

Strengthening Water Resources Management in Afghanistan (SWaRMA)

Proceedings of the Inception Workshop



ICIMOD



Australian Government



About ICIMOD

The International Centre for Integrated Mountain Development (ICIMOD) is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush Himalaya (HKH) – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – based in Kathmandu, Nepal. Globalization and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream and downstream issues. ICIMOD supports regional transboundary programmes through partnerships with regional partner institutions, facilitates the exchange of experiences, and serves as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop economically and environmentally-sound mountain ecosystems to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now and in the future.



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Acronyms and Abbreviations

AKAH	Aga Khan Agency for Habitat
AMD	Afghanistan Meteorological Department
ANDMA	Afghanistan National Disaster Management Authority
CBFEWS	community-based flood early warning system
CERT	community emergency response team
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DFAT	Department for Foreign Affairs and Trade, Australian Government
DSS	decision support system
EWS	early warning system
FAO	Food and Agriculture Organization
GIS	geographical information system
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GLOF	glacial lake outburst flood
HKH	Hindu Kush Himalaya
HR	human resources
ICIMOD	International Centre for Integrated Mountain Development
IRBM	integrated river basin management
IWRM	integrated water resources management
JICA	Japan International Cooperation Agency
KPU	Kabul Polytechnic University
KU	Kabul University
MAIL	Ministry of Agriculture, Irrigation and Livestock, Afghanistan
MEW	Ministry of Energy and Water, Afghanistan
MoFA	Ministry of Foreign Affairs, Afghanistan
NEPA	National Environmental Protection Agency
NRM	natural resources management
PATRIIP	Pakistan Afghanistan Tajikistan Regional Integrated Programme
PMU	project management unit
RCD	Regional Cooperation Directorate
RS	remote sensing
SC	Steering Committee
SCLW	Supreme Council on Land and Water
SDGs	Sustainable Development Goals
SDIP	Sustainable Development Investment Portfolio
SWaRMA	Strengthening Water Resources Management in Afghanistan
SWIM	Strengthening Watershed and Irrigation Management
TCC	Technical Coordination Committee
ToR	Terms of Reference
UIB-N	Upper Indus Basin Network
USAID	United States Agency for International Development
WEAP	water evaluation and planning
WEF-Nexus	nexus between water, energy, and food
WREE	water resources and environmental engineering
WRM	water resources management
WRM-A	Water Resources Management in Afghanistan



1. Introduction

Strengthening Water Resources Management in Afghanistan (SWaRMA), a two-year project supported by the Governments of Australia and Afghanistan, is implemented by the International Centre for Integrated Mountain Development (ICIMOD) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). This project aims to co-create learning opportunities to strengthen water resources management in Afghanistan by assessing water resources at various levels, monitoring cryosphere and flood at the community level, developing and using water information systems, fostering integrated river basin management, and supporting Afghanistan's regional engagement to showcase result-based outcomes.

The SWaRMA inception workshop was held from 9 to 11 March 2018 in New Delhi, India (Annex 1). The workshop brought together 39 participants. Twenty participants were from Afghanistan; 15 were representatives of the Government of Afghanistan (Annex 2).

- Ministry of Foreign Affairs (MoFA) – 2
- Ministry of Agriculture, Irrigation and Livestock (MAIL) – 4
- Ministry of Energy and Water (MEW) – 6
- National Environmental Protection Agency (NEPA) – 1
- Kabul University (KU) (1) and Kabul Polytechnic University (KPU) – 1

High-level delegates, including His Excellency Deputy Minister Fahimullah Ziaee from MAIL; His Excellency Mr Chris Elstoft, Deputy High Commissioner from the Australian High Commission in New Delhi; Mr Mohammad Rafi Qazizada, ICIMOD Board Member and Director General NRM MAIL; and Dr David Molder, Director General and Dr Eklabya Shara, Deputy Director General from ICIMOD were present during the workshop.

1.1 Objective and Focus of the Workshop

The workshop aimed to facilitate common consensus on the project's objective and possible components, while generating potential implementation strategies and clarifying expectations.

The objectives of the workshop were:

- Increased clarity among project partners regarding project concept and implementation modality
- Shared understanding of the roles and responsibilities of different actors and clarity on strategies of engagement

The expected outputs were:

- Increased clarity on project design and its components
- Two-year action plan drafted with detailed plan for the first year

1.2 Workshop Structure and Methodology

The inception workshop was structured around six sessions each led by a session chair. A rapporteur from ICIMOD documented the major points of the sessions. The methodology consisted of presentations and discussions in plenary on different thematic areas, group discussions, and the sharing of results in plenary. The two-and-a-half-day inception workshop was facilitated in an interactive manner.

The workshop was designed by a four-member team: Dr Neera Shrestha Pradhan, Ms Lalu Kadel, and Mr Santosh Raj Pathak, all of ICIMOD, and External Facilitator Ms Basudha Gurung. The session rapporteurs documented the main points, which were used as input in drafting the process report.

2. Workshop Process and Outputs

This section presents the workshop proceedings and the outputs.

Session 1 – Opening Session

His Excellency Fahimulla Ziaee, Deputy Minister for Irrigation and Natural Resource Management (MAIL), from the Government of Afghanistan, was the Chief Guest of the opening session, which was facilitated by Dr Neera Shrestha Pradhan. Dr Santosh Nepal from ICIMOD was the rapporteur.

Dr Eklabya Sharma, Deputy Director General of ICIMOD, welcomed the participants and expressed ICIMOD's enthusiasm for working in Afghanistan for sustainable water resources management with the Government of Afghanistan and other partners. ICIMOD already has a presence in Afghanistan through four regional programmes. Specific suggestions had been made in the Medium Term Action Plan IV and shared during the Afghanistan country consultation in 2017 at ICIMOD. Dr Sharma related the challenges of water resources management (WRM) in the Himalaya, including climate change and mountain specificity and vulnerability. These changes would affect water availability. He highlighted the importance of the nexus between water, energy, and food (WEF-Nexus) for ICIMOD and the Hindu Kush Himalaya (HKH). The relevant ministries – Ministry of Energy and Water, Afghanistan (MEW) and Ministry of Agriculture, Irrigation and Livestock (MAIL), both working on water, energy, and food issues – are on board with the programme, which will make a difference in WRM in Afghanistan. Dr Sharma said that the Ministry of Foreign Affairs (MoFA) has an important role to play in advancing the regional aspects of WRM. The key question that needs answering is how climate change will affect water availability as it may change the supply and demand of water resources.

SWaRMA aims to enhance the capacity of the partners to deal with the challenges of water resources management. Dr Sharma emphasized the importance of the inception workshop in terms of conceptualizing and preparing action plans for the next two years. He thanked the Australian Government for their support to the programme and thanked the Government of Afghanistan and all Afghan partners attending the workshop and providing important information and input to the programme design.



Mr Chris Elsfort, Deputy High Commissioner, Australian High Commission, New Delhi, India, said that the Government of Australia was very pleased to support sustainable water resources management in South Asia, and in Afghanistan in particular, through SWaRMA. He said that Australia too is facing challenges related to transboundary water resources management issues and that the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is supporting these efforts. He stated that the Government of Australia has been supporting Afghanistan in agriculture, rural development, and livestock. He shared that CSIRO and ICIMOD have been working closely for the Sustainable Development Investment Portfolio (SDIP), a flagship investment in South Asia, to better understand the WEF-Nexus.



Mr Mohammad Tayib Bromand, Water Resources and Climate Change Adaptation Specialist, MEW, Government of Afghanistan, emphasized that a great deal of work must be done on WRM, climate change, and agriculture in Afghanistan. He shared finding from earlier studies suggesting climate change may have a negative impact on agriculture, water, and environment. MEW manages five major river basins in Afghanistan and the Department of Water Resources collects, analyses, and provides reports relating to water resources availability. He thanked the organizer and looked forward to working together on this important topic.



Mr Mohammad Rafi Qazizada, Board Member of ICIMOD and Director General of Natural Resource Management, MAIL, thanked the Australian Government for their support in the water, health, and resilience sectors and the implementation of the Sustainable Development Goals (SDGs). He said that ICIMOD has been generating knowledge that helps connect science with policy. Key priority areas in Afghanistan, he said, are increased agricultural productivity, water resources management, energy, biodiversity, and natural resources management. He said training on water resources management, water modeling, cryosphere, and remote sensing would all be important. He emphasized the project's importance in terms of developing in-depth capacity while maintaining effective coordination among national partners and suggested establishing a consortium. Mr Qazizada also said that information on water resources had to be interpreted according to water usage across different sectors (e.g., household consumption, agriculture, hydropower) to support decision making. The importance of knowledge generation was again highlighted. It was suggested that the focus be on one specific river basin.



Dr Arun B Shrestha, Regional Programme Manager – River Basins and Cryosphere, ICIMOD, spoke about ICIMOD’s river basins and cryosphere programme, highlighting its river basins approach and ongoing activities. The river basins programme aims to influence policy on WRM and disaster risk reduction through research, practice, and capacity strengthening. River basin issues are connected with each other and have clear upstream-downstream linkages, including related impacts. River basins management should hence employ an integrated approach. The focus should be on water security, water storage, productivity, and conservation. He suggested considering the broader areas of policy influence, gender and social inclusion, WEF-Nexus, and regional cooperation.



Dr Shahriar Wahid, Principal Research Scientist, CSIRO, presented on CSIRO, a leading scientific body in Australia which focuses on research for development. He expressed happiness that CSIRO, ICIMOD, and Afghan partners are collaborating for sustainable WRM in Afghanistan. He focused on three important aspects of the WRM puzzle: how much water is available, what are the demands, and what are the risks and trade-offs of development. He discussed the importance of understanding, credible systems, continuous monitoring, and information management, which could be relevant to the work that CSIRO can contribute to SWaRMA.



Mr Birendra Bajracharya, Regional Programme Manager, ICIMOD, talked about the organization's work in Afghanistan, which began in 2006. A country office was established at the Ministry of Agriculture, Irrigation, and Livestock in Kabul in 2007. ICIMOD is engaged in various projects in Afghanistan and provides geospatial solutions in the areas of biodiversity, forestry, and land cover and land use change. ICIMOD, through its SERVIR Hindu Kush Himalaya (SERVIR-HKH) initiative, engages in building the capacity of various partners in the geospatial solutions field.



His Excellency Fahimullah Ziaee, Deputy Minister of MAIL, Afghanistan, thanked ICIMOD and the Government of Australia for supporting WRM in Afghanistan. He highlighted the need to build synergy and address gaps including building capacity of university-level students, the youth, and women. He suggested that capacity-building programmes such as training should be carried out as much as possible in Afghanistan. He highlighted the importance of having key information such as accuracy of water resources availability to assist decision making.



At the end of the opening session, Mr Birendra Bajracharya from ICIMOD delivered the vote of thanks, expressing his gratefulness to all the participants who came from Afghanistan to share their views, ideas, and experiences in the inception workshop. He especially thanked Deputy Minister Ziaee for his guidance and suggestions, the Australian Government for their generous support, and his colleagues in ICIMOD and CSIRO who have helped to realise the workshop.

The session ended with a group photo of the participants.

Session 2 – Thematic Session: Synergy Building

The session started with an introduction of the Water Resources Management in Afghanistan (WRM-A) project, by Dr Neera Shrestha Pradhan, Programme Coordinator, SWaRMA, ICIMOD. The project concept, expected outcome, and areas of focus were presented.

- The outcome of WRM-A has been defined as “Enhanced capacity of relevant government line agencies of Afghanistan for effective water resources management, adaptation and development planning, and regional cooperation”.

The project focuses on:

- Enhancing capacity (technical and institutional) of stakeholders for monitoring and effectively managing water resources, adaptation and development planning, and regional cooperation
- Improving access to water information for evidence-based water resource management, adaptation and development planning, and regional cooperation
- Improving participation and engagement of Afghan stakeholders at regional-level forums and interactions

Participants were introduced; their areas of expertise and institutions of affiliation shared.

The session on synergy building was chaired by Dr John Dore, Senior Water Resources Specialist, Australia’s Department of Foreign Affairs and Trade. Mr Santosh Pathak, ICIMOD, was the rapporteur of the session. The session focused on discussing and exploring possible areas of intervention for the project. ICIMOD and CSIRO representatives provided an overview of the theme/topic, experience of implementing activities, relevance to Afghanistan with possible approaches for capacity enhancement, and limitations.

Thematic Areas

1. Water availability assessment – Dr Santosh Nepal
2. Cryosphere monitoring – Dr Anna Sinisalo
3. Flood monitoring and early warning – Dr Neera Shrestha Pradhan
4. Water resources management – Dr Santosh Nepal
5. Water resource assessment at basin scale – Dr Carmel Pollini, CSIRO
6. Water information system – Dr Susan Cuddy, CSIRO
7. Regional cooperation on water resources management – Dr Arun B. Shrestha

The presentations were followed by clarifications and discussions, during which participants shared their observations and comments.

