

ICIMOD

PROCEEDINGS

# **SWaRMA: Second Steering Committee and Technical Coordination Committee meetings**

5–6 April 2019

Dubai, United Arab Emirates



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# Abbreviations

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<b>AKAH</b>	Aga Khan Agency for Habitat
<b>AMD</b>	Afghanistan Meteorological Department
<b>ANDMA</b>	Afghanistan National Disaster Management Authority
<b>CBFWS</b>	Community Based Flood Early Warning System
<b>CSIRO</b>	Commonwealth Scientific and Industrial Research Organization
<b>DFAT</b>	Department for Foreign Affairs and Trade, Australian Government
<b>ICIMOD</b>	International Centre for Integrated Mountain Development
<b>KU</b>	Kabul University
<b>KPU</b>	Kabul Polytechnic University
<b>MAIL</b>	Ministry of Agriculture, Irrigation and Livestock, Afghanistan
<b>MEW</b>	Ministry of Energy and Water
<b>MoFA</b>	Ministry of Foreign Affairs, Afghanistan
<b>NEPA</b>	National Environment Protection Agency, Afghanistan
<b>SC</b>	Steering Committee
<b>SWaRMA</b>	Strengthening Water Resources Management in Afghanistan
<b>TCC</b>	Technical Coordination Committee
<b>ToR</b>	Terms of Reference
<b>UIBN</b>	Upper Indus Basin Network
<b>UIBNAC</b>	Upper Indus Basin Network Afghanistan Chapter
<b>WRD</b>	Water Resources Department
<b>WIS</b>	Water Information System



## Opening session

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**Chief guest:** Idrees Malyer, Deputy Minister, Policy and International Affairs, NEPA

**Session chair:** Paula Richardson, DFAT/Government of Australia

**Session facilitator:** Neera Shrestha Pradhan, Programme Coordinator, SWaRMA

**Rapporteur:** Ayub Khan Shinwari, Programme Officer, SWaRMA

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The opening session was chaired by Paula Richardson. In her opening remarks she welcomed all the participants of the meeting. She said that she was happy to see that there was significant

goodwill and commitment within the ministries and different departments in Afghanistan to strengthen capacities in water resources management. Over the years the Department for Foreign Affairs and Trade (DFAT) has witnessed a great level of enthusiasm and ongoing commitment across government agencies in Afghanistan, so she hoped that this momentum would continue till the end of the project period. Australia has invested in Strengthening Water Resources Management in Afghanistan (SWaRMA) because of its vast experience in the field of water resources management. She also emphasized that women's participation and their voice in water resources management is critical for economic growth and sustainable management of water resources. She expected that the meeting would draw attention to the gender dimension in water resources management in Afghanistan.

In his opening remarks Arun Bhakta Shrestha, Regional Programme Manager for River Basins and Cryosphere, the International Centre for Integrated

Mountain Development (ICIMOD), welcomed all the participants of the meeting. He noted that the purpose and objective of the meeting was to look at what had been done so far, and what challenges and opportunities lay ahead. He said that the Technical Coordination Committee (TCC) is actually a supporting mechanism for discussing the progress of the activities and that they would have a constructive discussion. It was the duty and responsibility of all to make it successful. The meeting participants would also have time to discuss the next phase of SWaRMA. He thanked the Government of Australia, Government of Afghanistan, and Commonwealth Scientific and Industrial Research Organization (CSIRO) for the great partnership and cooperation.

In his opening remarks, Mohammad Hassan Faizee, Deputy Director General for Security Cooperation, Border Affairs and Transboundary Cooperation, welcomed the meeting participants. He said that SWaRMA started the project with seven thematic areas which are still critical and require the support of partners. It has established a good governance mechanism and terms of reference (ToRs) are in place and working well. He appreciated the collaboration and cooperation of partners from CSIRO and ICIMOD, who have updated them on each development in the project. He talked about the Thematic Area of Regional Cooperation where Afghanistan has become a member of the Upper Indus Basin Network, and has established the Afghanistan Chapter under which there are six different technical working groups. The Afghanistan Chapter has arranged a meeting of the country chapter in Kabul to discuss different issues and opportunities. He believed the contribution in this thematic area will continue and become more meaningful in the coming days.

Mohammad Rafi Qazizada, Director General for Natural Resource Management, and ICIMOD board member from Afghanistan, welcomed all the participants of the meeting. He admired and congratulated all the project partners for their hard work and the success of the project. He thanked ICIMOD, CSIRO, and the universities for their contribution on the project. He said he had gone through the work plan and results that they have achieved through this period. The achievement is the result of good coordination among all agencies. He emphasized the visits of experts of different fields to Afghanistan that would help in designing the projects in more productive ways. The SWaRMA

project might be smaller in terms of funding but in terms of impact it is quite big because it is contributing to science and public knowledge. In the end he expressed his ministry's commitment to effective implementation of the project.

Fayezurahman Azizi, Director, Water Resources Department, welcomed all the participants of the meeting. He presented the progress and achievements of the SWaRMA project starting from the inception workshop. He talked about the progress of all seven thematic areas and expressed his satisfaction with the progress of the project. He appreciated the application of the J2000 hydrological model in the Kabul river basin and its sub river basins. He also mentioned the establishment of the glacier monitoring team in the Water Resources Department and thanked ICIMOD for providing glacier monitoring tools and gear to establish the first benchmark glacier monitoring station in the Kabul basin. He talked about the installation of two Community Based Flood Early Warning Systems (CBFEWS) in the Kabul River basin. He admired the work done in the development of a roadmap for the water information system in Afghanistan. In the end, he thanked all the national agencies of Afghanistan, ICIMOD, and CSIRO for achieving such results through good coordination.

The chief guest of the session Idrees Malyar, Deputy Minister, Policy and International Affairs, National Environment Protection Agency, Afghanistan (NEPA), thanked all the project partners who contributed to achieving its objectives. He was impressed with the progress of the project and appreciated the hard work of all project partners. He said that water is one of the most important resources. Due to its multi-stakeholder nature, many agencies in the country are dealing with water in one way or another. There is great political awareness and will to work in the field of water today. He said there have been various developments in this field. The water law is being revised and a water strategy has been developed. The Supreme Council of Land, Water and Environment is headed by the president of the country. A water coordination meeting has been held. He thanked the Australian government, ICIMOD and CSIRO for the implementation of SWaRMA in Afghanistan, and added that this is just the beginning. They have a long way to go in order to address issues in the water sector. He asked the participants of the meeting to come up with good suggestions on the way forward for the project.



