



# Strengthening Water Resource Management in Afghanistan (SWaRMA)

## Water Resources Management in Afghanistan: Issues and Challenges

The Hindu Kush mountains of Afghanistan range in elevation from more than 7,000 masl in the east, where glaciers occur, to less than 500 masl in the arid west. More than 3,000 small glaciers, with an estimated area of 2,700 km<sup>2</sup>, provide vital water resources to the Hindu Kush Himalaya (HKH) region, especially for irrigation. Afghanistan is dominated by high mountain ranges and covered by a relatively dense network of rivers. The five main river basins are the Amu Darya River basin, the Northern River basin, the Harirrod-Murghab River basin, the Helmand River basin, and the Kabul River basin.

Afghanistan is prone to natural hazards but has limited institutional means and mechanisms to mitigate risks and respond to emergencies. Floods, earthquakes, landslides, avalanches, and sandstorms occur frequently, and climate change has exacerbated temperature extremes. In recent years, the country has witnessed periodic floods due to untimely and heavy rainfall, unseasonal thawing of snow and ice, an overall increase in temperature, and an increase in the occurrence of frost. Prolonged and intense floods have affected thousands of people across several provinces.

The Strengthening Water Resource Management in Afghanistan (SWaRMA) initiative, led by the Ministry of



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Energy and Water (MEW) in Afghanistan, works to co-create learning opportunities to strengthen water resources management. It aims to do so by assessing water resources at various levels, monitoring cryosphere and flood at the community level, developing and using a water information system, integrating river basin management, and supporting Afghanistan's engagement in regional forums.

### Project Modality

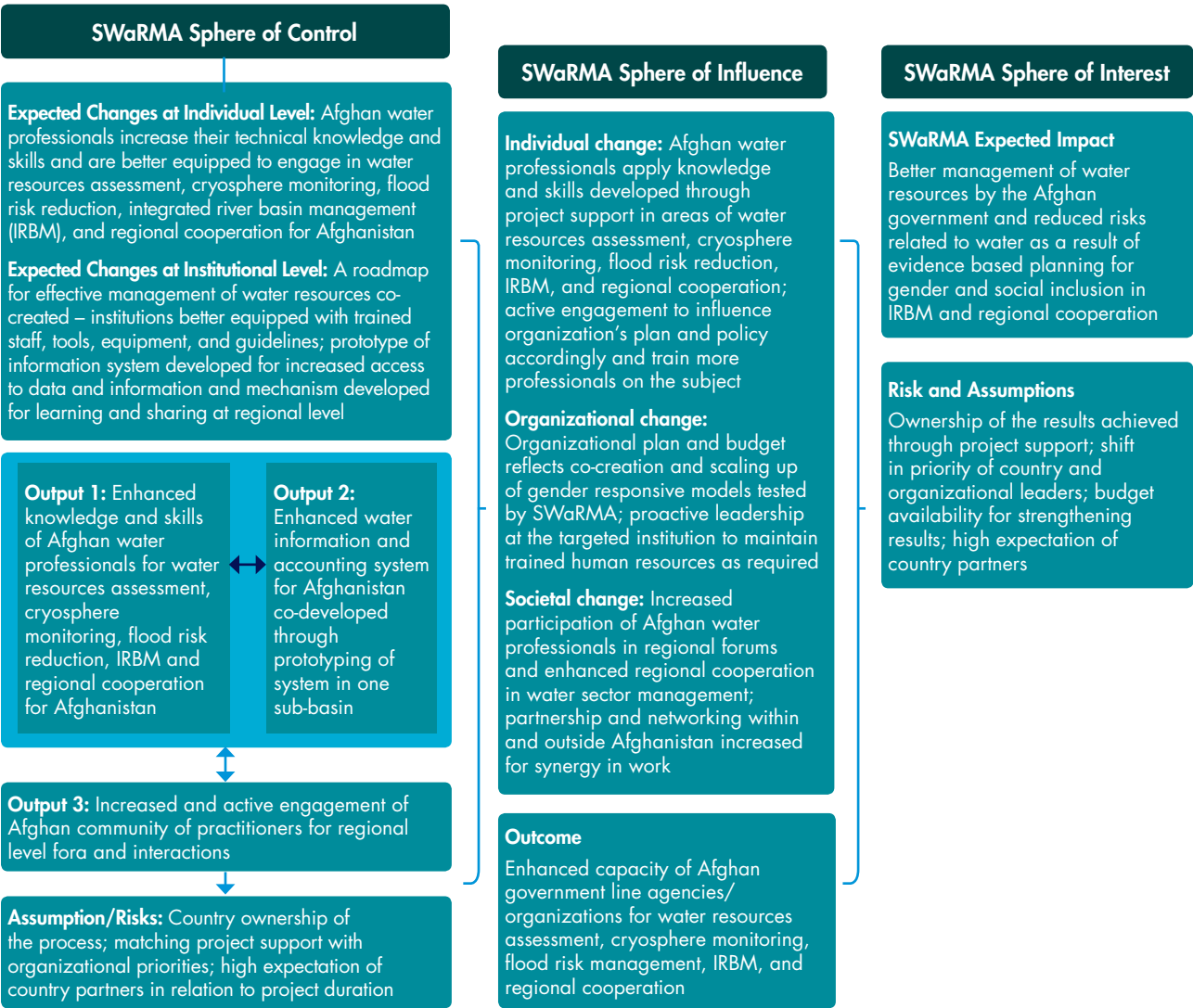
SWaRMA is a joint project with the government of Afghanistan and the government of Australia, implemented by the International Centre for Integrated Mountain Development (ICIMOD) in collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and national organizations in Afghanistan. The focal ministry for SWaRMA in Afghanistan is the MEW. Each institute has nominated a focal person to facilitate day-to-day communication and operations.