A summary of the presentations follows.

1. Water Availability Assessment

– Dr Santosh Nepal

Dr Nepal highlighted the importance of water availability assessment in terms of providing a better understanding of water resources for sustainable planning and future changes in water availability due to climate change. Trainings on hydrological modeling and water availability assessment along with on-the-job trainings were discussed as approaches to setting up a basin model. An output expected from the project is that key partners will develop their skills and knowledge on hydrological modeling.

Selected partners would work closely with ICIMOD to develop a basin-scale model and carry out water resources assessments, as well as an assessment of present and future water availability. He said that hydrological modeling is significant because it provides a basis for understanding the current situation of hydrology, role of snow in water availability, and spatial runoff component, which all support the identification of necessary interventions (e.g., training) and more importantly, support the decision-making process.

Some of the comments/queries made were:

- What is the basis for hydrological modeling, and how do these models simulate sediment analysis?
- How can people facing the actual impact of hydrology get these messages on time?

Dr Nepal responded that ICIMOD will be working closely with its partners to develop a solution for the ground level (community) while discussing the details of hydrology modeling during forthcoming group sessions.

2. Cryosphere Monitoring

– Dr Anna Sinisalo

Dr Sinisalo said that ICIMOD uses remote sensing (RS) and modeling to co-create knowledge and data for cryosphere monitoring. She said that the data developed needs to be presented to decision makers and that ICIMOD will provide support in areas where is required. She shared that cryosphere monitoring is expensive in financing terms. Equipment are installed to facilitate automatic data collection. She talked about the importance of understanding and working together to make the sustainable monitoring and observation system work and to understand climatic and cryosphere changes. In the HKH, glacier melt action is a major contributor to river run-off. She emphasised the need for further collaboration, including on-the-job training, to ensure that institutional capacity is strengthened. She informed that two out of 34 new glaciologists in HKH are from Afghanistan. She suggested focusing on mass balance analysis, adding that understanding glacial lake outburst flood (GLOF) is critical in Afghanistan and that ICIMOD will build its capacity on studying GLOFs. She also discussed the importance of site visits.

A participant from MEW stated that the Ministry has good capacity on RS. However, he said that they require support in real field-based study and monitoring of at least one or two glaciers.



3. Flood Monitoring and Early Warning at the Community Level

– Dr Neera Shrestha Pradhan

Dr Pradhan said that the HKH region is prone to climatic hazards including floods, flash floods, and other hydrological impacts. Flood monitoring and early warning systems are very useful at the impact level since communities get real support on the ground to help fight such hazards. She mentioned the importance of making upstream and downstream linkages so that communities are able to help each other and have the skills and knowledge to cope with the effects of hydrological disasters. She pointed out the four key stages of community-based flood early warning systems (CBFEWS):

The CBFEWS have been tested and implemented in Afghanistan, Pakistan, India, and Nepal and in general, there are two types of CBFEWS:

- a) Risk Knowledge and Scoping: Systematically collect data and undertake risk assessments and scoping.
- b) Community-Based Monitoring and Early Warning: Install early warning instrument and flood monitoring by upstream communities.
- c) Dissemination and Communication: Communicate flood information by upstream and provide early warnings to downstream communities.
- d) Response Capability and Resilience: Enhance community response capabilities and build resilience.

The CBFEWS have been tested and implemented in Afghanistan, Pakistan, India, and Nepal and in general, there are two types of CBFEWS:

- Wireless system
- Telemetry based

Some of the comments and queries raised were:

- CBFEWS has already been adopted as a good mechanism in Afghanistan. A similar modality for debris flow monitoring (landslides and avalanches) was recommended as these are equally relevant to Afghanistan.
- Whether a telemetry system could be manufactured in-country/locally, also considering costs.

Dr Pradhan said that a telemetry system could be tested to assess whether and how it can capture debris flow and accordingly upscale the system/approach. She also said that the telemetry system could be manufactured locally at a reasonable cost.

4. Water Resources Management

– Dr Santosh Nepal

Dr Nepal highlighted the importance of acquainting partners with the principles of integrated river basin management (IRBM) and integrated water resources management (IWRM); good practices and examples of drivers, impact and responses; better understanding of transboundary water management aspects; and tools for WRM. IWRM highlights processes upstream, midstream, and downstream to promote coordinated development and management of water, land, and related resources to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. Hence, it is important to understand drivers that pose these threats – e.g., permafrost, glaciers, snow cover changes, and human dimension (population size) – are all influencing WRM. He stressed the need to integrated ways to properly address these issues.

Participants from MEW identified important roles and priorities that ensure WRM; assessment of water availability figured predominantly. Participants also suggested using modeling to understand climate change on water level assessment in Afghanistan.

Dr Nepal responded saying it is necessary to understand the impact of climate change on the ground and accordingly develop and apply solutions in given scenarios.



5. Water Resource Assessment at Basin Scale

– Dr Carmel Pollino, CSIRO

Dr Pollino shared CSIRO's extensive work in Australia developing river basin-level tools and models. The tools help decision makers get a clear understanding of water resources, understand the different users of water, and ensure sustainable water use for people, industries, and other stakeholders. She emphasised the need to understand who is using water, how much water they require, and what future water use will look like – all from the perspective of a decision maker

– to understand how much is needed for consumption, agriculture, industry, and other stakeholders. There are different types of tools to help institutions understand water needs and gaps and empower the concerned to make appropriate decisions. She discussed the possibility of using global and local dataset, e.g., on a landscape outlook and plan accordingly to use the monitoring tools to understand the distribution of data, analyse water balance from a holistic approach, understand the current users of water, and set the scenario. She emphasized the need to discuss the different types of tools that would be useful for scenario analysis, and develop a matrix of change, evaluate change, and usage – e.g., software for rapid scenario analysis and visualization of the model and the data.



6. Water Information System

– Dr Susan Cuddy, CSIRO

Dr Cuddy focused on the importance of listening to the demands and needs of participants in terms of the information required (e.g., basin scale water assessment) to understand and design a useful system for Afghanistan. She shared the experience of Australia where water is being managed by the central government and not the federal government. Over the years, a good database to refer to for planning and policy discussions has been built. In 2007, CSIRO had conducted a large study in the Murray-Darling Basin on water availability and the learnings, Dr Cuddy said, could be shared. She noted that it is not necessary to have all types of data on water availability in the national system. There are many types of water data

– some important at the grassroots/community level, while others for national-level policy discussions and strategy development. The many forms of catchment boundaries pose challenges in collecting data from the field and its use for specific purposes. The lessons learned from that research, she said, can be shared with Afghan partners as it would be helpful for the implementation process. She highlighted the need to understand and assess the current state of water data systems, on data collection (sensing, communications, etc.), data management (quality assurance, archiving, and metadata), and information reporting (timeliness, cost, accuracy, and usefulness).



Some of the comments/queries raised were:

- Stakeholders within different states and organisations of Afghanistan need to have a data- and information-sharing mechanism.
- To address the issue of data sharing and data use among relevant agencies, a national data office should ensure collection, and compilation and analyse data information received from different agencies and stakeholder and henceforth disseminate the information at the national level.

Dr Cuddy agreed on the importance of data sharing and talked about a case of legislation developed by the Australian Government to ensure data sharing among the states. She reiterated the importance of convincing related agencies to build trust and gain mutual benefits from sharing data and information on water.

7. Regional Cooperation – Dr Arun Bhakta Shrestha

Dr Shrestha said that ICIMOD can provide a regional context in terms of generating specific solutions for Afghanistan through regional cooperation (e.g., share information from relevant studies done by ICIMOD and from group work) to identify and discuss issues that are important for regional cooperation. As river basins are shared by different countries, they provide different services, such as hydropower to many nations. There are many other unexploited opportunities, and Afghanistan also holds great potential, he said. Large number of people rely on river basin resources, and in the context of the HKH, river basins hold the most populated areas where populations are gradually increasing. As a result, HKH river basins are and will continue to be under stress and this needs to be managed in a transboundary context, he said. Regional cooperation is important as a mechanism to support natural resources management (NRM) and tap opportunities for overcoming various challenges and barriers to WRM.

Dr Shrestha talked about the transboundary cooperation that has taken place between Bhutan and India on hydropower. Regional cooperation helps address and solve different needs and challenges, such as hydropower, drought management, mitigating the effects of floods, and expanding irrigation, he said. Some of the opportunities that regional cooperation could offer include a regional flood information system, which is a unique example where hydro met data are shared by four countries regionally. ICIMOD is active in the Upper Indus Basin Network (UIB-N), a knowledge and research network of various national and international agencies working in the Upper Indus Basin which includes Afghanistan, China, India, and Pakistan. The platform is functioning successfully, offering discussions and various research findings on different topics including cryosphere, water, and climate change. An important possibility is to establish a regional cryosphere knowledge hub; however, the idea has to be discussed in the forthcoming group sessions and identify what is most relevant and useful for Afghanistan's context.



Session 3 – Technical Session: Partnership Landscape

The session on partnership landscape was chaired by Mr Mohammed Azim Wardak, Deputy Director for Economic Cooperation, MoFA. Dr Chanda Gurung Goodrich, ICIMOD was the rapporteur. This session focused on getting to know the different partner institutions and their capacity within WRM, the existing and required capacity with reference to the seven thematic areas which were identified as possible areas of interventions. The group discussion was held according to the institutions, and the discussion findings were shared in the plenary.

The outputs of the group discussions are presented below.

Ministry of Agriculture, Irrigation and Livestock (MAIL)

MAIL is a key ministry of the Islamic Republic of Afghanistan, and is mandated with vital responsibilities relating to food security, poverty reduction, and balanced economic growth. The ministry is expected to lay the foundations for a long-term strengthening of local agriculture, to promote governance, rebuild social capital and leadership within villages and neighbourhoods, and assist communities in rehabilitation and development. The roles and responsibilities include:

- Rectify and improve catchment areas through agricultural measures to mitigate flood risks and to protect and maintain the environment.
- Construct diversion dams in the irrigation networks.
- Construct, rehabilitate, develop, and protect irrigation networks.
- Oversee irrigation networks including equitable distribution of water within the irrigation networks with cooperation from irrigation association.
- Establish irrigation associations to participate in decision-making processes regarding planning and use of water resources and operation and maintenance of irrigation networks in the river basins.
- Conducting research to explore norms and economic effectiveness of irrigation.
- Promote appropriate irrigation technologies with the purpose of improving water quality and reducing water losses.
- Safeguard and protect irrigation networks waterways as well as the washes crossing them.

The existing institutional arrangement mainly consists of the Natural Resources Management General Directorate, Irrigation Directorate, and General Directorate of Research. Some of the activities carried out were the drafting of the irrigation policy and approval by the Technical Secretariat which was soon to be presented to the Supreme Council on Land and Water (SCLW). Also, the implementation strategy for the irrigation policy had been drafted, the National Irrigation Data Bank developed, the Central Project Management Office created, the Water Law reviewed, and the Irrigation Law introduced.





The following table lists the existing and required WRM capacity in MAIL.

Particulars	Existing	Required
Water availability analysis	Limited experts (GIS and ID) MSc graduates	Equipment/tools and data, Advanced capacity development
Cryosphere monitoring	None	Coordination with MEW – portal for shared data access Dynamic system for modeling and forecasting whether the cryosphere is shrinking or expanding
Flood monitoring at local level	CBFEWS supported by associations and field/NRM staff	Experts with sustainable info management system and tools (institutionalized) Capacity transfer to associations and field staff Forecasting system in coordination with meteorology authorities
Water resources management	Limited experts – is supporting; + NRM Watershed; MSc and BS	Experts Capacity development (MSc and PhD programmes) Tools and support for studies and data/materials
Water resource planning at basin scale	Direct and indirect intervention, Salma downstream irrigation schemes, Zamin Dawar, Dehla Dam	Data-sharing platform Research and studies on demand and distributions/water rights
Water information system	Irrigation database, few experts exist	Improved database shared with partners Database to be further developed
Regional cooperation	Technical implementation of agreements/cooperation	Landscape data sharing and existence of clear directions Open for knowledge exchange

Ministry of Energy and Water (MEW)

The following table lists the existing and required WRM capacity of MEW.

