Water Conflict Management and Cooperation Between Afghanistan and Pakistan

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OBJECTIVES:

This study analyzes Afghanistan and Pakistan relation and **potential for cooperation** in the area of transboundary water resources management, based on a **multi-stage** framework of conflict transformation.

- Starting with traditional disputes between upstream and downstream riparian which talks about **rights** resulting in zero-sum confrontations as one party’s loss is another’s gain where confrontation seems inevitable.
- Continuing with formulating a mechanism for conflict transformation into cooperation,
- Ends up with introducing the practical methods of identifying the basin **needs** and sharing benefits where riparian will negotiate on a win-win process.
Afghanistan and Pakistan are the riparian states in a unique circumstances that both are upstream and downstream of each other where Kunar River originates in Pakistan and then joins the Kabul River closer to Jalalabad. Then It enters to Pakistan and joins the Indus River at Attock.

Kabul River is about 560 km long inside Afghanistan to which, the Kunar River is a tributary that flows in the eastern part of Afghanistan and the northwestern part of Pakistan. Talking about the total length of this river that ends in the Indus River in Pakistan is stated to be 700 km.
Afghanistan and Pakistan share at least nine rivers but have never signed any agreement on joint management of the shared watercourses.

Kabul River, which later joins the Indus River, is one of the most important rivers and a potential source of hydropower for both countries.

More than 7 million people in Afghanistan part, which encompass 23 percent of the Afghanistan population, live in the Kabul River Basin (KRB).

On the Pakistani side of the basin, the river is a source for irrigation purposes in the remote and mountainous Khyber Pakhtunkhwa (KPK) province.

The main source of the Kabul River is from the glaciers and snow of the Hindu Kush mountains.

The river represents 26 percent of Afghanistan’s water resources.
• Other cross border tributaries include the Khuram River which originates from mountains of Paktia province in Afghanistan, flows into the Khuram Agency of the Federally Administered Tribal Area in Pakistan.

• Gomal River is the third major cross Border River which originates from mountains of Ghazni province of Afghanistan enters South Waziristan Agency of Pakistan.

• There are also some seasonal rivers that flow into the rivers of Afghanistan’s provinces of Kandahar, Zabul and Paktika and the Balochistan province of Pakistan.
This study is based on the theoretical review of KRB water issues between Afghanistan and Pakistan. To analyze and explore the problematic situation, secondary sources of data has been used.

The data representing countries’ rights, needs and benefits are collected from relevant ministries, UN agencies, World Bank, Asian Development Bank. Meanwhile, relevant study reports, publications and informative maps are also collected from various governmental and non-governmental organizations.
The methodology being undertaken for conflict transformation in KRB follows a combination of

- **Jay Rotham work** who initially described his stages as ARI – Adversarial, Reflexive, and Integrative (Rothman 1989)
- And the work of **Sadoff and Gery** done in 2002 and 2005, respectively, with the aim of evaluating the benefit of cooperation in the concept of benefit sharing in order to switch from sharing of water quantities to sharing of benefits.
• Stage I: Initial State: Basins with Boundaries-Scale is interpersonal, focus is on trust building, and analysis is of parties, positions, and interests. Negotiations are often adversarial, with an emphasis on rights.

• Stages II: Changing Perceptions: Basins without Boundaries- Scale is intersectoral, focus is on skills building, and analysis is on gap between current and future states. Negotiations move to the reflexive stage, and parties define needs.

• Stages III: Enhancing Benefits-Scale moves beyond the basin, focus is on consensus building, and analysis is on benefits of cooperation. Negotiations are integrative, where parties define benefits.

