

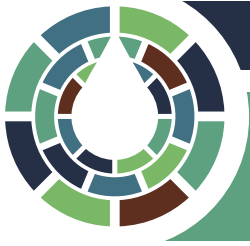
REPORT

Water, Peace and Security

Navigating Water (In)security in Taliban's Afghanistan

Insights into Local, National, and Regional Water Security Challenges

August | 2023



Navigating Water (In)security in Taliban’s Afghanistan

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1. Introduction

Approaching the two-year anniversary of the Taliban’s resurgence to power, Afghanistan’s persistent water crisis continues to worsen. Among a myriad of challenges faced by the Afghan populace, a scarcity of water supply, sanitation, and mismanaged water resources — combined with the regime’s failure to address water-related disasters — places a significant burden on individuals and society. Notably, Afghanistan ranks fifth worldwide in climate risks, with droughts and floods posing greater hardships on communities than any other factor (UNDP, 2023).

The country is grappling with an unprecedented economic and humanitarian crisis, with a UN report indicating that approximately two-thirds of the population, 28.3 million people, require urgent humanitarian aid (UNAMA, 2023). Moreover, the country’s escalating water crisis could potentially influence neighboring countries and their relations with Afghanistan in ways that are currently difficult to foresee but may present a high risk to the region.

This report scrutinizes the water management status in Afghanistan under the Taliban regime — referred to by the UN as the “de facto authorities”. It discusses the Taliban’s approach to water management at local, national, and transboundary levels, as well as the implications for security and stability in Afghanistan and the broader region. The analysis draws upon publicly available information (in English, Pashtu, Dari, and other relevant languages), including earth observation-based data, and heavily relies on information obtained from various Afghan-related resources.

Importantly, Afghanistan has contended with a continuous water crisis for many years, primarily resulting from economic challenges, poor water management, political instability, and global climate change. Water availability is markedly variable and has been for a significant period.

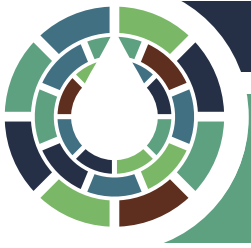
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The country is bearing the brunt of climate change, with the mean temperature in Afghanistan having risen by 1.8 degrees Celsius since 1950 — more than double the global average (WFP et al., 2016, Ruchi Kumar, 2023). Projections from the World Bank and the Asian Development Bank suggest a temperature increase of 1.7°C–2.3°C in Afghanistan by 2050 (WFP et al., 2016). This change has already altered precipitation patterns and river run-offs, resulting in recurring droughts and floods (NEPA AF, 2017).

Data from Afghanistan shows a 12% reduction in precipitation from 2012 to 2023 and a decrease in snowfall by 19% between 2014 and 2020. These reductions are unevenly distributed across the country, with Northern basins experiencing the most significant decrease. This has impacted people’s access to water resources for drinking and various economic uses, and has long constrained the country’s overall economic development and ecosystem. However, recent changes in water management under the Taliban have further deteriorated the already critical situation.



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2. Afghanistan under the Taliban

In the era of Taliban rule, Afghanistan grapples with myriad challenges, among which are poor governance and an associated lack of efficient state functionality across all sectors and services, significantly impacting the water sector and broader societal aspects.

The Taliban's swift takeover of Afghanistan, surprisingly unexpected even for the insurgent group itself, stemmed from a military-centric strategy devoid of plans for actual governance post-takeover. Since assuming control, the de facto authorities have prioritized loyalty over competence and professionalism within government roles, aiming to prevent internal discord by appeasing their commanders.

A vast number of Afghans, including key policy and decision-making elites, have exited the country or their government positions. A substantial segment, estimated to exceed 1 million, have migrated to Iran (UNHCR, n.d.). This mass exodus has consequently stripped the government and its executive agencies of technical and managerial expertise, notably impacting female professionals. While lower-level officials from the previous government largely remain in office, often without receiving their salaries or performing their functions, the government system exhibits clear dysfunction. This can largely be attributed to the absence of strategic and managerial expertise due to policy and planning deficiencies. Many such experts have either fled the country or, in the case of many women, are prohibited from returning to their offices, critically affecting public service provision and governance functions, including within the water sector.

The Taliban's inability to offer basic services potentially undermines public support and any legitimacy the group may strive to secure. Their rule already suffers from limited public backing, mainly due to a deteriorating humanitarian situation and widespread poverty and famine. As noted by the United Nations Development Programme (UNDP, 2021), up to 97% of

the Afghan population could sink below the poverty line. In the initial months following the Taliban's takeover, numerous protests — primarily led by Afghan women — occurred in Kabul and other cities, highlighting the deteriorating livelihood conditions. The Taliban, however, responded to such criticism with aggression, forcibly silencing dissenting voices.

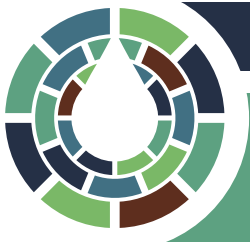
Simultaneously, the de facto authorities continue efforts to rally public support and secure national legitimacy. They have made pledges to manage Afghanistan's water resources and initiate development projects on transboundary rivers. Thus far, they have reinstated previous water management projects such as phase II of the Kajaki dam, the Pashdan dam on the Harirud river, the Baksh Abad dam on the Farahrud river, the Qushtepa irrigation canal on the Amu Darya, and several smaller-scale projects.

While these measures might secure some short-term public support for the Taliban, negative ramifications will likely dominate in the long run, possibly intensifying public pressure at the national level and exacerbating tensions with neighboring countries.

International engagement with the Taliban primarily concentrates on addressing the humanitarian crisis and rapidly worsening socio-economic conditions, with minimal efforts beyond this scope (Weitz, 2022). To date, no government has officially recognized the Taliban. However, countries such as Pakistan, China, Iran, Uzbekistan, Turkmenistan, Turkey, the UAE, and Russia have accommodated Taliban representatives in Afghan diplomatic missions on their territories.

2.1. The Current Water Crisis under the Taliban: The Implications of Inefficient or Nonexistent Water Management

Echoing the broader national situation, Afghanistan's water sector is marred by poor governance and inefficient management. These deficiencies have serious consequences for water



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security, already stressed over previous years due to a combination of hydrological and human-made water crises. It's worth noting that 2021 and 2022 were relatively wet years for the country, with an increase in both rainfall and snowfall compared to previous years. This was partially due to an unusually long monsoon in eastern and central Afghanistan during the latter half of 2022. Therefore, the effects of poor water management might not have manifested as severely as they would have during normal or dry years. (Figure 1).