Particulars	Existing	Required
Water availability analysis	<ol style="list-style-type: none"> 1. Water availability assessment based on the observational stations 2. On-the-job training for field hydrologists 3. Quality control data and gap filling 4. Basic hydrology modeling in the two sub-river basins 5. Hydrology modeling team 	<ol style="list-style-type: none"> 1. Advanced hydrology modeling 2. Mid-term and long-term training programmes related to water availability assessment 3. Filling data gaps to convert to rainfall runoff 4. Advanced hydrology analysis in the five river basins 5. Water projection under climate change scenarios
Cryosphere monitoring	<ol style="list-style-type: none"> 1. Glacier mapping – number of glaciers and coverage area 2. Basic field survey 3. Installation of snow survey stations (30) 4. Snow and glacier section 	<ol style="list-style-type: none"> 1. Glacier mass balance analysis 2. Benchmark glacier identification 3. Ground station identification 4. On-the-job training related to glacier analysis 5. Constitution of glacier observational field team
Flood monitoring at local level	<ol style="list-style-type: none"> 1. Established flood and drought forecasting section 2. Flood probability and frequency analysis 3. Basic capacity building programmes 	<ol style="list-style-type: none"> 1. Application of model for flood analysis and forecasting 2. Establishment of flood early warning unit 3. Design of flood early warning system 4. Flood-prone area mapping and analysis 5. Drought monitoring and assessment 6. Capacity building programme 7. Connection of hydrological stations and telemetry system
Water resources management	<ol style="list-style-type: none"> 1. Installed 125 hydrological stations 2. Based on IWRM established river basins (5) and sub-river basins (35) 3. Data collection and processing 4. Established hydrological database 5. Establishment of sediment lab 	<ol style="list-style-type: none"> 1. Installation of 45 hydrological stations in the fast radio bursts. 2. Modernisation of river basin institutions 3. Establishment of telemetry system 4. Development of current database as national database 5. Expanding sediment labs in sub-basins
Water resource planning at basin scale	<ol style="list-style-type: none"> 1. Applied water evaluation and planning (WEAP) model in two river basin authorities (RBAs) 2. Knowledge base developed 3. Geo database for two RBAs developed 4. Five-year action plan developed 5. Strategy planned 6. Transboundary technical unit established 7. Water research unit established 	<ol style="list-style-type: none"> 1. River basin planning model to determine sectoral demand 2. Expanding the WEAP model in other RBAs 3. Upgrading existing models based on generated data 4. Developing transboundary water policy
Water information system	<ol style="list-style-type: none"> 1. Hydro-met database 2. Water information system through 5 river basins and 35 sub-river basins 3. Draft of hydro-met data and information sharing policy 4. Report of precipitation distribution 	<ol style="list-style-type: none"> 1. Hydro-met database in each sub-river basin 2. Data and information sharing through website and 3. Proper mechanism for water information sharing
Regional cooperation	<ol style="list-style-type: none"> 1. Transboundary water unit 2. Water law department for water policy and treaty 3. Cooperation between Afghanistan and Tajikistan 	<ol style="list-style-type: none"> 1. Expansion of regional cooperation

Ministry of Foreign Affairs (MoFA)

The Regional Cooperation Directorate (RCD) in the Ministry of Foreign Affairs of the Islamic Republic of Afghanistan was established in 2011 to promote regionalism in the Afghan foreign policy and lead, coordinate, and facilitate regional initiatives, processes, and organizations to which Afghanistan is a party. It manages the work of all regional processes and organizations as well as all trilateral, quadrilateral, and multilateral relations of Afghanistan in the surrounding regions.

RCD fulfills comprehensive programmes/activities for strengthening regional cooperation. To this end, RCD takes necessary steps towards deepening confidence between regional states as a means of improving and strengthening regional cooperation and integration. The RCD's activities include but are not limited to:

- Establishing a commission to design, develop, and implement regional cooperation policies in Afghanistan.
- Organizing conferences and consultative meetings with regional cooperation-related government and non-government organizations.
- Organizing conferences and meetings at various levels with regional states, particularly with participating and supporting countries of the Heart of Asia-Istanbul Process, to lead and oversee regional cooperation policies.
- Institutionalizing the Heart of Asia-Istanbul Process in political, cultural, social, and economic forums in the region, and developing an implementation mechanism.
- Creating a follow-up and coordination mechanism for encouraging national and international organizations towards promoting regional cooperation, enabling Afghanistan to play a central role in regional integration.
- Enhancing the role of Afghanistan in regional organizations and multilateral frameworks through active participation in regional cooperation-related meetings, gatherings, and conferences.

National Environmental Protection Agency (NEPA)

The National Environment Protection Agency (NEPA) was established in January 2005 as an independent agency to protect the environment and is present in all 34 provinces in Afghanistan. NEPA has a policy-making role and works in coordination with the ministries, coordinating environmental issues at national and international levels. NEPA focuses on conservation of urban environment (e.g., sustainable development or approved environmental social impact assessment), environmental inspection (control of all activities which affect urban environment), and conservation of natural environment such as national parks, protected areas, and forest, also for conserving water quality. On institutional arrangements, NEPA is guided by the Environmental Law, Chapter 5 – “Environmental consideration relevant to water resource conservation and management” – Article 34 on “Management of water resources”, and Article 35 on “Preventing and remedying effects of pollution of water resources”. Some of the key activities include technical survey of glaciers in the Wakhan Corridor, water conservation considered in the development of the Wakhan National Park Management Plan, and public outreach on water conservation in Wakhan. NEPA is also involved in Strengthening Watershed and Irrigation Management (SWIM), a USAID project (five years, approximately USD 50 million) in six provinces of North Afghanistan. In the future, NEPA plans to focus on water conservation both upstream and downstream. NEPA plans to engage international donors on water management and water conservation and continue coordination with relevant ministries on water conservation-related issues.

The following table lists the existing and required WRM capacity of NEPA.

Particulars	Existing	Required
Water availability assessment	No	Improved coordination and oversight capacity
Cryosphere monitoring	No	Close coordination with relevant agencies and ensuring policy is properly implemented
Flood monitoring at local level	No	Capacity building and public outreach tools and equipment
Water resources management	No	Experts to bring synergy procedures and guidelines
Water resources planning at basin scale	No	Experts to bring synergy procedures and guidelines
Water information system	No	Close coordination amongst the stakeholders
Regional cooperation	Yes	Capacity building and impact studies

Kabul Polytechnic University (KPU)

KPU is an engineering and technology university in Afghanistan, established in October 1963 in District 5 of Kabul City that has eight faculties. The Water Resources & Environmental Engineering faculty was established in 2013 with three active departments – Hydraulics & Hydro-technical Structures (12 members), Water Supply & Environmental Engineering (9 members), and Dedicated Economy and History (6 members). Two more departments – Irrigation Engineering and Water Resources Management – are being established.

Some of the most important needs for capacity building and development, especially in the Water Resources & Environmental Engineering faculty of KPU, were identified as follows:

- Curriculum development
- Laboratory equipment and facilities
- Strengthening library/teaching materials
- Capacity building of lecturers in WRE and teaching methods
- Knowledge sharing with universities

Kabul University (KU)

Kabul University is one of the oldest and largest universities and institutions of tertiary education in Afghanistan with 22 faculties and over 80 departments. Under the Geo-Science faculty, the Hydrometeorology Department was established in 1996 and is equipped with a GIS Lab, Met Lab, and Hydrology Lab. The Hydrology and WRM Department will be established in 2019.

Kabul University identified the following capacity-strengthening needs:

- Development of curricula for Hydrology-IWRM Department, informed by needs analysis of ministries
- Strengthening library/teaching materials
- Knowledge exchange with other universities
- IWRM lecturers
- Demo site in IWRM
- Guest lecturer seminar series government and non-government agencies
- Internship of academics into ministries (to understand the 'operational' environment)
- Advanced hydrological modeling
- Advanced GIS and RS

Aga Khan Agency for Habitat (AKAH) – Afghanistan

AKAH has a presence throughout the country, engagement with government line ministries, cross-border and regional existence and expertise, experiences, and good practices in the region. AKAH is implementing the Pakistan Afghanistan Tajikistan Regional Integrated Programme (PATRIP) early warning system. The project aims to improve integrated weather monitoring systems in Afghanistan at the national level by working closely with ANDMA and MEW. It plans to develop community SMS-based early warning systems in the cross-border regions of Afghanistan and Tajikistan in three districts of Shughnan, Nusai, and Maimai. The main donor is KFW through PATRIP Foundation from 2016 to 2018.

The following capacity-strengthening needs for AKAH were identified.

Particulars	Existing	Required
Flood monitoring at local level	<ol style="list-style-type: none"> 1. Hazards assessment 2. Hazard risk maps 3. Village development management plan 4. Establishment of CERT 5. Establishment of community hub and sub stockpiles 6. Installation of EWS (ICIMOD and MEW) 7. Implementation of mitigation project at community level 	<ol style="list-style-type: none"> 1. Hazards assessment — synchronization and calibration with key stakeholders 2. Hazard risk maps — integration of findings with broader finding studies at higher level 3. Integration of remote hazards 4. Establishment of CERT — institutionalization and linkages with relevant key stakeholders 5. Establishment of community hub and sub stockpiles — increasing the number of community-level stockpiles 6. Installation of EWS (ICIMOD and MEW) — further replication of model
Regional cooperation		<ol style="list-style-type: none"> 1. Focus on institutional and human resources capacity strengthening: 2. Cooperation and coordination with key stakeholders 3. Expand AKAH's expertise areas (e.g., habitat improvement, WRM, land use planning, relocating at-risk population) 4. Transboundary hazard risk identification and mapping Implementation of macro mitigation project

Discussion:

Mr Samim Zamarai, DFAT Australian Embassy in Kabul, and Mr Mohammed Hassan Faizee, MoFA, expressed their full support of the programme, highlighting the importance of building the technical and institutional capacity of Afghan agencies on WRM.

Some of the queries raised and clarifications made in the plenary were:

- Roles of institutions in WRM, e.g., MoFA and MAIL, regarding water law
- MoFA and MAIL are involved in checking whether programmes are in line with the policies, but do not have executive authority.
- Role of NEPA as a regulatory authority and its role
- The SDGs need to be considered while designing activities, and reported accordingly to the Ministry of Economy, the highest agency reporting on SDGs in the country.
- MoFA oversees regional cooperation; other six areas are not applicable.

In addition, some of the gaps and limitations discussed were:

- The universities have less focus on research but more on lectures and teaching because there is a capacity gap to conduct scientific research and it is a challenge to get specialists in the university system.
- Placement of students in ministries and other government agencies has been reduced to approximately five days which is not sufficient for learning and gaining practical experience and knowledge.
- Universities like KU and KPU mainly focus on the natural science aspects while they need to consider aspects such as water diplomacy, water use engagement, etc. However, the capacity of universities to conduct courses on those subjects needs to be assessed.

Session 4 – Interactive Session: Exploring Opportunities

Day 2 of the workshop started with a brief recap of the previous day's programme, followed by a request to the participants to suggest a suitable name for the project. The suggestions were collected and presented on Day 3.

Ms Caroline Mills, from the Australian High Commission, New Delhi, chaired the session on exploring opportunities, and Mr Birendra Bajracharya from ICIMOD was the rapporteur.

The session had three presentations (Annex 3) followed by a world café-style discussion on the potential seven thematic areas of WRM to discuss and outline major activities for the two-year project.

Presentation 1: “Theory of Change” and Result-based Management – Ms Lalu Kadel, ICIMOD

The session began with the question, “What do you understand by theory of change?”

The participants brainstormed and shared their views, as follows:

- Logic of interventions
- To reach a goal – defined step by step
- Logical steps for achieving the goal of the project
- Example – use of water – its improvement at every level
- Improvement in quality of life
- How and why we want to change? Moving towards desired and expected change
- The contribution of “who” at different levels for impact
- The efficiency of operation, improved communication, level of actions with factors and actions leading to increased interventions
- Skills and practices of decision makers



The concept of theory of change was further explored with the question, “Why and how is desired change expected in a certain context?” and made more explicit in terms of identifying the types of activities or interventions that may lead towards the achievement of the intended outcomes. Ms Kadel said that developing capacity, whether midterm or long term, and adopting strategies such as on-the-job trainings, is important to bring about desired change. However, there are preconditions for change that need to be monitored continuously to steer the processes towards the intended outcome.

Some of the issues discussed were:

- The challenge of how to institutionalise learnings (e.g., approach, models, practices) while also specifying the field of interventions to measure progress properly and accurately
- The risk of developing individual-level capacity since people may leave the organization and create a gap, thus the importance of knowledge management policy and practices in the institution

Presentation 2: **Gender and Social Equity Dimension in Capacity Enhancement Strategy** – Dr Chanda Gurung Goodrich, ICIMOD

Dr Goodrich started her session by asking participants about their understanding of gender. Some responses from the participants included:

- Role and responsibilities of men and women in a given context
- The social transformation of men and women
- The social and cultural context of human beings as men and women
- State of being male or female
- Role and responsibilities of male and female in a given society

Dr Goodrich shared the concept of gender by explaining that, for any social context it ‘characterizes’ men and women as defined by norms, roles, and relationships and that these may vary across societies and change over time. The concept of social inclusion and equity was presented. In the context of Afghanistan, the participants commented that caste, ethnicity, and religion are not key issues, while education, health (mental or physical), profession, age-vulnerable group, and economic wealth contribute to social exclusion. Awareness, empowerment, and political affiliations are other factors contributing to social exclusion. She further discussed on what gender means in the context of WRM, referring to aspects of water usage, water-induced disasters, management and governance structures, finance, and technologies. The professionals are required to understand the users’ interests, needs, water use, capacities, and vulnerabilities and to respond to attitudes, practices, and technologies. She explained that efficiency and empowerment are two ways to approach capacity strengthening, both having merits and disadvantages.

