

Apocalypse on the Indus

(by Khalid Aziz)¹

1 Introduction

A trajectory of population growth combined with the melting of the glaciers in the Hindu Kush and the more than three decade long drought that prevails in the Afghanistan - Pakistan region is creating an Apocalypse in the Indus Basin. However the word is used in the sense of 'discovery' connected with 'disclose, reveal, lay bare, expose' - the data and prognosis submitted can thus be read as "omens," lending an urgency to the call for a joint Afghanistan – Pakistan understanding on the use of the waters in the Kabul River Basin as it will come under increasing strain.

Pakistan's Planning Minister recently remarked that the economy was now poised for takeoff. Is it or is he being overtly hopeful? He is of course right in remarking that if peace and security is not forthcoming, then this hope too will be lost. The projections discussed here justify one to assume the presence of a major threat around the corner. Thus a preemptive initiative leading to the signing of a water treaty on the usage of the waters of the River Kabul basin by both countries seems in their best long term interest.

As this paper notes, the threats facing Pakistan and Afghanistan do not emanate from the traditional security area alone. However, one of the principle driver of the current regional insurgency are the poor life options generated for the region's inhabitants by a convergence of very high population growth coupled with a dwindling precipitation. The security of the region is thus challenged by:

- A big increase in the population of both the nations.
- Global warming and glacier melting in conjunction with a long term drought
- Absence of an institutional frame work to manage system wide water shortage in the River Indus and Kabul River Basins, between Afghanistan and Pakistan.

Given the obvious convergence of negative threats facing the region, it is an Apocalypse waiting to happen, it is no longer a question of 'if' but 'when'?

2 The drivers of insecurity and the path to friendship

Geography has been the crucial determiner of Afghanistan's history and state formation. It has dictated its past and influences it future. The importance of geography as a driver of state policy is recognized by President Ashraf Ghani when in his talk at the China Institute of International Studies, Beijing, in October 2014, he identified the close linkage of geography to political economy, (Ashraf Ghani). The latter according to him can transform geography. He believes, that countries of the region are now entering the post-Westphalian phase in Asia now, where both India and China will generate more than 40% of the world's GDP. He sees Afghanistan as a regional platform, where various routes and pipelines converge. In his vision cooperative development and transformation are pivotal. If that is the future, then the time is ripe for both Afghanistan and Pakistan to begin talks for water sharing

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in the River Kabul basin. However, this must be preceded by a strategic shift from the present frayed relations to a more genuinely friendliness, that unfortunately is currently absent.

It may be noted that both Afghanistan and Pakistan are the product of the 19th and 20th century Imperialistic sway over the region. While Afghanistan was wedged into Central Asia by the British and the Russians, Pakistan as part of undivided India was firmly under the grips of Britain. The geopolitical pressures of Central Asia forced Britain to keep Afghanistan as a buffer, while what later became Pakistan and composed of areas adjacent to Afghanistan, provided a second buffer, and between the then Soviet dominated Central Asia and a Western supported Pakistan. The later protecting its core in Punjab against India as well as the larger threat of Communism. Since both Afghanistan and Pakistan in sense became pawns in the international balance of power moves, the development of the economic and human potential remained obscured.

The job of integrating the buffer states of Central and S. Asia into a collective security framework after division of India in 1947, was a glaring omission in the Partition design. The failure to realize that after Britain's departure a void will emerge, is incomprehensible; how could the issue of maintaining security on the Sub-Continent's Western borders be left unattended in 1947? A former foreign minister of India lamented, "..... That the partition did not solve any security issues for the successor countries; rather, it generated many new challenges," (Jaswant Singh, 5-18).

Subsequently, foreign policy choices adopted by elites in Afghanistan, Pakistan and India took their respective nations on divergent courses. Because of Afghanistan's irredentist claims on Pakistani territory and the enmity between Pakistan and India led to an inimical future for both Afghanistan and Pakistan. It is a pity that the time that should have been spent on national consolidation and human development in both countries was squandered on "Zero-Sum," adventures. Amongst other follies, it led Pakistan to formulate its own version of a Monroe Doctrine 'Lite,' for Afghanistan; it led her to support the Taliban to preempt India's growing influence in Afghanistan.

Mr. Karzai the long tenured Afghan President (2001 - 2014), who came to power after the Bonn Agreement preferred friendship with India and it thus lessened good-will for Afghanistan in Pakistan.

