

# Facilitating Cooperation on the Afghan-Pak Transboundary Kabul River Basin

**LEAD Pakistan**

PEER Kabul River Forum

3 July 2017



# Background

- **Kabul River Basin between Pakistan and Afghanistan is an extremely important shared resource**
- **Its transboundary management for future has to be based on ‘sharing the benefits’ rather than ‘sharing the waters’**
- **This project aims to seek the benefit sharing opportunities though**



# Our Goals



Knowledge regarding water availability and future water uses



Improved understanding on impacts of climate change



Involvement of diverse set of stakeholders



Integrated approach to basin wide management and development



Engagement of key policy makers



# Projects

- CYCLE 04: Understanding our Joint Water-Climate Change Challenge and Exploring Policy Options for Cooperation on the Afghan-Pak Transboundary Kabul River Basin
- CYCLE 05: Using Water Resources Systems Analysis to Guide Transboundary Kabul River Water Partnership



# CYCLE 04: Understanding our Joint Water-Climate Change Challenge and Exploring Policy Options for Cooperation on the Afghan-Pak Transboundary Kabul River Basin



# Scientific Objectives

- 1. Mapping the current status of surface water availability and river flow/discharge in the transboundary Kabul River Basin; including future demands and competing uses of Kabul River Basin waters**
- 2. Studying the projected impact of climate change on the Kabul River Basin waters through changes in glacial melt, snow melt, rainfall and temperature**



# Development Objectives

1. Exploring possible avenues of cooperation and mutually beneficial uses for both Afghanistan and Pakistan policy makers, based on the concept of benefit sharing on the transboundary waters of Kabul River basin.
2. Proposing an integrated basin wide approach to guide policy making in the management, governance and development of the transboundary Kabul River.