Some of the comments and queries made were:

- Gender problems are different from WRM problems. It was hence suggested that the two not be mixed so as to allow effectiveness in solving the real problems
- There is a need to consider society and relationships and to consider not only the users of resources but also those who deplete resources.
- Gender equity and social inclusion is a lens required for many projects. In the SDGs, gender equity is a must, in formulating the annual budget and clearly reporting on women’s empowerment and environmental processes.



Presentation 3: **Co-creation of Communication Opportunities in Afghanistan** – Dr Laurie Vasily, ICIMOD

Dr Vasily asked the participants about the processes of using and sharing knowledge and knowledge management platforms. For communication, both internal management and a public face are important. Print media, online media, social media, and communities of practice are various platforms for communications. ICIMOD uses Microsoft 365 and everybody has access to Google and Dropbox.

Some of the issues and queries made were:

- Connectivity and its challenges, including remote partnering
- Whether to create a WhatsApp group for the stakeholders of the project
- Print materials (pictorial) such as posters are more appropriate for user groups and different communities at the grassroots level
- People tend to react more than act on information, hence someone needs to keep track of it and keep it going.
- The most popular social media platform in Afghanistan is Facebook, as its widely used by common people, while Twitter is limited to a small section of communities
- Need to understand and discuss the importance of social media in terms of the kinds of posts and messages



The presentations were followed by a discussion mainly to identify the project's specific activities and strategies for year 1, year 2, and beyond. Following a world café format, the focal person at each table briefly introduced the topic focusing on capacity requirements and the key questions guided the discussion. After the 1st round of discussions, participants moved to another table and topic of interest to contribute ideas and suggestions for activities. Three rounds of discussions were held, and the outputs were shared in the plenary by the focal persons.

Key discussion points followed by the table for each theme (activities for year 1, year 2, beyond year 2) are shown below.

1. Thematic Area: Water Availability Assessment – Dr Santosh Nepal

The following key points were discussed:

- Longer term training on hydrological modeling is needed
- Institutional and technical arrangement to be discussed in the coming two to three months
- Choice of models needs to be identified
- Data availability and quality to be assessed
- On the job training for applying methods and involvement of students will be useful
- Climate change scenario analysis need to be considered

The following activities were identified for Thematic Area 1 – Water Availability Assessment:

Year 1	Year 2	Beyond Year 2
<ol style="list-style-type: none"> 1. Advanced hydrological modeling 2. Choice of models (flexible environment) 3. Institutional/technical arrangement framework (who, where, when, etc.) – require cooperation among many agencies 4. Appropriate modeling environment in the initial two to three months 5. Sector water demands 6. Capacity needs: data availability/quality of data 7. Sustainability of the system – on-the-job training for longer period 8. Climate change scenarios 9. Longer period, e.g., MSc thesis, capacity strengthening 	<p>Water projections under climate change scenarios</p> <p>Water resources basin planning/sub river basin</p>	<p>Model setup and functional</p>

The group also discussed tools for water resource assessment, e.g.:

- Water availability under climate change – training on hydrological models
- Capacity at the river basin-level institutions
- Institutions, technical developments

They further discussed the need to focus on:

- Scenario analysis and projection, climate change, and demand for water – current and future, prioritisation of water supply, assessment of priorities based on population, irrigation expansion, industry
- Physical infrastructure: current and its efficiency and improvements needed
- New infrastructure and equipment
- Link through to regional cooperation

The group also discussed virtual water, monitoring of groundwater (knowledge gap in its monitoring) and surface water, recommendations for system and transboundary projections, city-level consumption, and aspirations for an atlas of groundwater for Afghanistan.



2. Thematic Area: **Cryosphere Monitoring** – Dr Anna Sinisalo

The following key points were discussed:

- There are a lot of existing data and stations and there is a need to look at the quality and identify gaps
- Ongoing remote sensing work should be continued and other components of cryosphere – snow and glacier lakes – need to be looked at
- On regional training on glacier monitoring, Afghanistan colleagues need to be connected from the beginning.
- Strategies for benchmark glacier need to be identified, such as selection criteria, representativeness of the glacier
- Field-based monitoring needs long-term commitment
- Combine remote sensing data with field measurements for validation
- Assess cryosphere contribution to river runoff and establish-long term cryosphere monitoring programme

The following activities were identified for Thematic Area 2 – Cryosphere Monitoring:

Year 1	Year 2	Beyond Year 2
<ol style="list-style-type: none"> 1. Successful examples of integrated river basin management 2. Co-development including stakeholders 3. IRBM – problems and WRM/issues 4. Stakeholder participation for water resource planning and development (MEW, MAIL, WRD, NEPA, etc.) 	IRBM training	Replicate in other river basins

The group also discussed issues such as:

- Mid-term and long-term capacity
- River basin-related agencies (and sub-basin level)
- IRBM approach required
- Bringing on board the Ministry of Education regarding the curriculum
- Water management at the river basin scale
- Measurable deliverables



3. Thematic Area: **Flood Monitoring and Early Warning** – Dr Neera Pradhan

The following key points were discussed:

- Importance of multi-hazard approach
- Upscaling of EWS and comprehensive assessment of flood platforms
- Catchment management
- Enabling environment for policy support
- Methodology for flood assessment at national level, comprehensive assessment of methodology in year 1
- Co-working and co-learning, hands-on and on-the-job training on EWS, exposure visits
- How to link with longer-term goals
- Platform for policy
- Mitigating measures
- Website for flood disasters – who will be the authority
- Co-creation of knowledge
- Linking all actors in EWS
- Training on flood forecasting

The following activities were identified for Thematic Area 3 – Flood Monitoring and Early Warning:

Year 1	Year 2	Beyond Year 2
<ul style="list-style-type: none"> • Pilot a comprehensive assessment of occurrence of the flood (which rivers – national, province level, etc.) and methodologies of flood assessment • EWS at the community level (upscale) • Hands-on training for relevant agencies • On-the-job training for institutes working on EWS and then communities • Site visit and exposure visits for learning • Training on flood forecasting (pilot) and modeling • Proper model + on-the-job training to reach some outputs 	<ul style="list-style-type: none"> • A platform of actors for policy support (MEW + AMD, ANDMA) • Mitigation (flood) measures • Website for flood disaster • Designing (conceptual) of the flood EWS through river basins in the MEW (linking riverine – MEW) • Engaging with different actors – on-the-job co-creation of knowledge 	<ul style="list-style-type: none"> • Improved planning on EWS • Catchment management, landscape management (watershed) • Enabled support for policy related to EWS • Assessment at the national level, e.g., with the model pilot approach



The group also discussed and suggested the roles that different partners could take:

MEW (at central level – giving information):

- Flood and drought section
- River basin and sub-river basin
- Riverine flood and drought forecast
- Hydrological forecasting
- Sending the analysis report at the central level

ANDMA:

- Transfer of message from MEW to communities at provinces
- Preparedness
- Post crisis/emergency
- Disaster preparedness committee – linked with river basin general directorate (5) and sub-basin directorate (35)

Afghanistan Meteorology Department:

- Flash flood forecast – share the report with ANDMA who in turn can disseminate the information to communities

The group discussed different issues for flood monitoring and EWS in Afghanistan, such as multi-hazard approach, flash flood, flood, avalanches, landslides/debris flow, and drought. Also, the approach was discussed in terms of possibilities to upscale the CBFWS, a comprehensive assessment (flood) and mapping, explore platforms and flood forecasting.



4. Thematic Area: Water Resources Management – Dr Santosh Nepal

The following key points were discussed:

- IWRM modules training to take place in Year 2
- Inclusion of successful examples
- River basin agencies at sub-basin level need to be considered
- Co-development of modules including stakeholders to identify which issues to include in IWRM modules

The following activities were identified for Thematic Area 4 – Water Resources Management:

Year 1	Year 2	Beyond Year 2
<ol style="list-style-type: none"> 1. Successful examples of integrated river basin management 2. Co-development including stakeholders 3. IRBM – problems and WRM/issues 4. Stakeholder participation for water resource planning and development (MEW, MAIL, WRD, NEPA, etc.) 	IRBM training	Replicate in other river basins

Other issues discussed were:

- Mid-term and long-term capacity
- River basin-related agencies (and sub-basin level)
- IRBM approach required
- Bringing on board Ministry of Education – regarding curriculum
- Water management at river basin
- Measurable deliverables

5. Thematic Area: **Water Resources Assessment at Basin Scale** – Dr Carmel Pollino

The following points were discussed:

- Scenario analysis for projections of current and future demands
- Assessing priorities and making trade-offs in decision making
- Importance of understanding groundwater and surface water systems
- Need to go beyond Kabul and outside of current project
- Assessment of current and future infrastructures scenario
- Link to regional cooperation to use information
- Importance of on-the-job training
- Understanding what currently exists
- Methodological framework for the assessment and analysis of decision making
- Potential for a sustainable decision support system for the future

The following activities were identified for Thematic Area 5 – Water Resources Assessment at Basin Scale:

Year 1	Year 2	Beyond Year 2
<ul style="list-style-type: none"> • On-the-job training • Understanding: <ul style="list-style-type: none"> ○ What is currently used in Afghanistan ○ What other options may add value ○ Different tools – across institutions • Methodological framework for assessment – coordination, data, measurements, scenarios • Bridge across tools within government – focus on decision, technical and organizational solutions • Hydrological information system – forecast for decision, e.g., irrigation • Groundwater and surface water 	<ul style="list-style-type: none"> • IWRM planning tools for decision support system (DSS) – water demand, water accounting + water economics – tools for different uses • Framework methodology for integration of tools (overarching) • Enabling use of tools for policy • Coordination of activities between ministries 	<ul style="list-style-type: none"> • Projection: integrated system, seasonal forecasting, flood monitoring, sustainable system for future • DSS • Groundwater atlas



6. Thematic Area: **Water Information System** – Dr Susan Cuddy

The following key points were discussed:

- Stakeholder assessment – what already exists
- Appropriate agency to play the overarching role – supreme council
- MEW responsible for dissemination of information
- Flood and risk information
- MEW using Aquarius system

The following activities were identified for Thematic Area 5 – Water Information System:

Year 1	Year 2	Beyond Year 2
<ul style="list-style-type: none"> • An inventory of institutional data stores (and what is known to be missing) • Stakeholder analysis – their info needs, data requirements, reporting “type” (prioritised by water agencies and what is needed for national-level reporting) • Identify gaps in data and/or quality, and where synergies could be found 	Establish Afghanistan water information system (pilot)	Functional water information system

Other discussion points were:

- The Supreme Council on Land and Water (SCLW) was identified as an appropriate body for centralising this work, served by its technical committee. The SCLW has purview over most if not all the relevant government agencies.
- Information needs: The big need is for IRBM planners who can operate across sectors, considering water availability and water needs when planning for urban development. For example, multiple master plans are being prepared by departments without considering water needs.
- Risk/hazard reduction information must be linked with whether to provide alerts, especially to the communities that may be affected. In cities, information could be delivered through the internet and social media. In rural areas mobile phones (text and voice) are helpful since many people cannot read, but mobile coverage is not universal. Use of television and radio could be explored to deliver the messages more widely.
- The use of standards to describe data so that it can be exchanged/shared between sectors and kept in a central repository, which requires five to six programmers and a few people who understood the data to get this underway.



7. Thematic Area: **Regional Cooperation on WRM** – Dr Arun Shrestha

The following key points were discussed:

- Study for good understanding of resources and needs in upstream and downstream
- Transboundary water resources studies, including international water laws, could start as an academic exercise
- Good information system
- Understanding what is needed for Afghanistan
- Science dialogue to prepare Afghanistan for higher level
- UIB Network (UNIB-N) in place and need to think of others
- Foundation for awareness
- University curricula
- Transboundary landscape approach for regional cooperation framework which could be explored for water resources

The following activities were identified for Thematic Area 7 – Regional Cooperation on WRM:

Year 1	Year 2	Beyond Year 2
<ul style="list-style-type: none"> • Joint study on transboundary WRM, e.g., how much water we have, how much water we need and tracking the two processes (academia) • Research on shared river basins – according to international river laws • Join relevant regional and international organizations – what are the relevant management information systems? Create awareness of benefits and impacts • Institutional strengthening related to water information 	<ul style="list-style-type: none"> • Science dialogues, e.g., UIB-N and others to continue • Policy-maker awareness programme, including interactions and discussions 	<ul style="list-style-type: none"> • Foundation for cooperation – education – focus on curriculum development, water diplomacy

To conclude the session, participants were asked to suggest three issues in need of urgent attention. They suggested the following:

1. Hands-on training and co-creation are the important approach. Need to understand the scale of intervention.
2. The project should pave way for further interventions beyond year 2.
3. It is difficult pinpoint transboundary water issues and related concrete objectives. The topic is considered highly sensitive. Hence, there is the need to create awareness and a platform for discussion in order to bring about acceptance of this sensitive subject.



