
PAK-AFGHAN WATER COOPERATION IN KABUL RIVER BASIN: CHALLENGES AND PROSPECTS IN TALIBAN 2.0

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ABSTRACT

This qualitative research examines the prospects of Pak-Afghan cooperation in the Kabul River Basin under Taliban 2.0. Water is a renewable but finite resource. Pakistan, on average, gets 106 MAF of water yearly, most of which comes from the upper riparian states through the Transboundary Rivers of the

Indus Basin. The Kabul River supplies 18 MAF (roughly 17% of the water requirements of Pakistan), which is contested between Pakistan and Afghanistan. Pakistan, a nation of over 220 million people, is facing an acute water shortage. To make matters worse, it is witnessing exponential population growth and is also one of the most climate-vulnerable nations, facing frequent cycles of droughts and floods. Per-capita water availability has gone below 1000 M³, making the nation water-starved. If this was not enough, in the Republican era (2001-2021), the Islamic Republic of Afghanistan, with Indian support, started developing Afghan water resources, thus potentially squeezing water flow into Pakistan and setting off the alarm bells in Islamabad. The 15th of August, 2021, heralded the start of Taliban 2.0. The International Community did not accept the new regime, India left behind all its stakes in Afghanistan, providing Pakistan with an opportunity to deal afresh with the de facto Taliban government. Taliban have been scrupulously obdurate in their puerile definition of Afghan sovereignty and territorial integrity, especially when it comes to water. They believe in the primitive concept of Transboundary Rivers, wherein water is a zero-sum game and the upper riparian claims it in its entirety. The idiosyncrasies and dynamics of the Taliban regime are unconventional, and therefore, uncertainty surrounds their actions. To explore the possibility of Pak-Afghan cooperation on shared water resources during Taliban 2.0, a number of interviews were conducted, various articles from peer-reviewed journals were reviewed, and data from official sources were compiled. The study also looked into various options under the International Water Law and briefly compared the Kabul River Basin with the best internal practices. In the end, some tailor-made options creating a win-win situation for the two sides against the historically envisaged zero-sum game are suggested.

KEY WORDS

Water, Transboundary Rivers, Pakistan, Afghanistan, Taliban, Cooperation, War

LIST OF ACRONYMS

CRT	Columbia Water Treaty
Cusec	Cubic Meter Per Second
FDI	Foreign Direct Investment
HWT	Helmand Water Treaty
IUCN	International Union for Conservation of Nature
IWT	Indus Water Treaty
IUCN	International Union for Conservation of Nature
IRSA	Indus River System Authority
JEC	Joint Economic Commission
MAF	Million Acre Feet
MCM	Million Cubic Meter
MRC	Mekong River Commission
MW	Mega Watt
PCIW	Pakistan Commission for Indus Water
ROR	Run of River
SDGs	Sustainable Development Goals
UNDP	United Nations Development Program
UNFCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
MOFA	Ministry of Foreign Affairs

INTRODUCTION

Water Scarcity in Pakistan is the talk of the day. Geographically, Pakistan is at the tail end of monsoons and Western depressions- the two weather systems that feed Pakistan. Therefore, Pakistan remains prone to drought and severe floods. Historically, this region has not paid much attention to water scarcity. The reason lies in the very fact that erratic monsoons result in sporadic spells of drought and flood, with which people are accustomed. Moreover, per capita availability of water has been reasonable, the agro-based economy was able to feed the population, and therefore, water was taken for granted with little thought of conservation and preservation. However, things did not remain the same. After the Indus Water Treaty of 1960, Pakistan lost 3 of the eastern rivers and 33 MAF of water (Young, et al., 2019). The water availability in Pakistan, which was 5260 M³ in 1951, dropped to 1038 M³ in 2010 (Young, et al., 2019). The severity of the water crises today is compounded by the exponential growth of population, and the per capita availability of water which has been reduced from 5670 per person per annum at the time of independence to below 1000 cubic meters (Mustafa, Hydro Politics in Pakistan's Indus Basin, 2019); we are now facing imminent water scarcity which will hit every aspect of the society. Pakistan receives 80% of its water from transboundary resources, which are being contested by India and Afghanistan (Shahid, 2016). With India, Pakistan has a framework agreement, the Indus Basin Water Treaty (IWT), under which the water issues between the two neighbours are being regulated. However, Pakistan does not have a water sharing agreement with Afghanistan. Pakistan receives some 17% of its transboundary water from Afghanistan (Shahid, 2016), Water scarcity in Pakistan and Afghanistan has become increasingly horrendous with each passing year, which calls for efficient management of water resources in shared river basins.

Pakistan is both upper and lower riparian in the Kabul River basin. 8 MAF of water flows from Pakistan to Afghanistan via the Chitral/ Kunar River, which joins the Kabul River to bring around 1 MAF of water to Pakistan (MWR, Government of Pakistan, 2018). The problem of water sharing between the two neighbors existed since the formation of Pakistan in 1947, however, for many parts of history the problem could not attract much attention as Pakistan had abundant water resources, and after the Indus Basin Water treaty, Pakistan had sufficient resources to develop its water infrastructure on the two western tributaries of Indus (Jhelum and Chenab). Per capita water availability in Pakistan remained over 2000 (Shahid, 2016) hence the small proportion of water received from the Kabul River basin was not much of a concern. Similarly, Afghanistan, which is fed by 5 river basins, had plenty of water till

1980 with help of the USSR it developed some of its resources, which, however, did not had any enduring effect on water supply to Pakistan. The problem of water sharing got prominence when, after 9/11, 2001, the United States poured in funds to develop Afghan infrastructure. This study would primarily look into the political aspects which have been affecting the establishment of an effective water management regime in the Kabul River basin. 263 Transboundary Lake and rivers cover nearly half of the world's surface. In the last 50 years, there have been 37 acute conflicts over water resources, while more than 150 treaties have been signed. FAO has compiled a list of 2000 treaties signed between 1221 to 1997 (Wirsing, Jasparro, & Stoll, 2013)

Fresh Water is a finite resource which is getting scarce due to a number of factors like population growth, climate change and modern style of living. Hence, Dixon in his article "Environment Scarcity and Violent Conflict" predicted that water scarcity would lead to violent conflict and with increasing scarcity, the probability of violent conflict would increase. Pakistan was used as one of the case studies where the Water War was inevitable (Thomas & Dixon, 1994). An explanation comes from Zeitoun and Warner's Framework of Hydro Hegemony (Zeitoun & Warner, Hydro Hegemony- a framework for analysis of trans-boundary water conflicts , 2006). They believe that the Hydro hegemon influences fellow riparians and establishes a water regime of its choice. Coercion or use of hard or soft power is not a must; a hegemon may also take up a leadership role where it suits its priorities. Lowi discussed conduct of riparian states in presence of a wider protracted conflict (Lowi , 1995). Discussing the theories of Political realism, liberalism and functionalist ideas, she was convinced that a variant of Hydro-hegemony theory holds true and that the Hydro-hegemon could ensure co-operation and enforce compliance.

Pakistan got its first-ever water policy in 2018 (MWR, Government of Pakistan, 2018), in which transboundary water issues failed to attract much attention; moreover, there is no mention of the Kabul River basin, which accounts for 10% of Pakistan's surface water. Pakistan's 11th Five-Year Plan published in 2013, had a complete chapter on Water, which actually provides the guiding principles for Pakistan's National Water policy (Planning Commission of Pakistan, 2013). The plan provides details of water shortages in every sector, Agriculture, Industry and urban water requirements. Eminent water expert and professor at the Department of Geography, Kings College London, Mr. Danish Mustafa has led three prominent international studies on water problems in Pakistan (Mustafa , Hydro Politics in Pakistan's Indus basin , 2010), (Mustafa, Gioli, Karner, & Khan, 2017) and (Mustafa, Akhtar, & Nasrallah, Understanding Pakistan's Water-Security Nexus, 2013). Danish argues that although there is

serious stress on Pakistan's water resources, however there is sufficient water available in the Indus basin to accommodate the needs of the growing population. Michael Kugelman a prominent South Asian expert, edited a study on water scarcity of Pakistan (Kugelman, 2009) argues that Pakistan spends only 0.2% of its GDP on Water and Sanitation, and in that too 40-50% is being used for the construction of major infrastructure like dams, etc. An interesting aspect highlighted by Kugelman is that the annual availability of water in Pakistan would remain constant at 236 BCM at least up-till 2025. He argues that it's not the dwindling water resources, but rather the exponential growth of Population, which is a bigger challenge and a ticking time bomb if not appropriately addressed. Another recent study regarding the water resources of Pakistan was made by Daniel Haines (Haines , 2017) in his master piece work the "Indus Divided". Haines actually continues the arguments of Lowi (Lowi , 1995) that protracted political conflict have influenced cooperation on water and that the concept of Sovereignty vs Territorial Integrity needs a careful evaluation. Haines agrees with the concept of "Realpolitik" and that the hydro hegemon exerts its power to influence the outcome of water agreements. The first comprehensive study on the Development of the Kabul River Basin in Afghanistan was conducted by the World Bank in 2010. (The World Bank, 2010) This study, based on an earlier survey of an Iranian firm, Toos-Aab, identified a number of sites within Afghanistan where storage and hydropower projects could be constructed for the efficient use of water within Afghanistan in the Kabul River basin.

