Kabul River Basin – Challenges & Opportunities

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Overview

- Introduction
  - Scope (Research Question & Study Area)
    - Transboundary Water Institutions
- Methods
- Challenges
- Opportunities
- Recommendations
Introduction – Research Scope

Research Questions

- What is the nature of political, legal, social, environmental and economic dynamics of Kabul River Basin that have a role in conflict (generation and prevention) between Afghanistan and Pakistan?

- What are some of the existing systemic, institutional, legal and policy challenges in the Kabul River Basin? In order to respond to these challenges, which key priorities must be considered and in what order?
Introduction

Transboundary Rivers
  I. Kabul/Indus River Basin
  II. The Amu River Basin
  III. Harirrud & Murghab Rivers Basin
  IV. Helmand River Basin

Outflow: 42.22 BCM/year
Inflow: 10 BCM/year
Land Area: 84 percent (Watson, 2014)
People: 87 percent (Watson, 2014)

River Basin Map of Afghanistan (Watershed Atlas, 2007)
Introduction

Proportion (%) of Total River Flow by River Basin

Proportion (%) of Total River Flow by River Basin (Watershed Atlas, 2007)

River Basins Map of Afghanistan (Watershed Atlas, 2007)
Introduction

Transboundary Groundwater

I. The Kabul River Aquifer
II. Fariman-Torbatjam Aquifer
III. Taybad Aquifer
IV. Karet Aquifer
V. Amudarya Aquifer
   (Transboundary Aquifers of the World 2015, IGRAC)

International Groundwater Resources Assessment Center (IGRAC)
## Introduction

<table>
<thead>
<tr>
<th>No</th>
<th>River Basin</th>
<th>Co-riparian States</th>
<th>Treaty</th>
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<tbody>
<tr>
<td>1</td>
<td>Kabul River Basin (Indus River)</td>
<td>Pakistan (India and China)</td>
<td>The 1960 Indus Treaty between India and Pakistan; and</td>
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<td>2</td>
<td></td>
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<td>The 1921 Treaty between Afghanistan and Great Britain with little Water coverage.</td>
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<td>3</td>
<td>Helmand River Basin</td>
<td>Iran</td>
<td>The 1973 Afghan-Iranian Helmand-River Water Treaty</td>
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<td>4</td>
<td>Harirud &amp; Murghab Rivers Basin</td>
<td>Iran and Turkmenistan</td>
<td>The 1926 Treaty between Iran and Turkmenistan</td>
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<td>5</td>
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<td>The 1873 Frontier Agreement between Afghanistan and Russia;</td>
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<tr>
<td>6</td>
<td>Amudarya River Basin</td>
<td>Kyrgyzstan, Tajikistan, Uzbekistan, and Turkmenistan</td>
<td>The 1946 Frontier Agreement between Afghanistan and the Union of Soviet Socialist Republics; and</td>
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<td>8</td>
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<td>Recent Agreement on Data and Information Sharing with Tajikistan.</td>
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Introduction – Study Area (Kabul River Basin)

Facts & Figures:

- **Length**: 700 Km
- **Out Flow**: 21.5 BCM (608 m³/sec)
- **In Flow**: 10 BCM
- **Represents**: 26% of Afghanistan’s available Water
- **Land Cover**: 12% of Afghanistan Land
- **Population**: 11.6 million Afghans, or 37%
Introduction – Study Area (Kabul River Basin)

Agreements:

- The 1921 Treaty between Afghanistan – Great Britain
- The Indus Treaty 1960 between India – Pakistan

Kabul River and City – 1960s
Water – Cross-cutting issue used by different sectors.
Under the 2009 Afghan Water Law:

“[m]anagement and planning for the transboundary waters between Afghanistan and its neighboring countries 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)” (Article 8 (9))
Methods

I. Secondary Sources/Literature Review:

II. Interviews (Semi-structured)
Methods

Interviews (Semi-structured)

I. Interview Questionnaire

II. Interview Participants

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<tr>
<th>Number</th>
<th>Category</th>
<th>Affiliation</th>
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<td>Ministry of Foreign Affairs (MoFA)</td>
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<td>National Environmental Protection Agency (NEPA)</td>
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<td>Ministry of Finance (MoF)</td>
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<td>2</td>
<td>International Organizations</td>
<td>Funding Agencies e.g. World Bank</td>
</tr>
<tr>
<td>3</td>
<td>Academia</td>
<td>Kabul University and others</td>
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Research Design

- Transboundary Water Institutions in Afghanistan
- Challenges & Opportunities in the Kabul River Basin
I. Internal or National Challenges

➤ **Poor Capacity**
Lack of technical expertise (human capital) in the water sector in general and transboundary waters in particular.