# Project Partners

Donor



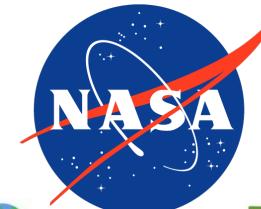
Pakistan



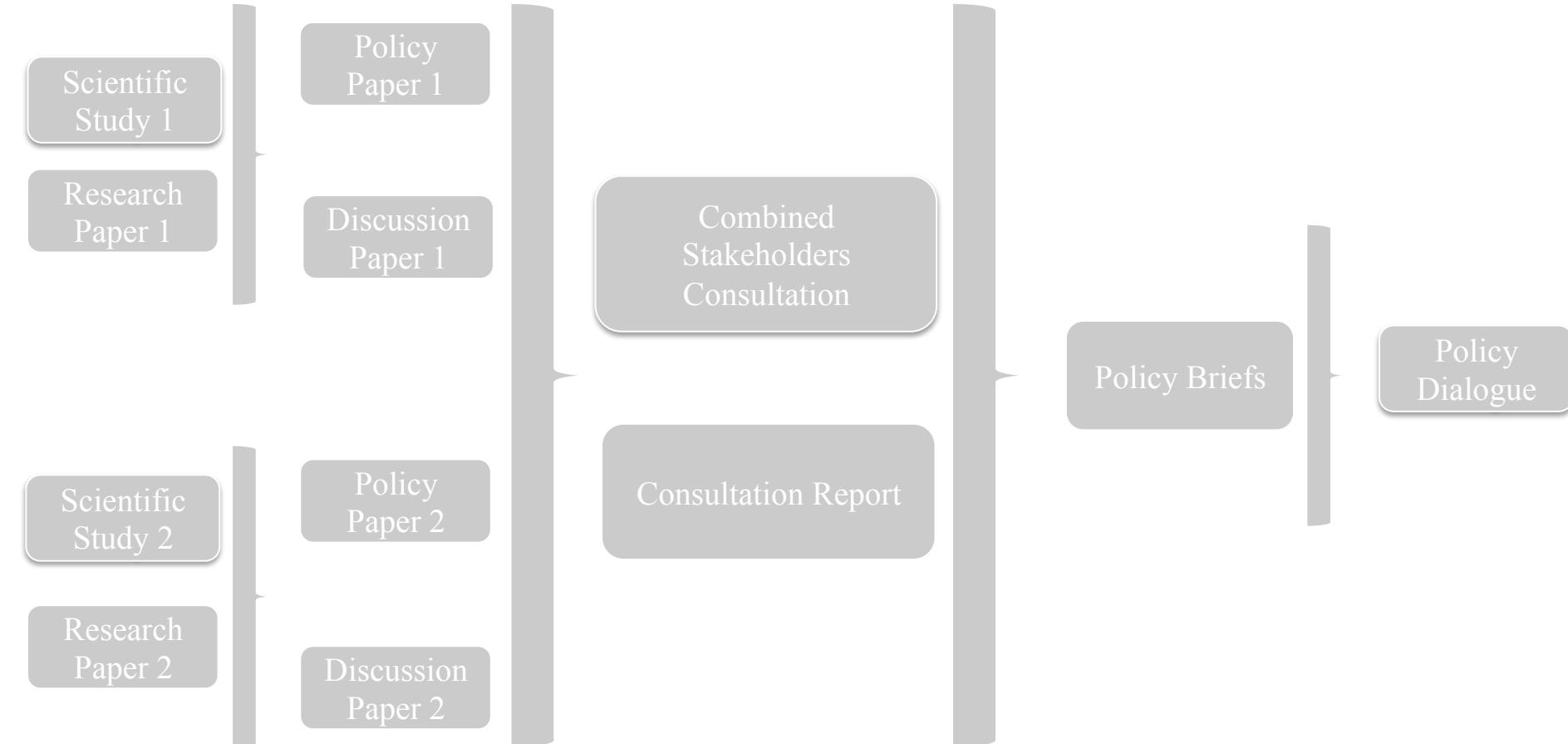
Afghanistan



USG-Supported  
partners



# Deliverables and Activities



# Progress and Results

## a) Research on:

### Impact of climate change on water resources in Kabul River Basin

- **Downscaled future climate fields of Temperature and Precipitation are being generated**
- **The research paper on the topic is being co-authored by the project partner, Pakistan Meteorological Department (PMD)**
- **Detailed methodology has been finalized and a zero draft of the research under preparation**



# Progress and Results

## b) Research on:

Mapping the current status of surface water availability in the transboundary Kabul River Basin

- **Methodology of this study consists of three major steps: Data Acquisition, Data Pre Processing, Simulation of SRM Model and Climate change run using SRM Model.**
- **The research paper on the topic is being co-authored by the project partner, Global Climate Impact Studies Center (GCISC)**
- **Hydrological modeling has been completed and the study is in final stages**



# Progress and Results

## c) Discussion paper on:

Prospects for benefit sharing and investigating social, economic and political constraints to cooperation over the transboundary Kabul River basin between Afghanistan and Pakistan

- In final review and editing process



# Activities and Events

54

MARCH 2016



Policy Brief



Hydro-diplomacy between Pakistan  
and Afghanistan

lead

**Charting in New Waters**  
Exploring Benefit-Sharing Options for Cooperation  
on the Kabul River Basin



Inception meeting of senior researchers 2016

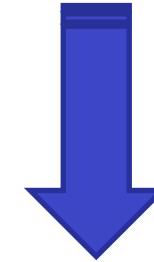


# Upcoming activities

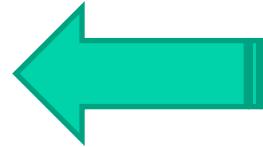
Research Papers



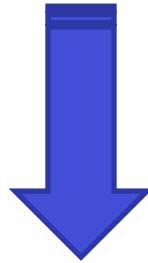
Policy and Discussion Papers



Policy Brief



Combined Stakeholder  
Consultation



Policy Dialogue



For more details, visit us at the website:

<http://www.lead.org.pk/lead/projectdetails.aspx?pid=74>

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## Understanding Water-CC Challenge and Policy Options on the Afghan-Pak Transboundary Kabul River

Under USAID's Partnerships for Enhanced Engagement in Research (PEER) program, LEAD Pakistan is going to conduct a research study on "Understanding our Joint Water-Climate Change Challenge and Exploring Policy Options for Cooperation on the Afghan-Pak Transboundary Kabul River Basin". This is a multi-country and multi-year project where LEAD will be leading the consortium of the following partners:

1. Kabul University, Kabul, Afghanistan
2. Pakistan Meteorological Department, Islamabad, Pakistan
3. Global Change Impact Studies Centre (GCISC), Islamabad, Pakistan
4. National University of Sciences and Technology, Islamabad, Pakistan

Scientists from NASA and University of California, Irvine will also be working with the consortium for this major research undertaking.