The SWaRMA Steering Committee (SC) makes strategic decisions directly relevant to programme implementation. The first SC meeting was held in July 2018. Two more meetings will be held over the two-year project period.

The Technical Coordination Committee (TCC) makes decisions at the programme implementation level. It facilitates regular exchange of experiences to disseminate information generated by SWaRMA and to ensure that policy relevant information is flowing into policy making bodies in Afghanistan. The TCC meets four times a year – in January, April, August, and December, ideally in face-to-face settings. It facilitates remote partnering and conducts partnership health checks. Networking is an important part of events at the national and regional levels.

The ICIMOD Programme Management Unit is responsible for the overall coordination and management of the programme and serves as a link between the SC and the TCC at the operational level.

### Result Framework





## Thematic Areas of Intervention

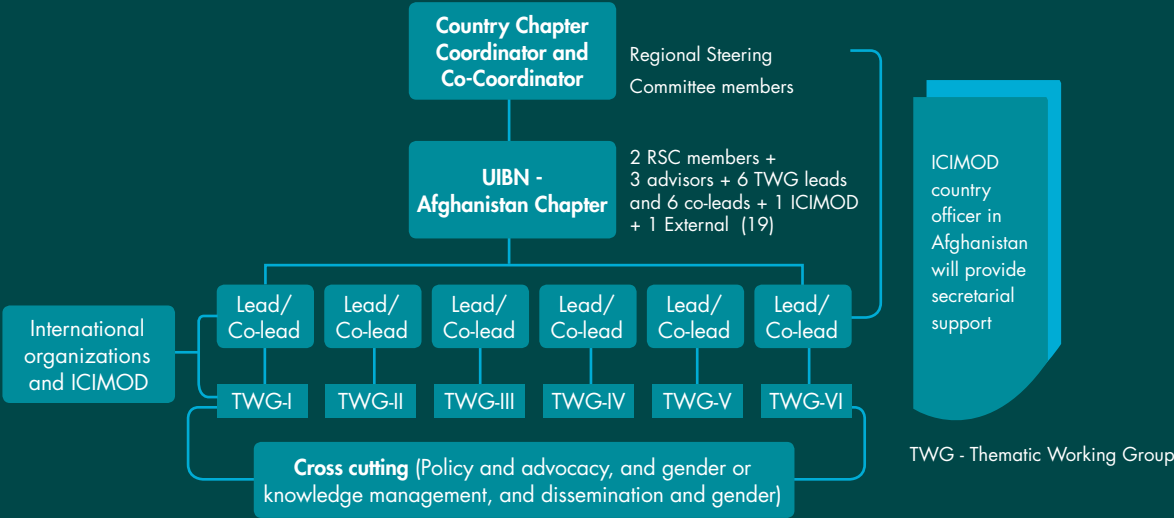
SWaRMA has seven thematic areas for capacity enhancement, co-creating knowledge, and facilitating co-learning platforms:

	<p><b>Water availability analysis:</b> SWaRMA will conduct capacity enhancement activities on water resources assessment to assess water availability in the Kabul River basin. This will be done in close collaboration with the concerned ministries and departments related to water use planning and management. The training on water resources assessment and management will involve use of state-of-the-art tools such as hydrological models for water availability analysis.</p>
	<p><b>Cryosphere monitoring:</b> SWaRMA will strengthen the capacity of young Afghan professionals in field-based monitoring of snow cover and glaciers, and collecting hydro meteorological data through field-based trainings in Nepal. This data will be linked with remote sensing-based monitoring being conducted in collaboration with SERVIR and the Cryosphere Initiative.</p>
	<p><b>Flood monitoring and early warning:</b> SWaRMA will generate practical and theoretical knowledge about the community based flood early warning system (CBFEWS) and enable local partners to monitor flood and provide early warning. It will work with Focus Humanitarian Assistance (FOCUS) and the Afghanistan National Disaster Management Authority (ANDMA), and explore opportunities to link this work with ongoing MEW activities and focus on community preparedness.</p>
	<p><b>Water resources management:</b> SWaRMA will develop a capacity enhancement package on IRBM with departments, ministries, and other partners to build the capacity of water resources planners and managers. This package will cover integrated aspects of water resources management such as enabling environment, management instruments, and institutional framework for economic, societal, and environmental benefits.</p>
	<p><b>Water resources planning at basin scale:</b> SWaRMA will enhance the capacity of local partners to progress toward detailed basin planning by increasing their understanding of water availability, use, and demand in the basins, and exploring the development potential of their water resources. The training and capacity development activities will use tools and methods developed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australia for data poor basins.</p>
	<p><b>Water information system:</b> SWaRMA will use lessons learnt from past experience to update and create a coherent knowledge base for water data management and carry out need-based capacity building activities. SWaRMA will prepare a stakeholder map listing key organizations working on a water information system and water resources management, as well as their roles and capacities, and existing gaps in knowledge. This will focus on analyzing the capacity of key ministries with substantial water resource management and related responsibilities. The water information system will be implemented with water managers in key ministries.</p>
	<p><b>Regional cooperation:</b> SWaRMA will use the Upper Indus Basin Network (UIB Network) and other existing networks to encourage science-based dialogue between Afghanistan and neighbouring countries in the HKH region. The national-level UIB-Afghan Chapter will be established and linked with the regional UIB Network. Other capacity enhancement opportunities will be provided for regional engagement – trainings on transboundary water resource management, negotiation skills, water diplomacy, exchange visits, and engagement in regional dialogues.</p>