## Technical Coordination Committee meeting

**Co-chair:** Fayezurahaman Azizi, General Director, Water Resources Department, Ministry of Energy and Water, Afghanistan

**Co-chair:** Arun Bhakta Shrestha, Regional Programme Manager, River Basins and Cryosphere (ICIMOD)

**Rapporteur:** Ayub Khan Shinwari

The TCC meeting started with a brief introduction of the participants of the meeting. After the introduction, Ayub Shinwari, Programme Officer for SWaRMA, presented the Baseline Capacity Self-Assessment, which was conducted in Kabul with six partner

organizations. He shared the findings of the capacity assessment. After the presentation participants asked some questions, followed by a discussion. The main objectives of the assessment were to:

1. Identify current capacity of organizations in relation to water resources management
2. Understand desired capacities of selected ministries and departments
3. Identify gaps with mandates for supporting SWaRMA

The six partner organizations for which the capacity self-assessment was conducted were:

1. Ministry of Water and Energy (MEW)
2. Ministry of Agriculture, Irrigation and Livestock (MAIL)
3. Ministry of Foreign Affairs (MoFA)
4. Afghanistan National Disaster Management Authority (ANDMA)

5. Kabul University (KU)
6. Kabul Polytechnic University (KPU)

The self-assessment was conducted based on the mandate of the organizations to implement the seven thematic areas of SWaRMA, as listed below:

Considering the interest shown by the Deputy Minister, NEPA, it was concluded that SWaRMA/ICIMOD shall do the capacity assessment of NEPA, Afghanistan. It was also clearly mentioned that the capacity of organizations shall not be measured against a common set of indicators as each organization has a different mandate and specific field of work.

Mandate	MEW	MAIL	MoFA	ANDMA	KU	KPU	Orgs /mandate
Water Availability Assessment	Y	N	N	N	Y	Y	3/6
Water Resource Planning and Reporting	Y	Y	N	N	N	Y	3/6
Cryosphere Monitoring	Y	N	N	Y	Y	N	3/6
Flood Monitoring and Early Warning	Y	Y	N	Y	Y	Y	5/6
Water Information System	Y	Y	N	N	N	N	2/6
Regional Cooperation	Y	N	Y	Y	Y	Y	5/6
Mandates/Org.	6/6	3/6	1/6	3/6	4/6	4/6	



## Progress against outcomes

### Water availability analysis

Santosh Nepal from ICIMOD and Tayib Bromand from Water Resources Department, MEW

#### PROGRESS

- Organized a hydrological modelling workshop in October 2018 in Delhi
- Training and exercise manuals were developed
- Panjshir J2000 hydrological model (calibrated and validated)
- Water balance assessment of Panjshir catchment
- Data quality checking for a paper on “Snow cover and snowmelt dynamics in Panjshir catchment in Afghanistan”
- Implemented in five sub basins and presented to the Deputy Minister of Water, Afghanistan
- Ongoing modelling in five other sub basins

## PLANNED ACTIVITIES

- On-the-job training on J2000 hydrological modelling for 1.5 months
- Application of J2000 model in the whole Kabul river basin (sub basins)
- Water availability assessment (spatial and temporal)
- Climate change scenarios for the Kabul river basin
  - Change in temperature and precipitation
  - Mid-century and end of the century
- Training workshop on the impact of climate change on the Kabul river basin (November 2019, 2 weeks)
  - Understanding climate change scenarios
  - Present hydrological regime
  - Future hydrological regime considering the climate change scenarios
  - Impact on snowfall and snowmelt
  - Change in hydrological regime and water availability

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- Seek opportunities with Jena University for dedicated accounts of J2000 hydrological modelling for different government agencies and ministries in Afghanistan.
- The Kabul River basin GIS layers should be included in the web-based Hydrological Response Units (HRUs) platform so that users in Afghanistan can access this service for hydrological modelling using J2000.
- Afghan partners shall be included in the publication process related to J2000 hydrological modelling.
- Replication of the training in the country shall be appreciated by the Afghan government.
- The model shall be applied in other river basins as well (apart from the Kabul River basin).
- J2000 hydrological modelling has been applied to assess water balance and availability, and should also be applied in flood and sediment areas.

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## Cryosphere monitoring

Anna Sinisalo from ICIMOD

### PROGRESS

- A snow and glacier monitoring team established by the Water Resources Department with Kabul University

- Glaciologist (intern) started at the MEW
- Three participants from SWARMA in the HUC-IHCAP Glacier Monitoring Training in November–December 2018
  - 1 from Kabul University (in the theoretical part only)
  - 2 from the MEW in both theoretical and field based training



- Procurement process for research, mountaineering gear, and logistics equipment for field monitoring has started
- On-the-job training on identifying a potential benchmark glacier in the Kabul basin
- Benchmark glacier identified

#### PLANNED ACTIVITIES

- Glacier monitoring refresher, July 2019
- On-the-job training at ICIMOD, Kathmandu for relevant MEW personnel to identify potentially dangerous lakes in the Kabul basin, July–Aug 2019
- On-the-job training in Kathmandu to identify potentially dangerous glacial lakes in the Kabul basin, 5–9 August
- Inventory of stations and hydro-meteorological data available in the

Kabul basin including quality control and identification of temporal and spatial gaps

- First comprehensive annual benchmark glacier monitoring field expedition and installation of hydro-met stations, August 2019

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- ICIMOD is trying to use different projects/initiatives to contribute to common areas like the cryosphere where SERVIR will work on glacial lake mapping and SWaRMA will work on the monitoring of one benchmark glacier in Panjshir.
- Monitoring of the benchmark glacier is a very resource demanding activity, so it is better to start with one benchmark glacier.

