

Water Sector Briefing and Recommendations¹

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Draft Outline: Transboundary Water Policy of Afghanistan

Appendix: Transboundary Water Issues

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Summary

Afghanistan is a water short country and faces many challenges in supplying adequate water for agriculture, human consumption and economic development. Thirty years of war, political upheaval and neglect has severely impacted the existing water infrastructure that provides irrigation water, as well as domestic water to the vast majority of the people. Currently, only 30% of the agricultural farmland receives adequate water and modern domestic water supply and waste treatment systems do not exist.

Competition over water could increase internal and external tensions and affect stability. These concerns include disputes between upstream/downstream water users, groundwater depletion (which affects the urban and industrial sectors the most), and refugee and displaced persons. Afghanistan's rivers flow into neighboring countries, and many issues exist on water sharing and allocation, particularly with Iran and Pakistan.

Except for winter wheat and similar plants that mature in early spring, all crops must be irrigated in Afghanistan. The lack of sufficient volumes of water for crop production may also be contributing to the expansion of poppy production which requires less water and has higher returns than traditional crops.

The major players in the water sector are the World Bank and the ADB (Asian Development Bank) whose loans and grants are focused on infrastructure. The US military is also funding some water works projects through the PRTs and PMI. Another large donor is the EC (European Commission) which has an integrated infrastructure and capacity building program in the upper Kunduz river basin. There are also numerous smaller efforts by NGOs and European governments.

However, in spite of these programs, there are major gaps in needed programs, particularly data collection, analysis and interpretation, resource assessment, and institutional support. Also repair and development of new water infrastructure will be expensive and take years.

My recommendations are that in the short term, the US should focus our funding to addressing the critical issues that could affect the short and long-term stability of Afghanistan and which will create a framework for the long-term orderly development of the water sector.

General Recommendations

1. Increase USAID funding in Water Resources and Infrastructure.

Funding in the water sector is needed in order to ensure that critical issues are addressed and to lay the foundation for orderly development of water resources.

2. Direct funding to critical areas not being addressed by other donors.

Most of the funding provided by the World Bank and ADB goes towards infrastructure, leaving a void in such important areas as resource assessment, strategic planning and prioritization, data collection, analysis and interpretation, and water resource planning. The costs of such programs are small relative to the costs of infrastructure repair and development.

3. Increase funding for surface and groundwater resource analysis including availability and sustainability.

Insufficient data exists for water resource planning and management. Also, the increased reliance on groundwater and its uncontrolled exploitation could place municipal, industrial and rural drinking water supplies at risk. Studies are needed to define the extent and sustainability of surface and ground water.

4. Support the creation of a National Water Secretariat. Provide funding to initiate the secretariat and seek support for its programs from other donors.

Appendix B provides details on the role and justification for a National Water Secretariat which will provide Afghanistan with the institutional ability to deal with water resource management and development issues into the future.

5. Actively support efforts by the US Embassy in Dushanbe to establish a working group on water issues between Afghanistan and Tajikistan.

The transboundary water issues faced by Afghanistan are severe and could effect regional stability. Currently, the country does not have the capacity (human and informational) to enter into discussions with neighboring nations.

Agreements with Tajikistan are needed in order to allow proposed large hydropower facilities projects on the Panj River (Amu Darya River Basin) to move forward. Such agreements should be easy to obtain as both nations are net donors to the Amu Darya, and will improve Afghanistan's capacity to handle the more complicated negotiations to come.

- 6. Through the National Water Secretariat, support efforts to establish talks with Afghans other neighbors on transboundary water cooperation and agreements.**

The National Water Secretariat can also provide Afghanistan with the coordination and support it will need in negotiating with its other neighbors on transboundary water issues and responding to Iran and Pakistan

- 7. Cooperate with the MEW (Ministry of Energy and Water) on the stream gauging network being funded by the World Bank by providing technical assistance and training in data collection, management and interpretation.**

Funding for reestablishment of a stream flow monitoring network is being provided by the World Bank. However, MEW will still require technical assistance and training on data acquisition, management and interpretation.