In the water sector, the de facto authorities have predominantly maintained the structure established by the previous government, with only a few structural modifications. For instance, the former National Water Affairs Regulations Authority (NWARA) has been reabsorbed into

the energy sector authorities, and the previously dissolved Ministry of Energy and Water was reinstated. Abdul Latif Mansour, currently listed in the United Nation's sanctions against the group, a former Minister of Agriculture under the Taliban regime in the 1990s and a senior commander in Eastern Afghanistan, has been appointed to head the Ministry (UNSC, 2001).

Similarly, roles subordinate to the minister, including those of the deputy minister, director generals (including all river basins director generals), and some directors (including all provincial directors), have been allocated to members of the Taliban. These individuals, bearing titles such as mawlawi, quari, or mullah, which suggest a background in religious schools and madrasas rather than formal education

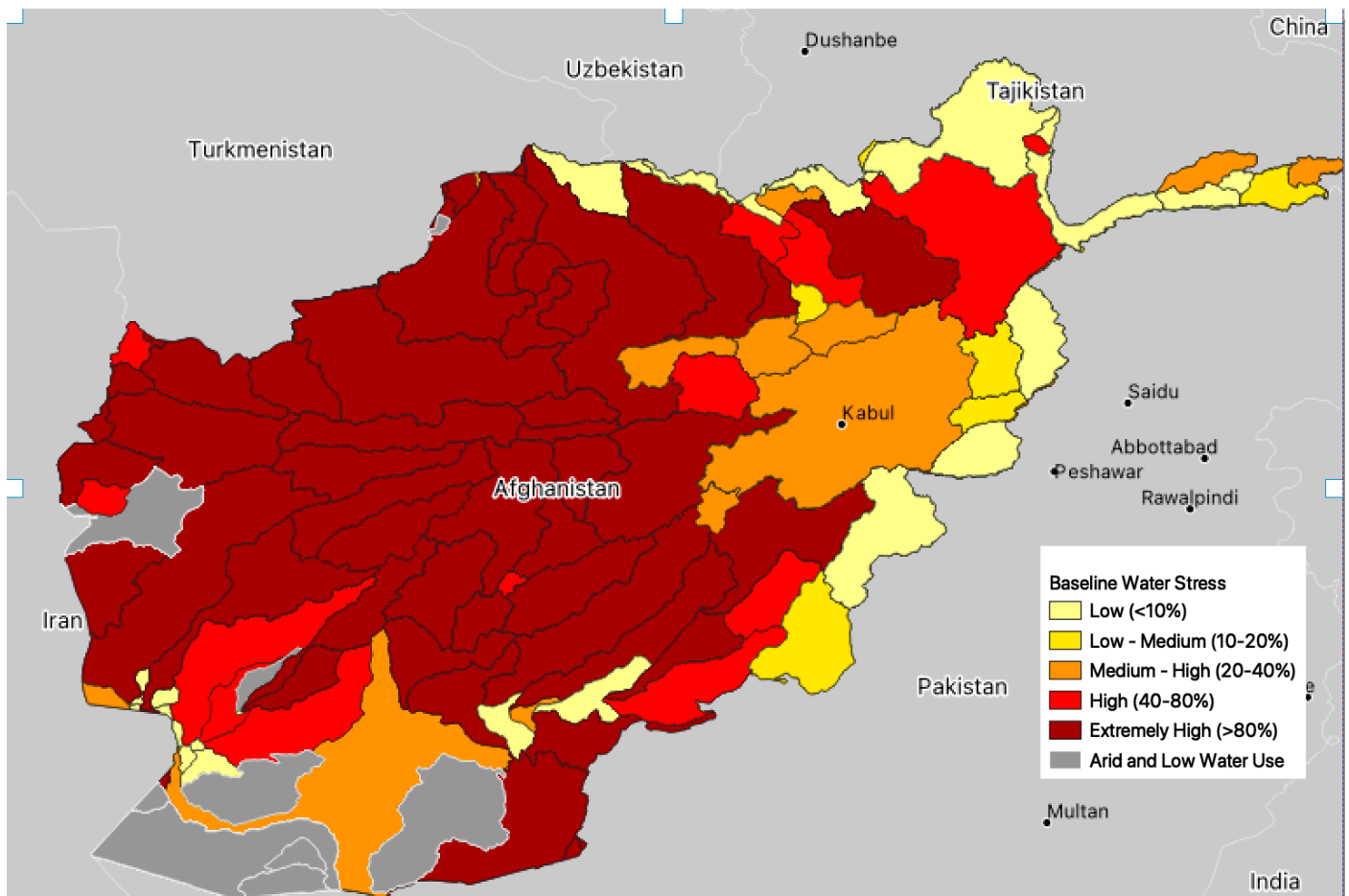
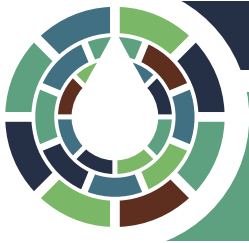


Figure 1. Water Insecurity Map. Source: Water, Peace and Security (WPS) Partnership



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in water management, are now in positions of significant authority within the water sector.

The fact that many of these newly-appointed high-ranking managers in the Afghan water sector lack pertinent technical and governmental management experience severely diminishes the top level of Afghanistan's water management capacity.

Concerning the actual management and operation of water infrastructure, and thus the implementation of any management decisions taken at higher political levels, no substantial changes have been reported. The exceptions are the release of water from Kamal Khan Dam in March 2022 and from Darunta Dam towards Pakistan in June 2022. In both cases,

the technical people had no role in the decisions.

At lower levels, technical staff remain in their roles, provided they have not left the country or been prohibited from working due to being female. Notably, the de facto authorities seem to rely on their expertise and advice, to the extent these individuals remain in the country.

Hafiz Azizrahman, a former Taliban diplomat with a background in religious studies, has been appointed the head of the National Environmental Protection Agency of Afghanistan. Azizrahman is also listed on the UNSC's sanctions list (UNSC, 2001). It took the Taliban several months to reopen the NEPA and install their personnel. This delay is partly attributed to a lack of basic understanding of the