In 2011, the United States Senate published its report titled the Avoiding Water Wars. In Afghanistan and Pakistan (Committee on Foreign Relations United States Senate, 2011). The very idea of a water war is an earth-shaker for all stakeholders. In 2018, USAID, under its program "Partnership for Enhanced Engagement in Research (PEER) sponsored a project by 'LEAD Pakistan' to bring Afghan and Pakistan stakeholders from diverse fields to discuss possible cooperation in the Kabul River Basin (LEAD Pakistan , 2018). This year, India has issued a notice to Pakistan expressing its desire to amend /renegotiate certain parts of the Indus Water Treaty. Pakistan has requested for details and has suggested that the same may be discussed at the level of the Permanent Commission of Indus Water (PCIW). It is an indication that certain provisions of IWT is not in favour of India (Salik, 2023)

STUDY AREA

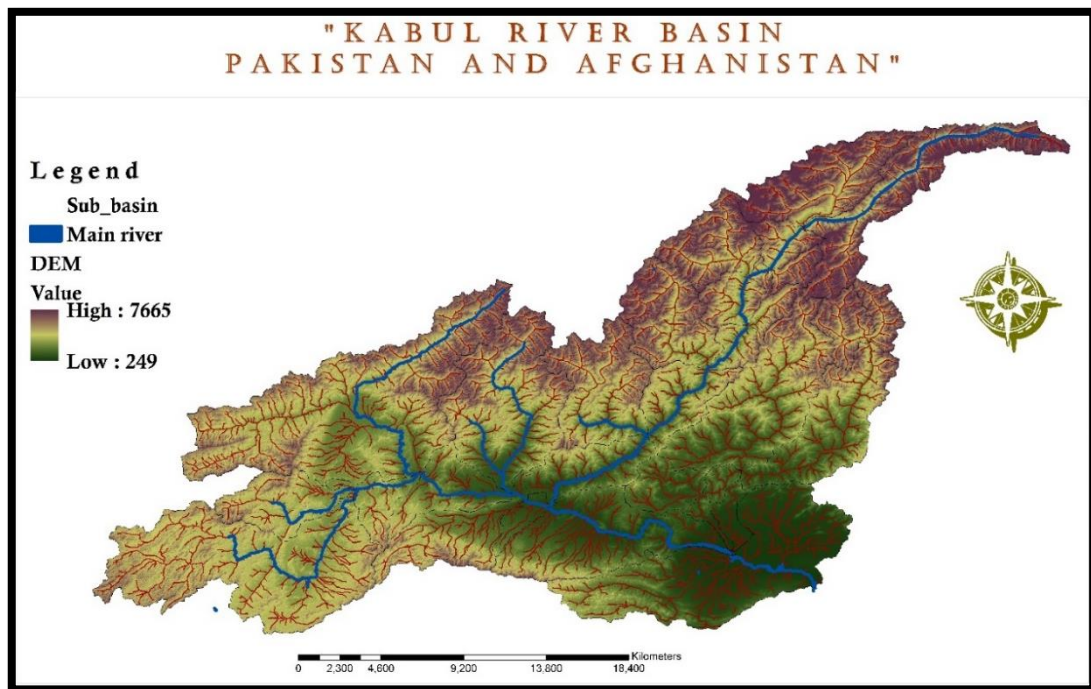


Figure 1: Kabul River Basin (Pakistan and Afghanistan)

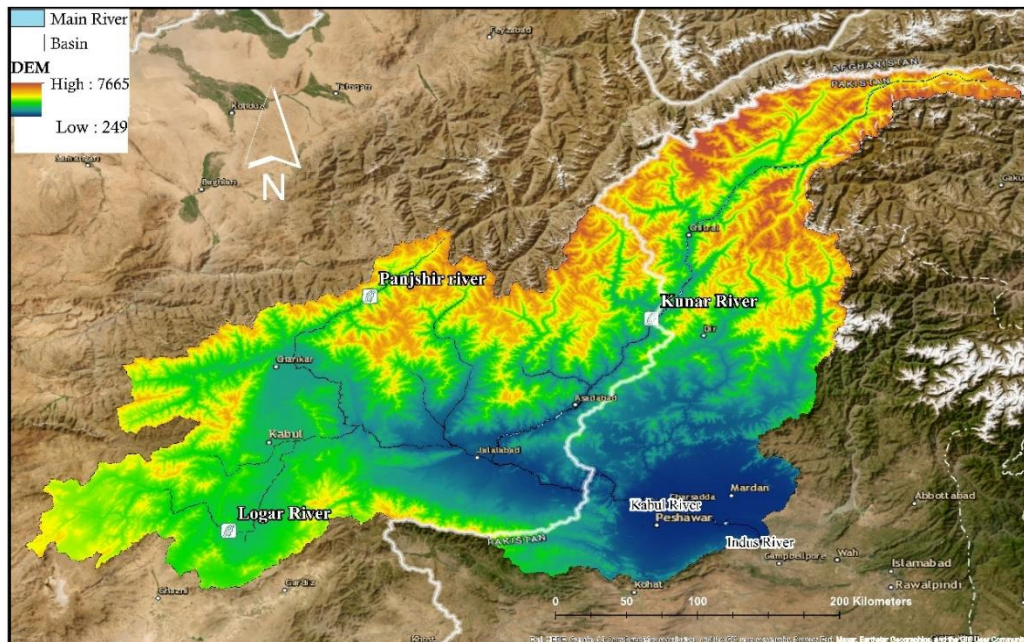


Figure 2: Kabul River and its main tributaries (Kunar, Logar, Panjshir rivers), Border crossings between Afghanistan and Pakistan. European Space Agency (2024).

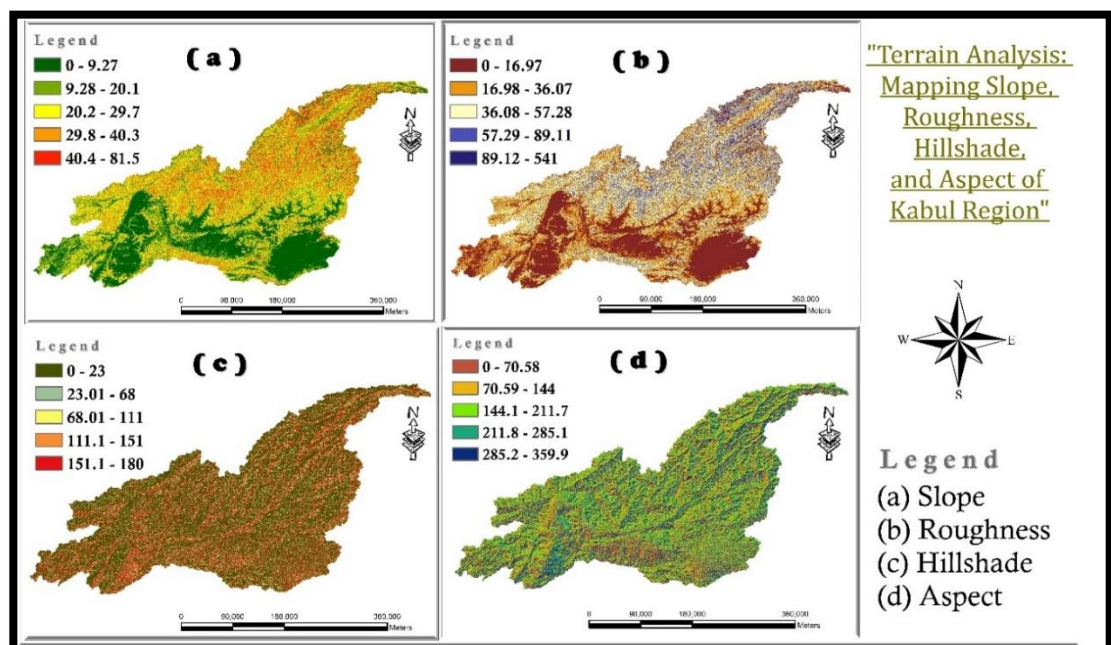


Figure 3, Topography and Terrain Characteristics of the Kabul River Basin

STATEMENT OF THE PROBLEM

Erratic rain in the Afghan-Pak region often results in long spells of drought; moreover, the exponential increase in population, water resources on both sides of the Durand Line are tremendously stressed and contested. Even with a formally recognized government in Kabul, a framework agreement and cooperation on shared water resources was far-fetched possibility. However, the Taliban took over and established a de facto government in Kabul (not recognized by any country) since 15th August 2021, which has further complicated the issue. The study will look into reasons, especially in spatial and geopolitical perspectives, due to which the two countries could not reach a water sharing agreement, implications of continued political tensions and its effects on the water availability in the basin. The study would also compare the same with best practices in light of International Water Law and relevant conventions.

RESEARCH QUESTIONS

- Explore the possibilities of cooperation on shared water resources with De-Facto but (not accepted by the International Community) Taliban 2.0 Government in Kabul.
- How spatial characteristics and geopolitics in the region has affected the development of water resources in the Kabul River Basin?

SCOPE AND SIGNIFICANCE OF THE STUDY

This Study will consider prospects of conflict/cooperation in the Kabul River basin in light of International Water Law, bilateral relations between the two neighbouring states, Pakistan and Afghanistan, and their commitment to Sustainable Development Goals (SDGs) under the Taliban 2.0 regime in Kabul. This study will be unique as it will not only look into the technical and legal aspects of the lack of cooperation on the Kabul River Basin but will also account for the spatial and geopolitical issues and challenges which have prevented otherwise mutually beneficial cooperation on the Kabul River Basin. The study would look into challenges and opportunities created by the Taliban takeover of Kabul on 15th August 2021 and would help in the identification of the issues and would suggest policy options to enhance cooperation for sustainable development, leading and integrated river basin management.

OBJECTIVE OF STUDY

This study will examine the complex and multidimensional issue of cooperation on shared water resources between Pakistan and Afghanistan and the extent to

which peculiar spatial and geopolitical aspects of the Kabul River basin have promoted cooperation or conflict.

LIMITATION OF THE STUDY

For the sake of brevity, domestic politics or internal hydro-politics of the two countries would not be discussed; the study would consider only those factors which have transboundary implications and affect integrated river basin management.

OUTLINE OF THE STUDY

The Research Paper will be divided largely into three sections. Section #1 would comprise the introduction of the topic along with a literature review. Section #2 will have findings in light of International Water Law and global best practices. The third and final chapter will have a conclusion and specific recommendations for Pakistan.

RESEARCH METHODOLOGY

This is essentially a 'Qualitative Research'. However, an effort has been made to follow a case study approach to intensively study the historical context and contemporary trends of the Kabul River Basin. Protracted political conflicts and the history of water resource development of both countries were also studied in detail.