### Flood monitoring and early warning

Neera Shrestha Pradhan from ICIMOD and Iqbal Sufizada from the Aga Khan Agency for Habitat

- Approval obtained from the MEW for installation in Kourbrook in Pariyan
- Two sets of CBFEWS instruments and supporting materials prepared for shipment to Afghanistan

#### PROGRESS

- Completion of the regional hands-on training on CBFEWS in May 2018
- Field scoping for the two proposed sites, in Peshghor and Chomarin Panjshir of the Kabul basin, completed jointly by the MEW and the Aga Khan Agency for Habitat (AKAH) including the participants of the hands-on training

#### PLANNED ACTIVITIES

- Fourth regional hands-on training on CBFEWS from 15–19 April 2019 in Kathmandu, Nepal (1 intern + 2 participants from the MEW)
- Selection and approval of second site for CBFEWS and instrument installation

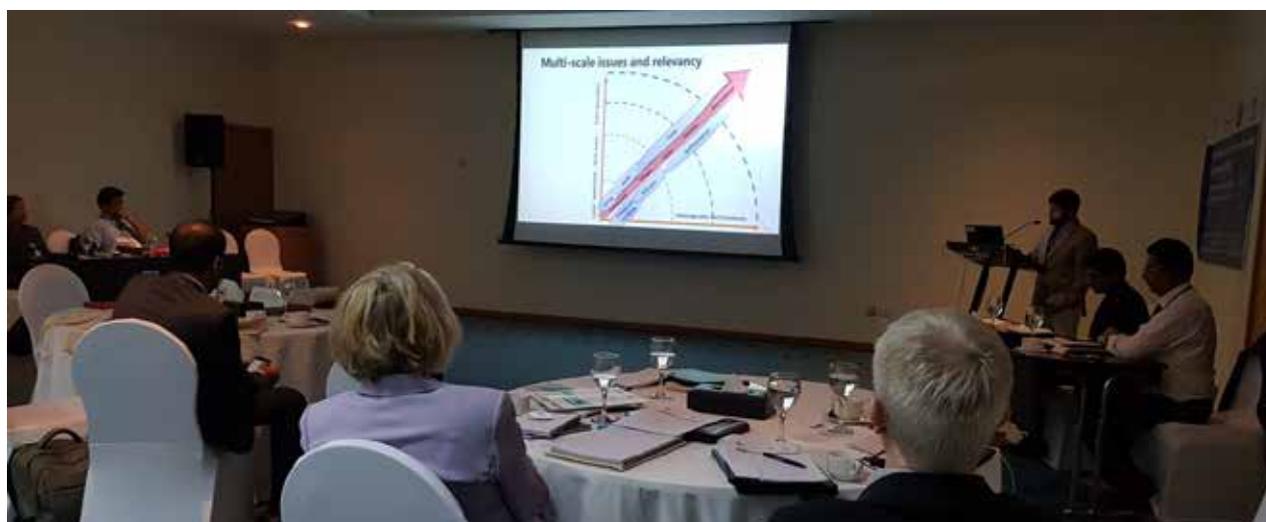


- Socioeconomic survey of vulnerable communities downstream, community sensitization and training, and monitoring of water level for flood early warning
- Explore options to transfer information from receiver to targeted audiences

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- There should be adequate preparedness and a mechanism for disseminating messages to the community in the CBFEWS

- Local government and community are involved in all stages of the CBFEWS. Mock drills, and shelter zone safety zones trainings are given to vulnerable communities for preparedness.
- There is great importance of traditional knowledge, it shall be integrated with new mechanisms of the CBFEWS.
- The process of installation of two CBFEWS devices in Panjshir area should be expedited



## Integrated River Basin Management

Santosh Nepal from ICIMOD

### PROGRESS

- Training on “Multiscale Integrated River Basin Management (IRBM) from a Hindu Kush Himalayan Perspective” (28 Jan–8 Feb 2019) successfully completed
- 14 participants (2 female participants) from Afghanistan including ministries, departments, and universities

### PLANNED ACTIVITIES

- Internal review of the IRBM manual completed

- Editing and external review is ongoing
- Revision of the IRBM manual
- Finalization of the IRBM resource book by September 2019

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- Next time, case studies from different river basins should be shared prior to the training with participants.
- It would be useful to include more relevant topics in the IRBM training such as urban water management, groundwater, etc.

## Water resources assessment at basin scale

Susan Cuddy from CSIRO

### PROGRESS

- Held the training workshop “Introduction to Source River System Model” from 22–26 January 2019 where trainees learned the basics of the river system model so that they can assess water availability (rainfall-runoff) as well as water use, and demand holistically and plan accordingly
- Data collection and identification of participants
- First cut of ‘Kabul Basin Source Model’ constructed
- J2000 plug-in for Source discussed with J2000 team at ICIMOD. Attempts were made to design and code the plug-in.
- Trainees are reviewing current model conceptualization/configuration and advising CSIRO-eWater on changes to be made
- Trainees are discussing parameterization of existing and proposed storages in close consultation with the CSIRO-eWater team.
- Trainees have made arrangements for working together at the local level
- CSIRO organized webinars for reviewing trainees’ progress

### PLANNED ACTIVITIES

- Trainees to read material on Source functions, groundwater, and input sets
- Discuss the J2000 Source plug-in development during the mid-May webinar
- Trainees to recalibrate the model in consultation with CSIRO-eWater

- Preparation for the June Source workshop
- CSIRO-eWater to draft “exploring scenarios” training plan in consultation with the MEW
- CSIRO-eWater to finalize scenarios for modelling before and during the June workshop
- Trainees to collect data for scenarios modelling and share them with CSIRO-eWater
- eWater to finalize training materials based on feedback on training plan
- Scenarios workshop – eWater, CSIRO, all
- Collect hydromet data for four other basins to simulate the rainfall-runoff process

The detailed presentation generated discussions, suggestions and inputs from the participants of the meeting. The major discussion points were:

- Participants of the first eWater Source training should be retained for the second Source scenarios training
- In the last TCC meeting it was agreed that the Kabul basin model should include a description of water use and storage and later it should be up-scaled by the ministry
- The team is ready to help the ministry staff in doing the modelling of other river basins
- The MEW has the capacity to do the modelling of all other river basins
- There is one other project which is already applying eWater Source to the Arghandab River basin
- Attention will be paid to groundwater-level situation in Afghanistan in the potential next phase of the project
- A practical user guideline on the eWater Source model will be developed for new users





## Water Information System

Peter Taylor from CSIRO

### PROGRESS

- Diagnosed current status and gaps
- Identified priority water management decisions
- Identified the decision makers
- Identified the sources of data and models
- Identified existing agreements
- Discussed the characteristics of the services
- Drafted the purpose, seven objectives (aligned with seven goals of the National WRM Sector Strategy), information needs, etc.
- Identified suitable institutional arrangements
- Identified staffing requirements
- Identified processes and an appropriate technology platform for developing and delivering the services
- Identified technology partners and licensing conditions
- Identified training requirements