The assumed threat feared by Pakistan due to the US presence in Afghanistan and its subsequent strategic alliance with India, relating to transfer of nuclear technology, further raised Pakistan's concern regarding the role of Afghanistan in the region and its friendliness with India that increased pressure on Pakistan's Western borders.

President Ashraf Ghani was prescient to see the fault line and attempted to transform Afghanistan's relation with Pakistan, when on his first official visit in November 2014, he displayed astuteness and his symbolic choreography took Afghan-Pakistan relationship to new heights of fraternity. However recent suspicions related to security has created a reversion.

Scholars have discovered that the change from indifference to friendship between nations follows a set pattern;

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- Reconciliation begins with an act of unilateral accommodation; a state beset with insecurity decides to remove it by exercising strategic restraint, thus making a peace offering to an adversary.
- This step is followed by a reciprocal restraint by the other party. The states trade concessions and shift their relations from rivalry to cooperation.
- The 3rd stage signifying stable peace is the deepening of societal integration. Where the elites and civil society and other classes of society in both nations begin to make investment and lobby for removal of remaining barriers and restrictions.
- The fourth and final phase entails the generation of new narratives and identities through elite statements, popular culture (media, literature, theater, film) and “items laden with political symbols such as flags and anthems, the states in question embrace a new domestic discourse that alters the identity they possess of the other, ”(Kupchan, 6).

This paper advocates the fostering of greater regional cooperation between Afghanistan and Pakistan, such a possibility can be accelerated if they agree to manage the River Kabul Basin jointly.

It is a truism that good relations between the two countries can be catalyzed if they reach an understanding on sharing the waters of the Kabul River Basin. Failure to take this step will be a challenge to future of peace, if shortage of water occurs and leads to increased tension between the two neighbors.

The usage of waters from River Kabul as well as the minor tributaries of Gomul, Kaitu and Tochi are important for agriculture in Pakistan’s sub-regions of Tank, D.I Khan, Bannu and North Waziristan, their regular flow needs to be formalized (Aziz K: P. 7).

The UN panel on global warming has projected that the availability of water to the Indus basin faces a reduction of about 30-34 MAF annually and will thus reduce the irrigated acreage in Pakistan by 2040, from the existing 45 million acres to about 28 million acres (UNEP & WMO). This sharp decline in water availability will not only cause food insecurity but also effect its exports and employment. The crisis will be aggravated, if one notes that by 2050, Pakistan’s population is expected to increase to 344 million. Similarly Afghanistan’s population will increase to 72 million in the same period, (UNFPA, 2001)

While the resource and demographic picture appears to be negative, the progress of international law and conventions dealing with sharing of river basins between countries, shows a positive trend and thus offers a ray of hope. It is further discussed in section 10 below. Therefore creation of a new institutional framework could help in managing the certain future crisis. Others who are pessimistic, have opined that global warming, dwindling water resources combined with the negative demography of the region, will create a security crisis instead, (Hanasz: 3-4).

Although mankind has experience of resolving water conflict, it is a moot point, whether Afghanistan and Pakistan will recognize the threat in time? However, the regional experience of avoidance of conflict on water, between India and Pakistan by the Indus Basin Treaty of 1960, and between Afghanistan and Iran by the Helmand River Treaty (1973) are

the two models available for replicating a water treaty between Afghanistan and Pakistan, this is discussed more fully in section 9 of this paper.

3 Hydrological Situation in Afghanistan

Today, Afghanistan has a population of 38 million, of whom 85% are directly dependent on agriculture. Afghanistan has 19 million acres of land, of which 12.7 million acres are available for farming. Before 1978, 10.8 million acres of land was cultivated. After the Jihad against the Soviet Union in 1978-88, a major portion of the irrigation infrastructure was damaged thus reducing irrigated land to 7.7 million acres that further decreased to 4.6 million acres due to drought and Taliban misrule. Before 1978, Afghanistan was self-sufficient in food production and an exporter of agricultural produce, (Aziz K: P. 4).