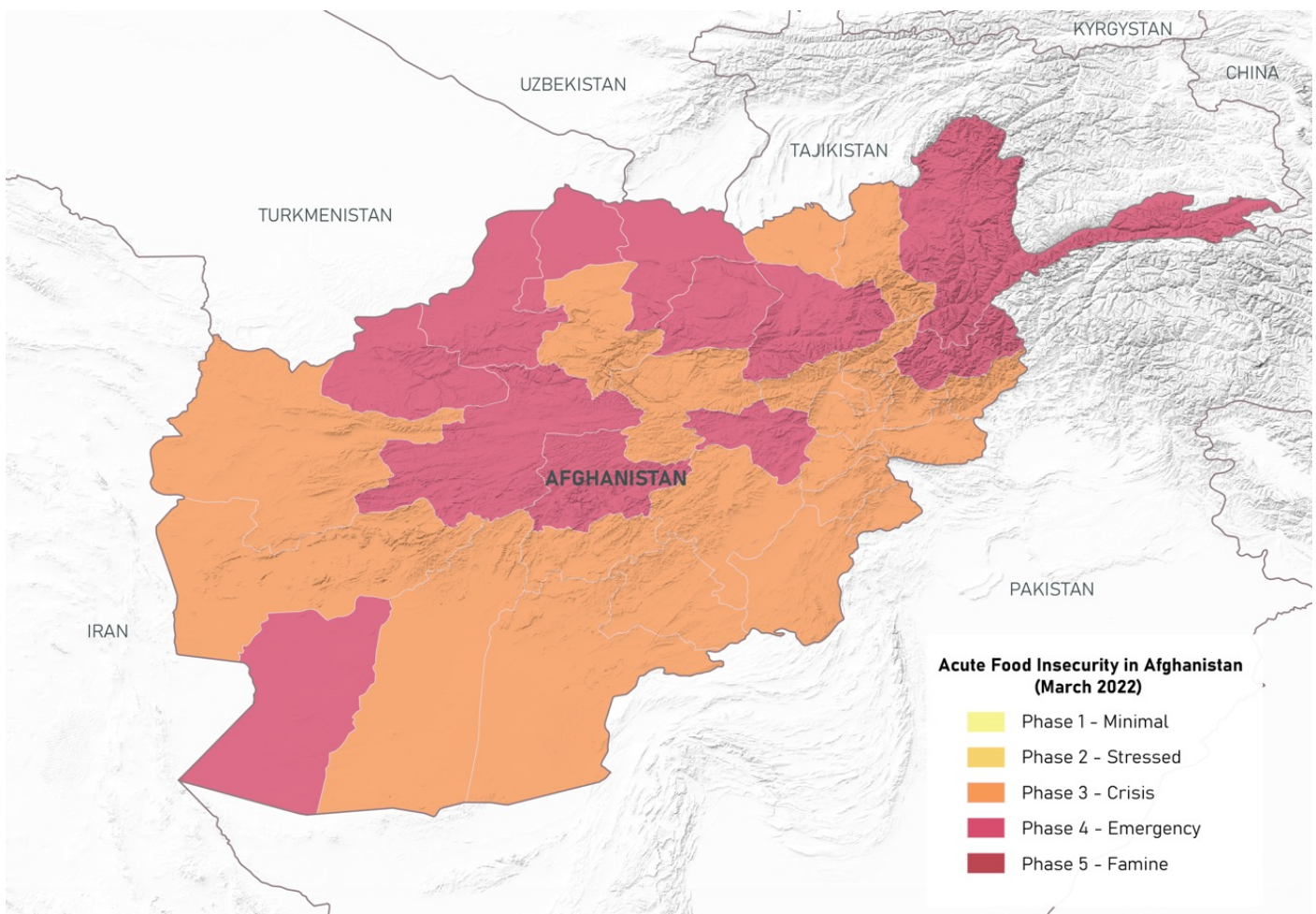
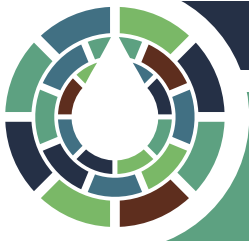


Figure 2. Food (in-)security map of Afghanistan. Source: Integrated Food Security Phase Classification (2021) - Adapted by V. Ronda



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agency's function and the low priority the group attaches to climate and environmental issues.

Interestingly, in the broader environmental and climate change context, the Taliban seem intent on participating. For instance, during the COP 26 in Glasgow in 2021, the de facto authorities issued a statement urging countries to collaborate in addressing the climate crisis and supporting Afghanistan in tackling the impacts of climate change (Daily Mail, 2021). They also appealed to international organizations for support in climate change adaptation, promising cooperation and security guarantees. Criticizing the international community for rejecting their request to participate in COP27 in Egypt, the de facto authorities claimed climate change had inflicted over two billion USD damage in Afghanistan in 2022 (MFA AF, 2022). These actions suggest that they seek involvement in international discourses and potential international support decoupled from human rights or other conditionalities. However, the return of the Taliban has resulted in a suspension of approximately \$805 million international

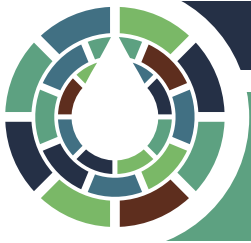
funding for 32 environmental protection projects in Afghanistan (Tolo news, 2022).

The Taliban regime suffers from a considerable deficiency in human capacity, particularly in technical areas such as water and environmental management. This gap will likely persist for several years. Consequently, no distinct policy or strategy for the water sector seems to exist within the Taliban regime. Coupled with substantial financial constraints, it suggests that the provision of water and sanitation services or the management of the country's water resources may prove difficult for the Taliban regime in the near to medium term. Such shortcomings could have implications on people's lives and livelihoods, and potentially impact local and national stability in Afghanistan.

Food security, for instance, is already under threat. The latest assessment of food security, conducted by the FAO, the WFP, and other partners, reveals that approximately 50% of the Afghan population, or 19.7 million people, are facing acute hunger (Relief Web, 2022).



Figure 3. Map of transboundary basins of Afghanistan. Source: IHE Delft



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This has rendered Afghanistan increasingly reliant on humanitarian food assistance, which is precarious given the international isolation of the country. Depending on the success of the upcoming growing season and the interaction between natural challenges, such as ongoing drought, and technical and political constraints, this food insecurity is likely to persist and become a longer-term challenge. Notably, the Ministry of Agriculture and Irrigation is led by Mawlavi Attaullah Omari, an ethnic Uzbek and former de facto deputy minister of defense and field commander, with no experience in managing food crises.

Despite the evident lack of overall capacity, certain developments in the water sector persist, predominantly based on plans formulated prior to the Taliban’s takeover. Several projects are currently under implementation. This especially pertains to smaller projects executed at a very local level. Some of these projects, interestingly, seem easier to implement due to the improved security situation, which has facilitated access to previously remote areas and reduced project costs. However, these projects alone will not be sufficient to resolve the water, food, and energy crises facing the Afghan population.

3. Transboundary Water Management Before the Taliban and Today - A Risk of Greater Regional Instability?

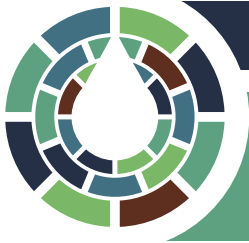
The manner in which the de facto authorities manage water resources within Afghanistan also has repercussions for Afghanistan’s neighboring countries. Afghanistan, situated upstream of numerous regional transboundary rivers – including the Kabul, Amu/Panj, Helmand, Harirud, and Murghab rivers – exerts a significant influence on downstream countries. Any action, or lack thereof, impacting water resources in Afghanistan can be felt downstream. Given the already precarious state of water diplomacy in the region, monitoring these developments is of paramount importance.

