

Transboundary Water Issues between Pakistan and Afghanistan

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Abstract

Pakistan and Afghanistan not only share a 2600km long border but also share numerous watercourses including the Kabul River. Though both the riparian nations are water stressed, they have not used the potential to conserve and safeguard their water resources which is rapidly depleting. Despite the many attempts and facilitation provided by the international organization there still exist no treaty between the two water sharing states to device mechanism to govern and manage the shared water resources between the two states. The Afghan government planning of constructing hydropower projects on Kabul River may affect the flow of water to the lower riparian state Pakistan. This may lead to affect the performance of agriculture sector of the Pakistan which is considered as the backbone of the economy. This may trigger a conflict between Pakistan and Afghanistan as Pakistan is already facing difficulties in providing the needed water to its agriculture and industrial sector due to water shortage. There is a greater need of an agreement on the shared water resources between the two states to avoid future conflicts, maintain a peaceful environment in the region and overcome the water and energy crises in both states. The issue can be harmoniously resolved through an institutionalized agreement on sharing the Kabul River water between the two riparian states.

Introduction

The global demand for water is expected to exceed supply by forty percent within the next twenty years (Palau, 2011). Water security is considered to be the gossamer linking together food, energy, economic growth, climate and human security challenges. A shortage in water supply will raise food prices, limit trade, energy availability will be disrupted, increase refugee flows and undermine authority. In the coming decades, pressures on water resources are set to

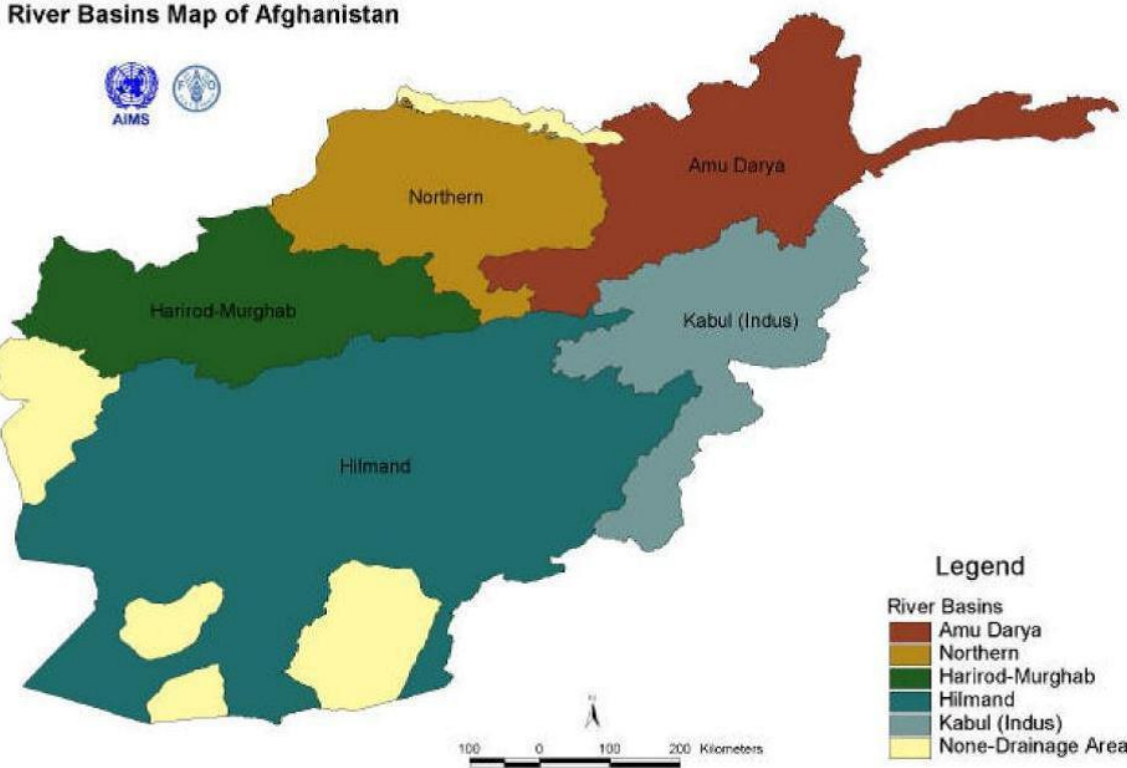
increase exponentially, pushing the highly interlinked water-food-energy-climate nexus to the limits. According to a report of 2030 Water Resources Group (2009), agriculture water withdrawal will increase from 3,100 billion cubic meters (bcm) to 4,500 bcm in 2030. Similarly, the global demand on industrial water withdrawal will increase from 16 per cent to 22 per cent in 2030; China alone will account for 40 per cent of the additional demand. The world's population will approach the eight billion mark by 2030. The estimated economic annual growth rate of six per cent in emerging countries, in addition to the rapid urbanization processes in developing and emerging countries, will drastically increase the demand for food, energy and water.