• Stage IV: Putting It All Together: Institutional and Organizational Capacity and Sharing Benefits-Scale is international, focus is on capacity building, and analysis is on institutional capacity. Negotiations are in the action stage, where equity is defined and institutionalized.
### Methodology

<table>
<thead>
<tr>
<th>TYPES OF COOPERATION</th>
<th>THE CHALLENGE</th>
<th>THE OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE 1: INCREASING BENEFITS TO THE RIVER</strong></td>
<td>Limited Water resource Management: Degraded water quality, watersheds, wetlands, and biodiversity</td>
<td>Improved <strong>water quality</strong>, river flow characteristics, <strong>soil conservation</strong>, biodiversity and <strong>overall sustainability</strong></td>
</tr>
<tr>
<td><strong>TYPE 2: INCREASING BENEFITS FROM THE RIVER</strong></td>
<td>Increasing demands for water, sub-optimal water resources management and development</td>
<td>Improved water resources management for hydropower and agricultural production, flood-drought management, environmental conservation and water quality</td>
</tr>
<tr>
<td><strong>TYPE 3: REDUCING COSTS BECAUSE OF THE RIVER</strong></td>
<td>Tense (+,-) regional relations and political economy impacts</td>
<td>Policy shift to cooperation &amp; development from dispute; from food &amp; energy self-sufficiency to security; reduced conflict risk &amp; military expenditure (+/-)</td>
</tr>
<tr>
<td><strong>TYPE 4: INCREASING BENEFITS BEYOND THE RIVER</strong></td>
<td>Regional fragmentation</td>
<td>Integration of regional infrastructure, markets and trade</td>
</tr>
</tbody>
</table>
Most dialogues in first stage of this path called “Adversarial Stage” is based on political boundaries and what a country feels it deserves (Rothman 1989).

- Legal **Institutional framework** of the riparian
- Review of **Actual Water Negotiations** in KRB
Legal Institutional framework of the riparian:

• The legal basis for water management in Afghanistan is the **Water Law** revised in 2009 based on the river basin approach.

• Lauded by the international community as an important step towards the development of a coherent water management strategy,

• The Water Law declares adherence to all international laws and regulations regarding domestic and transboundary waters.
Stage 1 - Initial State: Basins with Boundaries

Legal Institutional framework of the riparian:

Article 8 (9) of the water law clears that the management and planning of the transboundary waters between Afghanistan and its neighboring counties and changes of watercourses are the responsibility of the:

- Ministry of Energy and Water (MEW),
- With agreements from the Ministry of foreign Affairs (MoFA),
- Ministry of Interior (MoI)
- And the ministry of Border and Tribal Affairs (MoBTA).
Stage 1 - Initial State: Basins with Boundaries

Legal Institutional framework of the riparian:

• However, in 2016 President Ghani declared the act of establishment of the transboundary waters commission where different relevant ministries are involved in decision making.
Stage 1 - Initial State: Basins with Boundaries

Legal Institutional framework of the riparian:

- Strengthening the **coordination** and **cooperation** between relevant stakeholders on transboundary issues
- Determination of inter-ministerial **workgroups** to study the performance of concerned countries and to assign working groups for different transboundary tasks and issues
- **Regional Cooperation** – taking strategic decisions.
- Water resource distribution, **management, development** and administration is the responsibility of the **Supreme Council of Land & Water** (SCoLW), river basin councils (RBCs) and the National Environment Protection Agency (NEPA). Eight government ministries are involved in various aspects of water management, however, the Ministry of Energy and Water (MEW) has the key role in the management and development of water infrastructures, policies and strategies.
Stage 1 - Initial State: Basins with Boundaries

• Legal Institutional framework of the riparian:

• Water management in Pakistan falls under the jurisdiction of the Water and Power Development Authority (WAPDA), a department within the Ministry of Water and Power.

• WAPDA formulates plans for the construction of large water storage facilities and structures that governs water management in the Federally Administered Tribal Areas (FATA), whose rivers fall outside the jurisdiction of the Indus River Basin Authority.

• The management of the basins, however, is directly under the federal government via the Ministry of States, Frontiers and Regions (SAFRON) and its local branch, the FATA secretariat.
Stage 1 - Initial State: Basins with Boundaries

• **Review of Actual Water Negotiations in KRB:**

Common talks between both countries are explored chronologically below:

- **1921** - Agreement between British Empire and Afghan government on navigation rights on the Kabul River.

