



# PAKISTAN WATER WEEK 2023

International Conference on  
**TRANSFORMATIVE PATHWAYS FOR  
WATER AND FOOD SYSTEMS**  
*in a climate resilient Pakistan*

4-6 December 2023 | Serena Hotel, Islamabad - Pakistan



## CONFERENCE AGENDA



# OUR PARTNERS



Australian Government  
Australian Centre for  
International Agricultural Research





## Day 1: Monday, 4 December 2023

Registration/Assembly: 09:15 - 09:45 - Shamadan Hall

10:00 - 11:00

### Inaugural Session

The Arrival of the Chief Guest

Recitation from the Holy Quran

National Anthem of Pakistan

**MC - Dr. Mohsin Hafeez**, Director, Water, Food and Ecosystems, IWMI

**Opening Remarks - Dr. Claudia Ringler**, Co-Lead NEXUS Gains and Director, Natural Resources and Resilience, IFPRI

**Keynote Speaker - Dr. Mark Smith**, Director General, IWMI

**Chief Guest - Dr. Kauser Abdullah Malik**, Federal Minister, Ministry of National Food Security and Research

11:00 - 11:30

### Tea Break

11:30 - 13:00

### Plenary Session

**Ms. Sidra Khalid**, Youth Representative, IWMI

**Mr. Akmal Ali**, Youth Representative

Community Voices - Farmers' Perspective

**Mr. Francois Onimous**, World Bank Representative

Asian Development Bank Representative

**Ms. Maura O'Brien**, Deputy Mission Director, USAID

**Ms. Sandra Baldwin**, Deputy Development Director, FCDO, UK

**Mr. Stephen Langrell**, Team Leader Rural Development and Economic Cooperation, EU

**Ms. Florence Rolle**, Country Representative, FAO

**Mr. Abdullah A. Fadil**, Country Representative, UNICEF

**Dr. Sebastian Paust**, Head of Development Cooperation, German Embassy

**Chief Guest - Syed Murtaza Ali Shah**, Federal Secretary, Ministry of Water Resources

Vote of Thanks - **Dr. Mohsin Hafeez**, Director, Water, Food and Ecosystems, IWMI

13:00 - 14:00

### Prayer/Lunch Break



14:00 - 15:30

**SHAMADAN 1**

**Thematic Area 1:**

**Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan** - Dr. Bunyod Holmatov, IWMI

**Session 1:** The Need for an Integrated Water Resources Management Approach to Resolve Urban Water Issues in a Changing Climate

**SHAMADAN 2**

**Thematic Area 2:**

**Inclusive Water Governance: Exploring New Pathways and Perspectives** - Dr. Juan Carlos Sanchez Ramirez, IWMI

**Session 1:** Water Governance Challenges Across Sectors in Pakistan

**SHAMADAN 3**

**Thematic Area 3:**

**Technologies and Innovations: Responding to the Challenges of Water and Food Security** - Dr. Steve Davis, IFPRI

**Session 1:** Policy Dialogue on Transformative Pathways for Water, Food, and Land Systems in a Socially Inclusive and Climate Resilient Pakistan

15:30- 16:00

**Coffee/Tea Break**

16:00 - 17:30

**SHAMADAN 1**

**Thematic Area 1, Session 2:** Water-Energy-Food Nexus Modeling: A fad or the future?

**SHAMADAN 2**

**Thematic Area 2, Session 2:** Opportunities & Challenges Posed by the WEFE Approach - Implications for the Indus Basin

**SHAMADAN 3**

**Thematic Area 3, Session 2:** Sustainable Aquifer Management - Challenges and Opportunities

**End of Day 1**



## Day 2: Tuesday, 5 December 2023

Registration/Assembly: 08:30 - 09:30 - Shamadan Hall

09:30 - 11:00

### SHAMADAN 1

#### Thematic Area 1:

**Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan** - Dr. Bunyod Holmatov, IWMI

**Session 3:** The Climate-Migration Nexus: Leveraging Anticipatory Action for Disaster Management and Strengthening Food, Land, and Water Systems in Pakistan

### SHAMADAN 2

#### Thematic Area 2:

**Inclusive Water Governance: Exploring New Pathways and Perspectives** -

Dr. Juan Carlos Sanchez Ramirez, IWMI

**Session 3:** SDG 6: Clean Water and Sanitation - Where Do We Stand?

### SHAMADAN 3

#### Thematic Area 3:

**Technologies and Innovations: Responding to the Challenges of Water and Food Security** - Dr. Steve Davis, IFPRI

**Session 3:** The Impact of Climate Change on Droughts, Floods and Food Security in Pakistan

11:00 - 11:30

Coffee/Tea Break

11:30 - 13:00

### SHAMADAN 1

**Thematic Area 1, Session 4:** Pathways for Climate Smart On-Farm Water Management in Pakistan: Challenges and Opportunities



11:30 - 13:00

**SHAMADAN 2**

**Thematic Area 2, Session 4:** Pathways towards Implementing the National Water Policy: Federal and Provincial Perspectives