Given that it takes one litre of water to grow one calorie, water use will skyrocket to achieve an increase in production by 70-100 per cent necessary to match the demand and changing diets of the world's population. Furthermore, the International Energy Agency (IEA) forecasts that by 2030, the world economy will require forty per cent more energy compared to today, which will be dependent on sufficient water availability. Moreover, as long as societies progress in terms of social and economic development, the use of freshwater increases. Between 1990 and 2000 for example, while the world population grew by a factor of four, the withdrawal of freshwater grew by a factor of nine. Many countries are extracting groundwater faster that it can be replenished. By 2030, if the current trend continues, nearly two-thirds of the world's population will live in areas of extraordinary water stress.

Given the abovementioned forecasted trends in global water security, water scarcity is set to worsen in many regions in the world. Therefore, the risk of eventually ending up in regional conflicts as a result of an overuse of transboundary water resources will indeed increase, according to a World Water Council (WWC) report entitled "A New Water Politics". As long as water demands increases and water availability decreases, water will more commonly be viewed as an issue of national security for countries around the world. Such a perception has the potential to complicate relations between water-dependent countries, as is the case in Afghanistan. Water-related disputes in Central Asia are increasingly recognized by policymakers and members of the international community. The United States Senate Foreign Relations Committee in its report released in February 2011, recommended guidelines for preventing conflicts over shared water resources. Moreover, Norwegian Institute of International Affairs (NUPI) in 2008 warned that the key challenges to the stability in Afghanistan and the region are water resource scarcity and the transboundary water resources management.

The four transboundary rivers shared by Afghanistan originate in Afghan territory. The newly developed projects of hydropower plants and irrigation schemes across the country will have drastic impacts on the amount of water flowing towards the neighboring nations. Prior to 2001, largely due to instability and weak governance, Afghan rivers were barely altered, nonetheless the new *status quo* is causing serious concerns in Iran and Pakistan. The development of such projects may lead to the development of crisis situation between Afghanistan and its neighboring nations. Conflicts may arise between these countries of the region sharing the common waters due to the water resources scarcity and the growing demand for water from the ever increasing population of these countries which may become defining feature of insecurity in the region (Parvez and Khan, 2014).

Figure 1: International Basins Shared by Afghanistan and Neighboring Countries



Source: Afghanistan Watershed Atlas

Transboundary Water Disputes between Pakistan and Afghanistan

Owing to the rapid growth in the population, systemic drought and increased demand for resources to fuel economic growth are the factors leading to destabilization and social unrest in the countries of Central Asia along with Pakistan and Afghanistan. These resource driven problems possess a serious challenge to the growth and progress of these countries. The main focus of discussion here is Pakistan and Afghanistan. The two neighboring countries share a common history, a joint Pakhtun identity and also a shared interest in some of the region's fresh watercourses.

Pakistan being a lower riparian state faces water disputes with its neighbors since its independence. The concerns are even growing as Indian government is not only controlling the flow of water but is also working on the development of 17 power projects on Chenab River while 16 such projects on Jhelum River. India is also supporting Afghanistan in constructing water projects and schemes on the tributaries of the River Kabul flowing to Pakistan. These projects include construction of dams, electricity generation, flood control facilities and expanding the irrigation system. These projects, once implemented will drastically reduce the quantity of water flowing and timing of peak runoff for the lower riparian state Pakistan.

Kabul River, rising in the Sanglakh Range 72kms west of Kabul city, is a 700kms long river that flows in eastern Afghanistan and north-western Pakistan. It flows 560kms through east Afghanistan passing Kabul and Jalalabad and to the north of the Khyber Pass it enters into Pakistan to join the Indus River northwest of capital city Islamabad at Attock (IUCN, 2010). Its sub-tributaries are *Logar*, *Panjsher*, *Kunar*, *Alingar*, *Bara* and *Swat* rivers (Azam, 2015). An important tributary of the Kabul River Basin is the Kunar River originating in Pakistan and enters into Afghanistan in the Kunar province to join the Kabul River at Jalalabad (Parvez and Khan 2014). The sub-tributary, Kunar River, represents around 12 percent of the total water available in Afghanistan (IUCN, 2010).