### PLANNED ACTIVITIES

- Water Information System (WIS) workshop 7 April – led by CSIRO
- Draft table of contents for implementation – led by CSIRO
- Draft table of contents for roadmap – led by CSIRO
- Draft implementation options (pathways) – led by CSIRO
- Technical meeting to discuss implementation roadmap – led by CSIRO
- Finalize implementation option – led by CSIRO
- Draft roadmap document – led by CSIRO
- Socialize roadmap – led by MEW
- Finalize roadmap – led by MEW
- Completion of SWaRMA WIS project, with project close report

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- The team will work on the development of a roadmap for WIS for Afghanistan and not the Prototype
- Implementation of WIS is a resource demanding activity (financial, time); the roadmap will guide the process

## Regional cooperation

Arun Bhakta Shrestha from ICIMOD

### PROGRESS

- Afghanistan decided to be part of the regional Upper Indus Basin Network (UIBN) and to contribute to the UIBN through the UIBN Afghanistan Chapter (UIBN-AC)
- Afghanistan became a member of the ad hoc strategic committee of the regional UIBN
- Drafted a UIBN-AC governance framework
- Identified UIBN-AC strategic committee members, Coordinator, Co-Coordinator, and Technical Working Groups leads and co-leads
- The UIBN-AC Governance Framework was approved
- ToRs for the UIBN-AC strategic committee members, Coordinator, Co-Coordinator, and Technical Working Groups leads and co-leads were approved
- Coordinator and Co-Coordinator, Advisor, and Members of Technical Working Group nominations were approved
- Progress made by the Technical Working Groups (TWG) of the UIBN-AC after October 2018 was shared
- TWGs are working on their respective thematic areas

### PLANNED ACTIVITIES

- Organize two knowledge-sharing events of the UIBN-AC during UIBN meetings (July and December 2019)
- Finalize knowledge products of TWGs
- Ensure Afghan participation in other knowledge forums such as IBKF
- Join hands with other networks and partners, particularly with government organizations, to take the UIBN-AC beyond SWaRMA and to sustain it in the long run

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- We have to study other river basins projects around the world, and learn how they have worked to achieve success

- How will the knowledge generated from the UIBN be used in the future? It will be solution oriented at the national level and then at the regional level
- There is a lot of traditional knowledge in these four riparian countries where the member countries can learn from each other's experiences
- Explore opportunities for field visits to see and learn from others' experiences in transboundary cooperation

### Follow-up of the first TCC decision points

The decision points of the first TCC meeting were presented by Neera Shrestha Pradhan:

1 <sup>st</sup> TCC decision points	Actions taken
Identify which activity can be done in Afghanistan and which outside Afghanistan	As far as possible, activities were planned in Kabul (UIBN-AC meetings), although due to unavoidable circumstances, all could not be planned in Afghanistan and alternative venues were proposed in consultation with partners
There are many expectations; realistic ones should be prioritized	Discussed with partners and decided
Prepare a plan to deliver results on time	Annual plan was prepared and implemented accordingly

### TCC briefing points for SC

Arun Bhakta Shrestha presented the action points of the TCC meeting at the end of the meeting. These action points were presented at the SC meeting on 6 April:

1. Revisit the ranking of the capacity of organizations for the final report, and if possible, conduct capacity assessment of NEPA
2. Involve KU or KPU in preparing a scientific paper
3. Explore opportunities to integrate J2000 hydrological modelling into university curriculum
4. Include sediment in thematic area 1 in future proposals
5. Monitor at least one benchmark glacier during the remaining period of SWaRMA



6. Integrate traditional knowledge into flood early warning systems
7. Explore options to design IRBM modules based on the demand for different audiences and countries (choice of modules, depth, and modality of module delivery, etc.)
8. Share the model results of the Kabul River basin training model with the MEW for possible technical publication later (CSIRO/eWater)
9. Explore options for additional licenses for the use of eWater Source Modelling to MEW (by CSIRO/ eWater)
10. Hold a detailed discussion about the water information system during the WIS meeting (7 April 2019) to bring clarity and action points
11. Explore more opportunities for the participation of Afghan colleagues in regional and international platforms in addition to the UIB Network
12. MoFA informed the SC members that a Mekong exchange visit programme has been proposed to DFAT as part of regional learning and sharing

### **Closing remarks by session co-chairs**

In his closing remarks, session co-chair Fayezurahman Azizi thanked all the thematic leads for their presentations and all participants for their active engagement in the session.



## Steering Committee meeting

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**Co-chair:** Idrees Malyer, Deputy Minister, Policy and International Affairs, NEPA, Government of Afghanistan

**Co-chair:** David Molden, Director General, ICIMOD

**Rapporteur** Ayub Khan Shinwari

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The meeting began with opening remarks from the co-chairs of the Steering Committee. Idrees Malyer expressed his happiness over the progress of the project. He talked about the TCC meeting and thanked all the participants for their hard work since the beginning of the project. He also thanked ICIMOD, CSIRO, and the Australian government. He said capacity enhancement is the priority of the Afghan government and they are committed to

working hard to solve all issues related to capacity enhancement projects. He also talked about the new developments in Afghanistan's water sector, especially the development of the water law, water information system, and water strategy.

In his opening remarks David Molden described SWaRMA as a wonderful initiative where many government and academic institutions are involved and talking about the same issues. He said that SWaRMA has achieved a lot over a short period and that he believes in long-term engagement for capacity enhancement. He thanked all project partners for supporting SWaRMA. He appreciated the lead role of Afghan colleagues in the successful implementation of the project. He stated that he was looking forward to the outcome of the TCC meeting. The biggest issue now is to find ways to have a longer-term vision for SWaRMA and to think about how to keep moving forward. He acknowledged the support of DFAT and the Australian government for supporting SWaRMA.

The major issues discussed at the meeting were as follows:

## Administrative issues

### a) Presentation of SC agenda by Arun Bhakta Shrestha for approval

The Steering Committee agenda was presented by Arun Bhakta Shrestha and was approved unanimously by the participants of the meeting.

### b) 1st SC decision points follow-up by Neera Shrestha Pradhan

Neera Shrestha Pradhan presented the following action points from the 1st Steering Committee meeting.