The project will be completed in two phases. Phase one will focus on the scientific study and phase two will focus in policy and practice. Building on background and rationale section, there is a need to conduct a scientific study, using a basin wide approach, on the transboundary Kabul river basin; and also link it up with policy and practice, to have a comprehensive and impactful research initiative. The major activities of the research project are as follows:



### Other Details

**Start Date:** 03/01/2016

**End Date:** 03/31/2019

**Funded by:** USAID

### Events

[Inception Meeting Of Senior Researchers](#)

[View All](#)

### Research, Reports, Publications

[Hydro-diplomacy between Pakistan and Afghanistan](#)

[View All](#)

# Engaging with Policy Makers: Key Stakeholders

- **Subject experts from both Pakistan and Afghanistan**
- **Key government departments**
  - Ministry of Climate Change, Pakistan
  - Ministry of Water and Power, Pakistan
  - Pakistan Met Department
- **Academia**
  - National University of Sciences & Technology (NUST)
  - Lahore University of Management Sciences (LUMS)
  - National Defence University (NDU)
  - Kabul University
- **Former government officials in the relevant area**



# Data Sharing and Dissemination

- **Needs:**

- Long-term observation and gauge data for climate variables (precipitation, temperature) and river flows from both Pakistan and Afghanistan side.

- **Challenges:**

- Acquiring the data, rely on gridded products and other openly available sources.
- Working with Government departments
- Traveling and visa approvals between Pakistan and Afghanistan



# Involving Afghan Partners

- **We are involving stakeholders from Afghanistan at various tiers:**
  - Researchers from Kabul University
  - Subject experts from Afghanistan
  - Organizations in the Development Sector
- **Support from US Embassy Kabul and USAID Mission in Afghanistan in understanding Afghan's water-sector structure and introduction to various stakeholders has been greatly helpful**



# **CYCLE 05:** Using Water Resources Systems Analysis to Guide Transboundary Kabul River Water Partnership



# Scientific Objectives

1. **Developing an enhanced spatially distributed glacial hydrology model and coupling that with a water resources systems model.** To deal with the data-scarce nature of the study area, model calibration and optimization will account for the various sources of uncertainty by making use of high performance computing.
2. **Incorporating a feedback mechanism in the coupled-modeling approach where the decision from one agent impacts the decision from the other and vice versa.** This allows us to better reflect real world decision making
3. **Embedding the technical analysis within a comprehensive stakeholder and public policy engagement framework to improve knowledge accessibility and drive long term policy action.**



# Development Objectives

1. Increased awareness, information sharing and demand articulation from stakeholders of Kabul River Basin.
2. Fostering participation and cooperation between Pakistan and Afghanistan.
3. Protecting and empowering vulnerable communities.
4. Strengthening Networking and Partnerships.
5. Supporting an informed public policy engagement through specialized knowledge generation and dissemination.
6. Develop a case for benefit sharing regime for KRB using modelling and social analysis.



# Project Partners

Donor



Pakistan



Afghanistan

TO BE CONFIRMED

USG-Supported  
partners



# Deliverables and Activities

## Component-I: Model Development



Development of glacial hydrologic model.

Development of water resources system optimization model.

Stakeholder consultations and feedback on model development.

**KEY OUTPUTS:**  
Research Paper  
Discussion Paper

## Component-II: Simulations & Analysis

**KEY OUTPUT:**  
Research Paper  
Two Policy Papers

Developing policy case from the analysis of results.

Conduct Political Economy Analysis of Kabul River Basin.

Simulate future scenario analysis using Water Resource Systems model.

## Component-III: Public Policy Engagement

Exchange & Exposure Visits

Policy Dialogues

Launch event

**KEY OUTPUTS:**  
Working Paper - Infrastructure development on River Kabul.  
Framework Paper - Benefit sharing regime for Kabul River Basin.



# Progress and Results

## a) Development of:

### Glacial Hydrologic and Water Resources Systems Optimization Models

- The model will be co-developed by country and USG partners.
- Research papers will also be published by the project partners engaged in model development.
- Detailed methodology and partners scope of work is being finalized.



# Engaging with Policy Makers

**Engagement of key policy makers from both countries in dialogue is one of the project's key goals.**

**The project and its significance has been shared at multiple fora with various policy makers and other stakeholders.**



Presentation at National Water Consultation 2017



Discussion at LUMS Fall School on Water Science, Policy and Governance 2016