3.1. Transboundary Water Conflict and Cooperation under Previous Afghan Governments

Before the Taliban’s ascension to power, the government of Afghanistan under President Ghani had escalated efforts to exploit the country’s vast water resources. Ghani prioritized the development of water infrastructure as a means to stimulate socioeconomic progress and alleviate poverty. In addition, he perceived it as a national state-building exercise intended to rally public support for his government (Ariana News, 2017). However, such infrastructure

Agreement	Year	Countries
Helmand River Treaty	1973	Afghanistan, Iran
MoU on hydrological data exchange	2007	Afghanistan and Tajikistan
MoU on environmental data exchange	2014 (updated in 2020)	Afghanistan and Tajikistan
MoU on hydrological data exchange (Not signed yet)	2020	Afghanistan and Turkmenistan
Joint Declaration on Green Central Asia	2020	Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Germany

Table 1. List of legal and political instruments over water between Afghanistan and neighbouring countries (non-exhaustive, compiled by authors)



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development on transboundary rivers inherently carried a risk of conflict as neighboring states viewed these initiatives as potential threats to their own water resource availability and development. This was particularly relevant to Iran, which has long been grappling with its own water crisis (Schmeier et al., 2021). Various prior Afghan governments have been criticized for their lack of political will to engage with neighboring countries over shared water resources (Ahmadzai, 2016). The final government preceding the Taliban, however, strove to preserve and enhance relations with neighboring countries over water and more broadly. It focused on promoting regional trade and cooperation and creating interdependencies with neighboring countries (Tolo, 2017). Initiatives to cooperate over shared water resources were launched with all neighboring countries. These initiatives

were partly based on treaties or other forms of institutionalized cooperation (Table 1), but their scope and effectiveness varied significantly.

3.1.1. Afghanistan, Iran, and Turkmenistan

Historically, Iran has expressed concern over Afghanistan's attempts to develop its water resources. The countries share two river basins: the Helmand and the Harirud river basins, the latter of which is also shared with Turkmenistan. While an agreement exists for the Helmand, albeit unimplemented, no formal institutionalized cooperation concerning the Harirud River that includes Afghanistan is in place, although there exists one between Iran and Turkmenistan.

The Salma Dam on the Harirud River has elicited

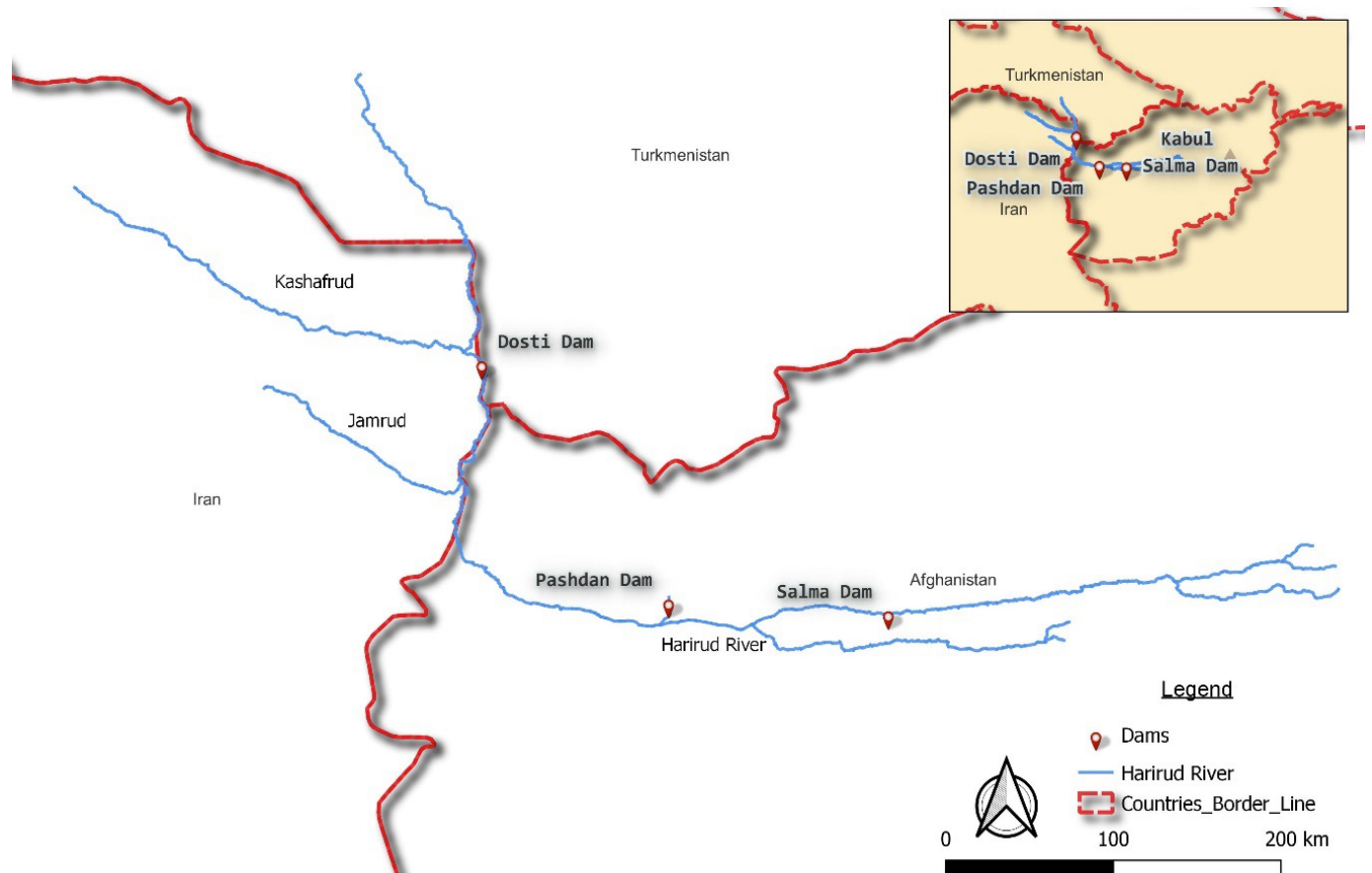
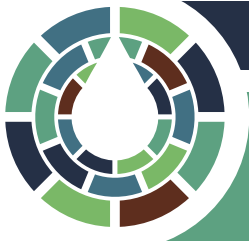


Figure 4. Harirud River. Source: IHE Delft



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concern in Iran and Turkmenistan. Both countries cooperated to construct the Doosti/Dostluk Dam in 2004, supplying drinking water to their nations, including Mashhad, Iran's second-largest and religious capital, and irrigating lands in both countries. Consequently, they heavily depend on water from upstream Afghanistan. In 2011, in an unprecedented move, the presidents of Iran and Turkmenistan jointly expressed their concern over the progress of the Salma Dam's construction to Afghan President Karzai via the Iranian ambassador to Afghanistan (Ahmadzai, 2016). Moreover, allegations have arisen suggesting Iranian involvement in violence in border areas, including attacks on the Salma Dam construction site (ibid). Since its inauguration in 2016, the Salma Dam, with a capacity of 650 MCM, has primarily been used for hydroelectricity production. The completion of a significant part of the irrigation network was obstructed due to rising security risks in downstream areas in Afghanistan, controlled by the Taliban. Hence, the water stored behind the Salma Dam has been underutilized by Afghanistan, resulting in less observed impact on Iran and Turkmenistan.