- Integrate traditional knowledge in flood early warning systems
- Explore options to design IRBM modules based on the demand for different audiences and countries (choice of modules, depth and modality of module delivery, etc.)
- Share the model results of the Kabul River basin training model with the MEW for possible technical publication later (CSIRO/eWater)
- Explore options for additional licenses for the use of eWater Source Modelling to the MEW (by CSIRO/eWater)
- Hold a detailed discussion on the water information system during the WIS meeting (7 April 2019) to bring clarity and action points

SN	1st SC action points	Actions taken
1	Since the work plan presented did not include the previous day's inputs from the TCC, it was principally approved but with changes made from the TCC inputs. It was requested that the revised work plan be circulated to the SC members for their consent.	Done, shared with SC members and published
2	The SWaRMA governance structure and ToR were endorsed with the necessary changes made. It was requested that the revised structure and ToR be circulated to the SC members for their consent.	Circulated to the SC members and published
3	It was agreed that the MEW will be the focal ministry in Afghanistan and will coordinate with Afghan partners, and ICIMOD will be communicating with the MEW, CSIRO, and donors on relevant issues.	Agreed
4	Co-Chair from the MEW be added as the operational focal point.	Revised as suggested
5	Since the UIBN is a regional platform, it was decided that the issues are not necessarily presented in the SWaRMA SC meeting. However, SWaRMA will support the UIBN-AC for regional coordination and as a science-based platform in Afghanistan.	Agreed
6	As soon as possible, documentation should be completed and circulated among the members.	Circulated and published

### c) Report back from 2nd TCC meeting – by TCC Co-Chair

Arun Bhakta Shrestha reported back from the 2<sup>nd</sup> TCC meeting. He presented the outcome of the meeting in detail. The main action points from the 2<sup>nd</sup> TCC meeting were:

- Conduct capacity assessment of NEPA as done for other partner organizations
- Revisit the ranking of the capacity of organizations for the final report
- Involve KU or KPU in working on the scientific paper
- Explore opportunities to integrate J2000 hydrological modelling into university curriculum
- Include sediment in thematic area 1 in future proposals
- Monitor at least one benchmark glacier during the remaining period of SWaRMA

- Explore more opportunities for the participation of Afghan colleagues in regional and international platforms in addition to the UIB Network
- MoFA announced that the Mekong exchange visit programme has been proposed to DFAT as part of regional learning and sharing

#### DISCUSSION

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were integration of gender issues and research. The dedicated slide on gender in each thematic area during the TCC was appreciated. It was mentioned that the workshop on Gender Integrated Planning in Water Resources Management at Kabul University was very useful to the participants and should be continued. It was reported that professors and students in the Gender department of Kabul University are conducting research on gender and

social inclusion in water resources management agencies with support from ICIMOD's gender experts. There is one female intern working at WRD under the SWaRMA project, and the Afghan government is trying to increase female participation in water sector programmes.

The participants said the development of a water information system is crucial for Afghanistan's water sector. A lot of effort is being made to avoid duplication of work in Afghanistan; the water donor coordination meeting organized in the country helps in this regard.

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## Current status and progress

### SWaRMA progress

Neera Shrestha Pradhan presented SWaRMA's progress against objectives, issues, and lessons learnt. She gave an overview of all the activities carried out during the project period. The following lessons learnt were shared with the participants.

- Refinement and continuation of the J2000 model using new datasets is important.
- Collaboration with other cryosphere programmes within the country and in the region is essential for strengthening capacities, maintaining standards, and exchanging knowledge and experiences.
- Enhancement of existing instruments is necessary for reliable early warning for different purposes (like glacial lake outburst floods and debris flow).
- A multi-scale IRBM training and the publication of a resource manual can aid the implementation of the IRBM approach
- Trained practitioners in Source could be used to scale out Source in Afghanistan through projects like Arghandab watershed modelling.

- A regional science-based network is an effective platform for sharing issues and identifying solutions related to WRM.
- Involvement of national partners in the project, right from the design and planning phase, will increase ownership and ensure sustainability of the project outcome.

### DISCUSSION

The detailed presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- The presentation was appreciated by the participants
- Female participation in such meetings should be encouraged
- IRBM training was appreciated by the participants of the meeting
- The meeting brought clarity regarding the work on a WIS roadmap; CSIRO is working on the development of a WIS roadmap for Afghanistan
- The development of a WIS is a very resource demanding activity and takes a long time.



- DFAT – the Australian government – is committed to working with the Afghan government on the development of a WIS

## Update on UIBN Afghanistan Chapter

Arun Bhakta Shrestha gave an update on the Upper Indus Basin Network Afghanistan Chapter (UIBN-AC). He talked about the development of the UIBN-AC from its start in April 2018 till date. The Coordinator and Co-Coordinator of the UI-BNAC were nominated in the first UIBN-AC meeting in Delhi in October 2018. Leads and co-leads of the six Technical Working Groups were nominated as well. Members of the UIBN-AC also participated in the Regional UIBN meeting in January 2019 in Kathmandu, Nepal. The UIBN-AC has arranged a series of meetings in and outside Kabul.

Gender is integrated in the UIBN-AC. The Technical Working Groups are working on presentations and research papers, which is very encouraging. The government of Afghanistan is committed to supporting the UIBNAC beyond the project period. ICIMOD is also committed to supporting the UIBN-AC in the long run.

## Way forward

### A) MAINTAINING PROGRESS

Fayezurrahman Azizi from the MEW talked about maintaining the progress of the project. He explained all the thematic areas and developments that have taken place in the respective thematic area. The MEW has worked on the J2000 hydrological model and the results were shared with the Deputy Minister. A team of hydrologists has been established in the WRD to work on the hydrological modelling of other river basins and sub river basins in future.

A cryosphere monitoring team was established after the participants returned from the glacier monitoring training held in Kathmandu in December 2018. The team comprised representatives of the WRD, MEW, and Kabul University. The team will conduct a field trip to the benchmark glacier after procuring glacier monitoring tools, which is in progress.

The WRD, with the help of AKAH and ICIMOD, will install two CBFWS in the Panjshir River. Site selection has been done and installation will begin soon. The WRD will work on the installation of early warning systems on other major river basins.

The WRD and MEW are committed to carrying out the work done in e-water Source as well. They have established a team in the planning directorate, which is working closely with the WRD. They have a hydro-met database but are working closely with CSIRO to establish an integrated water information system.

There has been notable progress with regard to the establishment of the UIBN-AC and linking it with the regional UIBN. UIBN-AC meetings were held in Kabul at the initiative of the country chapter and commitment to working as a think tank on different areas of concern has been expressed.