- **1933 to 34** - Afghan government and state government in Chitral signed an agreement on timber navigation rights on the Kunar River.

- **2003** - Pakistan formed a technical committee headed by the Chairman of Flood Commission to draft the provision of river treaty with Afghanistan.

- **2005** - A Pakistani delegation from WAPDA visited Khost province for discussions with the provincial government regarding the restoration of a hydro-electric plant on the Shamil/Kaitu River.

- **2006** - World Bank intervention fails to secure a transboundary riparian agreement between Afghanistan and Pakistan.
Stage 1 - Initial State: Basins with Boundaries

- **Review of Actual Water Negotiations in KRB:**
  - **2009** - Islamabad declaration mentions regional collaboration as key for peace but no concrete steps towards a draft treaty have yet been taken.
  - **2013** - Afghan and Pakistani finance ministers discuss joint power project on Kabul River.
  - **2014** - The Afghanistan-Pakistan Joint Chamber of Commerce (APJCC) pledge to explore a joint power-sharing agreement on the Kabul River.
  - **2014** - Representatives from the Afghan Ministry of Foreign Affairs and the Afghan Ministry of Energy and Water meet with their Pakistani counterparts in Dubai for two days of discussions on management of shared waters facilitated by the World Bank.
• **Review of Actual Water Negotiations in KRB:**

  • **2014** - Previous attempts and joint talks over water are reported to have stalled when Afg raised issues of Durand Line, Or Donors raised issues of regional security (Vick, 2014)

  • **2015** - Afghan, Pakistani and Indian water stakeholders, experts and engineers met at a regional climate change conference in Dubai organized by Global Water Partnership

  • **2015** - Trilateral meeting between government representatives of China, Afghanistan and Pakistan announce a proposed 1500 megawatt capacity joint-power sharing project some-where near the border between the two countries.
Stage 1 - Initial State: Basins with Boundaries

- Talks on shared watercourses in KRB have been disconnectedly in progress since 1921. However, these talks have never been structured in a manner to bring mutual prosperity to both nations.

- The main reasons that these talks have gone result less are lack of a compatible legal framework, non-endorsement of 1997 UN-Convention on international watercourses, problems affecting the relations of the counties beyond the river (e.g., security, migration, Durand-Line conflicts, transit issues, etc.),

- low scientific capacity on transboundary waters specially in Afghanistan, lack of trust building wills in Pakistan.
Since long time ago Pakistan has been trying to initiate transboundary cooperation with Afghanistan on water issues. Unfortunately, these attempts has never become true due to the distrust towards Pakistan and degraded professional and institutional capacity in Afghanistan.

• **Security** issue is the main reason for Afghanistan not to trust on Pakistan Mainly because of:
  
  • Supporting of armed oppositions (Price et al., 2014),
  • Forced deportation of war migrants,
  • Time-to-time blockage of transit ways are the major accusations from Afghanistan not to trust Pakistan.

• Nonetheless, in the past one and half decades Afghanistan has repeatedly trusted Pakistan on the peace and security building process of this country but failed in every effort. Unfortunately, the failure in process of trust building has also influenced the process of transboundary cooperation between these two countries.
Meanwhile, not only the distrust towards Pakistan but also degraded professional and institutional capacity of water sector in Afghanistan is the other cooperation interrupting obstacle in front of the two beneficiaries.

The attempts towards institutionalization of water sector in Afghanistan shows that the political will to enhance the capacity of water sector strongly exists.


However, despite of all these tangible achievements, the human and institutional capacity is not in a situation to meet the needs in and outside of the borders.
Donors Support:

Many donors are giving considerable attention to sustainable development of Afghanistan’s water sector.

