



## **PROJECT PROPOSAL DOCUMENT**

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Title:

Lifting Afghanistan to become an equal riparian member within the Amu Darya basin

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**Title** Lifting Afghanistan to become an equal riparian member within the Amu Darya basin

## **Abstract**

The aim of the research project is to lift Afghanistan out of the identified knowledge gap on its water resources and therefore enable Afghanistan to remove her barrier to sustainable water resource development and management in the Amu Darya basin. At the same time it is anticipated to provide transparency of the potential impact of water resource development plans as well as of on-going projects to downstream riparian states as well as the donor community – which so far seems to take an administrative rather than a resource boundary approach.

The duration of the project is anticipated to be 3 years. Because of its international position IWMI Central Asia will take the lead in data generation and analysis and will collaborate with research and implementing agencies in Afghanistan, Tajikistan, Turkmenistan and Uzbekistan.

## **Background**

"Gaps in the knowledge base: the lack of reliable data and information is a major barrier to water resource development and management. Policies and plans are constructed and adopted largely on the basis of historical data that have many limitations." (Afghan Human Development Report 2011: 20)

Afghanistan is an upstream right bank riparian state within the Amu Darya basin, which is shared between the former Central Asian Soviet Republics Kyrgyzstan and Tajikistan (upstream on the left bank) and Turkmenistan and Uzbekistan (downstream). Within Afghanistan three different sub-basins of the Amu Darya can be distinguished. To date there is no comprehensive information on how much water Afghanistan contributes to the Amu Darya basin. Estimates range from 8 to 21 km<sup>3</sup> (Wegerich 2008).

There are no agreements between the former Soviet Union and Afghanistan on water sharing for Amu Darya. Nevertheless, different protocols and agreements between Afghanistan and the Soviet Union were signed before the Soviet Invasion, which might provide a treaty basis for prohibiting any construction work on Pyanj and Amu Darya by Afghanistan or by the other Central Asian republics without consultation. In 1987 the Soviet Union unilaterally set the limits for Afghanistan for the Amu Darya to 2.1 km<sup>3</sup>. However, it is not evident whether the set amount makes reference to the whole Amu Darya or only to certain sub-basins or even individual rivers (Ziganshina 2011). Furthermore, it is not evident whether the past agreements on prohibiting construction work are still applicable (SANIIRI/UZVOD Afghanistan 2008, Thomas and Eqrar 2011)

To date Afghanistan has not actively participated in meetings of the ICWC (Ministerial meetings of the former Soviet Central Asian states for annual water allocations for the Amu Darya and Syr Darya). Afghanistan's reason for abstaining from these meetings is that it currently has neither the knowledge nor the capacity to participate on an equal level (Horsman 2008).

Soon, however, changes in Afghanistan are going to impact the regional water situation. Irrigation rehabilitation projects in Northern Afghanistan have started (Afghan Water Sector Strategy 2007, Landell Mills Limited 2006). It appears that these rehabilitation projects might have had already an impact on water utilization within Afghanistan (Rycroft and Wegerich 2009). Furthermore, Afghanistan is actively seeking to expand her irrigated area and to utilize her hydro-power potential and therefore partly seeks cooperation with upstream Tajikistan (Qaseem Naimi 2005).

In the very recent past there have been some studies on the Amu Darya basin on climate change/water availability and irrigated area (Ahmad and Wasiq 2004, Rycroft and Wegerich 2009), transboundary cooperations (Horsman 2008), as well as downstream riparian adaptations to climate change (Olsson and Bauer 2010). However, so far international research projects have overwhelmingly focused on the former Soviet Central Asian states, with only limited focus on Afghanistan (Jayhun Project, ZEF project). Only limited research on water resources is taking place within Afghanistan through research organizations (such as AREU) as well as implementing agencies (such as PARBP). Furthermore, at present there is little reason for research or implementation agencies to address the downstream implications of ongoing Afghan implementation projects, since the donor community often separates Central Asia and Afghanistan in their own management structures and therefore miss the hydrologic connection between the two entities.

IWMI office Tashkent has substantial experience in transboundary water management in Central Asia and the Ferghana Valley in particular and ongoing GIS support for a transboundary GIZ project in Central Asia. Furthermore, there is an ongoing cooperation with Afghan and Afghan based researchers and implementing agencies.

This proposal is based on ongoing activities of the IWMI Tashkent office and its staff with experience in Afghanistan and transboundary water management in general, the Amu Darya Basin Network, and the collaboration with Afghan partners and researchers in the upcoming NATO Advanced Research Workshop: „From Joint Scientific Research to Sustainable Regional Cooperation on Water.”