### B) SWARMA PHASE-OUT AND THE STRATEGIC WAY FORWARD

#### Presentation by ICIMOD

Neera Shrestha Pradhan presented the SWaRMA phase-out and the strategic way forward on behalf of ICIMOD. She talked about the proposed success indicators, which were presented at the inception workshop:

1. Clarity on future strategies and actions
2. Eighty percent of project objective/outcome has been achieved
3. Well-established and functional partnership engagement mechanisms
4. Appropriate work management model and applications available
5. National experts explore opportunities to transform the project outcome towards a longer-term engagement with other relevant stakeholders.
6. SWaRMA is halfway through and moving towards achieving success indicators.
7. For the strategic way forward, Pradhan said that ICIMOD will prioritize the activities and continue the work conducted under SWaRMA, especially outputs 1 and 3.

The major activities proposed are as follows:

#### Output 1:

- 1.1 Scale out water assessment and climate change scenario tools (data atlas, training of trainers) and integrate them into the government system for wider use in future (web portal).
- 1.2 Provide technical support to establish a long-term cryosphere monitoring system in selected benchmark glaciers in the Kabul basin (from phase 1 and linking it with global forums like the World Glacier Monitoring Service).

- 1.3 Initiate systematic monitoring of one potential dangerous glacier lake (among those identified in phase 1) in the Kabul basin using a telemetry-based early warning system (roadmap, capacity building of local resource person/s).
- 1.4 Conduct remote sensing-based mapping of arable/cultivated land and generate water stress/drought information to support decision making for water management and irrigation infrastructure in the Kabul basin.
- 1.5 Support Afghan government experts to enhance understanding of multi-scale IRBM from a gender perspective by providing technical inputs and hands-on trainings. SWaRMA will also support the basin office to initiate IRBM plans for the Kabul basin.

### Output 3:

- 3.1 Support TWGs under the UIBN-AC to collect, compile, and share information on ongoing research in the Upper Indus Basin (Afghanistan).
- 3.2 Support the UIBN-AC to foster coordination among researchers working in the region through the regional UIBN so that they can share their experiences, knowledge, and understanding in water resource management.
- 3.3 Support Afghan participation in science-based international forums for strategic interaction and dissemination of information.

### Presentation by CSIRO

Shahriar Wahid highlighted three main points. First, he said that partnership had been achieved – the belief and trust that the partners have, he said, was a common cause for which they needed to work together. The second point encapsulated the vision that they want to achieve in the future. The third point discussed the importance of reaching an understanding about how to keep the momentum going.

### DISCUSSION

The presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- There is commitment from ICIMOD to continue SWaRMA beyond its present phase with potential ICIMOD donors
- The Afghan government is looking to the Australian government and DFAT for support for SWaRMA in the next phase

- Sediment should be included in future SWaRMA plans
- SWaRMA shall not be limited to seven thematic areas; it may look beyond them

### End of activity evaluation of SWaRMA

John Dore from the Government of Australia discussed the end of activity evaluation of SWaRMA. He said that the Australian government looked forward to doing a rapid evaluation of SWaRMA and getting advice from Afghan government colleagues on the evaluation process. It will review the seven areas to develop a simple framework and to have a fair process that allows qualitative and quantitative information to be put into discussion. A ToR needs to be drafted and shared with colleagues to make it constructive. He asked for ideas and suggestions from the participants about the timing of the evaluation and agreed that it should be completed before the next SC meeting.

### DISCUSSION

The presentation generated discussions, suggestions, and inputs from the participants of the meeting. The major discussion points were:

- It will be good to have the evaluation before the next Steering Committee meeting in order to maintain consistency and avoid delays in starting the new phase of the project.
- The evaluation process will help in starting the new phase of the SWaRMA project.
- There should be an independent specialist or consultant to evaluate the project.
- The ToR shall be drafted and shared with all partners for comments.
- The evaluation results should be reported to the Steering Committee as well.
- The evaluation process should be kept simple without spending a lot of resources.
- ICIMOD will support the process of evaluation (ToR development, hiring an independent consultant, etc.)

### Date for upcoming Steering Committee meeting

The proposed date for the upcoming Steering committee meeting is early November 2019. Bangkok was proposed as the venue for the upcoming meeting.

## SC action points

Arun Bhakta Shrestha presented the action points of the SC meeting at the end of the meeting:

- The SC members appreciated the gender workshop organized in Kabul and requested that more such workshops be organized in Kabul if possible.
- Considering the participation of Afghan participants in SWARMA events, which has increased in 2019 compared to 2018, MEW has committed to making a conscious decision to nominate more women participants in the upcoming meetings.
- The committee discussed the effectiveness of the J2000 model and replicating it in other sub-basins of the Kabul River. It was also proposed that the findings of hydrological modelling should be shared in the form of reports.
- Requested clarity on the changes made in the work plan of thematic area 5 on the water information system, and mentioned that the documents should be updated accordingly.
- Appreciated the IRBM training workshop and recommended exploring options to design IRBM modules based on demand for different audiences and countries (choice of modules, depth and modality of module delivery, etc.)
- Considering the increasing threat of drought in Afghanistan, it was proposed that drought

should be among important aspects to be considered for future activities.

- DFAT to seek opportunity for an exchange visit of Afghan partners to the Mekong programme to share experiences and enhance their capacities.
- Plan for external evaluation as a way forward. It is proposed that a simple ToR be prepared to provide qualitative and quantitative information. The floor agreed that the responsibility to develop the ToR and choose the right person to do the evaluation shall be given to the Strategic Planning, Monitoring and Evaluation Unit of ICIMOD. The evaluation shall be completed before the next SC meeting.
- It is proposed that the third and final SC meeting be held in November 2019.

## Major endorsement points

- SC member Fazulhaq Bakhtari is replaced by Fayezurrahman Azizi, Director-WRD, MEW.
- TCC member Mohammad Ebrahim Barezai is replaced by Mirwais Sohrabi, MEW.
- Conduct an independent end-of-project evaluation of SWARMA before the final SC meeting in November 2019.