**SHAMADAN 3**

**Thematic Area 3, Session 4:** Youth for Climate Action Using Modern Technologies

13:00 - 14:00

**Prayer/Lunch Break**

14:00 - 15:30

**SHAMADAN 1**

**Thematic Area 1, Session 5:** Youth-Led Innovations for Climate-Resilient Water Management and Food Security (PM’s Youth Program)

**SHAMADAN 2**

**Thematic Area 2, Session 5:** Shaping Water Solutions: Stakeholder Feedback on IWMI’s Strategic Roadmap

**SHAMADAN 3**

**Thematic Area 3, Session 5:** Utilizing Water Accounting Insights and Big Data for Enhancing Agriculture Productivity in Pakistan

15:30 - 16:00

**Coffee/Tea Break**

**End of Day 2**



## Day 3: Wednesday, 6 December 2023

Registration/Assembly: 08:00 - 09:00 - Kehkeshan

09:00 - 10:30

### KEHKESHAN 1

#### Thematic Area 1:

**Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan** - Dr. Bunyod Holmatov, IWMI

**Session 6:** Maintaining Productivity of Salinity Affected Landscapes in the Indus Basin

### KEHKESHAN 2

#### Thematic Area 2:

**Inclusive Water Governance: Exploring New Pathways and Perspectives** - Dr. Juan Carlos Sanchez Ramirez, IWMI

**Session 6:** Harnessing Gender-Transformative Agents of Change for Improved Water Governance

### KEHKESHAN 3

#### Thematic Area 3:

**Technologies and Innovations: Responding to the Challenges of Water and Food Security** - Dr. Steve Davis, IFPRI

**Session 6:** Management of Hill-Torrents - Opportunities and Challenges

10:30 - 11:00

Coffee/Tea Break

11:00 - 12:30

### KEHKESHAN 1

**Thematic Area 1, Session 7:** Need of Response, Disruption of WASH Services in Climate Emergencies

### KEHKESHAN 2

**Thematic Area 2, Session 7:** Revitalizing the Indus - Exploring the Living Indus Initiative



11:00 - 12:30

**KEHKESHAN 3**

**Thematic Area 3, Session 7:** Leveraging Technological Innovations for Ensuring Water and food Security

12:30 - 13:30

**Prayer/Lunch Break**

13:30 - 15:00

**KEHKESHAN 1**

**Thematic Area 1, Session 8:** The Role of Climate Risk Analysis in Improving Resilience of Agricultural Systems

**KEHKESHAN 2**

**Thematic Area 2, Session 8:** Environmental Flows are Necessary to Restore the Ecosystem of the Indus Basin

**KEHKESHAN 3**

**Thematic Area 3, Session 8:** Irrigation through SUN - Can We Control the Heat to Sustain Our Aquifers?

15:00 - 15:30

**Coffee/Tea Break**

15:30 - 17:00

**Closing Session - Kehkeshan-I Hall**

Opening Remarks - **Dr. Hifza Rasheed**, Director General, PCRWR

Synthesis of Conference Proceedings

Thematic Area 1: **Dr. Bunyod Holmatov**, IWMI

Thematic Area 2: **Dr. Juan Carlos Sanchez Ramirez**, IWMI

Thematic Area 3: **Dr. Stephen Davies**, IFPRI

Keynote Speaker - **Dr. Mark Smith**, Director General, IWMI: COP 28 and Goals of Water Resilient Food Systems in a Changing Climate

Keynote Speaker - **Dr. Neil Lazarow**, Program Manager (Water), ACIAR Australia

Speech by the Chief Guest

Vote of Thanks - **Dr. Mohsin Hafeez**, Director, Water, Food and Ecosystems, IWMI

**End of Day 3**





# THEMATIC AREA 1

**Climate Resilient Pathways:  
Adaptation, Mitigation and Sustainable Development for a Secure Pakistan**





## Thematic Area 1 - Session 1

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 1: The Need for an Integrated Water Resources Management Approach to Resolve Urban Water Issues in a Changing Climate
<b>Date</b>	Day 1: Monday, 4 December 2023
<b>Time</b>	14:00 - 15:30 (PKT)
<b>Venue</b>	Shamadan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_ZILT-UGNQYiwzrl7shsSbw">https://us02web.zoom.us/webinar/register/WN_ZILT-UGNQYiwzrl7shsSbw</a>
<b>Summary</b>	<p>Population growth and climate change have produced an unprecedented demand for freshwater in many parts of the world. Urban, agriculture, industrial and environmental water demands have increased many folds to fulfill human needs and to maintain vital ecosystem services. Among these competing uses, the scale of urban water challenges, that is access to safely managed water, is a major concern for water utilities and policymakers. Resolving urban water challenges not only requires new legislation but also a new institutional regime to enforce legislation. Integrated Water Resources Management (IWRM) strives for the coordinated development and management of water, land, and ecosystems to maximize economic and social welfare in an equitable and sustainable manner. The approach is internationally accepted and has led to major policy initiatives in few countries. Pakistan's National Water Policy and provincial water Acts guide for better water allocations among competing users under the principles of IWRM. There have been numerous ongoing discussions in Pakistan on the application of IWRM principles. However, there is little understanding of the IWRM concept and implementation on the ground. This session will provide a range of perspectives on the implementation of IWRM approaches in different settings, key challenges and lessons learned, and how IWRM can support improved water governance and climate change resilience.</p>



