its efficacy and inclusiveness.

Pillars	Effectiveness	Efficiency	Trust and Engagement	Total
Frameworks (WHAT)	11.56	6.42	7.84	25.82/60
Institutions (WHO)	10.55	6.69	7.69	24.93/60
Mechanisms (HOW)	7.85	5.26	5.84	18.95/60
Total	29.96/60	18.37/60	21.37/60	23.23/60

Figure 20: Summary of quantitative assessment

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Appendices

Appendix A - IRB Approval



Oregon State University
Research Office

Human Research Protection Program
& Institutional Review Board
8308 Kerr Administration Bldg, Corvallis OR 97331
(541) 737-8008
IRB@oregonstate.edu
<http://research.oregonstate.edu/irb>

Date of Notification	October 02, 2019		
Notification Type	Approval Notice		
Submission Type	Initial Application	Study Number	IRB-2019-0293
Principal Investigator	Aaron T Wolf		
Study Team Members	Rasooly, Nawid		
Study Title	Water Governance		
Review Level	FLEX		
Waiver(s)	Documentation of Informed Consent		
Risk Level for Adults	Minimal Risk		
Risk Level for Children	Study does not involve children		
Funding Source	None	Cayuse Number	N/A

APPROVAL DATE: 10/02/2019

EXPIRATION DATE: 10/01/2024

A new application will be required in order to extend the study beyond this expiration date.

Comments: Waiver of documentation of informed consent under Institutional Policy.

The above referenced study was reviewed and approved by the OSU Institutional Review Board (IRB). The IRB has determined that the protocol meets the minimum criteria for approval under the applicable regulations, state laws, and local policies.

This proposal has not been evaluated for scientific merit, except to weigh the risk to the human subjects in relation to potential benefits.

Adding any of the following elements will invalidate the FLEX determination and require the submission of a project revision:

- Increase in risk
- Federal funding or a plan for future federal sponsorship (e.g., proof of concept studies for federal RFPs, pilot studies intended to support a federal grant application, training and program project grants, no-cost extensions)
- Research funded or otherwise regulated by a [federal agency that has signed on to the Common Rule](#), including all agencies within the Department of Health and Human Services
- FDA-regulated research
- NIH-issued or pending Certificate of Confidentiality
- Prisoners or parolees as subjects
- Contractual obligations or restrictions that require the application of the Common Rule or which require annual review by an IRB
- Classified research
- Clinical interventions

Principal Investigator responsibilities:



Oregon State University
Research Office

Human Research Protection Program
& Institutional Review Board
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- Keep study team members informed of the status of the research.
- Any changes to the research must be submitted to the IRB for review and approval prior to implementing the changes. Failure to adhere to the approved protocol can result in study suspension or termination and data stemming from protocol deviations cannot be represented as having IRB approval.
- Report all unanticipated problems involving risks to participants or others within three calendar days.
- Use only valid consent document(s).
- Submit project revisions for review prior to initiating changes.