## Closing session

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### **REMARKS BY JOHN DORE, GOVERNMENT OF AUSTRALIA/DFAT**

John Dore congratulated the team on achieving the goals of the project through their hard work. He said that there has been great progress since the last Steering Committee meeting. Australia and Afghanistan have established a wide range of relations; they also have a relationship with ICIMOD and other ICIMOD regional member countries. Dore said that the Australian government values those relationships immensely. He also said that Australia is evaluating the situation to see what it can do next and thanked all project partners for their hard work in the past months. He wished all success for the coming months of the project.

### **REMARKS BY FAYEZURAHMAN AZIZI, MINISTRY OF ENERGY AND WATER**

In his remarks, Azizi thanked ICIMOD, CSIRO, and all the partners for their contributions to the SWaRMA project. He said that as a focal ministry for the project, MEW is committed to continuing efforts to complete all ongoing activities as well as activities planned for the coming months. They will engage with all other partner government ministries and agencies. They need further support in future from their partners – the Australian government, ICIMOD, and CSIRO. He wished the project success for upcoming activities.

### **REMARKS BY RAFI QAZIZADA, MINISTRY OF AGRICULTURE, IRRIGATION AND LIVESTOCK**

Qazizada thanked all project partners for the successful implementation of the project. He especially thanked the Australian government for their support to the Afghan government. He said that it was a learning phase where Afghan government

colleagues learned a lot through discussions with different experts. He expressed his happiness with the progress of the project and said that it was going according to the work plan. SWaRMA is important because it has connected knowledge between Afghanistan and other ICIMOD regional countries. The implementation of this phase will help with planning for the next phase.

**REMARKS BY MOHAMMAD HASSAN FAIZEE, MINISTRY OF FOREIGN AFFAIRS, AFGHANISTAN**

In his remarks, Faizee expressed satisfaction with the progress of the project in all seven thematic areas. He said that there is still a lot to be done in the seven thematic areas, and that there should be a focus on gender inclusion across all thematic areas. He said that regional cooperation is an important thematic area and that they should not limit themselves to the UIBN. There are other mechanisms for promoting engagement at the regional and international levels. He thanked ICIMOD for the partnership mechanism established, and ICIMOD, CSIRO, and Afghan government agencies for their hard work throughout the project period.

**REMARKS BY EKLABYA SHARMA, ICIMOD**

In his remarks, Eklabya Sharma noted that SWaRMA has been an exciting partnership since its launch. He congratulated all the partners for the project's

progress. He said that SWaRMA is unique in terms of the diversity of its partners. SWaRMA has been very important to ICIMOD and the institution would like to take it further ahead. He expressed happiness that SWaRMA was working closely with the Himalayan University Consortium. He praised the inspiring engagement between SWaRMA project partners and thanked all of them for working as one family.

**REMARKS BY IDREES MALYAR, NATIONAL ENVIRONMENT PROTECTION AGENCY**

In his remarks, Idrees Malyar said that he was glad to participate in the Steering Committee meeting. He expressed happiness with the progress of the project. He requested CSIRO to expedite the process of developing a WIS roadmap. On behalf of NEPA, he showed his commitment to work more closely with the SWaRMA project, ICIMOD, CSIRO, and the Australian government. He promised to prepare a report upon his return to Afghanistan and present it to the Afghan president. On the way forward, he said that the project has momentum, that they have to carry it forward, and that there should be no pause and break in the middle. He noted that they can narrow or expand the scope of the project for the next phase and that quality work is important. He thanked the Australian government, ICIMOD, CSIRO, Afghan government ministries, agencies, and academic institutions for their hard work in the implementation of the project.



# ANNEX 1: Agenda

## Opening session, 5 April 2019, Friday

Time	Programme	Remarks
<b>Chief guest:</b> Idrees Malyer, Deputy Minister, Policy and International Affairs, NEPA <b>Chair of the session:</b> Paula Richardson, DFAT/Government of Australia <b>Session facilitator:</b> Neera Shrestha Pradhan, Programme Coordinator, SWaRMA <b>Rapporteur:</b> Ayub Khan Shinwari, Programme Officer, SWaRMA		
09:00 – 09:15	Registration	Indu/Ayub
09:15 – 10:15	<ul style="list-style-type: none"> <li>Welcome Remarks and objective of the meeting by Arun B Shrestha, Regional Programme Manager-River Basins and Cryosphere, ICIMOD (5 min)</li> <li>Remarks by Mohammad Hassan Faizee, DDG for Security Cooperation, Border Affairs and Transboundary Cooperation, MoFA (7 min)</li> <li>Remarks by Mohammad Rafi Qazizada, DG Natural Resource Management, MAIL and ICIMOD Board Member from Afghanistan (7 min)</li> <li>Overview of SWaRMA by Fayezurahman Azizi, Ministry of Energy and Water (10 min)</li> <li>Remarks by the Chief Guest (10 min)</li> <li>Discussion (10 min)</li> <li>Remarks by the Session Chair (7 min)</li> </ul>	Neera
10:15 – 10:45	Tea/Coffee Break/Group Photo	Indu

## Technical Coordination Committee Meeting, 5 April 2019, Friday

Time	Programme	Remarks
<b>Co-Chair:</b> Fayezurahaman Azizi, Ministry of Energy and Water <b>Co-Chair:</b> Arun B. Shrestha, Regional Program Manager, River Basins and Cryosphere (ICIMOD) <b>Rapporteur:</b> Ayub Khan Shinwari, Programme Officer, SWaRMA		
10:45 – 11:00	Brief introduction of the participants	Neera
11:00 – 11:30	Baseline capacity assessment by Ayub Khan Shinwari, SWaRMA Programme Officer, ICIMOD	Ayub
11:30 – 12:30	Progress against outcomes; Successes and lessons learnt including gender integration (7 min) and discussion (23 min): Water availability analysis – Mohammad Tayib Bromand and Santosh Nepal Cryosphere monitoring – Anna Sinisalo	
12:30 – 13:30	Lunch	Indu
13:30 – 15:00	Flood monitoring and early warning – Iqbal Sufizada and Neera Shrestha Pradhan Integrated River Basin Management – Santosh Nepal Water Resources Assessment at Basin scale – Sudan Cuddy	
3:00 – 3:30 pm	Tea/ coffee	
3:30 – 4:30 pm	Water Information System Roadmap – Peter Taylor Regional Cooperation – Arun Shrestha	
4:30 – 5:30 pm	1 <sup>st</sup> TCC decision points follow up Synthesis and lessons learnt for SWaRMA overall reporting (format/issues/stories) Action points and briefing points for SC Closing remarks by the Session Co-Chairs	