In 2017, Afghanistan and Iran recommenced talks to finalize the Strategic Cooperation Comprehensive Agreement (SCCA). Originally initiated during President Karzai's tenure, the negotiation process had been previously stalled due to international sanctions on Iran, the presence of thousands of international forces in Afghanistan, and Karzai's conservative policy regarding transboundary water cooperation. While substantial progress was made on several issues, including water, refugees, and cultural matters, security and economic cooperation proved too contentious in the SCCA to reach an agreement until the collapse of the previous government (Faizee, forthcoming). However, during this period, the countries deliberated on several significant topics, such as cooperation over the Harirud River, including plans to study the basin to develop an action plan for implementing Integrated Water Resources Management in the Harirud River Basin. Other discussed points included intensifying

efforts to fully implement the Helmand River Treaty, addressing the ecological challenges of diminishing transboundary wetlands, and appointing a mutually agreed third party to investigate the reasons for the decline of shared wetlands and proposing feasible methods for their rehabilitation. The Afghan government consented to cooperate over the Harirud, provided the SCCA would be finalized and bring economic benefits, such as unhindered access to the sea through the Chahbahar Port and preferential tariffs, along with security assurances, such as Iran's leverage over and capabilities against the Taliban (ibid). The negotiations continued until August 2021, but ceased with the regime change in Kabul, with only a few issues remaining unresolved.

3.1.2. Afghanistan and Central Asia

Afghanistan's relations with Central Asian states, which sit upstream of the Kokcha, Kunduz, and Panj rivers tributaries to the Amu Darya, have generally been uncontentious. This is primarily due to Afghanistan's minimal water use and its decision to abstain from established cooperation mechanisms, such as the International Fund for Saving the Aral Sea (IFAS) and the Interstate Commission for Water Cooperation (ICWC), for the Amu Darya and Syr Darya basins. Furthermore, Central Asian states have traditionally been preoccupied with their internal disputes over shared water resources, thereby diminishing Afghanistan's role in the overall dynamic.

Nevertheless, plans have been proposed by past Afghan governments, some extending back several decades, to construct dams for irrigation and hydropower on these rivers (Ahmadzai, 2016). Collectively, these projects were projected to augment Afghanistan's usage of the Amu Darya tributaries (Ahmadzai, 2016; Klemm & Shobair, 2010). The former Afghan government, maintaining close relations with Central Asian countries, made several attempts to partake in their water management negotiations concerning the Aral Sea Basin, facilitated by



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the UNRCCA. Nevertheless, a consensus was reached by all parties involved that Afghanistan should initially participate only as an observer. Additionally, Afghanistan was engaged in other regional processes, occasionally supported by international entities like the Green Central Asia process, underwritten by the German Ministry of Foreign Affairs (Auswärtiges Amt, 2020). Despite Afghanistan's high-level participation, its engagement in these processes remained limited.

Moreover, Afghanistan communicated with individual Central Asian countries bilaterally on water-related issues. For instance, Afghanistan extended numerous invitations to Uzbekistan to initiate data and information sharing on the Amu River, with the matter brought up at the Foreign Ministers and National Security Advisors' meetings. Despite Uzbekistan's generally cooperative stance in its relations with Afghanistan, there was no official response until after Kabul's fall.

In 2016, Afghanistan and Turkmenistan established an economic cooperation commission, agreeing to collaborate on shared water management within this framework. Before August 2021, the countries had conducted four deputy minister-level meetings in Kabul and Ashgabat, coming close to finalizing a draft agreement for data and information exchange, limited to the Amu and partly to Murghab rivers, while entirely excluding the Harirud River.

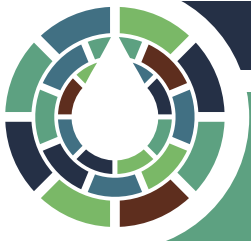
Furthermore, Afghanistan and Tajikistan, both upstream of the Amu River, maintain two memoranda of understanding (MoU) for hydrological and environmental data sharing. Although downstream riparian countries often criticize Tajikistan's unilateral development, Afghanistan usually abstained from protesting against Tajikistan's water development projects or responded positively to notifications. For instance, Afghanistan reacted favorably to the notification sent by the World Bank on behalf of the Tajik government regarding Phase 2 of the Nurek Hydropower Rehabilitation Project. Afghanistan has frequently underscored the importance of joint hydroelectric projects in

the Dasht e Jom border region on the Panj-Amu river between the two nations. However, financial constraints and Afghanistan's status as a significant electricity importer from Tajikistan could be reasons for Tajikistan's lack of response to such requests. As Afghanistan's use of the Amu River has been limited thus far, it will be of interest to observe whether Tajikistan continues to show such reciprocation or whether it will object to Afghanistan's increased use of shared waters in the future. This is particularly noteworthy since Tajikistan, unlike Uzbekistan and Turkmenistan, has refrained from engaging with the de facto authorities and is reportedly hosting some anti-Taliban groups on its territory (International Crisis Group, 2022).

In recent years, increased cooperation over water resources within the broader context of bilateral or regional relations did not deter neighboring countries from cultivating strong relations with the Taliban, especially following the US-Taliban agreement in February 2020.

3.2. Transboundary Water Conflict and Cooperation under the Taliban: Future Directions?

Following the Taliban's takeover, several interventions and statements regarding shared water resources were made, signaling potential changes in water resource management. For instance, the Ministry of Energy and Water of the de facto authorities announced that it will construct dams and will exchange water for oil (Afghanistan International, 2021). While these are primarily aimed at gaining public support within Afghanistan, they could impact neighboring countries if implemented. The subsequent parts of this section will examine the potential conflicts and cooperative interactions between Afghanistan and its neighbors over shared water resources.



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3.2.1. Afghanistan, Iran, and Turkmenistan

Western Afghanistan and Eastern Iran are currently grappling with intensifying water scarcity and enduring droughts. While efforts to execute the sole existing legal framework for the Helmand River have largely been ineffective to date, the future management of the river's resources by Afghanistan could potentially exacerbate impacts downstream in Iran. This is particularly probable given the current absence of diplomatic engagement and a clear strategy from the de facto authorities on transboundary water management.