Session 5 – Working Session: Partnership Building

The session on partnership building was chaired by Mr Farhad Noorzai, Director of Water Programmes, MEW, Government of Afghanistan. Ms Lalu Kadel from ICIMOD was the rapporteur.

Mr Santosh Raj Pathak of ICIMOD initiated the session with the question “What is partnership?”. In response, the participants said that they see partnership as mainly adding value to one another through cooperation. Mr Pathak then presented on partnership as a means of project implementation, discussing considerations for managing and maintaining partnerships. Partnership was defined as “an ongoing working relationship where risks and benefits are shared”. Some of the fundamental characteristics of partnership discussed were:

- A common purpose
- Shared and individual interests
- Co-creation of design and solutions
- Sharing risks and benefits
- A commitment to mutual accountability
- A principled approach to working together

The session included group discussions. After each discussion, group outputs were shared in the plenary, followed by clarifications.

Partnership and Its Value Addition: Benefits/Drivers, Contributions, and Role

Group discussion findings related to partnership and its value addition for project implementation were presented in the plenary as follows:

The guiding questions for discussion were:

1. What are our drivers/benefits for partnership?
2. What is its contribution to the implementation of this project?
3. What are the possible synergies with other programmes implemented in Afghanistan?



Group	Drivers and benefits from partnership	Areas of contribution/ how to contribute	Lead/Supporting roles
Group 1: MoFA + KPU+KU	<ol style="list-style-type: none"> 1. Prepare an applicable plan and strategy 2. Share knowledge facilities for specific purpose 3. Divide activities between each other, based on capabilities and interests 4. Provide support and control during implementation 	<ol style="list-style-type: none"> 1. Water availability assessment 2. Cryosphere monitoring 3. Flood monitoring 4. WRM 5. WR planning at basin scale 6. Water information system 7. Regional cooperation 	<ol style="list-style-type: none"> 1. MEW (lead) KPU, KU, ICIMOD (supporting) 2. Same as 1 3. Same as 1 4. MEW/MAIL (lead) KPU, KU, ICIMOD (supporting) 5. Same as 4 6. Stakeholders ministry (lead) KPU, KU, ICIMOD (supporting) 7. MoFA/MEW (lead) KPU, KU, ICIMOD (supporting)
Group 2: MAIL + NEPA	<ol style="list-style-type: none"> 8. Support for sustainability 9. Coordination and cooperation 10. Cost effectiveness of the project 11. EWS to save community life 	<ol style="list-style-type: none"> 1. Accurate information for support 2. Support other institutions working in this sector 3. Can provide HR, monitoring data, map, field activities and measurement 4. Regional cooperation 	<ol style="list-style-type: none"> 1. MEW (lead) 2. MEW (lead) and ICIMOD (supporting) 3. MEW, MoFA, ICIMOD, for regional cooperation
Group 3: MEW + ANDMA + AKAH	<ol style="list-style-type: none"> 1. Material/resource support 2. Value respect for knowledge 3. Proper service delivery 4. Bring new opportunities 5. Sharing the risks 6. Complementary to each other 7. Trust 8. Better productivity 9. Better cooperation and knowledge exchange 10. Cost effectiveness 11. Achievement of integrated goals <p>Drivers of MEW: Effective EWS</p> <ol style="list-style-type: none"> 12. Generating reliable data and information 13. Institutional support for EWS 14. Flood management and forecasting 15. Water balance assessment 	<ol style="list-style-type: none"> 1. Water availability – data collection, HR, provide data/office space 2. Cryosphere monitoring – HR, required data, office space, field facilities 3. Technical Assistance for Flood monitoring at local level – HR, data/information, model 4. WRM – data, infrastructure, HR, map, river line, field activities 5. Water Resource Planning at Basin Level – data, report, HR 6. Water information system – information, report/data 7. Regional cooperation – HR 	<ol style="list-style-type: none"> 1. MEW (lead) AKAH, USAID, ICIMOD, JICA, GIZ, MAIL, FAO (supporting) 2. MEW (lead) AKAH, ICIMOD, NEPA (supporting) 3. MEW-DP, ANDMA (dissemination lead), AMD (weather forecast lead) AKAH, ICIMOD, World Bank, JICA (supporting) 4. MEW (lead) MAIL (supporting) 5. MEW (lead) GIZ, USAID (supporting) 6. MEW/WRD (lead) JICA, ICIMOD, World Bank (supporting) 7. MoFA (lead) MEW, MAIL, NEPA, AKAH, ICIMOD, World Bank, ADB (supporting)
Group 4: ICIMOD	<ol style="list-style-type: none"> 1. Opportunity to work in Afghanistan 2. Engendering WRM 3. Extend work in western region 4. Variability in work 5. Can contribute to 1–7 thematic areas 	<ol style="list-style-type: none"> 1. On the job training 2. Co-generation 3. Data quality control 4. Remote sensing-based materials 5. Hands-on training/exposure visit on EWS 6. Basin scale planning 7. Data info system 	Relevant government organization in Afghanistan ICIMOD
Group 5: Government of Australia + CSIRO	<ol style="list-style-type: none"> 1. Respectful partnership with Afghanistan 2. MOUs – women empowerment is key 3. Education, mining and energy 4. Public financial management 5. Agriculture and water - Share the responsibility of maintaining the partnership between Afghanistan and Australia 6. Remote partnering 	<ol style="list-style-type: none"> 1. Use of standards and lessons learnt 2. Co-creation of knowledge products (with ICIMOD) 3. How to integrate data from multiple collection points to overarching national level 4. WAA/WRM – support ICIMOD on cryosphere, on detail analysis within basin and link to between scales of assessment 	

The following proposals were discussed:

1. MEW as focal institution for CBFEWS
2. MEW, MAIL, and MoFA as focal institutions for WRM
3. University, ICIMOD for technical support
4. MoFA for regional cooperation
5. Government of Afghanistan to support the project

Managing and Maintaining Partnership: Challenges/Risks and Ways to Address them

The second group work was on managing and maintaining partnerships. The group was composed of representatives from various organizations. The guiding questions for discussion were:

1. What could be the potential challenges and risks for this project?
2. What could be the possible ways to address the identified challenges and risks?

Group findings on the challenges/risks and ways to address these are presented in tables below.

Group 1 Findings

Challenges	Ways to address the challenges
1. Commitment vs. compliance	1. More interaction, meetings, consultation, confidence building (transparency, accountability, and trust)
2. Lack of knowledge	2. Trainings, capacity building, knowledge sharing and communication
3. Governance structure in different agencies	3. Engaging likeminded people, advocacy and lobbying
4. Multicultural background	4. Respect, value, sensitivity, awareness
5. Turnover of human resources	5. Motivation, keeping track for better opportunities, reward and recognition
6. Insecurity and inaccessibility	6. Aware people, situational awareness
7. Insufficient data	7. Highlight importance of data and equipment, data flow and management
8. Low cooperation and willingness	
9. Change in government (Risk)	
10. Community engagement and acceptance	
11. Poor maintenance of equipment	
12. Major disasters (Risk)	

Group 2 Findings

Challenges	Ways to address the challenges
1. Field trip	1. Coordinate with security agencies, select more accessible basin for project
2. Insufficient information (historical)	2. Reanalyse data of WRD, select basin with more information
3. Inadequate hydro-met ground observation	3. Using satellite data, select basin with more data
4. Continuity of HR for capacity building	4. Identify the group and get approval to be engaged throughout the whole project
5. Limitation of international expertise in Afghanistan	5. Select neutral country for capacity
6. Sensitivity of transboundary information sharing	6. More dialogue and discussions + trust building
7. Lack of information-sharing mechanism and facility	7. Develop information system
8. Low accuracy of models	8. Better calibration and validation
9. Reporting	9. Agree on reporting system
10. Time management	10. Develop work plan

Group 3 Findings

Challenges	Ways to address the challenges	Risks
1. Lack of studies/research articles	Generate articles as part of the project and share these Provide good methodologies that can be replicated	
2. Confusion about the focus of the project	Process underway	
3. Energy/food left out of the WEF-Nexus	Activities of project needs to relate to once another clearly and take into consideration end users	No on-the-ground results from this project
4. Lack of clear roles and responsibilities among the partners (who leads?)	Analysis of whether activities are consistent towards project goals Study legal documents to ensure full understanding of every and each partner	We will still be having same conversations in future, clarity needed.
5. No engagement of private sector and civil society		
6. Political challenges in transboundary issues		

Group 4 Findings

Challenges	Solutions for challenges	Risks
1. Duration – quite short	Separate project from partnership	Goals not met
2. Multiple stakeholders / partners and interests	Liaison between agencies	Duplication, overload communications
3. Dispersed activity / efforts (multiple agencies in sectors)	Liaison between agencies	Duplication Conflict of interests – competing and complementing
4. Security (a constraint)		
5. “Right” people for the “right” training (culture of rotation)	Comprehensive training programme to schedule engagement Liaison between agencies	Technical training by CV and invitation
6. Data sharing (especially transboundary)	Valuing “informal” data provisioning arrangement	
7. Draft policy, data sovereignty		
8. Communications	Request to ICIMOD’s knowledge and communication unit	
9. The means (e.g., models, workshops) becomes the end	Always remind ourselves of the overarching objective	

Group 5 Findings

Challenges	Ways to address the challenges
1. Coordination amongst stakeholders	1. Clarify the roles/responsibilities and mechanisms for better coordination
2. Accessibility	2. Have focal points from each stakeholder
3. Data collection/sharing	3. Better planning
4. Logistics/operational	4. Online database system (sustainable and integrated)
5. Partners commitment	5. Partners support
6. Sustainability of the established system	6. Engagement of partners from beginning and addressing their interest
Risks	7. Road map for the sustainability of system, ownership of the system by relevant organisations/(government)
7. Security, transportation to remote areas, and accessibility	

Remote Partnering

Dr Neera Shrestha Pradhan, ICIMOD, discussed exploring opportunities within the remote partnering approach. She talked about how to maintain relationships, solve problems and manage the project, when there are no/limited opportunities for face-to-face meetings, and how to share experiences so that partners can see and feel them. She explained that remote partnering can be made less challenging by taking into consideration factors such as the working culture/practices, time, language, technology use, and communication mediums (e.g., Dropbox, Google Drive, Audio, record, Outlook, etc.).



Some of the suggestions for effective remote partnering include:

- Be properly prepared – plan well for the contact time you have: “What do I want to share? What do I need from this exchange? How will I convey the things that matter? How can I help others understand my dilemmas?”
- Be intentional/purposeful: “Why are we connecting? How can we maximise this opportunity? What specific outcomes do we want/need?”
- Ignite all the senses: find ways of tuning in (using stories, games) that will help to compensate for the realities of working long distance
- Think in images/build pictures: explore through metaphors, visioning, and context-specific examples to convey facts, mood, and sense of significance
- Move between stepping back and stepping up (leadership) as and when the time is right
- Use questions to achieve more: challenge assumptions and be open to thinking differently
- Take your full share of responsibility for collective decisions, results, actions, and outputs

There were some comments and discussions on the challenges and opportunities for remote partnering in this project and the ways to address them, with a “fit for purpose mechanism” to engage with partners. The key points of the session were the following:

- A clear mechanism needs to be developed and documented for internal and external communication
- A clear working mechanism and plan is needed since remote partnering limits the frequency in-person meetings and conducting face-to-face activities
- Roles and responsibilities need to be made clear
- A functional monitoring and evaluation system for the project needs to be established
- A steering committee is needed to strategically coordinate and steer the project towards the outcome
- Quality report and reporting
- Ensuring sustainability of training – sustaining the results of interventions
- Compliance with Afghanistan laws and rules

Success Indicators for the Partnership

A discussion to identify possible success indicators for partnership was held, and participants responded as follows:

1. Clarity on future strategies and actions beyond Year 2
2. Eighty percent of project objective/outcome is achieved
3. Well-established and functional partnership engagement mechanisms
4. Appropriate work management model and applications available
5. National partners explore opportunities to transform the project outcome towards a longer-term engagement with other relevant stakeholders

The day closed with a reception dinner hosted by Dr David Molden, Director General, ICIMOD.

Session 6 – Closing Session: Consensus Building

Day 3 started with a brief recap of the previous day and review of the agenda for the day. The closing session was chaired by Dr David Molden, Director General of ICIMOD. Dr Laurie Vasily from ICIMOD was the rapporteur.