Quantitative data was collected from Secondary sources, which include official publications of the Ministry of Water Resources, WAPDA, and other publications of the government of Pakistan. Data from the World Bank (WB), Food and Agriculture Organization (FAO), and other international organizations was also used. For Afghanistan, data was retrieved from the official website of the Ministry of Energy and Water, and the websites of international organizations, including the World Bank and the Asian Development Bank, were used.

Qualitative data was collected through semi and unstructured interviews of important dignitaries, government officers, academia, and water experts. Notes were taken by a scribe, and the information was compiled and made part of this study.

A number of Interviews were conducted at Pakistan's Ministry of Foreign Affairs to develop a political insight of the issue and with a wide range of water experts, including Idress Rajput, ANG Abbasi, Danish Mustafa, Mr. Mehr Ali Shah at Pakistan's Ministry of Water Resources. Interviews were conducted at LEAD Pakistan, which are involved in extensive Track-II diplomacy to pave

public opinion and to appraise the two governments about the benefits of cooperation. Mr. Shafqat Kakakhel, former Ambassador and UN Assistant Secretary-General, who has extensively written on the topic, was also interviewed. Pakistan's Incumbent Ambassador to Kabul, H.E. Mr. Ubaid-ur-Rehman Nizamani, and former Ambassadors, including Ambassador ® Mansoor Khan and Ambassador ® Zahid Nasrallah Khan, were interviewed to get detailed insight into official developments on the topic.

For data relating to census and other social parameters official website of the Pakistan Bureau of Statistics was used. Similarly, all figures and facts provided by the interviewee were cross-checked with official sources to ensure authenticity.

For International Water Law, the website of UN-Water was used to access the latest developments and studies in international water law. Basin-specific studies from peer-reviewed journals were used to gather information about international best practices in the field of Transboundary Rivers.

To develop a holistic approach to the issue, a SWOT analysis was done. This was based on the knowledge acquired through carefully assimilating the available literature and on the basis of the research done throughout this study. The DEM was used to calculate slope gradients, providing information on the steepness of the terrain. Tool ArcGIS computes the slope directly from DEM data (Esri. 2014). Areas with higher slopes were identified as potential barriers to urban encroachment. Hill shade maps were generated to visualize the three-dimensional structure of the terrain, aiding in identifying areas with suitable topography for urban development. Understanding how water flows across a landscape can inform decisions about infrastructure placement and flood risk management. (Tennessee Archaeology Council. 2023) Flow accumulation and flow direction of

the Kabul basin has been done by using the Spatial Analyst tool in ArcGIS (Figure 4)

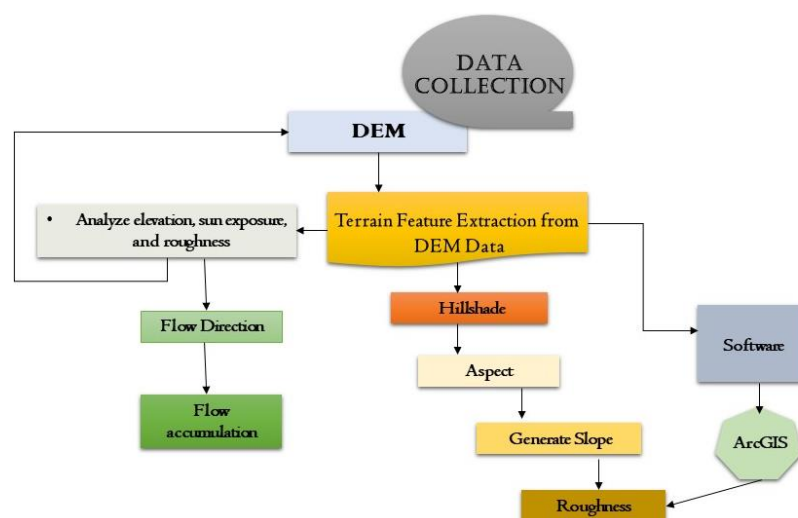


Figure 4,
Methodology
Framework

DEM Data Analysis	USGS (SRTM)	ArcGIS	Acquired and processed DEM data to analyze the Kabul River's elevation, slope, and terrain characteristics	Provides essential elevation data, crucial for understanding flood risks and how terrain affects settlement patterns	(Dewi Sukma Sari et al., 2024)
Slope Analysis	Derived from DEM	Slope tool (ArcGIS)	Calculated slope to study terrain gradient and its influence on water flow and settlement distribution.	Slope affects flood vulnerability and construction feasibility, guiding urban planning near riverbanks.	(Leta et al., 2023)
Hill Shade Analysis	Derived from DEM	Hill shade tool (ArcGIS)	Visualized terrain relief to better understand topographic features along the Kabul River.	Helps identify shaded and illuminated areas, which can affect land usability, microclimate, and settlement suitability.	(Van Den Eeckhaut et al., 2005)
Roughness Analysis	Derived from DEM	Terrain Roughness Index (TRI)	Analyzed surface roughness to assess its impact on hydrological behavior and urban development.	Rougher terrain may affect the flow of water and increase flood risk in certain areas, influencing settlement locations.	(Adedjoja et al., 2023)

Table 1: DEM and Terrain Analysis**WATER SCARCITY IN PAKISTAN AND AFGHANISTAN**

Water scarcity is generally referred to as a lack of adequate water for Human and environmental use. The Falkenmark indicator, or “Water Stress index”, is mostly used to define water scarcity. Falken mark used per capita availability of water per year as a general rule to understand water scarcity, as per Falken mark indicator (Falkenmark , Lundqvist, & Widstrand , 1989) a country having less than 17000 BCM of per capita per year is said to be water scarce, if the availability of water is less than 1000 BCM the country is regarded as water Stressed while availability of less than 500 BCM makes a country experience absolute water scarcity.

Table 1, Falkenmark Water Stress Index (Falkenmark et al., 1989)

Index (M ³ per Capita)	Category
More than 1700	No Stress
1,000-17000	Stress
500-1,000	Scarcity
Less than 500	Absolute Scarcity

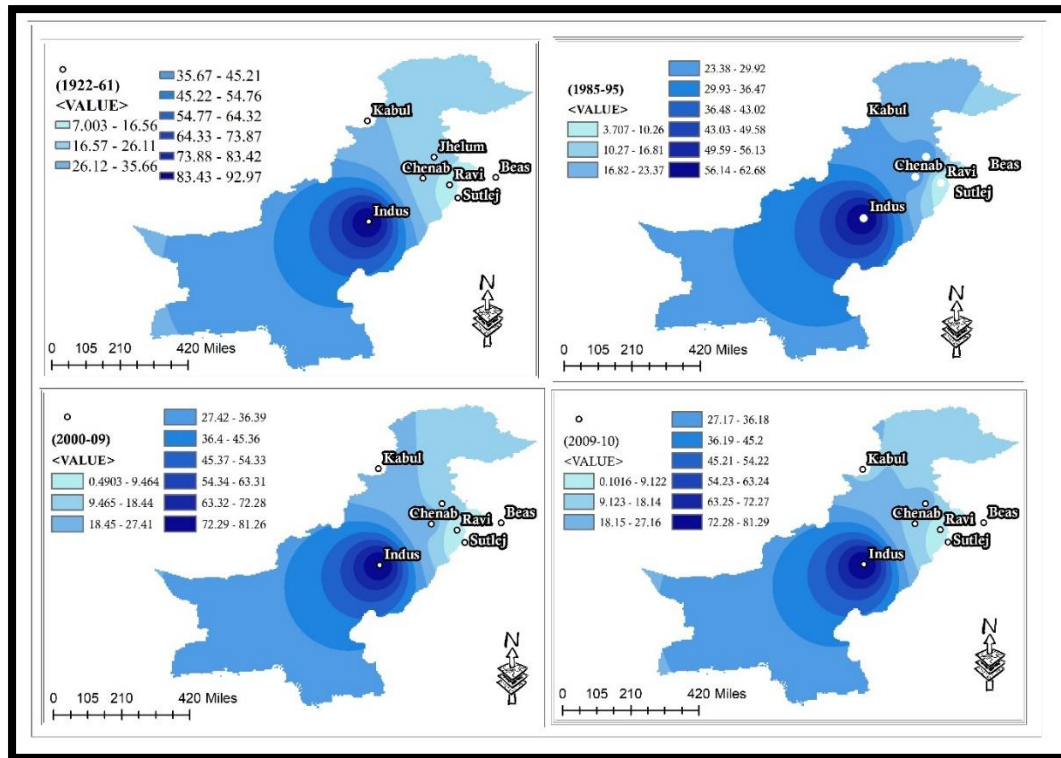
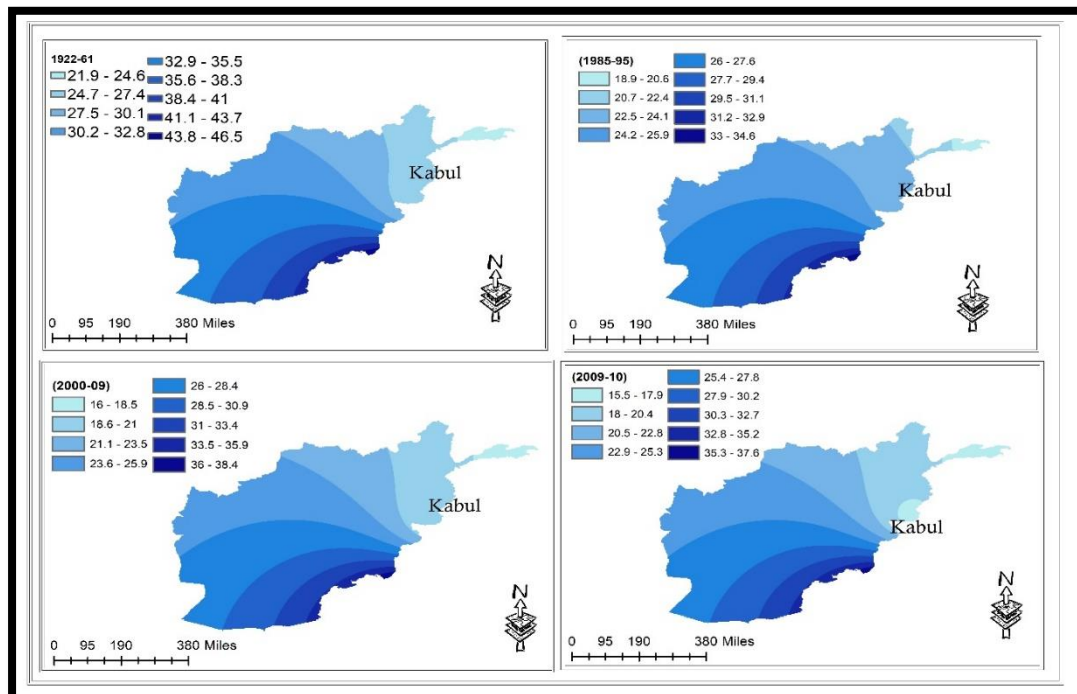


Figure 4(a): River flow in Pakistan. (b) River flow in Afghanistan. (Source:



Ministry of Water and Power/WAPDA Pakistan).