➤ **Inadequate Institutional Capacity**
Afghanistan water sector has enough institutional capacity on paper, but those need to be activated and become functional.

➤ **Transparency Issue**
Price et al., (2014) study, that 87.8% of the interviewees responded negatively to the current water management in Afghanistan
Results – Challenges

I. Internal or National Challenges

➤ Data Availability

Limited data available in Afghanistan both on surface and groundwater resources.

Around 180 stations were installed

➤ Public Awareness

Majority of people do not have enough information or knowledge of transboundary waters or international water law.

“Every drop of water flowing from Afghanistan is our water”
Results – Challenges

I. Internal or National Challenges

- **Monetary Limitations**
  Afghanistan lacks monetary support to develop the required infrastructure for regulating and utilizing its water, and mitigate climate change impacts.

- **Security Challenges**
  Overall bad security conditions; and neighbors’ interventions - using armed groups to halt any work on transboundary waters of Afghanistan (e.g. Salma Dam, Kunar River Dam (Price et al., 2014), Bakhshabad on Farah Rod, etc.)
II. External or Transboundary Challenges

- **Lack of Trust between Afghanistan and Pakistan**
  - A serious hurdle on the way to cooperation between Afghanistan and Pakistan
  - Unilateral developments

- **Climate Change**
  - Increasing temperatures

  "Climate change is another problem – natural reservoirs in form of glaciers are melting and after this Afghanistan definitely needs reservoirs or dams to regulate water and release whenever water is needed for agriculture or any other use."
II. External or Transboundary Challenges

- **Population Growth**
  - Groundwater contamination and overexploitation in the Kabul city as well as in Pakistan
  - The population in this region is projected to rise by 32% in thirty years - from 1.68 billion in 2010 to 2.22 billion in 2040

- **Afghanistan a Later-Developing State**
  - Slower-developing country asserts the right to its fair share of the river
  - Ethiopia in the Nile River Basin, and Turkey on the Euphrates River
Opportunities:

➢ Political will, and openness from the Afghan government

*Political will and commitment from all Governments, at all levels, are prerequisites for successful transboundary water management (UN Waters, 2008)*

➢ Existence of International Community & Donors

• Donors have a wide range of instruments that can be used in transboundary water management
Results – Opportunities

Opportunities:

- Less impact of Afghan development in Upper Kabul Basin on Pakistan
  - World Bank report, 2013

- Informal Researches and Joint Studies
  - Joint studies conducted by Afghan and Pakistani experts funded by Heinrich-Boll-Stiftung (HBS)
  - Media dialogue event on the Indus River basin by International Water Management Institute (IWMI)
Results – Opportunities

Opportunities:

➢ Kunar Cascade Project

• Four new potential dams: Mirkhani on the Pakistan side, Shal, Sagi and Kama in Afghanistan and one existing dam – Warsak Dam in Pakistan (Hearns, 2017; WB report, 2013).

• Considered financially viable and could provide a good cooperative deal for both countries.

• Matching both countries needs (Summer and Winter)
Recommendations

- **Strategic Plan** for future developments in each basin.

- An **assessment of data collection agencies/institutions** and prioritization of collection stations.

- **Strengthen the relations between transboundary water institutions:**
  - Regular meetings of the Transboundary Water Commission (TWC)
  - Improving data sharing mechanisms to make data available for key policy/decision making ministries, institutions and even academia.
Public Awareness

- Involving media, social networks, and civil societies from Afghanistan, Pakistan by conducting regional programs such as workshops and press conferences.

Strategically Engage Donors;

- To assist with enhancing technical capacity and assessments, provide facilitation for dialogue, and eventually assist in supporting infrastructure development.
Recommendations

➢ Water as Source of Cooperation

  • Promote and invigorate studies on the Kunar Cascade Project.
  • Solicit donor assistance to facilitate/mediate dialogue on technical issues.

➢ Joint Studies & Researches

  • Identify joint studies and areas of research between Afghanistan and Pakistan. (E.g. Water use efficiency, and erosion control/prevention, etc.)
References


Questions?

Thank You