Afghanistan is suffering from serious social dislocation caused by war coupled with a shortage of rainfall with consequential reduction of water in its aquifers and rivers. This drought has given birth to social unrest and a return to religious Radicalism for solving poverty and livelihood issues. Regional long-term data indicates a region wide reduction in precipitation in Afghanistan. The drought began in 1898 and has continued on a downward trend. As a result irrigation declined by 70%. This reduced irrigated land by 60%. More than 36% of the underground springs (Karez) have dried up and the discharge in the remaining reduced by 83%. It decreased Karez command land by 84%; it has affected about 11 million farmers. 30 Afghan provinces have water shortage. Of these 28% are suffering from drought (FAO/WFP: 2-3)

4 Current usage of River Kabul waters.

Kabul River Basin is one of Afghanistan's major water ways. The river rises in the Hindu Kush and after 430 miles joins the Indus at Attock. Its major tributaries are Logar, Panjshir, Kunar and River Swat. Afghanistan has a current total potential of 58.7 MAF of water. Surface water flows in rivers and streams account for 46.19 MAF and ground water accounts for 12.5 MAF

Out of the total water available agriculture uses approximately 16 MAF, leaving a balance of about 30.18 MAF for further development. In the face of reduced livelihood opportunities, development of agriculture will obviously pay dividends.

Usage of Kabul River water in Pakistan shows the following;

- The flow of river Kabul before it joins the waters of Chitral, Swat and Kunar Rivers is 14.6 MAF.
- At Warsak the flow of River Kabul entering Pakistan, increases to 17 MAF.
- Thus the Swat and Kunar Rivers contribute 2.4 MAF, (Aziz K: 5:6)

The Afghan irrigation strategy as reported in a (GIRoA) publication on Transboundary Waters, is to treble its existing water storage from 10% to 30% in the next few years. *This will consequently reduce the flows to Pakistan and more specifically to KP province's civil and lift canals based on river Kabul flows.* Afghanistan is developing four new dams on River Kabul at Naghlu, Sarobi (2) and Darunta (Wikipedia), yet no discussion with Pakistan has taken place regarding the impact of these developments on its usage.

5 Afghanistan's position regarding River Kabul Basin

In the policy paper by the Afghan Government relating to Transboundary Water issued in 2007, (GIRoA), the following assertions were made regarding Kabul River Basin;

- That there are currently four major dams under construction on the river.
- The following additional water needs were projected inside Afghanistan;
 - Meeting the urban needs of Kabul city.
 - New irrigation projects were planned and they will need water.
 - Additional investment will be required for constructing additional management structures to control and regulate river Kabul's flows.

In addition the policy paper made the following recommendations:

- There was a need to gather flow monitoring of the river and accumulate better hydrological data.
- The current water consumption had to be calculated
- The amount of water needed for recharge of ground water needs to be calculated and taken into account.
- The total flows entering Pakistan need to be measured.
- The policy paper proposed the establishment of bilateral groups to promote cooperation at the technical level to ascertain cost sharing with Pakistan for maintenance of the system.
- Any agreement with Pakistan must also take into account the flows it receives from smaller rivers like Gomal, Matun and Shamal.
- The paper proposed joint management of Kunar River with Pakistan.

6 Effect of reduced water from Kabul River

Pakistan has the world's largest contiguous irrigation system, which irrigates 45.2 million acres of land. Agriculture accounts for 23% of Pakistan's GDP and provides employment to 55% of its labour force. However, irrigation in Pakistan is organized around utilization of the Indus and regulation of water through storages and weirs that manage an annual mean flow of about 143.1 MAF. It was after the construction of irrigation infrastructure under the Indus Basin Treaty (1960) that enabled Pakistan to double its irrigated acreage after 1947, to about 45.2 million acres.(Aziz K, Shahid, Mujib)

Currently, Pakistan is classified as water short, and in 2016 it is projected to join the category of a water scarce country. River inflows in Pakistan decreased by 20% after 1947. This shortage is now further compounded by faster glacial melt, while rain has become unpredictable. This has threatened its aquatic and environmental diversity of wet lands, rangelands and forests. At the same time, water losses due to design features in the canal system is around 50 MAF annually. Another 15-30 MAF of flood water is lost due to seepage. Furthermore salinity and water logging adds to Pakistan's growing list of woes in the agriculture sector, (Aziz K: 7).

The limited irrigated agriculture in KP is heavily dependent on waters of River Kabul. The precipitation in KP and the tribal areas is falling rapidly as in Afghanistan. In the tribal belt of Pakistan water scarcity has reached dangerous levels with a rapidly declining water

table. Thus, new irrigation water supplies are crucial to provide security to livelihoods in this dry region of KP and tribal areas of Pakistan.

