



IWRM Spiral for Western Basin/ Harirud - Murghab River Basin of Afghanistan



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Introduction/Background

Harirod-Murghab or Western Basin area is 77604 Square km with average rain fall of 270 mm in the basin, Western Basin has plan land and suitable for variety of vegetable and fruits ,its population is around 6 million

On early 1970 with rapid growth of population and demand for food was increased and parallel the demand for irrigation seems very important,

Salma dam was originally constructed in 1976 on the Hari Rud river basin, but was damaged early during the Civil war in Afghanistan. The reconstruction of the dam again initiated by an Indian company (WAPCOS Ltd.) in 1988, but the project was left incomplete for a significant period of time due to the ongoing instability caused by the civil war. In 2006 India committed to funding the completion of the Salma Dam at an estimated cost of \$350 million Once completed, in addition of providing irrigation for 75,000 hectares of farmland (stabilizing the existing irrigation of 35,000 hectares and development of irrigation facilities to an additional 40,000 hectares of land) so this 40,000 hectares development get a packaged of USD 74 Million and funded by ADB for Ministry of Energy and Water (MEW) and Western Basin project is responsible for implementing of the project and develop and rehabilitated the irrigation canals for 40,000 hectares of land beside other activities.

Harirud-Murghab River Basins

Legend

- ▲ Salma Dam
- Villages
- District Centers

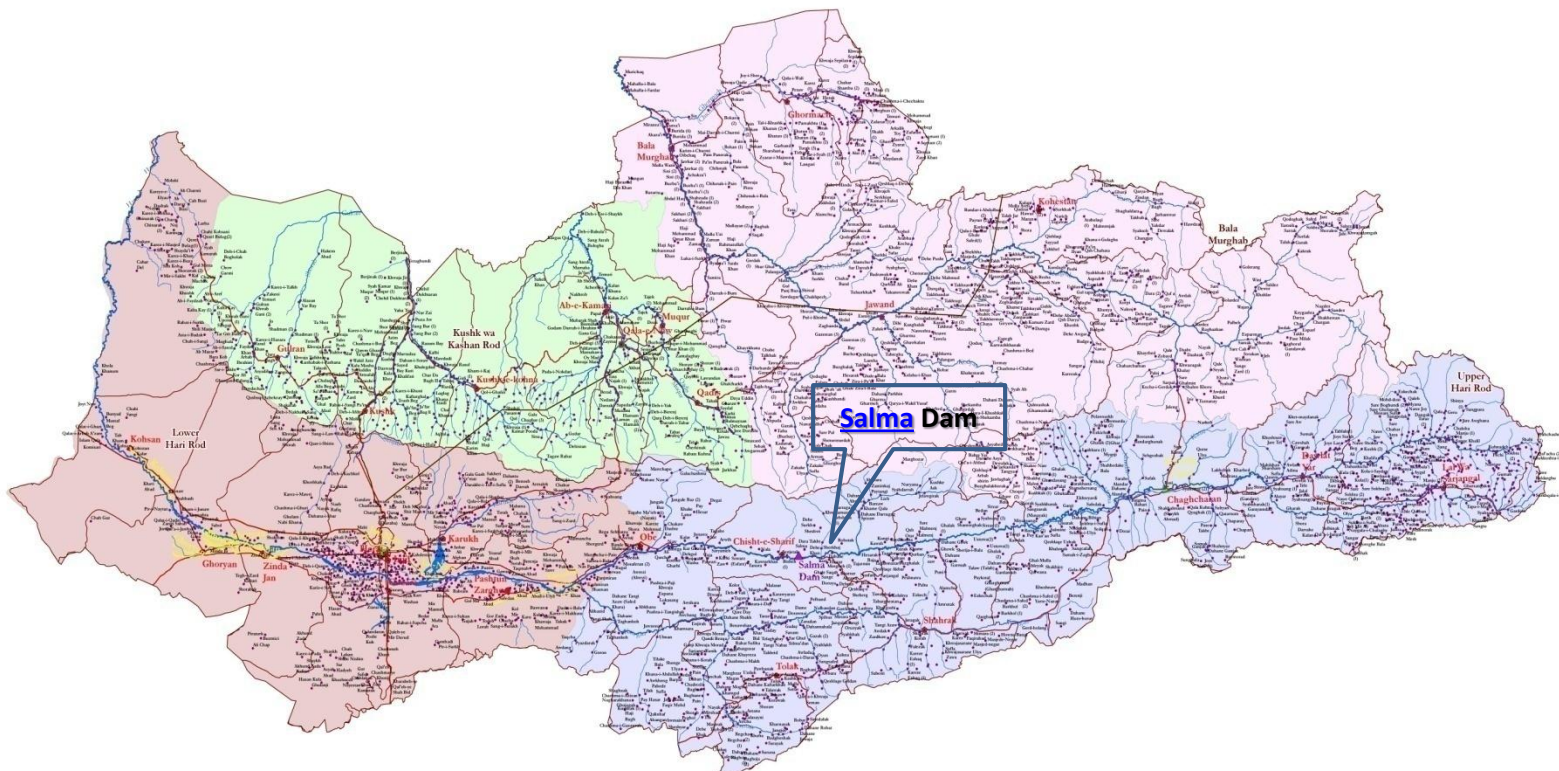
On-Going Projects

- Zendajan Canal
- Jui-Naw Canal
- Yahyaabad
- Syasang Canal
- Kohsan Canal
- Goryan Canal

River Lines

River Basins

- Bala Murghab
- Kushk wa Kashan Rod
- Lower Hari Rod
- Upper Hari Rod
- All Lakes
- Province Roads
- National Roads
- District Boundary

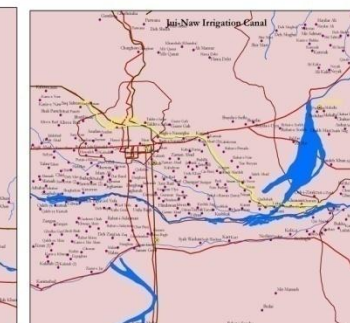
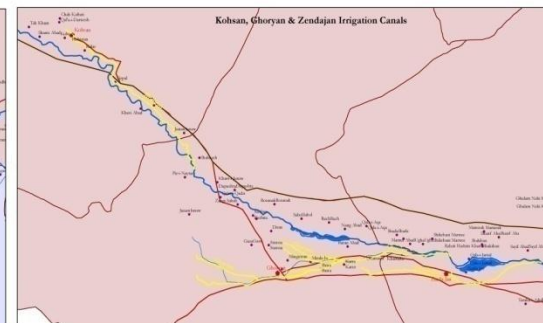
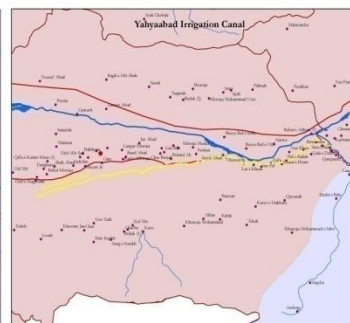
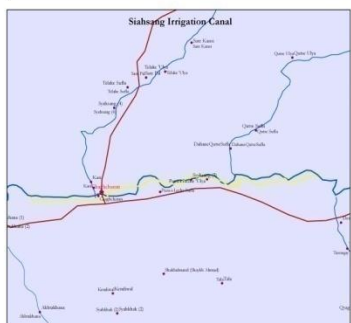


MAP INFORMATION

Map Produced : 22- Nov - 2011
 File Name : H.M River Basin.MXD
 Cartographer : Fatema Samim
 Projection : World Mercator
 Datum : WGS 1984
 Contact : PMU, Herat, Afghanistan