Dr Molden said that the focus of the two-year programme is to reach to a certain level of results that will provide future direction. Capacity building is a large part of this project; however, it needs to be designed and carried out so it results in strengthened institutions. As there are many actors in Afghanistan, the project needs to be strategic in its contribution. The goals are to be set by Afghanistan, and through a co-creation process, ICIMOD provides a platform of support while the Afghanistan Government is in the driver's seat, Dr Molden said.

Ms Caroline Mills, shared her observation on minimal use of water bottles in the conferences, and this idea has been operationalized in the workshop. She emphasized the consciousness among partners to reduce use of plastic and understand where water comes from.

Dr Molden facilitated the discussion on governance mechanism and key guiding principles for the project, referring to the draft outline proposed on the same. The participants were asked to review the proposed content of the governance mechanisms and key principles and to provide suggestions for improvement.



Review of the Document on Governance Mechanism and Guiding Principles

The revised draft version of the document, based on suggestions made during the workshop, is presented below.

Governance Mechanism

1. Project modality:

- The project will be considered a joint project between the Governments of Afghanistan and Australia, CSIRO, and ICIMOD targeting the capacity enhancement of key ministries working on water resources management, i.e., MAIL, MEW, and MoFA in Afghanistan

Agreed:

- To use the logo of the Government of Afghanistan (upon endorsement from the MoFA, MAIL, and MEW) with the logos of the Government of Australia, ICIMOD, and CSIRO. 2. **Steering Committee (SC):**
- Co-Chair: Dr David Molden (ICIMOD) + Deputy Minister or highest-ranking representative (Government of Afghanistan)
- Secretary: Regional Programme Manager-RP3/Programme Coordinator WRM-A (ICIMOD)
- Members: Representatives from MoFA, MAIL, MEW, DFAT, CSIRO, ICIMOD

Agreed:

- SC will meet three times in the project period – the first meeting around June 2018 (back to back with the quarterly Technical Committee meeting)
- SC will provide overall guidance to the project
- The terms of reference (ToR) of SC and nomination of representatives will be finalized soon
- Dedicated time and space on partnership in the 1st technical meeting, to be followed up by “health check-ups”

3. Agreed renaming to Technical Coordination Committee (TCC) from Advisory Committee:

- The formulation of this committee consists of technical experts from MoFA, MAIL, MEW, DFAT, CSIRO, and ICIMOD
- Chair: Rotation basis?
- Secretary: Programme Coordinator WRM-A
- TCC will provide technical support to implement the project

Agreed:

- TCC will meet at least quarterly and should be face-to-face – spend extra time on partnership even if its one extra day at the beginning then subsequent meetings can be health checks.
- The last quarter meeting will be back-to-back with SC, and review and planning meeting.
- The ToR of TCC to be drafted first and nomination of representatives to be finalized at a later stage
- PMU to interact closely with the TCC
- Add NEPA in the TCC

4. Operational focal person:

- Each institute will nominate a focal person to facilitate day-to-day operational issues and contact on a regular basis.
 - MEW, MAIL, MoFA, DFAT, and CSIRO will be nominating their focal persons soon
 - ICIMOD: Programme Coordinator/WRM-A (Kathmandu office) with support from PO/WRM-A or Waheedullah (Kabul office)

Agreed:

- Propose a plan for increasing clarity on the roles and responsibilities of different partners during the implementation
- Indicate the frequency of meeting of the operational focal points
- Draft the ToR of the different committees and decide the operational focal person

5. Review and planning modality:

- The project will set a mechanism (remote partnering approach) for the half yearly and annual review and planning meeting
- The annual review and planning meeting will be back-to-back with SC and TCC meeting on the last quarter of the year

Agreed:

- TCC to have a detailed operational review once a year and as per need

6. Shared responsibility for result monitoring and reporting:

- Implementing institutions will be regularly monitoring and reporting progress for reflection and shared learning.
- A consolidated report will be prepared at least twice a year in order to inform review mechanism for which a format will be agreed amongst project partners

Agreed:

- Operational focal persons need to flag issues immediately – make this clear in ToR
- Reporting two times annually
- MEW to be the core focal contact agency
- SC should decide whether MEW is playing the lead role well

Revision on the Guiding Principles

1. Common vision:

- All the partners will work for the common outcome and output of the project as defined in the project document which will be prepared with inputs from the inception workshop

Agreed:

- The Government of Afghanistan is to take the lead to explore synergy with other projects (globally and regionally) in Afghanistan for the sustainability and visibility of SWaRMA

2. Work division:

- The division of work amongst the partners will be organized according to their respective expertise and comparative advantages, their ability to further the project, their experience, and their readiness to integrate and operationalize cross-cutting issues
 - Government of Afghanistan (MoFA, MAIL, MEW): Support timely nomination of relevant participants for the implementation of activities; participate in relevant capacity enhancement and regional cooperation strategies offered by the project; link project activities with follow-up actions (result-based output) and with respect to larger Afghanistan landscape
 - Government of Australia: Support and explore further opportunities to expand the project; provide technical inputs as and where required
 - CSIRO: Provide technical inputs; provide timely project updates as and when required or requested; closely work with ICIMOD to organize events
 - ICIMOD: Work as a secretariat for the project; provide technical inputs; organize events as guided by the project document

Agreed:

- Agree to have clear roles and responsibilities of partners, within four months, defined through a partnership workshop

3. Project management:

- For the implementation, a Project Management Unit with the role of coordination, monitoring, and regional consultation will be created at ICIMOD. The Unit will be responsible for the administration of the financial resources (for ICIMOD) and overall reporting of the project as guided by the project document

Agreed:

- Project management to include technical and management support
- More clarity through ToR

4. Communication:

- The formal discussions and decisions taken amongst the partners are to be duly documented and shared among the partners by ICIMOD
- Publications made under the project will be clearly identified as the product of the WRM-A, where the authors involved will be duly identified and/or acknowledged
- Publications produced under the project will be open access, and copyright may be jointly held among contributing partners
- The project will have a common website (hosted by ICIMOD), which is a satellite to the websites of the partners. The logo and the appearance of the project will follow the layout and branding of ICIMOD
- Responsibilities for communication (governance mechanism) and accessibility of the co-generated knowledge will be a shared responsibility amongst all partners
- A centralized knowledge depository is administrated by ICIMOD with access for all the partners

Agreed:

- Partners will be acknowledged
- A common website hosted by ICIMOD will be prepared, which will be the satellite to the websites of the partners: The website will follow the layout and branding of ICIMOD and partner logos will be included
- To adopt the principle “as much is feasible, encourage face to face interaction, where difficulties encourage and improve remote partnership through use of technologies for interaction”

5. Partnership approach:

- Jointly address operational risks and challenges to smoothen the project implementation
- Maintain relationships, solve problems, and manage the project, when no and/or limited opportunities exist for face-to-face meetings, e.g., use of technology to remote partnering
- Explore synergy with other initiatives (globally and regionally) in Afghanistan for its sustainability

Agreed:

- Hold face-to-face meetings as much as possible.
- The presence of the project will be maintained in the country and a remote partnering approach will be adopted in case of no/limited opportunities for face-to-face meetings.

6. Commitment:

- The partners guarantee political, institutional, and resources support to the project
- The partners act as champions of the project within and outside their own institution
- The partners always know where their contribution stands and fits into the entire project and commits for long-term results (beyond the project period).

Agreed:

- Adopt the principle of co-creation and co-implementation, and add “we commit to working together as a team to co-create knowledge”.

7. Agreed adding a principle regarding gender (men and women) participation in the relevant areas of expertise

- Inclusion of women participants, university students, and civil society needs to be considered as and when appropriate. However, it's suggested to keep TCC free of observers while outreach activities could include observers.

Naming of the Project and Selection of River Basin

There were two main proposals for the name of the project:

1. Water for Future – Afghanistan – WaFA which received three votes
2. Strengthening Water Resources Management in Afghanistan – SWaRMA, which received nine votes

Criteria for selection of river basins were discussed and a set of criteria was developed (table below). Based on these, the participants from Afghanistan prioritized the basins for intervention. Accordingly, the two most feasible river basins for the programme are Kabul River Basin (26 points) and Panj Amu River Basin (24 points).

Criteria	River Basins of Afghanistan					Total score
	Kabul	Panj Amu	Harirod-Murghab	Hilmand	Northern	
Data availability	3	3	2	0	2	10
Flood and other water-induced hazard in the basin	3	4	1	1	3	13
Accessible and can serve as a demonstration	3	2	1	2	2	10
Presence of cryosphere (snow, glacier, permafrost)	3	4	0	0	1	8

Criteria	River Basins of Afghanistan					
	Kabul	Panj Amu	Harirod-Murghab	Hilmand	Northern	Total score
Transboundary river basin	4	3	2	3	1	13
Community engagement	3	3	2	1	1	10
Population	4	2	2	2	1	11
Past work/ experience on which we can build	3	2	0	1	1	6
Less possibility of duplication	0	2	1	1	1	5
Total score	26	24	12	11	13	

Formal Closing Session

Dr Eklabya Sharma from ICIMOD stated that the Government of Australia, CSIRO, Afghanistan partners, and ICIMOD have worked urgently and actively over the past month to shape and initiate the SWaRMA project. He indicated that in the coming two years this intensity of work, if continued, would help all partners to plan beyond the project period.

Dr Sharma shared the following Agreed Action Plan:

SN	Agreed Action Plan post the inception workshop	Timeframe
1.	Three documents to be produced: (1) Inception workshop report, (2) Project document – revise as per discussion on seven thematic areas, and (3) Work plan for next two years, which will be shared for inputs to and approval by all partners.	Within three months
2.	On governance mechanisms ICIMOD will prepare draft ToR for different committees, which will be based on the previous session.	By 1st meeting of SC and TCC
3.	Operational focal points will be decided for communication. Directors of planning will be on TCC, but operational focus persons may be different, e.g., technical people. Hence the partners are to propose names.	As soon as possible
4.	SC – a policy body, to have at least three meetings in next two years.	1st meeting around June 2018
5.	TCC – should be held at least once in three months, both face to face and/or virtually.	1st meeting back-to-back with the SC
6.	PMU – it is part of ICIMOD, and has a coordinating role, with presence both in Kabul and Kathmandu office. The work will be as of one team.	
7.	Get approval to use the logo for Government of Afghanistan.	Approved
8.	Out of the possible areas of interventions on the seven themes, identify what is feasible in two years. Hence, request all colleagues to be very practical in planning as to have fewer and better activities with clear focus.	
9.	Strengthen staff and, based on the advice from partners, help to engage interns and research assistants for longer term trainings jointly working with partners in Afghanistan. ICIMOD team to offer mentorship.	
10.	Develop a common website: ICIMOD and CSIRO team to look into it and support the development of government websites, in which SWaRMA website will be linked for the sustainability and permanency of information.	
11.	Naming of project: SWaRMA (Strengthening Water Resources Management in Afghanistan)	Agreed
12.	Partnership developed amongst all parties to collectively achieve tangible and visible results that Afghanistan partners will be able to take forward in the future, beyond the two-year project period, which ICIMOD has envisioned for this project.	



Some of the immediate action points are as follows:

1. SWaRMA inception workshop brief
2. SWaRMA inception workshop proceedings
3. SWaRMA project document
4. Terms of reference and members' nomination for SWaRMA SC, TCC, and operational focal person
5. Website for SWaRMA
6. First SC meeting by June 2018 back-to-back with partnership meeting and theory of change

Summarizing the session, Dr Molden highlighted three points:

- Clarity on what is feasible to do in two years, and the need to remain practical while thinking strategically towards the future
- Start of an exciting partnership
- Urgency to get started with implementation of the project

Remarks by Ms Caroline Mills, Representative from Government of Australia

Ms Mills much appreciated the spirit of collaboration and the active discussions. This leads to a critical and solid foundation for the WRM system as discussed with President Ghani when he visited Australia, she said. All partners have important roles to add value, be practical, and focus on impact. The commitment to partnership and shared learning and co-creation of knowledge are key important principles. She further stressed the importance of taking a long-term view, also in terms of contribution to given country commitments on SDGs. She stated that the Sustainable Development Investment Portfolio (SDIP) is implemented by seven partners including ICIMOD and CSIRO, and stressed that the funding mechanism should allow partners to be responsive in this challenging working environment. As such, the discussion and arrangements will help the project move forward along its goals. She encouraged that all future meetings avoid use of plastics that end up in water bodies, and follow the practice adopted in the inception workshop. She then expressed her sincere thanks to all partners and participants.

Dr Molden expressed that he very much appreciated the partnership approach of the Australian Government.