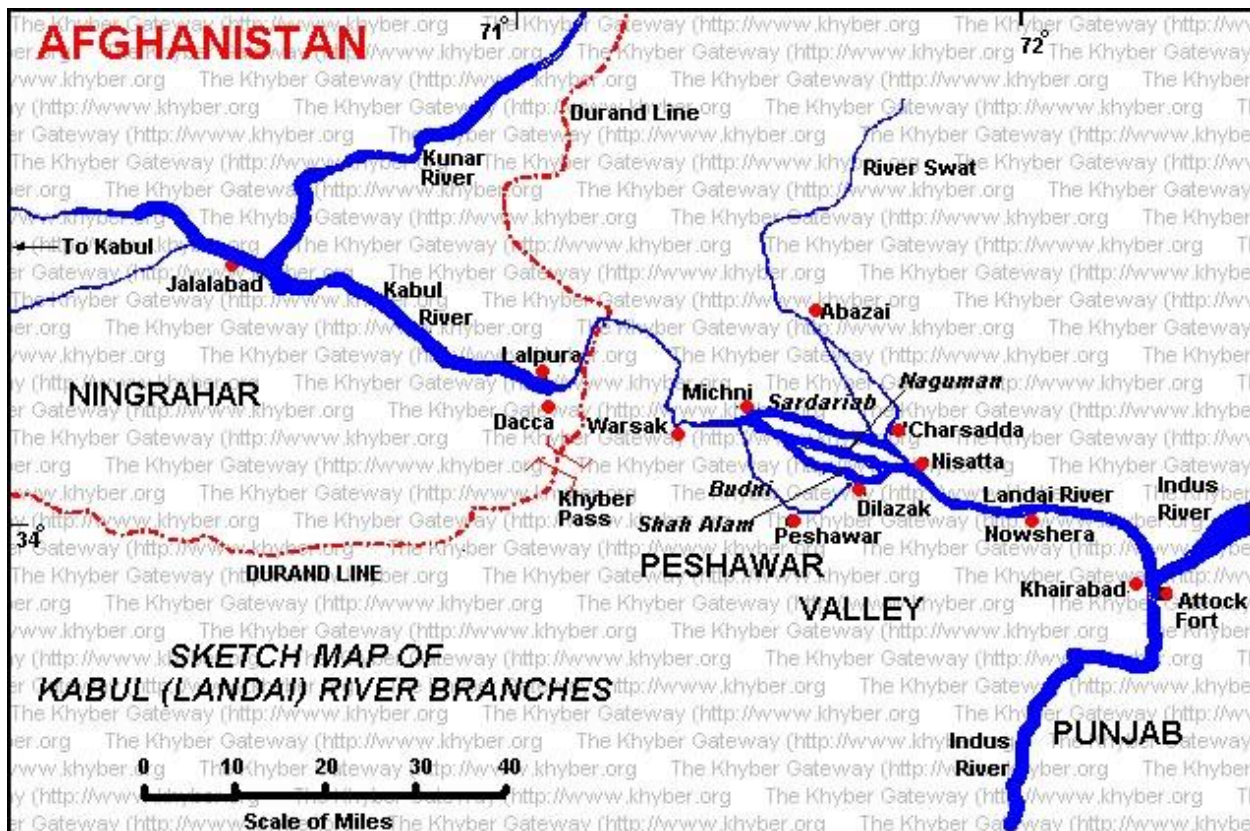


Figure 2: Kabul River and its Sub-Tributaries

Conflicts over between the two riparian basin states (Afghanistan and Pakistan) over shared water resources are becoming complex. Main factors for these disputes are the impacts of climatic variability and change, increasing demand for water and concerns for environment. Currently, there are nine rivers shared by Pakistan and Afghanistan with an annual flows of around 18.3 MAF, while Kabul River alone accounts for 16.5 MAF of it (Mustafa, 2011). Moving towards some stability the government of Afghanistan has planned to build 12 dams on Kabul River to meet water shortage, irrigation and power generation. These dams, once built, will serve mainly as a source of hydropower, with a total potential of about 2400 megawatts thereby, reducing the gap between 670 megawatts produced and the 3571 megawatts required by the fast growing population of the country.