Historically, Afghanistan had expressed interest in collaborating with Iran on various political, security, economic, and transit issues. However, with the ascension of the Taliban, these priorities appear to have shifted. Pakistan has emerged as the major and preferred economic ally of the de facto authorities. Further, their intention to join the China-Pakistan Economic Corridor (CPEC) could deprioritize the Chabahar Port for Afghanistan, thereby potentially reducing the influence Tehran might have expected to wield over the Taliban (Hindustan Times, 2021). In addition, millions of Afghan refugees in Iran many of whom recently escaped the Taliban rule, might no longer provide the expected leverage for Iran to pressure the authorities in Afghanistan as was often the case during the previous Afghan governments. The impacts of climate change, coupled with the de facto authorities' potential actions or lack thereof regarding transboundary rivers amid escalating mistrust, could further strain already tense relations with Iran.

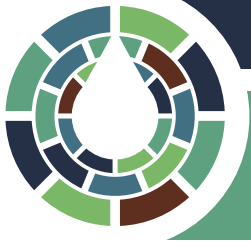
Since their rise to power, the de facto authorities have initiated numerous measures to address the water shortage for irrigation in the downstream areas of the Salma Dam in Herat Province. The improved security under the de facto authorities offers the opportunity to extend irrigation canals, an objective the previous government was unable to achieve. It remains uncertain whether the de facto authorities can mobilize the necessary resources or whether they find it necessary to engage with downstream countries, especially

in the absence of a cooperation framework.

During a visit to Herat Province in Western Afghanistan, the de facto Minister of Energy and Water declared the completion of the remaining work on the Pashdan Dam on the Harirud, citing it as a significant economic development project and a step towards managing the country's water resources (8 AM daily, 2021). Subsequently, the de facto Deputy Minister of Water announced the resumption of the remaining work on the Pashdan Dam (GMIC, 2023). About 85% of the dam's construction was completed before the Taliban's takeover (Pajwok, 2021), and despite the financial constraints the de facto authorities face, it is plausible that the project will be completed using national budget resources over an extended period, given its high priority status with the Taliban. The completion of the Pashdan Dam, with a storage capacity of 50 MCM and a total capacity to manage 150 MCM, will exert further pressure on the already scarce resources in the basin.

The water supply for the city of Mashhad and its severe shortages have become a national security issue for Iran (Faizee, 2022). The escalating impacts of climate change and the absence of a cooperation framework heighten the conflict potential between Iran and the de facto authorities in Afghanistan.

Similarly, tensions between Afghanistan and Iran over the Helmand River are likely to intensify. Afghanistan and Iran have consistently disagreed on whether Iran is receiving more water than it is entitled to under the existing treaty. The Kamal Khan Dam, inaugurated in 2021 just months before the Taliban takeover, situated in the lower reaches of the Helmand River in Zaranj Province, has the capacity to divert high volumes of water, particularly during times of high floods, to the Goude-Zere wetland within Afghanistan. High volumes of floodwater previously flowed towards Iran due to a lack of water management infrastructure in Afghanistan. These floodwaters, while satisfying Iran's water rights, were stored in the water storage infrastructure inside Iran, referred to as Chah e Nima or artificial lakes.



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Moreover, the de facto authorities have restarted phase II of the Kajaki Dam project on the Helmand River. The contract was given to a Turkish company that was previously involved in the project. The project includes raising the dam crest, which will allow for the storage of an extra one billion cubic meters (BCM) of water and generate an additional 100-Megawatt of electricity. The security situation and the land acquisition and resettlement process upstream of the dam were the main challenges for the previous government to implement the project, issues that the Taliban might be more effective at addressing, thus facilitating the project's implementation.

While the project will irrigate more land and contribute to the country's economic development, it will likely provoke rising tensions over the Helmand River with Iran. It is crucial to note that Kandahar and Helmand provinces, through which the Helmand River

flows, are considered the Taliban's heartland, their support base, and the prime location of their poppy production industry. Poppy cultivation in Afghanistan under the Taliban increased by 32% in 2022 (UNODC, 2022), and a significant part of it is cultivated in the Helmand River Basin. Ensuring reliable water resources for their constituents in the basin and the lucrative poppy production industry will likely remain a priority for the de facto authorities (Faizee & Schmeier, 2023). This is while considering the functionality of the Kamal Khan Dam and its relatively small storage capacity; provision of water to Iran would rely on the proper management of the Kajaki Dam. Iran's high dependence on the flow of the Helmand has increased its anxiety and vulnerability to any change in the river flow. The WPS blog '*Troubled Waters Between Afghanistan And Iran As Border Troops Clash Over The Helmand River*' explains this issue in more detail.

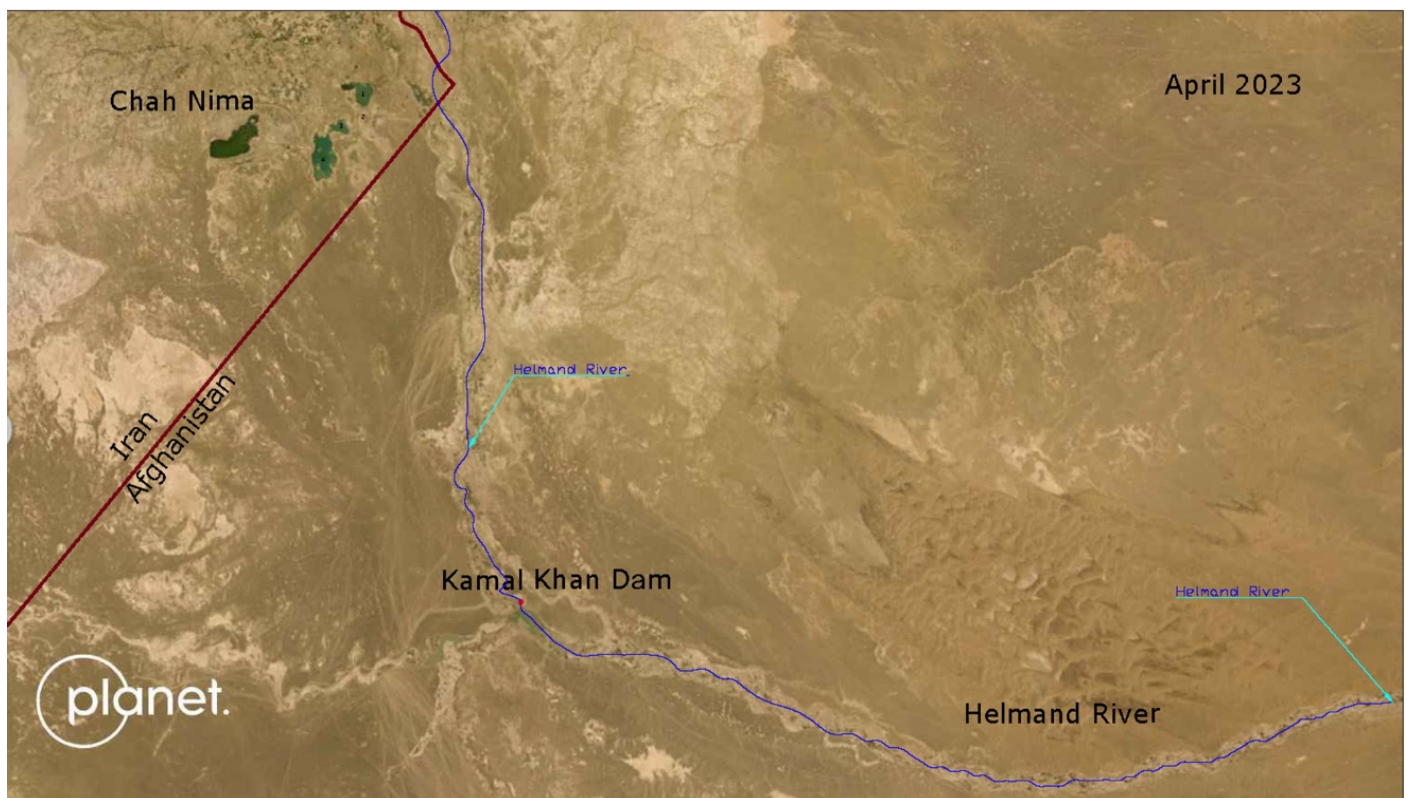
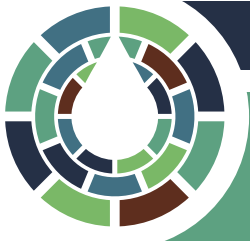