7 Impact of water shortage

The report on global warming indicates that the snow in the Himalayas and the size of glaciers on its Western most extension in the Hindu Kush, will warm up. It is projected that the Himalayan glaciers will reduce in size by 35-40%. This will reduce the flows in the Indus and only 65-70 MAF of water will be available against the current off-take of 143.1 MAF. It is projected that as a result, agriculture command area in the Indus Basin will be reduced to about 28 million acres from the existing 45 million acres! How water shortages coupled with a population of 300 million projected in 2050 (UNFP), will pan out is not too difficult to imagine. It is surely a catastrophe in the making.

Environmentalists, policy makers and system experts are unanimous in concluding that scarcity of water will increase chances of violent conflict. Water resource management is thus integral to security and regional stability. It may be noted that water shortage is a major contributory factor of human insecurity in Afghanistan, its shortage has driven the inhabitants to seek extreme solutions to create livelihoods through alternate employment, (Aziz K: P. 10)

8 Efforts by Pakistan to engage Afghanistan on water sharing

On September 9th, 2003 the government of Pakistan formed a technical committee to formulate a draft water treaty with Afghanistan; but it failed to give its findings alleging that water inflows of Kabul River flow data wasn't available. In 2005, a technical committee was formed by the government of Pakistan, under AGN Abbasi, it proposed that Pakistan should negotiate a water treaty with Afghanistan, so that the rights are clearly identified and common solutions are found. Experience in negotiating water sharing matters in the presence of a 3rd party like the World Bank or the UN does help in achieving an agreement on water usage between nations, (Aziz K: P. 11-12)

Negotiating a water treaty on the River Kabul is thus an outstanding need of the region and cannot be ignored for long. Both the countries need to move out from a position of dormancy. Others could help in investing in the basin works related to joint management of the river.

Such a design will usher an era of peace and assist in better managing the consequences of climate change and the resulting reduction of water availability. Inaction will be an invitation to chaos and human agony comparable to an Apocalypse.

To broaden chances of peace it will be ideal if both the countries shift from a 'competitive' to a 'cooperative' stance. The foreign policy narratives emerging out of Kabul and Islamabad are usually anchored in the divisive language of 'winning', 'losing', 'injustice', 'might' and 'force'. Such a discourse is damaging to the needs of formulating any agreement. This discourse needs to be replaced by emotions related to 'join', 'share', 'help', 'gift', 'respect' and 'forgive'.

For this reason we need to change the current disruptive narrative and transform it to one of cooperation and regional well-being. This requires visionary leadership. Happily such a journey can begin by agreeing to a treaty for sharing the water of Kabul River Basin.

9 Can the IBT be a model for a Treaty on River Kabul?

The two models available for crafting a design for an Afghan-Pak Treaty on River Kabul Basin is the Afghan-Iranian Treaty on Helmand River (1973), and the Indo-Pak Indus Basin Treaty (1960). Although both treaties are the product of separate needs, yet they contain provisions that could be useful in crafting a treaty for Kabul River Basin. Apparently the joint use of the waters of Helmand River by Afghanistan and Iran had the following weaknesses;

- The treaty provides shares and leaves little room for further developments
- No new constructions like dams etc. are allowed under the treaty unless both parties agree; such a consensus is difficult to achieve.
- There is an inherent negative geo-political aspect noted by experts, who feel that Iran is not happy with agricultural growth in Afghanistan as it reduces the flows of water to Iranian Sistan – Baluchistan, which draws its limited waters from Hamun Lake that is filled by the Helmand (King & Strutewagen)

Twelve years before the IBT was signed in 1960, David Lilienthal, a former Chairman of the TVA, visited India and Pakistan as a journalist in 1948, when the two neighbors were on the verge of a war on the issue of water distribution, it was indicated by India that it intended to use all the waters of the three Eastern rivers Ravi, Bias and Sutlej. This would completely disrupt the irrigation in Pakistani Punjab and threatened to make dry 1.6 million acres of irrigated land.