*All figures are in MAF

Afghanistan is blessed with headwaters of 5 major river basins which include Kabul-Indus River basin, Amu Darya, Northern, Harird, Murghab and Hilmand, while Pakistan has only the Indus River system, which caters for all its needs. Before 1960, cumulative flow of Indus along with its 5 tributaries (Beas, Sutlej, Ravi, Chenab and Jhelum) had an annual flow of 189 MAF however, under the IWT of 1960, three eastern tributaries Beas, Sutlej and Ravi were awarded to India while Pakistan was left with Indus and its 2 Tributaries (Chenab and Jhelum) the annual river flow to Pakistan was reduced to 138 MAF (a loss of 51 MAF) (Mustafa , Hydro Politics in Pakistan's Indus basin , 2010). Another point worth considering is that the annual flow of all rivers except the Indus is decreasing over time. Experts believe that increased melting of the Himalayan Glaciers has helped in the sustained flow of the Indus River.

Water is renewable but not infinite, while the population of Pakistan has increased at an alarming rate. This exponential population growth has seriously stressed Pakistan's water supply. The table below shows that from a water-rich country on its creation in 1947, Pakistan is now a water-stressed stressed.

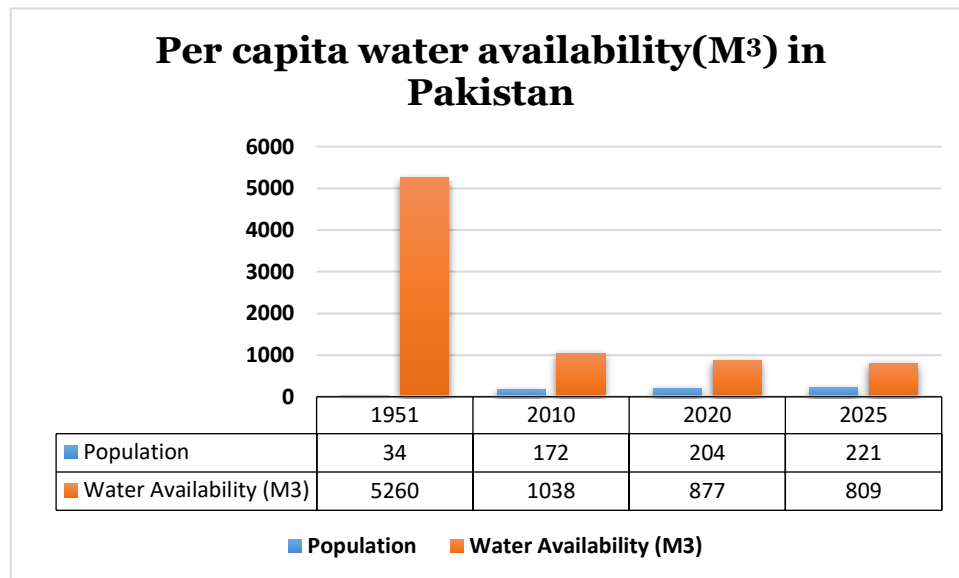


Figure 5: Per capita water availability in Pakistan (source: Ministry of Water and Power/WAPDA Pakistan)

India is developing its water resources on the Western tributaries, and water availability to Pakistan may not be affected by any single project; however, the cumulative effect of the 33 Indian projects planned by India may adversely affect both the net and seasonal flow of water to Pakistan (Mustafa D, 2007). With this baggage, Pakistan finds its western neighbour, Afghanistan, planning

to develop shared water resources. The River Kabul is the only source of water for the people of Peshawar and Charsadda valley. The agriculture in these two fertile valleys is dependent on irrigation canals originating from the Warsak dam. The water situation in Afghanistan is also perilous. Afghanistan has a population of 33 million and available water resources of 58.74 MAF; however, the country uses only 30% of its available water resources (LEAD Pakistan , 2018). It is currently not water-stressed but will soon feel the heat due to its burgeoning population.

AFGHAN PLANS ON RIVER KABUL (IN REPUBLIC ERA)

Afghanistan faced a continuous war from 1980 to 2002; however, an internationally recognized and widely representative regime was established in Kabul in 2002. In order to develop its water resources, the new government sought the help of different organizations. In 2008, the Afghan Government requested the World Bank for Technical Assistance to build its “Capacity for Strategic Basin Planning”. With the help of other donors, World Bank Approved Afghan Water Resources Development (AWARD) technical assistance project, under which a comprehensive study of the Kabul River basin was conducted to identify medium- and long-term options for development of the Kabul River Basin (World Bank. 2010)

The study conducted by the World Bank provided a list of potentially viable options, which includes:

- 13 Dams and reservoir projects.
- 08 of which could have hydro power capacity. Three sites were identified for the run-of-the-river projects.
- The Cumulative Hydro Power generation capacity was expected to be 1,171 MW.
- Five ground aquifers were identified.
- 14 areas were identified for Irrigation development.
- 01 Trans-basin Conveyance link for connecting Kabul with Panjshir Watershed.