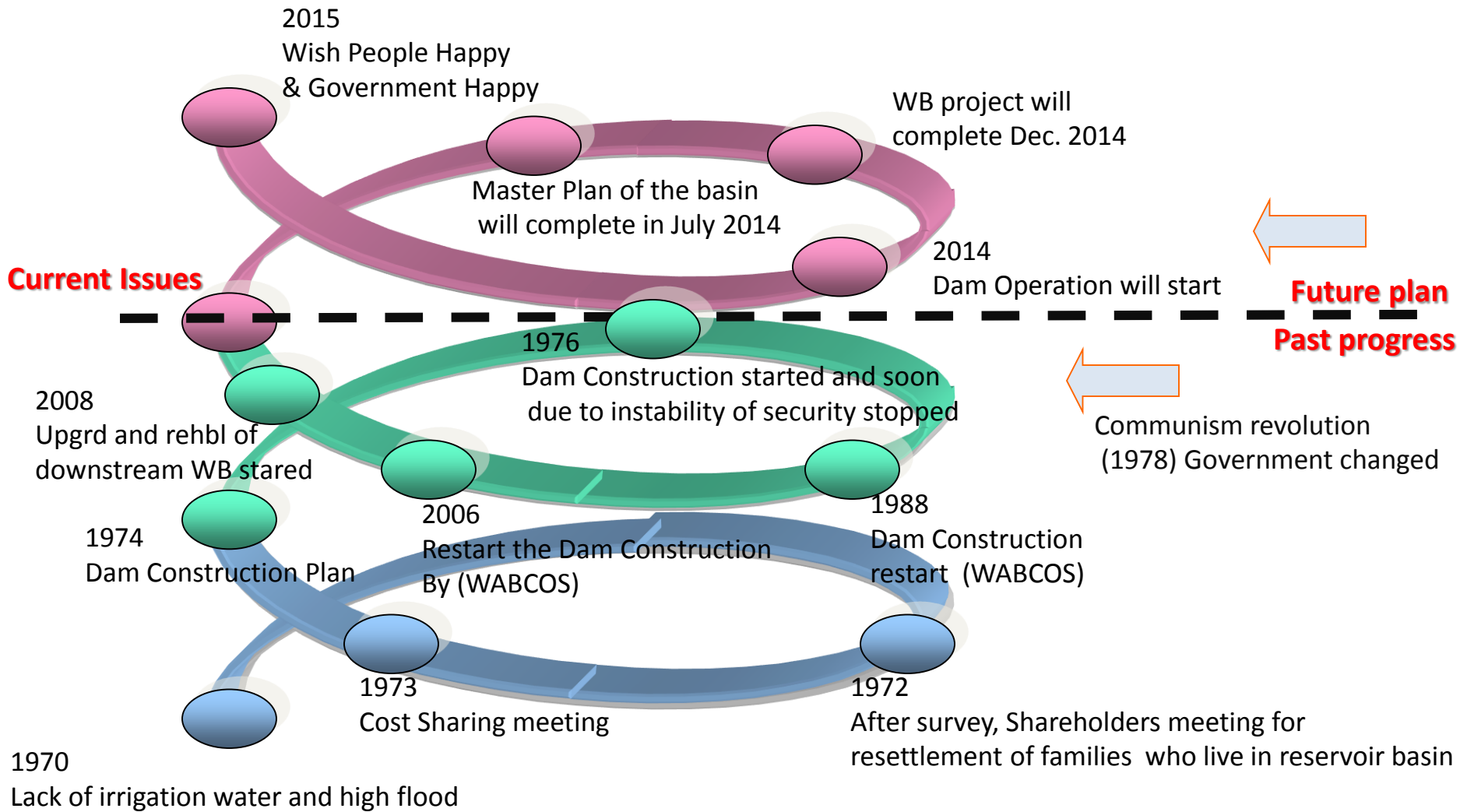
DATA SOURCES
 Base layer information including boundaries, roads, rivers and place names courtesy of the Afghanistan Information Management Service (AIMS).
 Update Canal Alignment, Drainages, Roads & Rivers based on Satellites Image
 Raster Imagery sourced from NASA and USGS



Location and Data of Salma Dam

Location	Herat Province
Status	Under construction
Construction began	1976 and postponed and restart 2006
Opening date	2014 (est.)
Construction cost	US\$ 350 million
Owner(s)	WAPCOS
<u>Dam and spillways</u>	
Height	107.5 m (353 ft)
Length	551 m (1,808 ft)
<u>Reservoir</u>	
Active capacity	560 MCM
Inactive capacity	633 MCM
Catchment area	11,700 km ²
<u>Power station</u>	
Turbines	3 X 14 MW
Maximum capacity	42 MW

IWRM Spiral for Western Basin Afghanistan



Why Western Basin Project

The feasibility study for Western Basin Project has been done in 2004 and the Implementation has started in Feb 2008, the main task and responsibility of western basin project is to establish the Water User Association (WUA) and work parallel with River Basin Agency (RBA) on provincial level and Rehabilitate and Upgrade all major canals for the down stream of Salma Dam which is going to be completed by end of 2014, by the time the salma dam is completed the downstream canals will be ready to deliver the water to the irrigation system smoothly with limited lose.

Upgrading of new irrigation system in Harirod-Murghab river basin





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Challenges for Implementation of IWRM

- 28 years hydro meteorological data gap (1975-2003)
- Insufficient capacity for the implementation of IWRM
- Lack of water master plan for five river basin
- Lack of National Water Sector Strategy and WRD program for each river basin
- Shortage of budget for the implementation of water programs
- IWRM is not included in university curriculum
- Lack of agreement between Afghanistan and neighboring countries on trans-boundary water issues

Major Challenge

- Lack of WR infrastructures to provide water and energy for social and economical development sectors, especially the agriculture sector

Keys For Success

- **Institutional setup, Water User Association (WUA) and River Basin Agency (RBA) established for the basin**
- **Water Law Approved in 2009**
- **Master Plan for the river basin going to complete July 2014**
- **Donor funds, such as ADB, India Government, CIDA, World Bank**

Thank you



WATER IS LIFE