Key donors for water sector are region states such as, Denmark, Germany, Norway, Sweden, India, Japan, Canada, United State of America, The United Kingdom,

International organizations, like ADB, World Bank, European Commission, Islamic Development Bank (IDB), International NGOS are also plying significant role. (Habib, 2014)
Despite so many tangible donor supports in the basin, still process of mutual cooperation is in the failure stage due to lack of trust between the countries.
Needs in Afghanistan:

- Need for Water Storage Development

- The main source of water in Afghanistan are **glaciers and snowmelts** which are being stored in rugged terrains of the country during winter and spring seasons and flow in river valleys during the warm seasons. However, this vital resources are **shortened as a result of global warming** and climate change.

- In order to manage the demand, the country needs to increase the number of its storage reservoir by development of infrastructures.
• Needs in Afghanistan:
  • *Need for “Irrigated agriculture for food production”*

• The existing and potential irrigated areas in the KRB are shown in Table 4.1. The three largest areas are:

  • (a) The Shomali Plain in the central Panjshir River basin,
  • (b) The large plain near the Lower Kabul River in Nangarhar, and
  • (c) Along the Logar River

<table>
<thead>
<tr>
<th>Sub Basin</th>
<th>Irrigated Area (Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intensive</td>
</tr>
<tr>
<td>Logar -Upper Kabul Sub Basin</td>
<td></td>
</tr>
<tr>
<td>Logar River Water Shed</td>
<td></td>
</tr>
<tr>
<td>Logar River Valley above proposed Gat Dam Site</td>
<td>17,875</td>
</tr>
<tr>
<td>Logar River Valley below proposed Gat Dam</td>
<td>2,700</td>
</tr>
<tr>
<td>Upper Kabul River Watershed</td>
<td></td>
</tr>
<tr>
<td>Upper Kabul, Maidan, Paghman</td>
<td>17,730</td>
</tr>
<tr>
<td>East of Kabul</td>
<td></td>
</tr>
<tr>
<td>Panjshir Sub Basin</td>
<td></td>
</tr>
<tr>
<td>Panjshir River (Kapisa)</td>
<td>17,040</td>
</tr>
<tr>
<td>Panjshir, Ghorband, Salang, Shahul</td>
<td>38,210</td>
</tr>
<tr>
<td>Barikaw</td>
<td>11,320</td>
</tr>
<tr>
<td>Lower Kabul Sub Basin</td>
<td></td>
</tr>
<tr>
<td>Laghman</td>
<td>18,935</td>
</tr>
<tr>
<td>Konar</td>
<td>12,010</td>
</tr>
<tr>
<td>Nangarhar</td>
<td>66,786</td>
</tr>
<tr>
<td>Total</td>
<td>1,96,606</td>
</tr>
</tbody>
</table>

• Needs in Afghanistan:
  • *Need for Urban Domestic and Industrial Water Supply*
  • Based on the (World Bank, 2010) the second major issue that needs to be addressed in developing the KBR is rural and urban water supply.
Needs in Afghanistan:

- **Needs for Hydropower Production**

- Current production is less than the estimated demand from existing connected customers, and current unanswered demand is estimated to be more than twice the current energy availability.

Based on World Bank, 2010 report with a mixed hydro-thermal electricity system, the Panjshir, Naglu, and Sarobi II cascade can meet the maximum projected energy demand in the KRB.

<table>
<thead>
<tr>
<th>Year</th>
<th>Range</th>
<th>Annual Hydropower energy Demand (GWh) - Base Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Min</td>
<td>1,350.9</td>
</tr>
<tr>
<td></td>
<td>Max</td>
<td>2,180.0</td>
</tr>
<tr>
<td>2015</td>
<td>Min</td>
<td>1,081.2</td>
</tr>
<tr>
<td></td>
<td>Max</td>
<td>1,993.0</td>
</tr>
<tr>
<td>2006</td>
<td>Min</td>
<td>672.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>848.0</td>
</tr>
</tbody>
</table>

Source: Toosab and RCUWM 2006
• Needs in Afghanistan:
  • Need for “Irrigated agriculture for food production”
  • Serious Need For Ground Water Recharge
  • Need for Urban Domestic and Industrial Water Supply
  • Needs for Hydropower Production
  • Environmental Needs
  • Needs for Flood and Drought Management
  • Need for Trade
  • Need for Integration of regional Infrastructure
  • Need for Security
Needs in Pakistan (KRB):