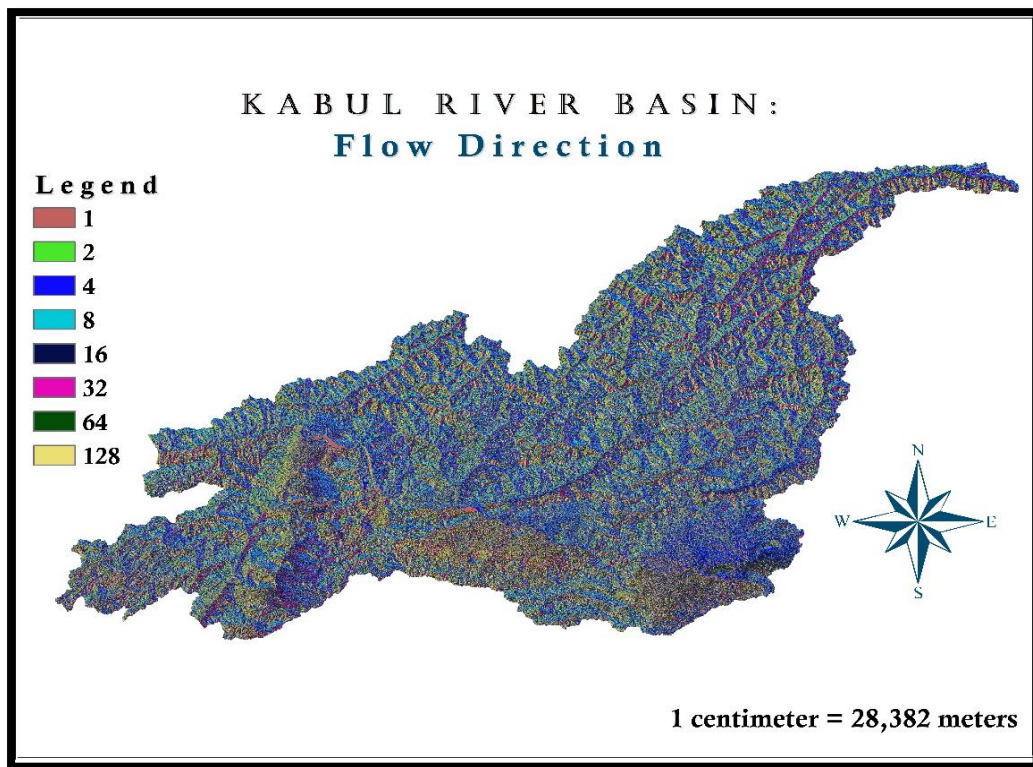


Figure 6, Flow Direction of Kabul River Basin

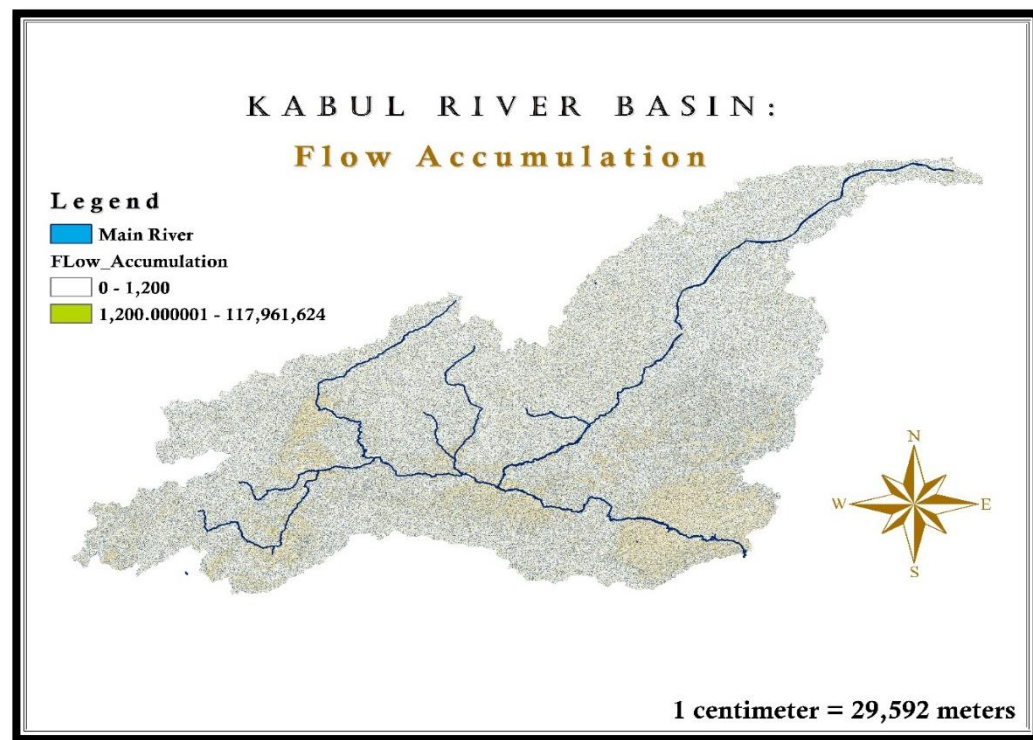


Figure 7, Flow accumulation

		Dam height	Gross storage	Live storage	Installed capacity	Annual cost	Capital cost	Annual unit cost of live storage
		(m)	(Mm ³)	(Mm ³)	MW	(MUS\$)	(MUS\$)	(\$/m ³)
Panjshir subbasin								
Totumdara	R8	135	410	340	na	33.2	332	0.098
Barak	R9	155	530	390	100	117.4	1,174	0.301
Panjshir I	R10	180	1,300	1,130	100	107.8	1,078	0.095
Baghdara	R11	40	400	330	210	60.7	607	0.184
Logar-Upper Kabul subbasin								
Haijan ^a	R12	50	220	200	na	7.2	72	0.036
Kajab	R2	85	400	365	na	20.7	207	0.057
Tangi Wardag	R4	65	350	300	na	35.6	356	0.119
Gat	R7	20	500	440	na	5.1	51	0.012
Lower Kabul subbasin								
Sarobi II (ROR)	R16B	200	na	na	210	44.2	442	na
Laghman A	R17	nd	405	288	44	1,251	125.1	0.434
Konar A	R19	nd	1,212	1,010	366	94.8	948	0.094
Konar B (ROR)	R20	nd	na	na	81	23.2	232	na
Kama (ROR)	R21	nd	na	na	60	11.5	115	na

Figure 8: Kabul River basin Storage Options. (Source: World Bank. 2010)

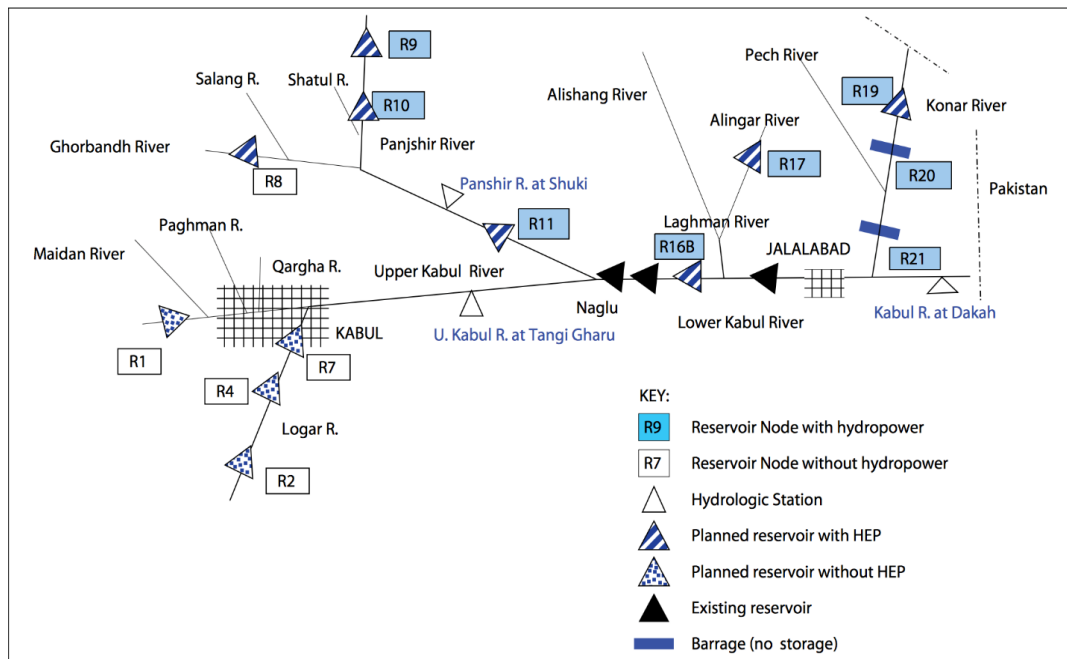


Figure 9: Map of Kabul River Basin Storage Options. Source (World Bank, 2010) Map of Kabul River Basin Storage Options. Source (World Bank, 2010).

The Afghan government has been fairly enigmatic about its plans for development, and in the absence of authentic information, ambiguity persists around the issue. These reports may only mean identification of suitable sites, and the final decision about the selection of sites and the number of dams has to be made by the Afghan government.

INDIAN WATER PROJECTS IN AFGHANISTAN

During the two decades since 2001, the Indian Government developed cordial relations with the Karzai and Ghani regimes in Kabul. Indian helped Afghanistan in the water sector, ostensibly with ulterior motives. It is worth mentioning that it is a customary practice of international donors (including the World Bank and ADB) that they would not fund any project on transboundary rivers without the consent of all riparian states.

It was, therefore, clear that Afghanistan could not utilize its international funding to develop its water resources and that it did not have had enough financial and technical resources to develop its Water resources on its own. Therefore, it relied heavily on bilateral funding, which no other but India could provide.

SALMA DAM

With Iran, Afghanistan has a water treaty and under the same, Afghanistan could develop its water resources. Therefore, India started with the Salma Dam, which is also called as Afghanistan-India Friendship Dam. The dam was constructed on the Hari-Rud River in the District of Chisti Sharif in the province of Herat, Afghanistan. The cost of Construction was \$ 275 million and was completed in 4 years. It was finally made operational in 2019.

The Dam had a height of 108 meters, a storage capacity of 640 MCM, irrigated 75,000 hectares and produced some 42 megawatts of electricity (NDTV, 2021). Iran did not object to the construction of the dam as such; probably, they were given assurances that the Afghan-Iran Water treaty would remain intact. However, we witnessed the effects of the dam as Afghanistan reduced the supply of water to Iran in 2021 and then again in July 2023, leading to border skirmishes.

SHAHTOOT DAM

This was the second project of India in the water sector of Afghanistan. The Shahtoot dam is being constructed on a tributary of the Kabul River in Charasiab district of Kabul province. This dam will cost US\$236 million (funded by India) and is expected to be completed by 2024. However, the work on the dam is

halted since 15 August 2021. Many Pakistani water experts, had raised objections on the construction of Shahtoot dam on Kabul River Basin because it could potentially reduce water supply to Pakistan, however, in a number of statements the Afghan government maintained that the dam was to provide drinking water to residents of Kabul city and that it will not affect the net availability of water to Pakistan by any significant margin.

Pakistan was primarily concerned by the downstream Kabul part of the Kabul River; the upstream part was largely consumed in Kabul city. Therefore, Pakistan did not officially raise the issue with the Afghan government. However, the larger question was, if India could help construct a dam in the Kabul river basin, upstream Kabul, then what would hold it back from the construction of a similar project downstream Kabul?

It is worth mentioning here that the World Bank, after their study of Afghan Water resources in 2010 had refused to further develop the resources without the prior consent of Pakistan. This the customary internationally practice, that lower riparian is taken in confidence on all planned projects.

EFFECTS OF AFGHAN WATER PROJECTS ON PAKISTAN

An effort to assess the effects of Afghan development was made at the Technical Committee on Water Resources in 2005. The committee was headed by renowned water expert Mr. ANG Abbasi, it presented its report to the Government in August 2005.

Mr. ANG Abbasi¹, giving details of the proceedings, stated that the report provided by WAPDA estimated that future Afghan water use will increase by 0.5 MAF, which needs to be accounted for. However, WAPDA's report was based on an assessment of only one Afghan Project, which was the KAMA Hydro Project, which had the storage capacity of 0.5 MAF, while the Chairman of Indus waters provided a list of other Afghan projects.

Syed Mehr Ali Shah, Joint Secretary, Ministry of Water Resources, believes that although all Afghan projects can store up to 4.7 MAF of water, the actual reduction in supply of water to Pakistan will not be more than 2 MAF. However, much more water may be required at the time of filling the reservoirs, which will affect water availability in Pakistan during that particular time. Moreover, Afghanistan can control the flow of water during the peak demand.