- 8. Targeted water infrastructure projects that would expand irrigated lands for refugee settlement and provide rural drinking water.**

New irrigated land is needed for resettlement of refugees and displaced persons. Currently, no major donor is targeting funding to this area. In some areas, particularly the border region, cooperation on such projects will be required with the military and PRTs.

- 9. Establish a team of two NRCS engineers to provide technical assistance to PRT's, USAID contractors, and others receiving US funds for the design of water works and related projects.**

There is an on-going need for engineering design services for projects implemented by the PRTs and US supported organizations. Improper or poor engineering analysis and design is putting the US at risk of blame if such projects fail.

Section I. Water Related Strategic Concerns In Afghanistan

Water is good, more water is better...
(Afghan proverb)

In GOA (Government of Afghanistan) and NGO strategic planning documents, Water is universally recognized as a key, and usually as the key to Afghanistan's future.¹ Water shortages, competition, and international tensions over water will likely increase and become more serious unless effective programs are implemented.

The World Bank states that agriculture contributes 50% of GDP, most of the exports and employs 85% of the workforce. MEW (Ministry of Energy and Water) documents state that 98% of all water diverted from the rivers is used by agriculture, with 60% or more of that water lost to seepage and poor on-farm efficiency.² These same irrigation canal systems also provide drinking water to the vast majority of the population

Due to years of war, political upheaval, and damaging floods and drought, much of Afghanistan's water infrastructure has seriously deteriorated or broken down. Only about 30% of agricultural land receives adequate supplies of water for crop production, and Afghanistan now uses less than a third the available water resources. The lack of infrastructure to store and control river flow results in severe flooding in some years and drought in others.

Improving irrigated agricultural production and livelihoods is critical for maintaining social order. Increasing the water supply to farmers to pre-war levels would improve yield and economic return and reestablish the two-crops per year system practiced by Afghan farmers. This income would help counter the pressure to grow poppies, a crop with modest water requirements and high economic value.

New irrigated land needs to be opened in order to resettle the large numbers of refugees living in Pakistan and the many displaced persons in Afghanistan. Some believe that the continuing insurgency would be greatly reduced by the resettlement of these peoples into Afghan society and agricultural system.

Three major and several smaller river systems originate in Afghanistan and flow into the bordering nations of Pakistan and Iran. The longest river in central Asia, the Amu Darya originates in Tajikistan and Afghanistan and flows to the downstream nations of Uzbekistan and Turkmenistan. These countries withdraw so much water that none now

¹ Examples: Regional Economic Cooperation Framework, 2005; Interim Afghanistan National Development Strategy, 2006; The Water Sector Development Plan, 2005-2015, Ministry of Energy and Water; United Nations Development Assistance Framework for the Islamic Republic of Afghanistan 2006-2008).

² On-farm efficiency includes the type of technology and water delivery methods, and management of the water by the farmer in terms of the amount of irrigation, timing and duration.

reaches the Aral Sea. Increased diversion/use of water from these rivers in Afghanistan will impact downstream nations and increase international tensions.

Water resource management in Afghanistan involves balancing water demands for irrigation, hydropower, environmental, water supply, sanitation, groundwater, while also considering transboundary water issues and flood control issues. National water policies and regional watershed management plans are needed.

Hydro-power generation water requirements differ from that of irrigation in the timing and amounts of water needed. Peak energy demand is in winter, while peak irrigation demand occurs during the summer. Thus, any hydro-power development must consider the seasonal demands of agriculture to avoid conflicts between the two uses.

Afghanistan has many similarities in water resources and agricultural production possibilities as the US, with the terrain and climate of the Western United States very similar to Afghanistan. The US is capable of providing specific skills and technical resources particularly applicable to Afghanistan that other nations do not possess.

Overview of Water-related Strategic Threats in Afghanistan

International tensions over transboundary water

- Short term: Iran and the Helmand and Harirod Rivers
- Looming: Pakistan and the Kabul River; Uzbekistan, Turkmenistan and the Amu Darya
- Other rivers that flow into Iran and Turkmenistan
- Unresolved water issues could affect energy and other agreements

Rapid and uncontrolled exploration of groundwater

- Insufficient data is available on the extent, sustainable yield and recharge
- Falling water tables reported nation-wide
- Depletion of groundwater would impact primarily the municipal and industrial sectors
- Depletion of local/regional aquifers could create internal social instability and increase competition for surface water

Conflicts between up-stream and down-stream water users

- No formal mechanism yet in place for conflict resolution at the river basin level
- Water supply for hydropower and releases for irrigation are interdependent and must be jointly developed and managed.