- Flood management:
- Data -
- Drought management
- Need for Agriculture land development
- Need for Infrastructure
- Need for a modern Institutional Structure
- Need for Hydropower generation
- Need for climate change mitigation and adaptation
A. Needs

- Total Available Water Km3/year

**Factors of Equitable and Reasonable Principle**

<table>
<thead>
<tr>
<th>Weight</th>
<th>Benefit Type</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 0.3</td>
<td>The effects of the use or uses of the watercourses in one watercourse State on other watercourse states;</td>
<td>A 0.3</td>
</tr>
<tr>
<td>B 0.4</td>
<td>Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;</td>
<td>B 0.4</td>
</tr>
<tr>
<td>A 0.8</td>
<td>The social and economic needs of the watercourse states concerned;</td>
<td>A 0.8</td>
</tr>
<tr>
<td>B 0.7</td>
<td>Existing and potential uses of the watercourse</td>
<td>B 0.7</td>
</tr>
<tr>
<td>A 1</td>
<td>The population dependent on the watercourse in each watercourse state;</td>
<td>A 1</td>
</tr>
<tr>
<td>B 1</td>
<td></td>
<td>B 1</td>
</tr>
</tbody>
</table>

**The Population**

- A. Needs
- B. Needs

**Benefit From the River**

- To the river
- Food Control
- Drought ...

**Total Benefit M$**

**Year 2018**

**DRY YEAR**

- Max
- Opt
dmd
- Now

**Environmental Demand**

**Industrial Demand**

**Irrigation Demand**

**Domestic Demand**

**Hydro Power Demand**

**Food Control**

**Drought ...**

**Total Available Water Km3/year**

**Max**

**Opt**

**Opt dmd**

**Now**

**Total Investment M$**
Note: The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.
Stage 3- Enhancing Benefits-Scale moves beyond the basin

• The traditional approach of project-by-project basis negotiations is very likely to result in stalemate.

• This approach is proved to be more likely a win-lose rather than an equitable win-win process.

• Recently, The Basket of Benefits approach is being practiced globally to provide a more equitable and systematic means to negotiate on the use of water resources.

• Rather than a project-by-project basis, in the Basket of Benefits approach a wide range of potential activities concerning different countries and sectors are identified and considered as a whole when negotiating. The basket of benefits approach identifies the opportunities that are acceptable for all stakeholders and the outcomes are their expected benefits (Sadoff, 2003).
Enhancing Benefits-Scale moves beyond the basin

- To transform the conflicts to cooperation between Afghanistan and Pakistan on KRB the basket of benefits approach could be the best option for both countries.

- Currently, both countries are in the state of energy deficit which could be overcome through development of joint hydropower projects in the basin.

- A real example is the Kunar Transboundary Subbasin Hydropower Cascade Development Project. The project has the potential to answer most of the both counties’ electricity power needs (World Bank, 2013).

- The Kunar Cascade Project includes a total of 5 major dams, of which, 3 dams are to be built in Afghanistan and two in Pakistan.

- The most cooperative and advantageous scenario for implementing this project is the joint operation of all dams for the purpose of power generation as the first priority (Hearns, 2017).

- Through joint implementation of this project the from the river and because of the river benefits of basket of benefits approach can be widely achieved.
Step by Step Transformation Process

Conflict Transformation and benefit Sharing Frame work.

Step 1. Start of Conflict Transformation

<table>
<thead>
<tr>
<th>Afghanistan's Action</th>
<th>Pakistan Action</th>
<th>Start of Cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional Building</td>
<td>Trust Building on Security</td>
<td>Data Shearing</td>
</tr>
<tr>
<td>Human Capital Building</td>
<td>Trade</td>
<td>Joint Commission</td>
</tr>
<tr>
<td></td>
<td>Migration</td>
<td>Joint Commission Capacity Building</td>
</tr>
</tbody>
</table>
Step 2. Common Understanding and Identifying the Basin needs

Geographical coverage of the Framework
- Whole river basin (Dose Khuram and Gomal and other cross border rivers shall be included?)