## SWaRMA Steering Committee Meeting, 6 April 2019, Saturday

Time	Programme	Remarks
09:00 – 09:15 am	Registration	Indu/Ayub
<p><b>Co-Chair:</b> Idrees Malyer, Deputy Minister, Policy and International Affairs, NEPA, Government of Afghanistan  <b>Co-Chair:</b> David Molden, Director General, ICIMOD  <b>Rapporteur:</b> Ayub Khan Shinwari, Programme Officer, SWaRMA</p>		
09:15 – 12:30	<p><b>Opening remarks by Co-Chairs</b>  <b>Presentation, Discussion, and Endorsement</b>            1) Administrative issues:</p> <ul style="list-style-type: none"> <li>• Approval of the SC agenda – Arun/Neera</li> <li>• 1st SC decision points follow up - Arun/Neera</li> <li>• Report back from 2nd TCC meeting– by TCC Co-Chair</li> </ul> <p>2) Current status and progress</p> <ul style="list-style-type: none"> <li>• SWaRMA progress against objectives, issues and lessons learnt – Neera/Wahid</li> <li>• Update on UIBN Afghanistan Chapter - Arun</li> </ul> <p>Tea/coffee break 3)- Way forward:</p> <ul style="list-style-type: none"> <li>• Maintaining progress - MEW</li> <li>• SWaRMA phase out and strategic way forward               <ul style="list-style-type: none"> <li>– MEW (representing Afghan partners)</li> <li>– ICIMOD</li> <li>– CSIRO</li> </ul> </li> <li>• Plan for independent end of activity evaluation of SWaRMA - DFAT</li> <li>• Date for upcoming SC meeting (proposed: Nov 2019) - Neera</li> <li>• Any other issues - Neera</li> <li>• Action points – Arun/Neera</li> <li>• Remarks by Government of Australia/DFAT</li> <li>• Remarks by Govt of Afghanistan (MEW, MAIL, MoFA)</li> <li>• Remarks by Eklabya Sharma (ICIMOD)</li> </ul> <p><b>Closing remarks by</b>  <b>Co-Chair:</b> ICIMOD  <b>Co-Chair:</b> Govt of Afghanistan</p>	
12:30 - 13:30 pm	Lunch	Indu
18:00 – 20:30 pm	Reception Dinner hosted by DG, ICIMOD	

## ANNEX 2: List of participants

SN	Name	Position	Particulars/Agencies	Email
1	Idrees Malyar	Deputy Minister	Policy and International Affairs, NEPA	pointddg.nepa@gmail.com
2	Mohammad Rafi Qazizada	Director General of Natural Resources Management/ICIMOD Board Member	Ministry of Agriculture, Irrigation and Livestock (MAIL)	mohammad.rafi@mail.gov.af m.rfi@hotmail.com
3	Fayezurahman Azizi	Director of Water Resources Department	Ministry of Energy and Water (MEW)	fayez.azizi@gmail.com
4	Mohammad Tayib Bromand	Water Resources and Climate Change Adaptation Specialist	Ministry of Energy and Water (MEW)	t.bromand22@gmail.com
5	Mirwais Sohrabi	Desk Officer for Transboundary Water, DG of Security Cooperation and Border Affairs	Ministry of Foreign Affairs (MoFA)	Mirwaissohrabi09@gmail.com
6	Mohd Hassan Faizee	Deputy Director General for Security Cooperation, Border Affairs and Transboundary Cooperation	Ministry of Foreign Affairs (MoFA)	Mhassanfaizee@gmail.com
7	Khalil Omar	Director of Irrigation Directorate	Ministry of Agriculture, Irrigation and Livestock (MAIL)	khalilomar129@gmail.com
8	Khan Mohammad Hasani	Agriculture Sector Expert	National Environment Protection Agency	khanhasani74@gmail.com
9	Abdulahad Kohdamani	Head of Risk Assessment Unit	Afghanistan National Disaster Management Authority (ANDMA)	abdulahadkohdamani@yahoo.com
10	Eqrar Mohammad Naim	Lecturer, Professor of Geosciences Faculty	Kabul University / Supreme Committee of Land and Water	naimeqrar@gmail.com
11	Habibullah Habib	Professor at the faculty of Environmental Engineering and Management	Kabul University	habib.bu@Gmail.com
12	Fawad Ahmad Rahyab	Assistant Professor	Kabul Polytechnic University	rahyabf@gmail.com
13	Fazlullah Durrani	Hydrologist	MEW	Eng.fazlullah9@gmail.com
14	Iqbal Sufizada	CBFEWS Expert	AKAH	iqbal.sufizada@akdn.org
15	John Dore	Lead Water Specialist	DFAT	john.dore@dfat.gov.au
16	Paula Richardson	Senior Programme Manager, Pakistan and Central Asia Section	DFAT	paula.richardson@dfat.gov.au
17	Samim Zamarai	Senior Programme Manager	DFAT, Australian Embassy Kabul	zamarai.samim@dfat.gov.au
18	Peter Taylor	Senior Software Engineer	CSIRO	peter.taylor@data61.csiro.au
19	Susan Cuddy	Team Leader - Basin Management Outcomes	CSIRO	susan.cuddy@csiro.au
20	Shahriar Wahid	CSIRO SDIP Director	CSIRO	shahriar.wahid@csiro.au
21	Todd Lovell	Manager, Australian Water Resources Information system	Bureau of Meteorology Australia	todd.lovell@bom.gov.au
22	David Molden	Director General	ICIMOD	david.molden@icimod.org
23	Eklabya Sharma	Deputy Director General	ICIMOD	eklabya.sharma@icimod.org
24	Arun Bhakta Shrestha	Regional Programme Manager, River Basin and Cryosphere	ICIMOD	arun.shrestha@icimod.org
25	Neera Shrestha Pradhan	Programme Coordinator, SWaRMA	ICIMOD	neera.pradhan@icimod.org
26	Santosh Nepal	Water and Climate Specialist	ICIMOD	santosh.nepal@icimod.org
27	Anna Sinisalo	Programme Coordinator, Cryosphere	ICIMOD	anna.sinisalo@icimod.org
28	Ayub Shinwari	Programme Officer, SWaRMA	ICIMOD	ayub.shinwari@icimod.org
29	Indu Chitrakar	Programme Associate, SWaRMA	ICIMOD	indu.chitrakar@icimod.org

# ANNEX 3: Photographs











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