Eighty five (85%) percent of the population is engaged in irrigation-dependent agriculture

- Without adequate planning, competition over water will increase as irrigation systems are rehabilitated and agricultural production is expanded for economic development
- Hydro-power and value-added processing will increase water demand and competition
- Returning refugees are putting additional strains on water supplies and land resources

Water laws and regulations

- Mechanisms are needed for settling water disputes at the river basin or watershed level
- Poorly structured water laws and regulations will strain the developing judicial system of Afghanistan

Reoccurring drought and flood

- Afghanistan lacks the infrastructure to adequately control flow in rivers resulting in reoccurring drought and floods.
- Droughts intensifies conflicts over water, particularly between up-stream and down-stream water users, and groundwater depletion accelerates during droughts, leaving cities and industries vulnerable
- Seasonally flooding destroys villages and farmland, disrupts economic activities and displaces people

Major Constraints in Afghanistan

Consideration should be given to addressing the constraints to the long-term development and management of water in Afghanistan, including:

- Lack of laws and regulations
A National Water Secretariat is needed composed of water engineers, economists, and policy and law experts to assist ministries and proposed river basin agencies on water planning and the enactment of laws and regulations that will provide for the long-term orderly development and management of water resources.
- Lack of data/knowledge base on water resources
A much larger effort is needed for water resource assessment and monitoring in order to provide the technical framework for laws, projects, and management plans. Particular emphasis is needed to determine if the current rate of increased groundwater reliance and development is sustainable, and for stream flow monitoring to support negotiations on trans-boundary water issues.

- Lack of an extension service
Improving the management of water by farmers is a complicated process and will require a long-term, integrated farmer education and demonstration program.

Recommendations

- The US Embassy and USAID should remain engaged in Water in Afghanistan since it is critical to the long-term internal and external stability of the country
- Funding should be directed to filling holes in the water programs of other donors to ensure that strategic threats and concerns are effectively addressed.
- Funding should be used to ensure that a critical mass of water experts, engineers, economists and policy makers are engaged in and outside of the Afghan government and the within the donor missions
- Funding for data collection and water resource assessment programs should be continued and increased
- The US should increase its coordination and cooperation with the Afghan Government and other donors n water programs
- Options for improving the programs and capabilities of the PRTs (Provincial Reconstruction Teams) for addressing critical water issues should be explored including technical support and strategic planning.

Section II. National Water Secretariat

Background

The Supreme Council for Water Affairs and Management (SCWAM) was created in 2005, is chaired by the Vice President, and is composed of the following:

- Minister of Agriculture, Irrigation and Livestock
- Minister of Energy and Water
- Minister of Urban Development
- Minister of Rural Reconstruction and Development
- Minister of Health
- Ministry of Mines and Industries
- Mayor of Kabul
- Minister of the Economy

During its first year of existence, SCWAM only met twice. However, beginning in Summer 2006, SCWAM was reactivated, began meeting regularly. A technical committee also has been formed which is currently reviewing draft policy papers on irrigation and groundwater.

In an email to the SCWAM dated August 1, 2005, First Vice President Masood laid out future steps for the Council. He proposed that the Council seek funding to establish a National Water Agency or Water Secretariat. The secretariat would be located under the office of the Vice President and have the mission to “link sectors and ministries” and to help formulate strategies and policies that “better serve the Afghan people.”

Masood envisioned that the secretariat would be staffed by specialists with expertise in

- (i) river basin management
- (ii) surface and groundwater,
- (iii) water law
- (iv) erosion control and environmental protects.

The secretariat is to become a storehouse for data from the ministries that relate to water. Over time, he wanted to build the capacity of the secretariat for water planning. This water planning would involve the projection of water supply and demand in each region, and where deficiencies existed, the development of plans for addressing the identified water shortages.