Hydrological coverage of the framework
- Extent of drainage basin
- Agreement on Hydrological boundaries
- Identification of the water which will be included in the analysis (Surface Water, Ground Water)
- Analysis of water availability, Water quality.
- Potential climate change impacts

Environmental coverage of the Framework
- Identification of environmental goods and Service
- Identification of Water requirement to maintain ecosystem functioning
- Identification population directly dependent on the ecosystem

Population in the basin
- Present and projected population
- Population within the watercourse catchment area and dependent on the water of the watercourse
- Growth and migration of population
- Livestock
- Existing uses
- Potential uses
- Extent of “Vital human needs”

Economical Coverage of the Framework
- Population dependent on these economic activities
- Share of GDP, tax revenues, employment, foreign exchange earnings

Social Coverage of the framework
- Human development index
- Customary uses
- Gender uses

Coverage of the Impacts in the Frame work
- Impacts of existing and potential uses
- Beneficial and adverse impacts
- Transboundary and national Impacts
- Impacts on quantity, quality
- Social and economic impacts

Coverage of the comparative efficiency of use in the frame work
- Present and future consumptive use
- Non-consumptive use

Coverage of the alternatives to the use of the Watercourse in the frame work
- Alternative source of water for existing or planned uses
- Alternatives to using water (which provide similar benefits)

Other Required Factors as considered necessary shall be included in the frame work

Geographical Sharing

Context
- Identification of a mechanism to share the benefit between sub basins

Means of transboundary sharing
- Identification of the Criteria which will be used to identify a benefit as being shared

Categories of benefits to be included in the Analysis

Economic Benefits (e.g., Hydro power, Agriculture, industry, mining, tourism, fisheries, etc.)

Environmental Benefits (watershed management,, environmental flows, wetland conservation, flood control, habitat protection etc.)

Political Benefits (Cooperation, Meeting SDG, domestic and rural water supply, etc.)

Social Capital Benefits (Capacity building, skill sharing, etc.)

Step 3. Mutual benefits Scenarios

Type 1: Environmental
- “Increasing Benefits” - To the river

Type 2: Economic
- “Increasing Benefits - From the river

Type 3: Political
- “Decreasing Costs” - Because of the river

Type 4: Indirect Economic
- “Increasing Benefits” - Beyond the river

Step 4. Enlarging the Baskets of Benefits

- Geographical Sharing
- Economic Sharing
- Social Sharing
- Environmental Sharing
- Political Sharing
Conclusion and Recommendation

- The Kabul River Basin has a **unique circumstances** where both countries are down and up streams of one another. Nonetheless, the distrust and capacity weaknesses have created a complex situation in the basin in terms mutual utilization.

- The findings of this paper reveals that the countries will not reach to the state of cooperation in water resources of the basin unless the **distrust** and **capacity weakness** challenges are overcome.

- Further, the project-by-project basis approach of negotiations are lockended in the basin and it is required to change the approach towards enlargement the basket of benefits and the emphasis should be on benefit sharing rather than physical water sharing.
Conclusion and Recommendation

• Another worth mentioning finding of this paper is that Afghanistan has put tangible political efforts and **willingness** to alleviate the ongoing disputes and improve mutual cooperation.

• This paper has formulated a step-by-step conflict transformation process framework which will transform the existing conflicts to sustainable cooperation.

• The framework is formulated in a manner to change the topic of talks from right to benefits. This framework can be widely used as a decision making tool technically and politically.

• Finally, the **role** of **international community** as facilitators and mediators for transformation process is vital. In absence donor **supports**, it is not willingly to successfully implement the formulated framework of transformation.

• This paper has further development potentials. Through the conduct of this paper, the data from Pakistan could not be gathered thus, it is highly recommended the needs in both sides of the basin be identified and analyzed for benefit sharing enlarging the basket of benefits.
Thank You