Remarks by the participants (one representative from each organization)

- From the Board of ICIMOD, Mr Mohammed Rafi Qazizada appreciated the enthusiasm and inputs. He shared that during board meetings he had been asking how to expand the work of ICIMOD in Afghanistan. Four of ICIMOD's six regional programmes are working in Afghanistan. He stated that although the projects are in small scale, they are just the tip of the iceberg. The budget for research in Afghanistan is limited, and although this project may be small, the outcome may be bigger as it can offer direction for the future. The focus is on seven themes, all valuable technical components, but there is a need to think of food security and bring the end user perspective. He stressed the importance of improving the capacity of experts in Afghanistan

and requested for mentorship of young colleagues and for experts to come to Afghanistan. He indicated that ICIMOD's Himalayan University Consortium programme, although out of scope of this project, should utilize this opportunity to include academic institutions to implement activities. He thanked the Government of Australia and expressed interest in seeing the link with the dryland farming project. He also thanked ICIMOD, CSIRO, and Afghan colleagues.

Dr Molden said that he would be happy to share with the ICIMOD Board that the Centre's activities have expanded in Afghanistan.

- From MEW, Mr Farhad Noorzai shared that partners have gained some understanding about the needs in WRM in Afghanistan. The integrated WRM approach is well accepted. Still, transboundary issues of river basins have to be discussed and addressed, hence the need to think beyond the timeframe of this project to prepare some concepts and request other donors to support the work. He thanked the Australian High Commission, Government of Australia, CSIRO, ICIMOD, and others.

Dr Molden pointed out that not being in a position to cover the transboundary aspect of water issues is a limitation for ICIMOD. However, he said that the Centre could point the way forward, which would be an important outcome of the project.

- From MoFA, Mr Mohammed Hassan Faizee thanked the Government of Australia for its support in the water sector. He expressed his pleasure at having ICIMOD expertise and knowledge on this project and assured full support and cooperation throughout the project. Since 2001, the international community involvement in Afghanistan has been rather extensive and needs close coordination among donors. In this regard, progress has been made, and the partnership approach adopted in this project is very important. He was pleased that the partners jointly have shaped the project and narrowed down the areas to focus and work on. He thanked the colleagues who have organized the programme and expressed his keenness on a close collaboration and cooperation.

Dr Molden reiterated the importance of working with MoFA and thanked them for spending time on the project. He said that transboundary water issues are important aspects where MoFA can guide and support the project partners.

- From AKAH, Mr Arvind Sinha shared good existing partnerships. Referring to the slogan "Too much water, too little water are the causes of disaster", he viewed the project as comprehensive. With the engagement from ministries and technical agencies, it will bring all together nicely, he said. He expressed commitment to be present and to support the project throughout.
- From NEPA, Mr Abdullah Safi expressed faith that the project will help Afghanistan, and that they would provide full technical support to the project. He hoped that the project will be extended beyond two years for fruitful outcomes for the future of WRM in Afghanistan. In this way the contribution of NEPA and all partners will be countable.
- From Kabul University, Mr Sediqullah Reshteen said that he found the project very good. The discussion in the past two days was a need and requirement of Afghanistan. He viewed that involvement of KU has been an effective component of the project and hoped to collaborate with agencies and ministries. He expressed his sincere thanks to all partners.
- From Kabul Polytechnic University, Mr Fawad Ahmad Rahyab stated that implementation of this project will help to improve WRM in Afghanistan. He stressed the university's important role in WRM and sustainable management of water resources in the country. As such, the Department of WR Engineering, Department of Irrigation Engineering, and two other departments all play an important role in this project.
- From CSIRO, Dr Shahriar Wahid spoke about the challenges across time zones to work on preparations that started one and a half months back. He thanked Dr Neera Pradhan, Dr Arun Shrestha, and Dr Santosh Nepal for their commitment and going outside working hours. He thanked DFAT for their invaluable input and also the participants for their contributions. He shared that he felt inspired and encouraged by such commitment and would return carrying the urgency and importance and commitment to co-creating and learning together.

Remarks by the Representative from the Government of Afghanistan – Deputy Minister MAIL HE Fahimullah Ziaee

- HE Ziaee highlighted the importance of the project. Though the project magnitude is small, the results can be very significant, he said. He referred to the project as a small pill of Cetamol, which will work without having to take expensive antibiotics, emphasizing that this is the need of the time. The involvement of ICIMOD and CSIRO, he stated, is very important as they will provide guidance and help to the Government of Afghanistan on WRM. He shared a case story in which the President had asked for a list of proposed dams; however, even after two years the list could not be prepared, as it involved too many actors and limited coordination amongst the different agencies. He stressed the need to focus on both urgency and comprehensiveness to get to the intended results. HE Ziaee views the project as an opportunity to create a vision for the future of WRM in Afghanistan. He appreciated ICIMOD for its positive energy and looked forward to continuing close collaboration in the future. He urged colleagues from Afghanistan to adopt this approach and build stronger engagement with permanent experts. He stated that technical support will be required to change the capacity building approach in Afghanistan. Over the last 12–15 years some progress has been seen, he said. However, there is a need to find new ways for building capacity in Afghanistan. He indicated that a water-energy-food (WEF) Nexus or a position paper could come out of this project and asserted how Afghanistan agencies can institutionally connect the ministries and departments. The project could focus on a dam, for example, on which larger scale analysis could be done and related ministries could move toward a coordinated approach to the WEF-Nexus, he said. He stressed that the project is Afghan and is to be carried out by Afghans in Afghanistan, while ICIMOD will be working in the region and supporting the project.

Closing remarks by Dr David Molden, Chairperson of the Closing Session

- Dr Molden very much appreciated that Deputy Minister Ziaee emphasized that the project belongs to Afghanistan and that ICIMOD will be there to support it. He thanked the Government of Australia, indicating that they have raised the bar high in terms of meeting challenges and expectations, given the amount of resources. He emphasized that all partners need to work together and put in their best efforts. ICIMOD has a role to play in providing a platform for everyone to work together. He expressed his interest and commitment to be part of the team. He found the enthusiasm and participation among all participants very inspiring and looked forward to meeting again and working together.

Vote of thanks expressed by Dr Neera Shrestha Pradhan, ICIMOD

- Dr Neera Shrestha Pradhan thanked the delegates from Afghanistan and all the partners who actively co-created and shaped the project. She expressed hope that the seeds of partnership and collaboration planted in the workshop will grow into big trees. She thanked Deputy Minister Ziaee and the High Commissioner Mr Chris Eltsoft, the delegates from Australia, the ICIMOD Board Member from Afghanistan, the Afghan institutions, Dr John Dore, and all others working remotely. She further thanked her ICIMOD colleagues from Kathmandu and Kabul, CSIRO colleagues, and the facilitator, Ms Basudha Gurung.

Reflections on Workshop and Suggestions by Participants

The participants actively engaged throughout the workshop. Their feedback is presented in the table below.

SN	Reflection on the Workshop	Suggestion
1.	<ul style="list-style-type: none"> Gained clear idea about the project, knowledge sharing, water sector situation, e.g., existing and future WRM demands 	Sustainability in implementation of the project Project extension
2.	<ul style="list-style-type: none"> The workshop benefited to gain knowledge in hydro-met network and water management 	
3.	<ul style="list-style-type: none"> The workshop outputs and sessions were very useful, especially the session on partnership and issue considered for water resource management 	
4.	<ul style="list-style-type: none"> Discussions with Afghan government partners were useful and productive, that allow us to have a better understanding of the situation Government partners, particularly DM Ziaee's comments, were useful and should be considered, which will help to achieve the end goal and ensure sustainability 	Project to focus on MAIL/MEW staff capacity as well as university students and lecturers capacity
5.	<ul style="list-style-type: none"> Excellent sharing and building knowledge of project Opportunities to build on existing efforts, started to explore these 	I would like to know about the challenges in Afghanistan and how we can target these (perhaps covered in prior engagements but not all part of these) Challenges to partnering remotely – require solutions – which are not clear, hopeful these will emerge – learning from other projects?
6.	<ul style="list-style-type: none"> Most parts were useful and I learnt very much from all the participants 	A good logo of cooperation and bringing these nations together (Afghanistan, Nepal, Australia) should be designed Next time, the schedule should not be so tight
7.	<ul style="list-style-type: none"> This workshop and illustrated issues and topics will help for better management and improvement of river basin The discussion sessions and partnership session were very useful Technical targeted subject was useful as well 	
8.	<ul style="list-style-type: none"> Inception workshop has found important issues from the participants Full involvement of participants in the workshop Approaching to final goal which is also important 	
9.	<ul style="list-style-type: none"> The project inception workshop is very well organized and managed by the coordination member of ICIMOD representatives In the three days of working the project concept got introduced to the participants I like the group works and discussions during the meeting 	
10.	<ul style="list-style-type: none"> The inception workshop was very useful and hopeful start for Strengthening the Water Resources Management in Afghanistan Satisfactory implementation was including Kabul Polytechnic University, Kabul University, and NEPA in the project 	
11.	<ul style="list-style-type: none"> Interactive sessions were good 	
12.	<ul style="list-style-type: none"> Impressed by highly motivated Afghan delegates 	
13.	<ul style="list-style-type: none"> Partnership and co-creation 	
14.	<ul style="list-style-type: none"> Scope of work to be reduced 	

SN	Reflection on the Workshop	Suggestion
15.	<ul style="list-style-type: none"> Group works were interesting and participation was good 	Time management Representations of more key stakeholders
16.	<ul style="list-style-type: none"> Face-to-face time with partners Discussion on the needs and objectives of/with the partners 	
17.	<ul style="list-style-type: none"> A good start for common understanding 	Time management and facilitation
18.	<ul style="list-style-type: none"> Method was good where all partners could co-design and co-create ownership 	
19.	<ul style="list-style-type: none"> Participants were prepared and active participation Very informative with guidance and suggestions 	
20.	<ul style="list-style-type: none"> Important issue of water resource management and framing for Afghanistan Process of facilitation to reach consensus on different options and thematic areas was very good. It helped to reach to conclusion 	Thematic areas could have been discussed in more depth and detail Legal and policy issue might have been considered for discussions related to water issue
21.	<ul style="list-style-type: none"> Learned different perspectives from various entities (Government of Afghanistan, CSIRO, ICIMOD, Government of Australia) Learned more important points regarding the water resource management 	Strongly recommend that the project should have direct implementation contact with one of the Afghanistan government-related technical agency (MAIL, MEW)
22.	<ul style="list-style-type: none"> Active participation of senior staff of ICIMOD in the inception workshop was very useful and productive 	
23.	<ul style="list-style-type: none"> The inception workshop was very useful 	
24..	<ul style="list-style-type: none"> Interesting, it was a very good opportunity for knowledge exchange The ideas and comments were reflected very well for project design The workshop was very well designed both in perspective of participation, management, and discipline The documents/presentations were very informative and useful 	

Annexes

Annex 1: Programme Schedule

Time	Programme	Remarks
Day 1: 9 March, 2018 Friday		
09:00 – 9:30	Arrival of the guests and Registration	Ashmita and Jawid
SESSION 1: OPENING SESSION		
Chief Guest: His Excellency <i>Fahimulla Ziaee</i> , Deputy Minister for Irrigation & Natural Resource Management, Ministry of Agriculture, Irrigation and Livestock (MAIL), Government of Afghanistan Rapporteur: <i>Dr Santosh Nepal</i> , ICIMOD		
9:30 – 11:0	<ul style="list-style-type: none"> - Welcome remarks and objective of the workshop by <i>Dr Eklabya Sharma</i>, Deputy Director General, ICIMOD - Remarks by His Excellency <i>Chris Elstoft</i>, Deputy High Commissioner, Australian High Commission, New Delhi, Government of Australia - Remarks by <i>Mr Mohammed Toyab Brommand</i>, Advisor to Minister of MEW - Remarks by <i>Mr Mohammed Rafi Qazizada</i>, ICIMODS Board member and DG, NRM, MAIL - Introduction of the Regional Programme on River Basin and Cryosphere by <i>Dr Arun B Shrestha</i>, Regional Programme Manager, ICIMOD - Introduction to CSIRO and relevance in Afghanistan by <i>Dr Shahriar Wahid</i>, Principal Research Scientist, CSIRO - ICIMOD's engagement in Afghanistan by <i>Mr Birendra Bajracharya</i>, Afghanistan Focal and Regional Programme Manager MENRIS, ICIMOD - Closing remarks by the Chief Guest - Vote of thanks by ICIMOD 	Facilitated by Neera and Waheedullah
11:00 – 11:30	Group photo and Coffee/tea break	
11:30 – 12:00	Introduction of the Facilitator Introduction to the project "Water Resources Management in Afghanistan" by <i>Dr Neera Shrestha Pradhan</i> , Programme Coordinator, Water Resources Management in Afghanistan, ICIMOD Introduction of Participants Participants introduce themselves, their area of expertise, their institution	

SESSION 2: THEMATIC SESSION: SYNERGY BUILDING

Chair: *Dr John Dore*, Senior Water Resources Specialist, Australia's Department of Foreign Affairs and Trade