The hydropower projects once constructed will bring around 16400 hectares of additional land under cultivation and will also help increase the water storage capacity from 3 to 24 percent of the annual surface water availability. With the construction of these projects, the mining industry (which is considered key to Afghanistan's economic development), will receive fair share of

water and the domestic water supply for Kabul city will also improve which in turn will be reduce the over-exploitation of ground water resources.

The prospect of dam construction in Afghanistan has long been a source of concern for Pakistani officials. These projects once developed would result in a dent in Pakistan’s total water intake from the Kabul River. According to some estimates there might be a decline of around 17 percent of Pakistan’s total water intake (Daily Dawn, 2011). These Indian financed array of dams on Kabul River will have drastic effects on the agrarian economy of Pakistan (Bakhshi et al, 2011). The main concern of Pakistan is that such dams will enable Afghanistan to interrupt water supply to Indus River by withholding water during sowing seasons and releasing water during wet-seasons.

Table 2: Details of 12 Afghanistan Hydel Power Projects on River Kabul

S. No	Project Name	Sub-Basin of the Kabul River	Capacity in MW
1	Totumdara	Panjsher Sub-basin	200 MW
2	Barak	Panjsher Sub-basin	100 MW
3	Panjsher	Panjsher Sub-basin	100 MW
4	Baghdara	Panjsher Sub-basin	210 MW
5	Haijana	Logur Upper Kabul Sub-basin	72 MW
6	Kajab	Logur Upper Kabul Sub-basin	15 MW
7	Tangi Wadag	Logur Upper Kabul Sub-basin	56 MW
8	Gat	Logur Upper Kabul Sub-basin	86 MW
9	Sarobi	Lower Kabul Sub-basin	210 MW
10	Laghman	Lower Kabul Sub-basin	1251 MW
11	Konar	Lower Kabul Sub-basin	94.8 MW
12	Kama	Lower Kabul Sub-basin	11.5 MW

Source: Azam (2015)

Causes of Disputes over Shared Water Resources

Water Demand for Agricultural Uses

Since 2001, the international community has funded several irrigation projects across Afghanistan. Many of these interventions are framed under the 2007 Water Sector Strategy

which aims at improving, rehabilitating and re-establishing previously irrigated areas. However, the ecological, economic and political impacts downstream have reportedly not been fully considered despite the transboundary nature of the country's freshwater systems, reports Norwegian Institute of International Affairs.

Flood Control and Water Demand for Energy Generation

Flood control efforts and hydroelectric power generation require the construction of infrastructure (e.g. large dams) along the rivers that result in diminution of water flows and alteration of the river morphology. These projects will provide adequate flood control infrastructure to Afghanistan and will fulfill energy requirements of the country, however, it will significantly alter the water flow to the lower riparian country Pakistan.

Climate Change and Environmental Pollution Effects

Climate change has exacerbated concerns over the utilization and sharing of transboundary water resources. The main concerns in Central and South Asia are the rates at which glaciers melt. Several previous studies identified that glaciers in Afghanistan decreased by fifty to seventy percent during the twentieth century. The melting of glaciers may increase the supply of water in the short term however, the depletion of freshwater from glaciers will reduce water supply in the long run. Furthermore, environmental pollution reduces the quality of water resources, rendering them becoming unsuitable for agriculture or water supply. According to the UNDP, Central Asia water quality has drastically deteriorated since the 1960s. This is particularly alarming for the Aral Sea Basin (Amu Darya River is part of it) where fifty per cent of the river flow is extremely polluted water coming from industrial and urban areas. Mineralization in the lower part of the river has doubled, and currently water is not suitable for drinking.

Status of Negotiations of Kabul River

There exist no water sharing agreement between the two neighbors Afghanistan and Pakistan on the shared water resources. In fact there exist no water treaties between Afghanistan and its neighbors except for an agreement on the Helmand River. In the past, Pakistan tried to bring Afghanistan to the negotiating table to devise a mechanism for a water sharing agreement over Kabul River. The World Bank though refused to become the guarantor as it is already guarantor of the Indus Waters Treaty, agreed to facilitate the bilateral water treaty. However, the Afghan

administration excused itself saying it was working on its own national water policy and it was not possible to initiate talks until that policy is ready. In 2003, a technical committee comprised of nine members was formed to draft a Water Treaty with Afghanistan on the share water resources of Kabul River. The committee, however, did not receive sufficient river flow data from Afghanistan authorities and failed to reach an agreement over the shared water resources of Kabul River.

