

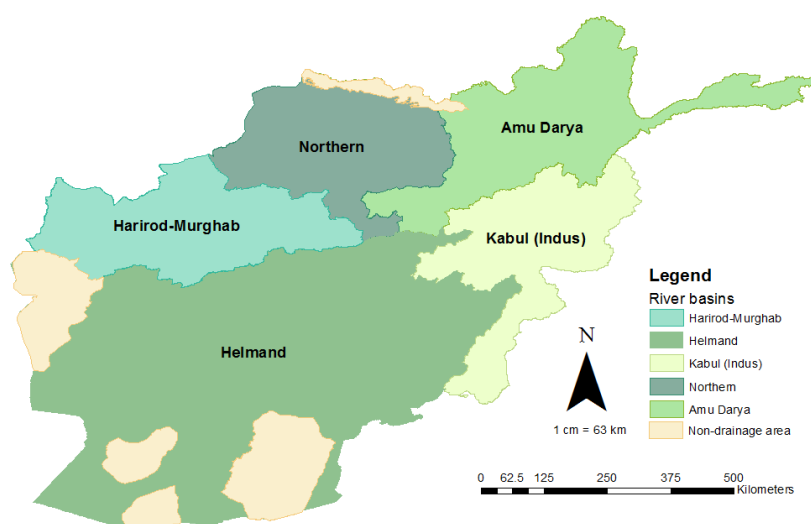
Strengthening Water Resources Management in Afghanistan (SWaRMA)

Through its national *Strategic policy framework for the water sector*, Afghanistan has adopted a river basin approach to managing its water resources. Informed by Australia's own water management practices and experience, CSIRO is collaborating with the International Centre for Integrated Mountain Development (ICIMOD) and several Australian and Afghanistan partners to strengthen Afghanistan's capacity for integrated river basin management. Our immediate focus is on guiding the development of an implementation plan for a national water information system and building skills in water resources modelling.

Background

The river basins of Afghanistan provide valuable ecosystem services that sustain the lives and livelihoods of about 36 million people. The basins play a key role in agriculture – the biggest economic driver of the nation; and have significant potential for water infrastructure development. However, the diverse physiography of the basins, the impact of glaciers and snowmelt on water availability, the effects of climate change, increasing population and urbanisation, as well as deterioration of infrastructures and water sector institutional capacity due to decades of conflict, have constrained the nation's ability to develop its water sector.

The governments of Afghanistan and Australia initiated *Strengthening Water Resources Management in Afghanistan (SWaRMA)* project to enhance Afghanistan government agencies' technical capacity for effective water resources management, adaptation and development planning and regional cooperation. The project is implemented by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the



Major river basins in Afghanistan

International Centre for Integrated Mountain Development (ICIMOD) in partnership with other water sector agencies in Afghanistan and Australia.

As a joint implementer of the project, CSIRO and its partners are supporting the Afghanistan government in their development of a national water information system and models that are able to assist in evidence based decision making in the water sector in river basins.



ICIMOD



Australian Government

Supporting a strategic pathway to implement a national water information system

Having access to timely, quality-assured data is a pre-requisite for successful water resources development and management of river basins. The SWaRMA project Inception workshop (Mar 2018) and Technical coordination and Steering committee meetings (Jul 2018) identified that data and information necessary to support basin planning in Afghanistan are usually incomplete, dispersed and heterogeneous, difficult to organise for various reasons (e.g. inconsistency of data and information, inadequate data sharing arrangement, poor service provision etc.) and proposed to develop a national water information system (WIS).

Building on the outcomes of past efforts on hydro-meteorological and agricultural data and information collection and management in Afghanistan, CSIRO and partners are working to develop a strategic pathway (roadmap) for implementation of a water information system in the future. Through extensive review of relevant policies, plans and reports, technical consultation and informed by Australia's journey to develop and maintain the world-class Australian Water Resource Information System (AWRIS), we are clarifying the purpose of the WIS and issues to be addressed. These include: water data governance, data management procedures required to share data produced by various institutions / organisations, data processing aiming to transform the available datasets into useful information to support decision-making processes and answer the needs of the various public sectors, and dissemination of information process tools and procedures facilitating the dissemination of information. It is proposing actions to enable the development of the national water information system including necessary infrastructure and institutional arrangement.

Strengthening capacity in water balance and scenario modelling

The technical modelling required to inform basin planning and water related decision making is complex and time-consuming, especially in data-limited environment such as Afghanistan, and can act as barriers to investment in the water sector. CSIRO and partners are strengthening the technical capacity of Afghanistan's water managers to progress toward detailed basin planning through training in water balance and scenario modelling using eWater Source.

The training sessions are co-developing models of selected basins in Afghanistan and building capacity in using these models to undertake basin assessment. The training covers data, system conceptualisation, assumptions, understanding of the current use, demand and dynamics of water resources and setup scenarios to explore the development potential of the water resources of Afghanistan's river basins.

Strengthening capacity to implement integrated river basin management

Integrated river basin management (IRBM) has been identified as a necessary building framework to plan and implement water sector projects in Afghanistan. CSIRO and its Australian partners are working with water resources planners and managers in Afghanistan on issues related to how to link water and the environment in IRBM, using scenario planning to tackle uncertainty, and sharing basin planning experiences from Australia.



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