Rapporteur: *Mr Santosh Raj Pathak*, ICIMOD

12:00 – 13:40	<p><i>Presentations (7 min each) and discussions: Possible areas of intervention</i></p> <p>Thematic areas:</p> <ol style="list-style-type: none">1. Water availability analysis – <i>Dr Santosh Nepal</i>2. Cryosphere monitoring – <i>Dr Anna Sinisalo</i>3. Flood monitoring and early warning – <i>Dr Neera Shrestha Pradhan</i>4. Water Resources Management– <i>Dr Santosh Nepal</i>5. Water Resource Assessment at basin scale – <i>Dr Carmel Pollino</i>, CSIRO6. Water Information System – <i>Dr Susan Cuddy</i>, CSIRO7. Regional cooperation on water resources management – <i>Dr Arun B Shrestha</i> <p>Discussions</p>	<p>Key points to be discussed:</p> <ul style="list-style-type: none">- What is it about- Where have we implemented it- Relevance to Afghanistan- Possible approaches for capacity enhancement- Limitations, if any
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1:00 – 2:00 LUNCH

SESSION 3: TECHNICAL SESSION: PARTNERSHIP LANDSCAPE

Chair: *Ms Mohammed Azim Wardak*, Deputy Director for Economic Cooperation, MoFA

Rapporteur: *Dr Chanda Gurung Goodrich*, ICIMOD

2:50 – 4:20	<p>Introduction to the group work</p> <p><i>Group work 1: Institutional Introduction – and Possible areas of intervention (existing & required capacity on WRM)</i></p> <ol style="list-style-type: none">1. Ministry of Foreign Affairs (MoFA)2. Ministry of Agriculture, Irrigation and Livestock (MAIL)3. National Environmental Protection Agency (NEPA)4. Afghanistan National Disaster Management Authority (ANDMA)5. Kabul University6. Kabul Polytechnic University7. Ministry of Energy and Water (MEW)8. Aga Khan Agency for Habitat (AKAH) -Afghanistan9. Australian Embassy in Kabul	<p>Facilitated by <i>Ms Basudha Gurung</i>, External Facilitator</p> <p>Key points to be addressed:</p> <ul style="list-style-type: none">- Brief introduction of the institute - What has been/ is being done or planned regarding water resources management- Reflect and discuss on institutional capacities – existing and required on the possible areas of intervention
Working Tea/ Coffee		
4:20 – 5:45	<p>Presentation by each group</p> <ol style="list-style-type: none">1. Ministry of Agriculture, Irrigation and Livestock (MAIL)2. National Environmental Protection Agency (NEPA)3. Afghanistan National Disaster Management Authority (ANDMA)4. Kabul University5. Kabul Polytechnic University6. Ministry of Energy and Water (MEW)7. Aga Khan Agency for Habitat (AKAH) -Afghanistan8. Australian Embassy in Kabul10. Ministry of Foreign Affairs (MoFA) <p>Clarifications / discussions</p> <p>Remarks and closing by the Session Chair</p>	

Free Evening for the participants

Time	Programme	Remarks
Day 2: 10 March, 2018 Saturday		
9:00 – 9:15	Registration for Day 2	
9:15 – 9:30	Recap of the previous day and revisit the agenda for day 2 Naming the project – “Water Resources Management in Afghanistan”	Please provide your suggestions on a Meta card and hand it over to Ms Ashmita by the end of the day. Please use one meta card for one suggestion. We will share it on the next day and give a suitable name to our project.
SESSION 4: INTERACTIVE SESSION: EXPLORING OPPORTUNITIES		
Chair: <i>Ms Caroline Mills</i> , Australian High Commission, New Delhi, (TBC) Rapporteur: <i>Mr Waheedullah Yousafy</i> , ICIMOD Kabul office		
9:30 – 11:00	<u>Presentation</u> on “Theory of Change” and result based management by <i>Ms Lalu Kadel</i> <i>Cross-cutting issues</i> Gender and social equity dimension in capacity enhancement strategy by <i>Dr Chanda Gurung Goodrich</i> , ICIMOD Co-creation of communication opportunities in Afghanistan by <i>Dr Laurie Vasily</i> , ICIMOD	Facilitated by Basudha
11:00 – 11:30	<u>Coffee/tea break</u>	
11:30 – 1:00	Introduction of the discussion session <i>World Café Style Discussion (11:30–12:30):</i> Thematic areas: 1. Water availability analysis – <i>Dr Santosh Nepal</i> 2. Cryosphere monitoring – <i>Dr Anna Sinisalo</i> 3. Flood monitoring and early warning – <i>Dr Neera Shrestha Pradhan</i> 4. Water Resources Management – <i>Dr Santosh Nepal</i> 5. Water Resource Assessment at basin scale – <i>Dr Carmel Pollino</i> , CSIRO 6. Water Information System – CSIRO 7. Regional cooperation on water resources management – <i>Dr Arun B Shrestha</i> Presentation of 3 priority action points by each group (12:15 – 12:45) Closing by the Session Chair (12:45 – 1:00)	Guidelines of the discussion 1. Table focal will briefly introduce the topic focusing on capacity requirements 2. Discussion on each table (10/15 min each) based on the key questions 3. Participants will change the table to provide feedback to another group.
Working tea/coffee		
1:00 – 2:00 LUNCH		

SESSION 5: WORKING SESSION: BUILDING PARTNERSHIP

Chair: *Mr Farhad Noorzai*, Director of Water Programs, MEW, Government of Afghanistan (TBC)

Rapporteur: *Ms Lalu Kadel*, ICIMOD

2:00 – 3:30	<p>Presentation on Partnership and its value addition for the project implementation by <i>Mr Santosh Raj Pathak</i></p> <p><i>Group work 2 (Building on partnership)</i></p> <ul style="list-style-type: none"> • Drivers / Benefits and the opportunities in partnership • How can we contribute to the partnership <p><i>Plenary Presentation by each group (5 min each)</i></p>	
3:30 – 3:45	Coffee/tea break	
3:45 – 5:00	<p>Presentation on consideration for managing and maintaining partnership by <i>Santosh Raj Pathak</i></p> <p><i>Group work 3 (Preparing for Partnership)</i></p> <ul style="list-style-type: none"> • Partnership challenges and ways to address them <p><i>Plenary Presentation by each group</i></p> <p>Exploring opportunities within the remote partnering by <i>Dr Neera Shrestha Pradhan</i> and <i>Mr Santosh Raj Pathak</i></p>	
6:00 – 9:00	RECEPTION DINNER hosted by the Director General, ICIMOD, Hotel Marriot	

Time	Programme	Remarks	
Day 3: 11 March, 2018 Sunday			
9:00 – 9:15	Registration for Day 3		
9:15 – 9:30	Recap of the previous day and revisit the agenda for day 3		
SESSION 6: CLOSING SESSION			
Session Chair: <i>Dr David Molden</i> , Director General, ICIMOD			
Rapporteur: <i>Dr Laurie Vasily</i> , ICIMOD			
9:30 – 11:30	<p>Consensus building:</p> <ul style="list-style-type: none"> - Governance mechanism - Key guiding principles for this project - Building synergy with other programmes implemented in Afghanistan - Naming our project (WRM-A) - Any other issues 	Facilitated by Neera and Waheedullah	
11:30 – 12:30	<p>Action Plan and way forward by <i>Dr Eklabya Sharma</i>, ICIMOD</p> <p>Remarks by the participants (1 representative from each organization)</p> <p>Remarks by the Representative from the Government of Australia</p> <p>Remarks by the Representative from the Government of Afghanistan</p> <p>Closing remarks by the Session Chair</p> <p>Vote of Thanks by <i>Dr Neera Shrestha Pradhan</i>, ICIMOD</p>		
12:30 – 1:30 LUNCH			
1:30 – 5:00	Opportunity for side meetings (self-arranged)		

Please contact Ms. Ashmita Shakya (ashmita.shakya@icimod.org) for travel and logistics details. For further technical information about the inception workshop, please contact Dr Neera Shrestha Pradhan (neera.pradhan@icimod.org) or Mr Waheedullah Yousafi (Waheedullah.yousafi@icimod.org) at ICIMOD's Kabul office.

Annex 2: List of Participants

SN	Names	Designation	Organization	Email id
Participants from Afghanistan				
1	H E Fahimullah Ziaee	Deputy Minister	MAIL, Afghanistan	fahimullah_z@hotmail.com
2	Mr Mohammad Rafi Qazizada	NRM Director General / ICIMOD Board Member	MAIL, Afghanistan	Mohammad.rafi@mail.gov.af
3	Mr Farhad Noorzai	Director of Water Programs	Ministry of Energy and Water (MEW)	fn.1975@yahoo.com
4	Mr Mohammad Tayib Bromand	Water Resources and Climate Change Adaptation Specialist		t.bromand22@gmail.com
5	Mr Fayezur Rahman Azizi	Hydrology & Flood Specialist/ WRD Advisor		fayez.azizi@gmail.com
6	Mr Azim Jan Zahed	Head of Hydrology		azim.aslamhyd@gmail.com
7	Mr Homayoun Khoshnod	Flood forecasting Engineer		homayounkhoshnod14@gmail.com
8	Mr Mohammad Nasim Noori	GIS Specialist		nasim.mew@gmail.com
9	Mr Khalilurrahman Omar	Technical Advisor & Sr. planning and Programming Specialist in Irrigation Directorate	Ministry of Agriculture, Irrigation and Livestock (MAIL)	khalil.omar@mail.gov.af
10	Mr Jalal Naser Faqiryar	Advisor to Deputy Minister		jalalnaser.faqiryar@gmail.com
11	Mr Mohammad Azim Wardak	Deputy Director	Ministry of Foreign Affairs (MoFA)	azim.wardak@gmail.com
12	Mr Mohd Hassan Faizee	Deputy Director General for Security Cooperation and Border Affairs		mhasanfaizee@gmail.com
13	Mr Abdullah Safi	Director of Finance and Administration	National Environment Protection Agency of Afghanistan (NEPA)	abdullah.sapi@gmail.com
14	Mr Ali Nazar Nazari	National Programme Manager	Aga Khan Agency for Habitat (AKAH)	alinazar.nazari@akdn.org
15	Mr Arvind Sinha	Senior Programme Manager- Partnership		arvind.sinha@akdn.org
16	Mr Sediqullah Reshteen	Lecturer, Hydrology and Water Resources Management, Geosciences Faculty	Kabul University	sediqullah_reshteen@yahoo.com
17	Mr Fawad Ahmad Rahyab	Assistant Prof. Environmental and Water Resources Engineering Faculty	Kabul Polytechnic University	rahyabf@gmail.com
Participants from Government of Australia				
18	H E Chris Elstoff	Deputy High Commissioner	Australian High Commission (New Delhi)	Chris.Elstoff@dfat.gov.au
19	Mr Samim Zamarai	Senior Program Manager (Development)	DFAT Australian Embassy, Kabul	Zamarai.Samim@dfat.gov.au
20	Mr John Dore	Senior Water Resources Specialist	DFAT	John.Dore@dfat.gov.au
21	Ms Caroline Mills	Manager, South Asia Regional Development Program	Department of Foreign Affairs and Trade, Canberra, Australia	Caroline.Mills@dfat.gov.au

Participants from CSIRO				
22	Mr Wahid Shahriar	Principal Research Scientist	Commonwealth Scientific and Industrial Research Organization	Shahriar.Wahid@csiro.au
23	Ms Carmel Pollino	Principal Research Scientist	Commonwealth Scientific and Industrial Research Organization	Carmel.Pollino@csiro.au
24	Ms Susan Cuddy	Researcher	Commonwealth Scientific and Industrial Research Organization	Susan.Cuddy@csiro.au

Participants from ICIMOD				
25	Mr David Molden	Director General	ICIMOD	david.molden@icimod.org
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30	Ms Laurie Vasily	Head of KM & Communication/ Senior KM Specialist		Laurie.Vasily@icimod.org
31	Ms Chanda Gurung Goodrich	Senior Gender Specialist - Gender lead, Livelihoods		chanda.goodrich@icimod.org
32	Mr Santosh Nepal	Water and Climate Specialist		santosh.nepal@icimod.org
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34	Ms Lalu Kandel	Monitoring and Evaluation Specialist, SPME		Lalu.Kadel@icimod.org
35	Mr Santosh Pathak	Partnership Contract Officer		Santosh.Pathak@icimod.org
36	Mr Jawid Ahmad Jawid	Administrative Officer, Country Office Afghanistan		Jawid.Ahmad@icimod.org
37	Mr Waheedullah Yousafi	Technical Coordinator, SERVIR-HKH, Country Office Afghanistan		Waheedullah.Yousafi@icimod.org
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39	Ms Basudha Gurung	External facilitator	basudhagurung@yahoo.com	



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