The World Bank, in 2006, offered assistance for a negotiation process between the two riparian countries Pakistan and Afghanistan with the main aim of providing energy to the process of drafting water treaty between the two countries. The role of the World Bank for mediating was considered appropriate as the World Bank was also involved in the formulation of the Indus Waters Treaty and mediating water disputes between India and Pakistan in Kashmir. However, these efforts did not result in a meaningful dialogues between the countries. There is no formal framework of collaboration currently exists on the Kabul River basin. The factors hampering the efforts of bilateral cooperation include the power asymmetry between Pakistan and Afghanistan, dispute over the border (Durand Line) and the recent dispute over the Indus River between Pakistan and India particularly the interpretation of the Indus Water Treaty with regard to dams construction in India.

During the Economic and Cooperation Organization (ECO) in March 2009, there was an agreement among the leaders of Afghanistan, Iran and Tajikistan agreed to speed up projects implementation focusing on the water-energy nexus. However, there was no such joint commitments made between Afghanistan and Pakistan. The Islamabad Declaration, adopted after the third Regional Economic Cooperation Conference on Afghanistan in May 2009 is considered to be the most impressive joint statement by the two neighboring countries. The declaration accepted and acknowledged the role of Afghanistan for peace, prosperity and stability of Central and South Asia and called the international community for a comprehensive approach and participation in the economic development. The Declaration also noted the active involvement of the regional organization in ensuring the economic development of Afghanistan and extending regional cooperation. The declaration urged for greater regional cooperation in transport, trade, agriculture, energy, education, counter-narcotics, capacity building, border management and

refugee return and re-integration. The Islamabad Declaration to date, however, has not led to improved cooperation over the shared water resources.

Recent breakthroughs

In late 2014, the World Bank invited representatives of the Afghan water and foreign affairs ministries to Dubai to discuss shared waters with their Pakistani counterparts. Afghanistan has since submitted its proposals for sharing water with Pakistan to the World Bank. A follow-up meeting has not yet been set. The key issues discussed were the construction of two dams on the Kabul River, the Shaal Dam and the Saagay Dam, as well procedures for exchanging data. Initial allocations of water were also discussed, according Sultani Mahmood Mahmoodi, an engineer with MEW.

In October 2015 the Afghan president approved the Extended Policy on Trans-boundary Waters, which the Supreme Council of Land and Water had been drafting for the last year. The amendment to the 2011 Afghan Water Law means all Afghan ministries mandated to negotiate trans-boundary riparian agreements must now have a unified stance in discussions with cross-border counterpart agencies. The clearer negotiating stance shows a new desire on Afghanistan's side to pursue a treaty. Pakistani Foreign Office officials have told the World Bank they are also ready to pursue the discussions on water with their neighbor. The two countries also began to collaborate on flood prevention. A representative of the Afghan Ministry of Energy and Water, Dr. Wasim Iqbal, participated in a conference on strategies to combat Glacial Lake Outburst Floods (GLOF) in Pakistan hosted by the Ministry of Climate Change and the United Nations Development Programme (UNDP) in October 2015. More than 3000 glacial lakes have been mapped as part of the four-year project, 36 of which have been declared potentially hazardous and on the verge of outburst anytime.

Cooperation over Kabul River

Disputes over water resources are as old as mankind's history. The history also witnessed cooperation and mutual agreements on the shared water resources between the parties. Over the past 50 years, 37 disputes over water resources entailing violence and 150 treaties over shared water resources have been recorded (UN, 2014). The depleting water resources should make the water planner aware of the importance of this resource for the survival of the human kind. The

dispute over the shared water resource among various nations should be resolved to use the available supplies of water efficiently and sustainably.

There should be an adequate mechanism for sharing the Kabul River waters equitably between Afghanistan and Pakistan without causing harm to each other. The emerging hydropower politics in the South Asia urges for an institutionalized cooperation on these shared water resources (Chellaney, 2011). The need of cooperation and shared management of the Kabul River has been stressed by various stakeholders however it has not been taken seriously by the two riparian states. The Norwegian Institute of International Affairs warns in 2008 about the major challenges of water scarcity and management not only for Afghanistan but for the whole region (Palau, 2011). To resolve the conflict in its nascent stage and use the potential of water resources, both Afghanistan and Pakistan, with the help of third party, should enter into a Water Treaty over the Kabul River. The two neighboring countries should avail the services of World Bank or any other International organization to not only develop the water basins but also provide platform for disputes resolution as Pakistan did in case of the Indus Waters Treaty in 1960. Afghanistan is also looking for the help from these institutions for the development of Kabul River basin.

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