Lilienthal proposed that to create social cohesion between two inimical states was to encourage the formulation of a water treaty between them to operate the Indus basin as a single unit for purposes of irrigation. Lilienthal suggested that the World Bank use its good offices to help formulate such a treaty. Eugene Black, the President of the World Bank and a close friend of Lilienthal, convinced the experts of both the countries, that during negotiation they should stress the “functional” rather than the “political” aspects of the dispute, while Pakistan built its argument in the negotiation, on its rights based on historical usage, Eugene Black, encouraged the parties to focus on “optimizing” the water of River Indus. After six year of talks, the Indus Basin Treaty was finally signed between India and Pakistan in 1960.

To compensate Pakistan for the loss of water to India, a huge development component amounting to \$1.07billion was executed. Under it, water of the three western rivers agreed under the IBT as Pakistan’s share (Indus Jhelum, Chenab) were diverted to supply water for irrigation to lands in Punjab and Sindh to compensate for the flows lost to India. This led to the construction of the Tarbella and Mangla dams as well as the construction of five barrages and weirs that were necessary to transfer water from the West to the parched lands in the East. For this 650 kilometer of new canals were constructed. A permanent Indus Commission composed of technical experts was created to oversee the implementation of the agreement and to monitor basin wide matters, (Aziz K, Shahid, Mujib)

It is a tribute to the vision of David Lilienthal, who wanted to create better social cohesion between two of the most intransigent nations in S. Asia – that his dream became a reality. It may be highlighted that even in the worst of times (there have been two wars fought between India and Pakistan after the signing of the IBT), the agreement remained in

effect even when nothing else seemed to be working between the two nations. The Indus Commission meets regularly and resolves water issues, even during the worst of relations.

Thus, the IBT offers a good design for future collaboration between the two countries. The following are the main lessons learnt from the IBT (Aziz: P. 15);

- The parties' sensitivity to the crucial role of availability of water for national development transcended their rivalries making an agreement possible.
- Water management became an instrument of conflict management.
- India's more powerful position as an upper riparian, permitted her to delay the negotiations.
- Availability of funds to execute essential infrastructure under the IBT played a positive role in reaching an agreement. Positive role by the World Bank as a neutral 3rd party with the relevant technical expertise was very helpful.
- The ratification of IBT increased the chances of peace in the region by providing social cohesion arising out of joint usage of water.
- As water shortage increase, the chances of agreement become distant.
- Basins that lack joint institutions to adjust to hydrological /climate change are prone to conflict, (Oregon State University)

It is thus crucial for both the countries to think through what design to follow if they wish to formulate a treaty for the River Kabul Basin?

10 Global rules about water sharing

While there is regional tension in the apportionment and usage of joint water resources, yet at the same time there has been a gradual accumulation of rules to act as paths for resolving water related disputes. The FAO has documented 3600 water treaties from 805 AD until 1984. Below is a gist of some of the pivotal rules for handling water sharing issues;

- (Madrid Declaration of 1911)
 - It declared against the unilateral alteration of a river basin without dealing with rights of the lower riparian.
 - It advocated creation of joint water commissions to settle matters of joint usage
- (Helsinki Rules 1966)
 - River basins were considered indivisible where 2 or more users were its beneficiaries
 - It formulated the concept of "Equitable Utilization," and thus advocated the concept of shared sovereignty over common river basins
 - States were entitled to reasonable and equitable share
- (UN Convention on Uses of International Water Courses 1997).
 - Art 6 defines what is meant by 'equitable' and 'reasonable' usage; it includes
 - Geographic, hydrological, climatic ecological requirements
 - It included the social and economic needs of the water using states
 - It prioritized principle of rationality above past rights
- (Berlin Conference Rules 2004)
 - It clarified definitions that were vague

- It recognized that persons affected had the human right to become parties to deliberations on water sharing
- It advocated amelioration of systemic droughts in a region by devising joint usage (Aziz K: P. 10-15)

Despite the development of rationality in the discourse for using water courses jointly by states, there is apprehension that customary international law is too weak to modify state behavior and thus chances of acrimony over water issues is considerable, (Dellapenna: 274).

11 Conclusion

The discussion in this paper projects the emergence of multiple crisis in the Basins of the Kabul and Indus Rivers where rampant population growth, systemic regional drought, and global warming threaten the livelihood of millions, who remain hostage to these factors. To prevent collapse of the social environment, it is essential that both Afghanistan and Pakistan should create the preferred institutional framework to handle the oncoming events. Failure to do so will lead to regional fragmentation and chaos that needs to be avoided at all costs. If we fail to understand this basic fact then we will have only ourselves to blame.

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