Recommendations

The National Water Agency or secretariat should be implemented. Donor funding should be obtained to cover salaries and operational costs for a minimum of five years.

Donor support should be conditional upon the secretariat reporting directly to the First Vice President and SCWAM, and not be under the authority or direction of a single ministry.

The secretariat should be required to submit a plan of work with goals, objectives, deliverables, and other measures to allow for the tracking of progress in priority areas to receive donor support.

Purpose and Organizational Structure

The secretariat will consist of technical experts and support staff to augment the technical capabilities of the individual ministries. Initially, the secretariat will likely focus on water planning, data centralization and interpretation, taking a leadership role on transboundary water, and coordination of training programs among the ministries. Over time, the secretariat should expand as their capabilities and staffing increases into the areas as listed below.

One approach for implementing the secretariat is as follows:

I. Purpose

The Secretariat shall report directly to the First Vice President and the Supreme Council for Water and take leadership in:

- Facilitating the enactment of laws and regulations
- Coordinating activities among the Ministries and river basin agencies with Water responsibilities
- Centralizing data collection and analysis
- Conducting water planning and needs assessment

II. Director and Steering Committee

A director and a Steering Committee shall be appointed that will direct the work of the Secretariat

- Members of the steering committee may be appointed from members of the Supreme Council or from persons in the public or private sectors as determined by the High Council.
- The Steering Committee will direct the Secretariat to act on high priority items within specified time periods.

III. Organizational Structure and Responsibilities

When fully realized, the Secretariat will consist of technical and policy experts working in three major areas: Legal and Regulatory, Water Planning and Development, and Coordination.

Legal and Regulatory

- In consultation with the Steering Committee, this office through the Secretariat shall advise the Parliament on needed water laws and help draft legislation.
- The Secretariat shall develop regulations to implement and enforce enacted laws through a process that allows for input from the public and affected sectors.
- Regulations will include penalties and enforcement procedures as is appropriate.
- A process for updating and revising the regulations will be implemented.

Water Planning and Development

- The secretariat, in cooperation with regional water authorities and local officials, will be responsible for assessing water demand and availability in each of the river basins and other hydrological units as is appropriate over a planning period as directed by the High Council.
- In areas with more demand than available supply, the Secretariat, in consultation with regional water authorities and local officials will develop a plan to meet the demand.
- The Secretariat will centralize data being collected by the Ministries and other organizations, and implement additional data collection activities as are needed to effectively assess water needs or for water developing planning.
- In cooperation with the Ministries and other organizations, the Secretariat will assess the need for water storage, flood control and groundwater recharge facilities.
- In cooperation with the Ministries and other public and private organizations, the Secretariat will conduct feasibility studies and seek funding for water storage, flood control and groundwater recharge facilities, and other water works.
- The Secretariat will work with the Energy Secretariat or appropriate Ministries to insure that irrigation and public water supply considerations are given to the design of hydro-generation dams and other water works.

Coordination

The secretariat will assemble information on programs, facilities and personnel involved in technical assistance and education programs related to the Water sector and recommend ways to coordinate these activities to improve their effectiveness and to reduce needless duplication of effort.

Section III. Suggested Programs and Funding Levels

1. Support the creation of a National Water Secretariat. Provide funding to initiate the secretariat and seek support from other donors.
\$1 M per year for 5 years
2. Increase funding for water resource analysis, particular groundwater availability and sustainability.
\$6 M
3. Actively support efforts by the US Embassy in Dushanbe to establish a working group on water issues between Afghanistan and Tajikistan.
\$0.5 M
4. Cooperate with the MEW (Ministry of Energy and Water) on the stream gauging network being funded by the World Bank by providing technical assistance and training in data collection, management and interpretation.
\$2.5 M
5. Target water infrastructure projects that would expand irrigated lands for refugee settlement and provide rural drinking water. .
\$24- \$48 M
6. Establish a team of two NRCS engineers to provide technical assistance to PRT's, USAID contractors, and others receiving US funds for the design of water works and related projects.
\$1 M (includes some project money)
7. Increase funding for rural water supply.
\$6 M