Figure 5. Satellite image showing the Chah Nima (artificial lakes), Kamal Khan Dam, and the Helmand River. Source: IHE Delft



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3.2.2. Afghanistan and Central Asia

In the northern region of Afghanistan, the Panj-Amu river is shared with Central Asian countries. The Taliban takeover has introduced a new challenge with significant potential to destabilize the hitherto relatively stable, albeit non-cooperative, relations: the Qushtepa irrigation canal project.

Conceived initially in the 1970s, the Qushtepa irrigation canal, based on a USAID-supported feasibility study in 2018, measures approximately 285 kilometers in length and 100 meters in width. It is designed to irrigate around 550,000 hectares of land in northern Afghanistan. The canal's intake will be located on the main Amu river in Kunduz Province, which borders Tajikistan. The canal is expected to extract about 10 BCM of water from the Amu river annually. Initial work on the project started prior to the Afghan republic's collapse, with the Afghan National Development Corporation Agency overseeing its implementation.

In late March 2022, the de facto Deputy Prime Minister for Economic Affairs, Mullah Baradar, along with other de facto ministers, officially inaugurated the Qushtepa canal project (Ariana News, 2022). The project appears to be initiated on the basis of the previously conducted feasibility study. The construction of phase one of the project, which includes 108 kilometers of the main canal, roads, a bridge and the canal's main intake, appears to be ahead of schedule. After the project's hasty initiation by the de facto authorities, criticism from social media experts led to a change in the route of some portions of the already dug canal to avoid destroying a historic site in the Balkh province of Afghanistan (Ariana News, 2023).

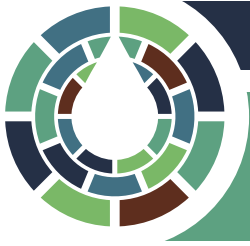
Similar to the previous Afghan government, the de facto authorities seem to allocate revenues from the Mazar e Sharif coal mine to fund the Qushtepa canal. With the increase in global coal prices in 2022 due to the war in Ukraine, coal exports to Pakistan have also surged, causing a spike in national coal prices. As there are no

funds allocated for development activities in the de facto authorities' national budget, other revenue sources need to be considered for project financing. A potential option could include the revenue from an oil extraction contract in the Amu River Basin, signed with the Chinese company Xinjiang Central Asia Petroleum and Gas Co (CAPEIC) in January 2023 (Aljazeera, 2023). The Taliban, however, have so far denied any involvement of foreign expertise or financial resources in the project, asserting it to be Afghan designed and funded.

The Qushtepa canal represents the largest irrigation scheme that Afghanistan has ever undertaken. Once completed, it will provide job opportunities and livelihoods for thousands of Afghans and help alleviate the country's food insecurity. The de facto authorities have made substantial efforts to symbolize the project as a sign of their commitment to Afghanistan's development and their service to ethnic minorities, who stand to benefit from this project but are largely absent from the group's power structure. Additionally, the project will help the Taliban gain legitimacy and consolidate their control over the northern part of the country.

Building the canal's intake is a crucial technical step. The region is prone to intense river bank erosion, causing the loss of thousands of hectares of land each year. Furthermore, the high sediment volume in the river flow could quickly fill the intake if it is not designed properly. The intake, located on the border with Tajikistan and near the Uzbekistan border, would require interstate cooperation and coordination for any construction activities. While the existing 1958 border treaty between Afghanistan and the Soviet Union provides a cooperation mechanism for such instances, the issue remains predominantly political, especially for Tajikistan, considering its relations with the de facto authorities and other riparians such as Uzbekistan and Turkmenistan.

Uzbekistan has raised concerns about the project's water use efficiency. During a visit to Kabul, an Uzbek delegation, led by Uzbekistan's



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national security advisor, offered technical support for the projects (Pajwok, 2023). Additionally, Turkmenistan reportedly made official complaints through their embassy in Kabul about the project's potential impacts on downstream areas. These efforts have not yet led to any substantial cooperation over the project. There are also concerns that the project might increase water salinity and further degrade the Amu River's water quality (Ibraimov Bakyt, 2023).

Upon completion, the Qushtepa canal project will have the ability to divert approximately 10-13 BCM annually from the Amu river. This significant volume of water diversion would profoundly affect both Uzbekistan and Turkmenistan as well as the existing regional water sharing arrangements among Central Asian states. Water resources of the Amu River, already heavily strained due to climate change and melting of glaciers, would suffer further damage in the absence of effective coordination. It is argued that it would necessitate several years and considerable financial resources for both Uzbekistan and Turkmenistan to decrease their water use, either by enhancing irrigation efficiency or reducing irrigation activities. Such actions could also lead to the displacement of populations within these countries.

Moreover, the situation in the Aral Sea would undeniably deteriorate further as the water volume would decrease even more, potentially reversing current efforts to address ecological concerns. The project could also influence ongoing efforts supported by various international actors, including the World Bank, to reform the existing transboundary water governance mechanisms in the Aral Sea basin.