¹Mr. ANG Abbasi is an engineer by profession and has represented Sind at IRSA

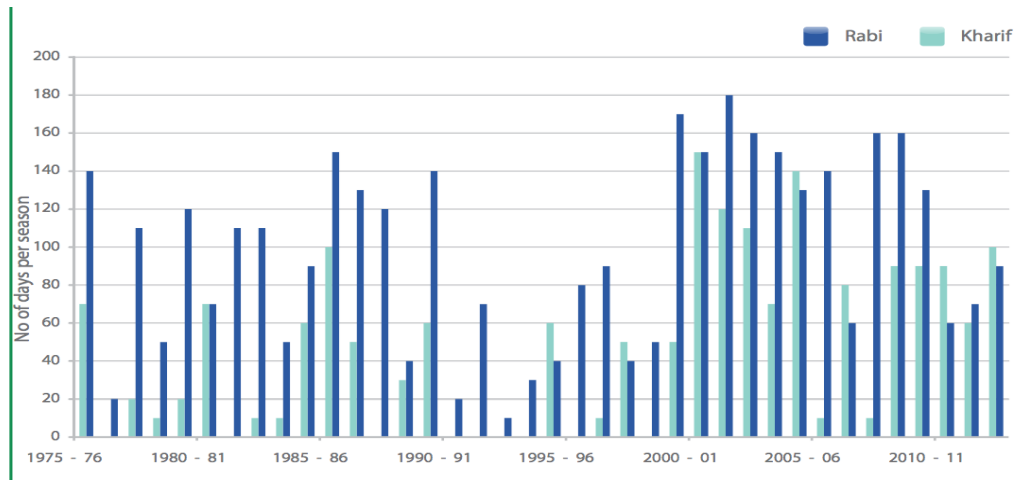


Figure 10: No. Of days with zero Downstream Kotri flow. (Source: UNDP Pakistan.)

The idea of the above discussion is that, due to a prolonged lean season, Pakistan faces an acute shortage; hence, Pakistan must not compromise on its regular supply of water. It is feared that any loss of water from Afghanistan will be compensated by a reduction in downstream Kotri flows or from the share of the lower riparian, i.e Sindh Province (Mustafa, Hydro Politics in Pakistan's Indus Basin , 2010).

Pakistan's major concerns could be enlisted as:

- Quantity of Water from the Kabul River should not be adversely affected
- Quality of water should be improved by watershed management.
- Flood Warning and control system should be in place.
- Hydrological information should be shared with Pakistan.
- Afghanistan should inform Pakistan about its future projects in the Kabul River Basin.

CONFLICT VS COOPERATION

While Afghanistan had plans to develop its resources on Kabul River, Pakistan had already planned to construct a 150 megawatt hydroelectric project with live capacity of 715 MCM (The World Bank, 2010) on Chitral/Kunar River. According to Mr. Abbasi, this is an over ambitious project, which could only be used as a deterrent. He agrees that Pakistan has the right to develop its resources on the Chitral River, but cautioned that this must be within the ambit of international law. He said, treaty or no treaty with Afghanistan, Pakistan must work within the ambit of international law, as this is what we seek from our upper riparian and violation on our part may result in retribution from them.

As Mirumachi (Zeitoun & Mirumachi, Transboundary Water Interaction 1: Reconsidering conflict and cooperation, 2008) states that conflict and co-operation go alongside each other in the transboundary basin. As the conflict increases, efforts to seek cooperation also increase. While cooperating on a few points, states may have conflicting interests on others.

The Afghan National Security Council, headed by the then-President Hamid Karzai, opposed Pakistan's plan to construct the Dasu dam on the grounds that the Dam was being constructed on shared rivers. Later in the 8th JEC meeting, Pakistan's Finance Minister explained to his counterpart that Afghanistan is neither the Upper nor lower riparian on the Indus River and hence it has no grounds to object to the construction of the dam. Afghanistan later dropped its complaint.

BENEFITS OF COOPERATION

Both Pakistan and Afghanistan face water scarcity at different levels. During the 7th meeting of the Joint Economic Commission (JEC) held in 2013, Afghanistan offered the joint construction of the 1500 MW Kunar Dam to Pakistan² (Khaleeq, 2016). Pakistan Finance Minister (who was leading the Pakistani delegation) welcomed the Afghan offer, and it was decided that Afghanistan would provide a feasibility study of the dam in the next JEC. It is unfortunate that no progress was made in successive JECs. However, this tiny step amply highlighted the benefits of cooperation. Some important benefits of cooperation in the Kabul River Basin include:

Management of Floods and Drought

Kabul River Basin is prone to flooding; the yearly flow of the river at Dakah (last hydro-station in Afghanistan on Kabul River) varies from 500 mm³ in March to 3800 mm³ in July (Shafqat, 2018). Peshawar valley, especially the Nowshera area, which is the confluence of Kabul and Indus, is prone to flooding during the wet season. Unprecedented floods Kabul River in 2010 affected the entire Peshawar valley.

Upstream, a flood warning system or permanent structures like Warsak dams could have prevented such flooding. Moreover, the area is prone to severe drought, which could last for half a decade. Water storage could be helpful to mitigate the adverse effects of drought and provide water to the residents in lean seasons.

² The Scribe had access to the proceedings of the 7th JEC the report of which was published in leading dailies including Dawn.

Enhanced Supply of Water

Hazrat Umar Zakhiwal, the Afghan Finance Minister leading the Afghan delegation for the 7th JEC meeting, suggested that upstream storage of water in Afghanistan will help the supply of water to Pakistan, especially in the lean season (Khaleeq, 2016). Experts like Shafqat Kakakhel agree that in the case of a water sharing agreement, the supply of water to Pakistan could be both enhanced and regulated as per its requirements, which would be mutually beneficial for both nations.

Water Shed Management

The nonexistence of watershed management in the Kabul River basin has adversely affected the quality of water, and hence, Warsak Dam on the Kabul River suffered heavy siltation. Currently, the Ministry of Water Resources is carrying out a rehabilitation project at a cost of Rs 222,254 million to enhance the dam's capacity (MOWR, 2017). The two countries can jointly manage the watershed to control siltation and improve the quality of water.

Quality of Water

Besides natural siltation, domestic and industrial wastewater finds its way to the Kabul River inside Afghanistan. Therefore, the quality of water supplied to Pakistan is atrocious and is contaminated with toxic substances. A World Bank study (The World Bank, 2010) suggests that Pakistan needs to work with Afghanistan on improving the quality of water. Afghanistan surely lacks the necessary expertise and resources which Pakistan can provide in return for quality water.

Electricity Production and Trade

Pakistan is an energy-starved nation. We are trying to build dams to produce cheap hydroelectricity. Only the Kunar Dam, which could be jointly constructed, has a capacity of 1500 MW. The Kabul River basin can produce an additional 1171 MW of energy (Shafqat, 2018). Afghanistan can produce energy and export surplus to Pakistan; this practical solution can mutually benefit the two riparian states.

Water Cooperation under Taliban

Taliban, in their public display, have been scrupulously obdurate on their puerile definition of Afghan sovereignty and territorial integrity, especially when it comes to water. They mostly believe in the primitive concept of Transboundary

Rivers. Taliban claim the rivers as Afghan waters and consider sharing the same with a lower riparian state is a zero-sum game. However, during official interactions Taliban have shown flexibility in their previous regime and during the current regime as well.

IRAN-AFGHAN WATER COOPERATION UNDER TALIBAN 2.0.

As mentioned earlier, Afghanistan and Iran had signed the Helmand Water treaty in 1973, according to which Iran was to receive 22 M³ per Second per annum, which amounts to 820 million M³ under normal conditions (D' Souza, 2023). The Afghan government had largely followed the treaty. However, after the construction of Salma Dam in 2019 on the Hari-Rud River, Afghanistan got the capacity to store water and disrupt the flow of water to Iran.

Moreover, serious droughts in the last couple of years in the region added further stress on shared water resources. The month of May is the time of year when water is most needed for domestic and agriculture use. This is when Iran needed water, and the Taliban refused to release the same from the Kamal Khan Dam on the Helmand River.

Iranian President and Interior Minister had publicly warned the Taliban to desist from restricting the flow of water to Iran; they had proposed a field visit from Iranian officials to ascertain the situation on the ground and to reconcile the facts given by the Taliban regime. It is worth mentioning that since the Taliban stopped the flow of water to Iran, civil unrest and protests started in Iranian Balochistan (Khuzestan Province). In 2021, Iranian people in the province of Khuzestan had demonstrated for water, and soon the protests spread to all parts of Iran, including Tehran. This was called the 'uprising of the thirsty'.

However, the diplomacy could not work, and a border skirmish ensued. On 27 May 2023, the two sides, Afghanistan and Iran, exchanged heavy fire from both sides resulting in the loss of 2 lives on each side and injuring many others in Nimroz province.

This was a trailer of what water war could mean to both countries faced with chronic and ever-increasing water stress. Thanks to the prudence of leadership on both sides, the border skirmishes between Afghanistan and Iran did not escalate in a full-blown conflict. Moreover, the Taliban have the acumen to realize that they need to keep Iran in good humour in order to last longer. Iran is a major trading partner and supplies much-needed fuel to Afghanistan.

Hence, the Taliban were quick to offer an olive branch, the conflict subsided, and Iran was given access to determine the ground condition, and an amicable solution was reached. The flip side is that the Taliban regime was criticised for

giving in to Iran's demand, which was considered a failure by their more radical supporters.

The idiosyncrasies and dynamics of the Taliban regime are unconventional, and therefore, uncertainty largely grapples around their actions.

PAK-AFGHAN COOPERATION ON WATER DURING TALIBAN 1.0 (1995-2001)

Taliban leadership, in their first stint, did not make any significant progress on water issues. In 1997. The two sides agreed to cooperate on the construction of a dam on the Kabul River. This was actually limited to desiltation and increasing the capacity of an existing reservoir. Moreover, in 1998, the two sides agreed on the protection of the environment in the Pak-Afghan border region.

The issue was not just limited to reaching an agreement, but to practically applying the same. Pakistan, at that time, did not have financial and or material support to help Afghanistan in the development of its water resources. This was primarily because Pakistan had conducted nuclear tests in 1998, and subsequently, all assistance to Pakistan was restricted. Pakistan continued to face US sanctions till 9/11, 2011, happened, and things in the region changed for good.

VALIDITY OF AGREEMENT SIGNED BY TALIBAN REGIME 2.0

It may be noted that Pakistan was one of the few countries who had officially recognized the Taliban regime in 1995; however, this time around, Pakistan has not officially and formally accepted the Taliban as the legitimate government in Afghanistan. The question of whether an agreement with the Taliban will be acceptable to any successive regimes is premature at this point.