# Upper Indus basin Network-Afghanistan Chapter

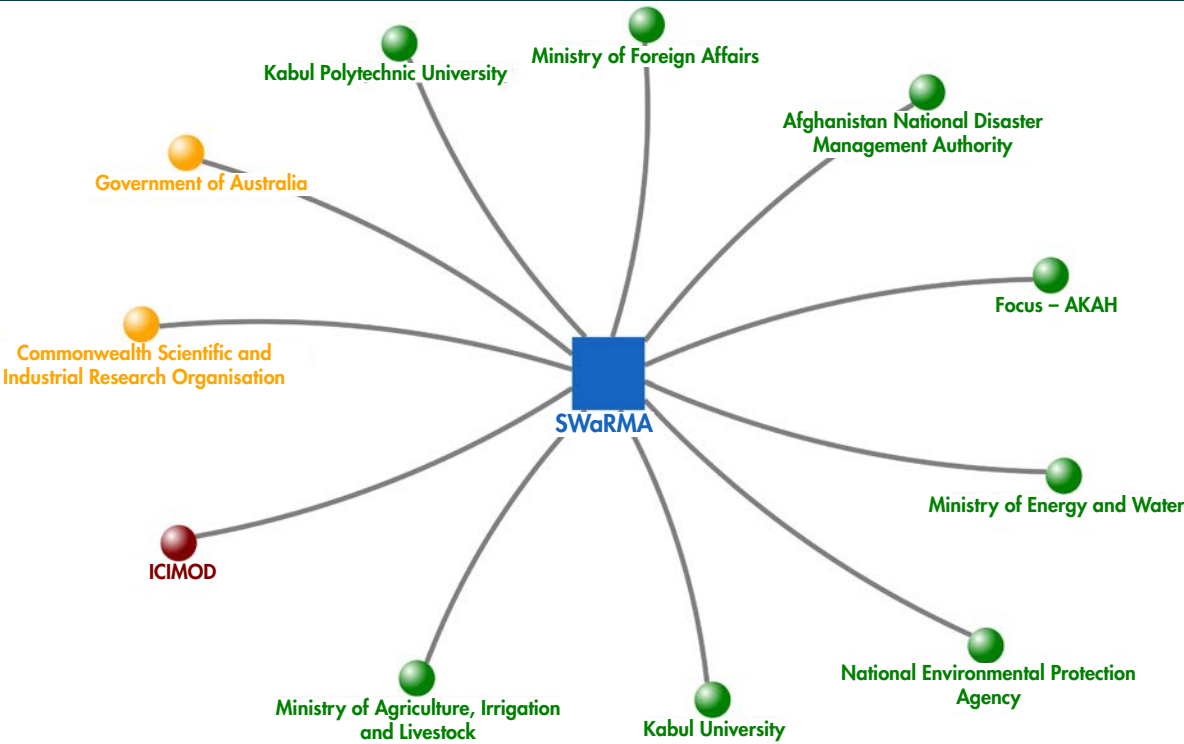
The Upper Indus basin (UIB) spans Afghanistan, China, India, and Pakistan. Its water resources sector is among those facing the impacts of climate change.

The third regional UIBN workshop was organized in Kathmandu from 24 to 25 April 2018. Representatives from government and non-government organizations – from Afghanistan, China, India, and Pakistan – and from international research and academic organizations participated in the event. The mandate to establish the UIBN-Afghan Chapter (UIBN-AC) through SWaRMA was an outcome of this workshop. UIBN-AC will foster coordination in research related to climate, cryosphere, water, hazards and vulnerability, and adaptation.

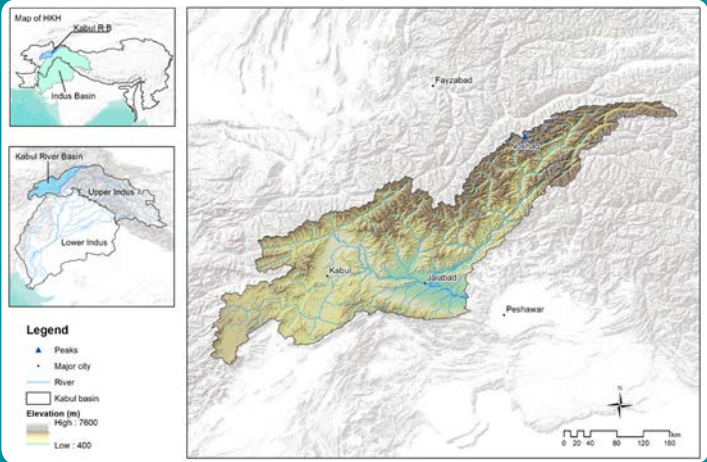


## Our Partners

SWaRMA's focal partner in Afghanistan is the Ministry of Energy and Water (MEW). SWaRMA also works closely with the Ministry of Agriculture, Irrigation and Livestock (MAIL), Ministry of Foreign Affairs (MoFA), and Afghanistan National Disaster Management Authority (ANDMA), among other ministries and universities.



**Geographical Coverage:** Tributaries and watersheds in the Kabul basin with regional linkages to neighbouring countries in the Upper Indus basin



## For further information

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**Photo:** Alex Treadway

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