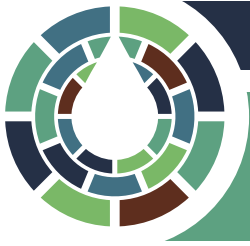
While the project would greatly benefit from the technical expertise and support of international actors, international sanctions and the non-recognition of the de facto authorities limit the international community's capacity to engage and extend their outreach. Public objections by riparian countries to the project might reinforce the Taliban's narrative and national popularity, as they are likely to exploit this

to enhance their image of independence and self-determination. The de facto authorities may also leverage this towards recognition as a precondition for any cooperation with other riparian states over the Amu river.

3.2.3. Afghanistan and Pakistan

Afghanistan and Pakistan share the Kabul River Basin, the most densely populated basin in Afghanistan. Additionally, smaller rivers like the Gomal and Khuram, originating from Afghanistan, serve as crucial freshwater sources for downstream communities in Pakistan. Since the Taliban's takeover, there has been a rising inclination within Pakistan to secure a water agreement with the Taliban, as evidenced by numerous reports and articles recently published in the Pakistani media (Ali, 2022). Despite the close relations and significant dependence of the de facto authorities on Pakistan, the likelihood of initiating formal water cooperation remains remote. Any such move might further compromise the Taliban's efforts to portray themselves as an independent entity. For instance, the de facto authorities' decision in June 2022 to release water from the Darunta Dam on the Kabul river towards Pakistan attracted widespread criticism from Afghans on social media. The Taliban justified this as a measure to flush sediment from the reservoir, a process typically carried out during fall or winter when agriculture is less active (8 AM daily, 2022). As no major water management projects that could affect the water flow to Pakistan are currently planned, the status quo, which already favors Pakistan's interests, will likely persist.

The construction of the Shahtoot Dam over the Maidan River, a tributary of the Kabul River, which was previously funded by India, has been suspended following the fall of Kabul. This suspension can also be attributed to the potential discontinuation of Indian financing under the current circumstances. However, the river flow in the Kabul River Basin is being altered due to climate change and glacier melting in the Hindukush mountain range, affecting both countries. The frequent occurrence of floods



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that claim lives and damage infrastructure in both Afghanistan and Pakistan exemplify this. This situation might prompt some level of technical cooperation between the two countries, and possibly even Pakistan's non-objection to small-scale water management infrastructure within Afghanistan. Meanwhile, there is potential for Chinese enterprises to invest in Afghanistan's water infrastructure. As stated in the joint communique of the regional meeting on Afghanistan hosted by China on March 31, 2022 in Tunxi Anhua Province, China supports its enterprises in making investments and establishing businesses in Afghanistan, provided the security situation permits (Chinese MFA, 2022). Hydroelectricity could be a potential area of investment in Afghanistan, given that Chinese enterprises are globally leading dam builders. Due to the close relations between Pakistan and China, any investment in the Kabul River Basin would require Pakistan's support and approval. It remains to be seen whether Pakistan would encourage such an initiative in a bid to secure its water rights from Afghanistan under the Taliban.

4. Outlook: Water (In)security in Afghanistan and Beyond

Afghanistan is teetering on the brink of a humanitarian crisis, with millions at risk of starvation and the situation worsening due to economic strife. Further exacerbating this are the impacts of climate change, which manifest in the country as severe floods and prolonged droughts, thus heightening the humanitarian predicament.

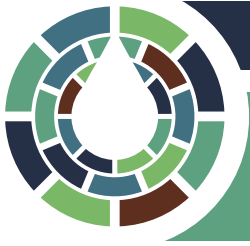
The Taliban's continuation, and possible expansion, of traditional water management in Afghanistan will likely have limited efficacy, given constraints in financial, technical, and human capacity. Nonetheless, the escalating impacts of climate change will persistently affect communities across Afghanistan. Absent proper planning, awareness initiatives, and adaptation measures, severe natural events will continue to threaten the livelihoods of people

nationwide. The lack of capacity and a clear strategy to adequately manage the country's water resources, and to respond to and mitigate the increasing impact of climate change, will only strain communities further and magnify existing grievances, particularly among minority ethnic groups who feel marginalized by the Pashtun-dominant Taliban regime.

Recurrent droughts have resulted in food insecurity and related health problems for thousands of families across Afghanistan (UNICEF, 2021). Current humanitarian aid programmes for Afghanistan are critically underfunded. While efforts like emergency water trucking or food assistance may provide temporary relief for affected families, effective water resource management and sustainable water service delivery pose ongoing challenges for the de facto authorities.

Regional countries are engaging with the de facto authorities in Kabul, including offering humanitarian assistance to the Afghan people. However, prospects for improved relations are dim, given the international community's stance, concerns about threats of terrorism and drugs, and the ambiguity surrounding the Taliban's foreign policy thus far. The Taliban's interventions in the water sector have largely been rhetorical, aimed at gaining public support and legitimacy. It remains uncertain how they will procure financial arrangements for projects like the Qushtepa canal, given their resource constraints and the absence of development aid. Without an accountable government in Afghanistan, tensions over shared water resources with neighbouring countries are likely to escalate.

The Taliban's response to tensions over the Helmand River has been cooperative, seeking to avoid dissatisfaction among neighbouring countries despite their lack of technical capacity and expertise. Their announcement to develop Afghanistan's water infrastructure and trade water for oil ostensibly signals an intention for transboundary cooperation. However, due to

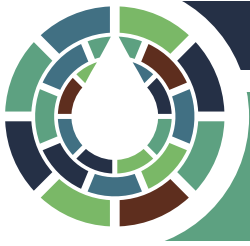


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their lack of basic capacity and expertise, along with internal pressures and strong sentiments towards absolute water ownership, the de facto authorities are likely to shy away from initiating any formal transboundary water cooperation. This is especially the case given the constraints imposed by a lack of formal recognition.

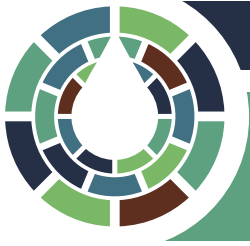
It remains uncertain how countries like Iran, Turkmenistan, and Uzbekistan will approach the de facto authorities to encourage or coerce them into cooperation, and the implications for regional stability should such efforts fail. It is too early to assess whether these countries will resort to alternative measures against the Taliban and to what extent such alternatives are available, affordable, and effective in the current regional geopolitics.

Given the existential nature of water flowing from Afghanistan to Iran, Pakistan, Uzbekistan, and Turkmenistan, and the fact that rising impacts of climate change will affect water availability in downstream countries, there is high potential for increased conflicts in the region. Additionally, the lack of an effective cooperative framework over water will continue to negatively affect people, communities, and their livelihoods, likely leading to further displacement across the region.



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