It largely depends on how the future of Afghanistan takes shape. Similarly, a lot depends on the future political disposition of Afghanistan. If the Taliban were removed from office, what would be the mechanism, and under what terms and conditions would the same happen? Moreover, Pakistan has been playing an active role in Afghan politics, and any change of government is likely to enjoy Pakistan's blessings. Hence, Pakistan would continue to play a key role in Afghan politics and could therefore use its political capital to safeguard its interests whenever a change of regime in Kabul is in the offing.

Many important dignitaries interviewed during the course of this research suggested that Pakistan should not hold back from any fruitful agreement with the Taliban, only due to the fact that they are not a legitimate government or that they are not accepted by the international community. Afghanistan is Pakistan's neighbour, and we have to deal with anyone who is in power, albeit

de facto, in Kabul. The agreement so reached or arrangements made therein may not be strictly legitimate; nevertheless, this would lead to a customary practice which will help Pakistan build its case for future governments to follow.

Under customary International Law, once a practice is established, it should be continued without any mutually agreed amendments. Therefore, if any arrangement is agreed, it may not be binding on the successive governments, but who knows when that government and in what shape it would come. So let's plan for today and for our tomorrow without embroiling on the future of the Afghan government.

EFFECTS OF CLIMATE CHANGE

Climate Change has a profound effect on freshwater availability in Pakistan. Our region has witnessed increased spells of floods and drought. The floods in the summer of 2022 inflicted economic losses of over US\$30 billion, and reconstruction needs amounted to a whopping US\$16 billion (The World Bank, 2022). These are based on the assessments from the World Bank for Pakistan's program called 'Build Back Better'. The real issue is not just one flood. Pakistan has to be prepared for many more. The region is faces severe effects of climate change, and Pakistan needs investment for climate adaptation and mitigation. These floods do not mean an increase in water supply for Pakistan; they are part of the monsoon cycle, which is known for its unpredictability. In fact, the floods and droughts are getting increasingly severe as climate change takes its grip. Climate change has actually caused reduced river flows in some regions of Pakistan, especially at the time when water is needed the most, which is the Kharif and Rabbi sowing season. Pakistan is a predominantly agricultural country, which needs agriculture not only to feed its exponentially growing population but also its industry, and a large part of its economy is agro-based. Any dip in agriculture would cost Pakistan heavily and in multitude ways.

Another profound effect of climate change is the melting glaciers. Once the glaciers which feed our major rivers melt, the flow of our rivers would go down significantly. Scientists expect this to happen somewhere after 2040. This is the time when Pakistan's population is expected to be touching the 322 million mark, and the country would face an acute water shortage. This is exactly the moment where the Kabul River would play a vital role in Pakistan's economy. Climate change would also lead to increased evaporation from dams and other freshwater resources. Moreover, due to the heat the water consumption will also increase in Pakistan. So this would be an added factor for increased consumption of water in Pakistan.

Another aspect of Climate Change is the groundwater depletion. As we try to take out more water from our underground aquifers than they are recharged, we would, by the mid of the century, hit a mark where these would start to run dry. At this point of time, the only water resource available to Pakistan would be the surface water coming from our rivers.

In the near future, with a growing economy, every sector, including industries and domestic consumers, would require more fresh water to survive. In these times, Pakistan cannot afford to lose any reduction in its river flows. Therefore, the scarcity could lead to water wars, which could threaten the peace and stability of the entire region.

We now understand how a of reduction of 2-4 MAF of water from the Kabul River could seriously harm Pakistan's economy and could lead to civil unrest.

ISSUE LINKAGE

The Issue linkage is a term in hydro diplomacy that refers to the practice of connecting or linking water-related issues with other non-water issues. This significantly helps in reaching an agreement as the scope of cooperation on water-related issues increases manifold. In International negotiations and cooperation over shared water resources, the issue linkages have been pivotal in reaching an agreement. Moreover, this approach establishes that water resources cannot be taken in isolation; rather, these are interconnected with broader political, economic, and social issues. Leveraging specific advantages of such issues could potentially lead to more effective and efficient diplomatic solutions and cooperation among riparian states.

There are several ways to incorporate Issue linkage in negotiations on shared water resources, including.

- **Multi-Issue Negotiations:** Countries may engage in multi-issue negotiations where water is one component of a broader set of objectives. These negotiations may include topics like trade, transit trade, energy cooperation, connectivity, etc. This can therefore create added incentives to reach an agreement on water-related issues.
- **Conflict Mitigation:** Instead of squabbling on the mere quantity of water, the countries prefer to extend the horizon and include other aspects like quality, etc, which mitigates the conflict and extends 'the box' within which the water issues are viewed. The conflict could therefore be changed into cooperation.
- **Mutual Interdependence:** Riparian states are neighbouring countries which have mutual interdependence on many issues, including the ones mentioned in point (a) above.

- **Political and Economic Leverage:** Many political and economic considerations could be aligned with the water issues. These include assistance at multilateral forums, etc.
- **Regional Integration:** It is said that not just the countries but regions grow. We have an example of ASEAN, which grew only because they could do away with their regional issues and integrated into one block. The Mekong River basin is one such example.
- **Environmental Considerations:** This is yet another important part. Water is a core component of the environment of any piece of land. Therefore, the environmental aspect is usually linked with water so as to take a holistic approach.

ISSUE LINKAGE IN KABUL RIVER BASIN

Pakistan and Afghanistan have myriad avenues for cooperation and issue linkages. Pakistan, being the Hydro hegemon, have the capacity and resources to compensate Afghanistan in kind for the assessed cooperation in the Kabul River basin. We can list a number of avenues, these include bilateral trade, transit trade and other projects of regional connectivity, including TAPI. Moreover, Pakistan can provide its additional electricity to Afghanistan and could also extend political support, including recognition to the Taliban regime. Pakistan has a trump card, and that's Afghanistan's access to India. This specific leverage could also be utilized to lure in the Taliban and seek concessions on the shared water resources.

It may be noted that there are over 12 rivers (perennial and semi-perennial which flow from Afghanistan to Pakistan. A sharing agreement may include concessions from each side on the lines of the Indus Water Treaty.

Environment and water quality are two aspects which could be linked to water quantity. Pakistan could seek better water quality and help Afghanistan preserve its environment. Moreover, an argument that any reduction in water from the Kabul River would adversely affect our climate can be a good negotiation point.

LESSONS FROM INTERNATIONAL BEST PRACTICES

Water is a commodity which is being sought by all states. Disputes are a common occurrence in shared water basins; however, a number of states have found amicable and win-win solutions. In this section, we shall discuss a few such arrangements and their relevance to the Kabul River basin.

USA-Canada Water Cooperation

The United States and Canada signed the historic Columbia Water treaty in 1964. The water accord allows mutual efforts for flood control and the production of hydroelectric energy through the development and regulation of the Columbia River. Canada is both an upper and lower riparian at the Columbia River. Canada built three storage dams, while the US built Libby Dam, whose reservoir flooded parts of Canada. USA paid Canada around 65 million \$ for flood control benefits and also shares the electricity produced by the Libby dam (Thomas & Dixon, 1994).

Jordan River Basin

The water Israel and Jordan had conflicts on the territorial boundary and political issues. The two arid countries compete for the waters of two shared rivers Yarmouk and the Jordan River. However, the country circumvented the issues and signed a comprehensive agreement on the use of water in 1994. The agreement allowed Israel to extract 25 MCM annually from the Yarmouk River while Jordan was allowed some 20 MCM of water from Lake Tiberias in Israel (Ashfaq, 2017). This water accord and interdependence has contributed to regional peace and stability.

India-Bhutan Agreement

In 1980, Bhutan started the development of its hydropower potential of the Wangchu Cascade at Chhukha. India was the lower riparian; however, to satisfy its energy needs, India started negotiations with Bhutan and finally agreed to construct a 336 MW run-of-the-river (ROR) project at Chhukha, on the basis of a 60 percent grant and 40 percent loan. Under the agreement, Bhutan retained the first right of use of electricity and to sale surplus energy to India (FAO, 2011). Bhutan received financial and technical assistance from India. The agreement provided Bhutan with much-needed financial resources and foreign exchange while India received energy to quench its requirements. Subsequently, the two countries further collaborated in the construction of a 45 MW ROR at Kuri River and are currently negotiating a large storage facility at Sunkosh River.

India-Nepal Agreement

India and Nepal have a history of cooperation on shared water resources. In 1954, the two states formed a joint commission on Kosi River, followed by a similar commission for the Gandak River. However, significant progress was made in 1996 when the two countries ratified the Mahakali River treaty,

providing equal utilization rights. The two countries also formed a Joint Committee on Water Resources (JCWR) through which all outstanding issues on shared water resources are being discussed.

Helmand Water Treaty

The Helmand Water treaty, signed in 1973 treaty is between Afghanistan and Iran, Afghanistan to supply 26 cubic meters per second of water to Iran in a normal year with an annual flow of 5661 MCM (Ashfaq, 2017). This is the only water accord signed by Afghanistan. Due to insatiability in Afghanistan, Iran had been deriving more than its just share. However, in 2017, with Indian help, Afghanistan constructed Salma Dam³ on the Hari Rud River, which did not appease Iran. Afghanistan and Iran agreed that the construction of a dam is in itself not a violation of the treaty.

LESSONS FOR PAKISTAN

The above-referred example was carefully selected to substantiate that the countries across the globe, embroiled in territorial disputes, irrespective of riparian position and despite suffering chronic water scarcity issues, have been able to negotiate water accords and reap the benefits of cooperation on shared water basins. The Indus Water Treaty is yet another example where two enemies, despite fighting wars, have generally abided by the terms of the treaty. Joint development of water resources in shared water basins is not an unholy phenomenon. Pakistan and Afghanistan can work together to reap the maximum potential.

INTERNATIONAL WATER LAW, A CASE FOR PAKISTAN

Any discussion on the Transboundary water issue without discussing the relevant provisions of International Law.