The anticipated research project aims to lift Afghanistan out of the present knowledge gap by focusing on 4 essential research components:

1. Water availability/changes of irrigated area and determining irrigation potential,
2. Study of past agreements between Soviet Union and Afghanistan,

3. Impact of ongoing rehabilitation projects in Afghanistan on lower riparian states within the Amu Darya,
4. Lessons learned from current cooperation (Tajikistan/Afghanistan and Afghanistan /Turkmenistan),

## **Goal**

Within the Amu Darya basin about 30 million people are dependent for their livelihoods on irrigated agriculture. Past wars, civil conflict and Soviet hegemony have hindered the upstream riparian state Afghanistan to develop its agricultural sector. The current focus of the international community on facilitating sustainable development and poverty reduction in Afghanistan is likely to increase water utilization within her transboundary basins and therefore might have negative influences on the livelihoods in downstream riparian states.

The project aims to enable Afghanistan to become an equal partner in the Amu Darya basin and to lay the ground for planned sustainable and transparent water infrastructure and agricultural development in upstream Afghanistan and at the same time lay the groundwork for downstream countries to have transparent information about the potential impact of Afghanistan's development. This will allow more coordinated planning a change from current inefficient and inequitable water management practices as well as facilitate continued implementation of projects in upstream Afghanistan. At the same time, the project will raise awareness that the implementation of development projects in upstream Afghanistan might have negative effects on downstream riparian states. Hence the aim is to shift the development thinking from an administrative to a hydrological boundary perspective. Overall, the project results will serve as a bases and format for cooperation of the riparian states on a more equitable basis.

## **Project Purpose**

The purpose of the research project is to close the knowledge gap on water resources and potential irrigated area within 3 sub-basin of the Amu Darya basin within Afghanistan as well as to determine the legal obligations of Afghanistan to its riparian neighbors. The closure of this gap will facilitate Afghanistan as well as the donor community to plan their sustainable water development strategies and projects.

The project will be executed in 3 sub-basins of the Amu Darya basin.

## **Outputs**

Data set on: water availability, changes of irrigated area and determining irrigation potential in 3 sub-basins.

Model developed of: impact of ongoing rehabilitation project in Afghanistan on lower provinces within the tributary basins as well as riparian states within the Amu Darya

Inventory of past agreements between Soviet Union and Afghanistan and their implementation as well as lessons learned from past and current cooperation (Tajikistan/Afghanistan and Afghanistan/Turkmenistan)

## **Methodology**

Data gathering and analysis of the following data sets:

Soviet topographic maps on Afghanistan, Soviet project plans for irrigation development projects in the 3 sub-basins.

Recent satellite images on irrigated agriculture and changes of irrigated agriculture, project reports of implementation agencies who are involved in irrigation infrastructure construction, data from the Ministry of Afghanistan; if available topographic maps scale 1:50,000 (if not available scale 1:100,000)

Sampling within rehabilitated irrigated areas (to verify cropping changes and water access - if possible yield data)

Different flow data sets for transboundary tributaries (freenet and APRBP data, in addition of data from newly constructed gauging stations - if available)

Project documentation of implementation agencies which focus on reconstructing and rehabilitation in the 3 sub-basins.

Potential downstream impact will be assessed based on data from metering stations (for example Kerki in mid-stream Amu Darya as well as metering station at Afghan – Turkmen border.

Achieve research on Soviet-Afghan agreements, as well as interviews of former key stakeholders during these negotiations as well as participants of current negotiations.

## **Activities**

3 stakeholder workshops: (start up meeting, mid-term meeting, large stakeholder workshop with presentation of result)

Collection and analysing of data, digitizing of maps, creation of GIS layers, creation of maps, creation of digital elevation models

Truthing of data in sample areas

Achieve research in state libraries - possibly within Russia - Sankt Petersburg

Interviews with former and current key stakeholders in the Ministries and Implementation agencies, Donor community.

### **Beneficiaries**

In the short term the research project will facilitate Afghanistan to get a better understanding of her legal position as well as clarity of its water contributions and potential as well as impact of ongoing project and project plans within the Amu Darya Basin. This knowledge will also facilitate the donor community to adapt their strategies in Afghanistan from administrative focus to basin impact. The research project will facilitate the closure of Afghanistan's knowledge gap and in the long term will allow her to utilize this knowledge in future discussions/negotiations with other riparian states. At the same time, the transparent information as well as the created models will enable the downstream riparian states to adapt their water and agricultural strategies within the Amu Darya basin as well as the donor community focusing on Afghanistan to reflect on their current policy of separating Central Asia and Afghanistan therefore missing the hydrologic connection. Though a small project, it is likely to have a profound impact on the livelihoods of 30 million people dependent on agriculture within the basin.

### **Resource Summary**

Staff resources: US\$ 860,000

Travel: US\$ 460,000

Equipment requirements / data costs: US\$ 100,000

Collaborators/partners: Kabul Polytechnic University, Panj-Amu River Basin Programme, other to be identified

Total Estimated Cost: US\$ 1,825,000

Duration of project : 3 years

Location of project: IWMI CA office, Countries: Afghanistan, Tajikistan, Turkmenistan, Uzbekistan