The first major step to codify International Water law was the Helsinki Rules, which were passed in 1966. The rules emphasized on Unity of International River basin and on the principles of “Equitable utilization” and “No significant Harm” (Haines , 2017). The effort to codify the water law continued, UN General Assembly adopted the Convention on non-navigable use of International Water Courses on 21 May 1997 (United Nations, 1997).

While both Pakistan and Afghanistan are not parties to the convention, they are morally bound to act within the ambit of international law. Pakistan strongly

³ Salma dam was initially planned in 1976, but could not be constructed due to 4 decades of war. India helped Afghanistan in construction of Salma dam which was raised alarm bells in Islamabad fearing repetition of same in KRB.

respects international law, and that Pakistan expects the same from its neighbours. “Signatory or not, Pakistan’s policy is to resolve all disputes in accordance with the injunctions of international law.

Based on International customary law and the 1997 UN convention, Pakistani water experts find a strong case for Pakistan. The UN Convention is a refined product of customary International Law, which, despite its weakness, is applicable to all states unless they mutually decide otherwise. (Zeitoun & Warner, Hydro Hegemony- a framework for analysis of trans-boundary water conflicts , 2006)

This discussion could lead us to a long legal discourse on International Water law, which is outside the ambit of this study, but briefly explaining, the case for Pakistan could be based on the following points:

Most of the Kabul River basin in Afghanistan is mountainous with very little arable area, while in Pakistan, the river irrigates the plains of Peshawar and Charsadda. Hence, Pakistan has much more arable area than Afghanistan. Therefore, Pakistan’s requirement for “Blue water” is much higher than that of Afghanistan.

As per Customary International Law and Article 6 of the 1997 UN Convention, Pakistan has a historic right on the waters coming from Afghanistan.

Pakistan has a strong case on the basis of the existing use of water derived from Article 6 of the Convention. The current supply of water is fully utilized within Pakistan, and there is no access, except in the case of floods. Negligible, downstream Kotri reflects the level of utilization of water.

The principle of “Not to cause significant harm” also helps Pakistan. The majority of the 35 million population of KPK and FATA areas of Pakistan exclusively depend on rivers coming from Afghanistan. Pakistan has heavily invested in building infrastructure on the Kabul River. The ongoing Warsak dam restoration project will cost Pakistan Rs 5.05 billion. Pakistan is also to further upgrade it to generate 375 MW with an additional cost of \$ 400 million (Shahid, 2016).

The 35 million Cumulative population of KPK and FATA is more than the total population of Afghanistan i.e., 33 million⁴.

Pakistan’s case under Article 7, “cause no significant harm”, could be further strengthened if water reservoirs like KalaBagh are constructed downstream of Attock on the river Indus.

⁴ Figures for Pakistan Statistics Bureau of Pakistan and for Afghanistan from CIA Fact Sheet.

PAKISTAN'S CURRENT POLICY

At this point of time, it appears as if Pakistan's policy is to wait and watch. Many experts are of the opinion that Pakistan should cross the bridge when it reaches there, indicating that Afghanistan is getting further away and its capability of development of its water resources is degrading with time under the Taliban regime. Therefore, entering into any sort of negotiations with the Taliban regime would not lead to any conclusive agreement, and it would draw unwarranted attention towards the water issues.

Kabul River is declining; the level of siltation is increasing with the passage of time. The fact that land degradation is taking place in the catchment area of Kabul River in Afghanistan and that water is being polluted by domestic, agriculture and industrial effluent is also a bigger consideration.

Therefore, the other school of thought insists that Pakistan must work with international organizations for the conservation of the environment, the Taliban regime and the local population in the catchment areas to contain the flow of pollutants in water and to control the land degradation.

KABUL RIVER SWOT ANALYSIS FOR PAKISTAN

Strengths

- The Kabul River is a major source of water for Pakistan, providing irrigation for agriculture and drinking water for millions of people.
- The river is also a potential source of hydroelectric power, which could help to meet Pakistan's growing energy needs.
- Experience in Water Management: Pakistan has expertise in managing water resources due to its reliance on river systems, which can be leveraged in the Kabul River basin.
- Under international law, Pakistan gets an advantage for historic use of water, as Pakistan has developed a number of dams and irrigation systems on the Kabul River.
- In the Kabul River basin, Pakistan is the hydro hegemon, as it's more economically, militarily and politically powerful than its fellow riparian state (Afghanistan).

Weaknesses

- The Kabul River basin is located in a mountainous region, which makes it susceptible to flooding.
- The river is also a source of pollution, from both agricultural runoff and industrial waste.

- Pakistan's relations with Afghanistan are often tense, which could make it difficult to cooperate on water management issues.

Opportunities

- Pakistan could work with Afghanistan to develop a joint management plan for the Kabul River basin.
- Pakistan could also invest in renewable energy projects, such as hydroelectric power, to reduce its reliance on fossil fuels.
- Pakistan could also promote sustainable agricultural practices to reduce pollution in the Kabul River basin.

Threats

- Climate change is expected to increase the frequency and intensity of floods in the Kabul River basin.
- Political instability in Afghanistan could make it difficult to cooperate on water management issues.
- Increased demand for water from both Pakistan and Afghanistan could lead to conflict over water resources.

CONCLUSION

Pakistan, with per capita water availability of less than a thousand cubic meters and an exponentially increasing population, is fast moving towards water starvation. To make matters worse, most of the 106 MAF renewable water comes from transboundary rivers, which are being increasingly contested both by India and Afghanistan. Afghanistan under Taliban 2.0, for now, does not have the indigenous capacity to develop its water resources and is not expected to receive such help from international donors. However, the previous Afghan regime had an elaborate plan of development Kabul River Basin, with the help of India, they had embarked upon an ambitious project which would ultimately reduce water supply to Pakistan. With the Taliban in control, the international community at bay, and India hedging, we now have respite. This might be a short-lived one; therefore, we need to make full use of it.

The international water law allows both riparian to develop their water resources and prohibits the upper riparian from causing 'significant' damage. The Afghans, with minimal investment, could utilize an additional two MAF of water. However, if they do get state-of-the-art technology and financial support, they may utilize some four MAF water. Pakistan needs to prepare for this eventual scenario in the long term.

Pakistan has a strong case on the basis of historic use of water. This has been used by Egypt, very effectively, in case of the Nile River basin and by Bangladesh in the Brahmaputra River basin. Pakistan has been utilizing all the water of the Kabul River, its population and economy are highly dependent and have no other means to sustain without this river.

However, the absence of a Pak-Afghan water accord adds to the uncertainty. Taliban have been averse of making any international commitments on Afghan Water resources; they did not do it in their first stint, and this research finds that 2.0 will not be different. Therefore, Pakistan will have to adopt some ingenious plans to engage the Taliban and reach some formal or informal understanding on utilization of shared water resources.

Taliban are headstrong in terms of quantity of water; therefore, we may need to move beyond quantity to quality of water. Kabul River has excessive silt content, which is adversely affecting the structures in the basin. Therefore, the two parties would work in cohort to watershed /catchment area.

Issue linkage is one of the most effective tools available in Pakistan. We have ample avenues to give concessions to the Taliban regime for seeking return favours on the Kabul River basin. Pakistan has a host of options, which are given in the recommendations.

Climate change is a serious issue which is affecting the Kabul River Basin in both countries. This is one avenue wherein international assistance could also be obtained. Climate funds are usually apolitical and are more governed by necessity and a country's level of development. Afghanistan, being an LDC, has preferential access to climate funds; moreover, Pakistan could help present Afghanistan's help. The relevant UN Agencies, like UNDP and NGOs, could be the implementing partners. This could create a win-win situation wherein Afghanistan gets to preserve its environment and improve the quality of water which flows into Pakistan. This will also generate mutual interest, which will help address the quantity issue as and when discussed. Until such time, Pakistan could continue to enjoy the full quota of water.

RECOMMENDATIONS

Short Term				
Action	KPIs	Responsibility and Time Frame	Finance	Expected outcome
Engage the Taliban in Hydro diplomacy.	Start negotiations on Water. Make Water part of the bilateral framework Develop an understanding of the Taliban's vision on Water Exchange of ideas	MOFA and the Ministry of Water Resources 6 months	Nil	Confidence-building and moving in the right direction
Quality not just Quantity	Collect data on the Quality of water Exchange Quality parameters with Taliban Stress Pakistan's view on the importance of the Quality of Water	MOFA and the Ministry of Water Resources 6 months	Nil	Raising awareness and sensitising the Taliban on the quality of water
Early Warning System	Operationalization of Afghanistan's flood and other water-related early warning systems	MOFA and the Ministry of Water Resources 1 year	UNAMA / NGOs	Early warning for floods in the Kabul River basin
Education and discussion on International Water Law	Seek the Support of the World Bank and other UN organizations / NGOs for enhancing understanding of International Water Law.	MOFA and the Ministry of Water Resources 1 year	Nil	Both sides will mutually understand the law and their respective positions

Issue Linkages	Seek a concession on Water for the following and other issues Inclusion of Afghanistan in CPEC. Further concessions on bilateral and transit trade Bilateral investment in Afghanistan Possibly facilitate Afghanistan's trade with India through the Wagah border.	MOFA and the Ministry of Water Resources 1-2 years		Increasing the opportunity cost for the Taliban
Support for Climate Change	Watershed stabilization and management. Engage the international community and Climate Financing for climate adaptation and mitigation in the Afghan areas of the Kabul River Basin.	MOFA and the Ministry of Water Resources 2-3 years	By International Institutions	Better management of the watershed/catchment area. Improvement in Water Quality
Quantity	An agreement on the Distribution of Water on Shared Water Resources.	MOFA and the Ministry of Water Resources 10 years	Nil	Pakistan assured a certain quantity of water.
Water conservation	Changing the cropping pattern to crops with low water requirements. Water-efficient irrigation. Reduce industrial and domestic use of water Desalination for coastal cities.	Federal and Provincial governments 5-10 years	Not Applicable	Efficient use of water
Population Control	Contain population growth to less than 2% increase and gradually reduce further.	Federal and Provincial governments	Not applicable	Would reduce stress on water resources

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