<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. What is the role of IWRM in supporting more dynamic planning approaches to climate resilience?</li> <li>2. What are the most appropriate governance and institutional structures for implementing IWRM, particularly in the urban context?</li> <li>3. What are the key impediments to bringing IWRM into practice, particularly in developing countries?</li> <li>4. How can social inclusion and equity can be ensured in IWRM, given they are one of the key principles of the approach?</li> </ol>
<b>Panelists</b>	<ol style="list-style-type: none"> <li>1. Engr. Dr. Imran Hameed Durrani, Deputy MD &amp; Chief Engineer, Water and Sanitation Authority Q-WASA, Quetta</li> <li>2. Mr. Nathan Rive, Senior Climate Change Specialist, ADB</li> <li>3. Ms. Kanwal Waqar, Researcher, IWMI Pakistan</li> <li>4. Engr. Habib Ullah Bodla, Chief Engineer, Punjab Irrigation Department</li> <li>5. Engr. Hafiz Qaisar Yasin, Director, OFWM, Punjab</li> <li>6. Mr. Haile Gashaw, Chief of WASH, Climate Change, Environment and DRR, UNICEF Pakistan</li> </ol>
<b>14:00 - 14:05</b> <b>14:05 - 14:10</b>  <b>14:10 - 14:3</b>  <b>14:35 - 15:10</b> <b>15:10 - 15:25</b> <b>15:25 - 15:30</b>	<p><b>Agenda</b></p> <p><b>Moderator:</b> Dr. Muhammad Arshad, IWMI Pakistan</p> <p><b>Rapporteur:</b> Dr. Asif Naseer, IWMI Pakistan</p> <p><b>Setting the Scene:</b> Dr. Muhammad Arshad, IWMI Pakistan</p> <p><b>Opening Remarks:</b> Mr. Lal Jan Jaffar, Secretary P&amp;D, Government of Balochistan</p> <p><b>Keynote Speaker:</b> Prof. Ilyas Masih, IHE Delft: The Global Perspective and Experience on IWRM Implementation - Lessons and Way Forward To Achieve Urban Water Security Under Changing Climate</p> <p>Panel Discussion</p> <p>Questions and Answers from Audience</p> <p><b>Closing Remarks:</b> Mr. Muhammad Abid Bodla, Member (Water/ID/CC), Planning and Development Board, Punjab</p>

1. Each session is 1.5 hrs.
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3. Sessions to comprise: panelist perspectives on a topic, or presentation and panel feedback and Q&A, or intersperse with video to break up
4. Use Menti polls (online system logging with mobile phone) to take audience poll, seek feedback
5. Option of roundtable discussion as a different type of session with presenters and active debate
6. Prepare thematic paper outlining each theme and the topics to be covered



## Thematic Area 1 - Session 2

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 2: Water-Energy-Food Nexus Modeling: A fad or the future?
<b>Date</b>	Day 1: Monday, 4 December 2023
<b>Time</b>	16:00 - 17:30 (PKT)
<b>Venue</b>	Shamadan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_LoFdOD3uSx00qeByaDv7Xw">https://us02web.zoom.us/webinar/register/WN_LoFdOD3uSx00qeByaDv7Xw</a>
<b>Summary</b>	<p>Understanding the intricate interplay between water, energy, and food systems is essential for promoting synergy, trade-offs, and ensuring the sustainability of investments in water, energy, and food security, particularly within the context of a changing climate. This session seeks to underscore the merits of employing integrated modeling frameworks by presenting a series of enlightening case studies from different countries under the NEXUS Gains initiative. Following these case studies, we will engage in a substantive discussion aimed to align scientific insights with policymaking and enhancing collaboration to tackle climate extremes and secure the future of these critical systems. Our goal is to enhance water, food, energy, and environmental outcomes, especially as we face the escalating challenges posed by climate extremes.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. How can integrated management of water, energy and food (WEF) systems help to build resilience against climate change and pandemics, particularly for vulnerable small-holder farmers?</li> <li>2. How does climate change impact WEF nexus, challenges from farm, irrigation system, watershed, country to Indus basin scale (i.e., change of temperature, precipitation, melt water contribution, growing seasons, crop types etc.)?</li> <li>3. What are the opportunities for diversifying the energy mix and reducing the water footprint of energy production in the Indus Basin?</li> <li>4. What are the potential WEF nexus solutions for different scales in the Indus Basin?</li> </ol>



<p><b>Key Questions</b></p>	<p>5. How will policy-level changes, such as reducing the acreage allocated for high water-intensive delta crops like sugarcane and rice, affect the economy and food security?</p> <p>6. Could the increased emphasis on climate change adaptation help to overcome disciplinary and administrative silos in the WEF nexus, and how?</p>
<p><b>Panelists</b></p>	<p>1. Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor, University of Agriculture Faisalabad</p> <p>2. Prof. Dr. Bushra Yasmin, Dept. of Economics, Fatima Jinnah Women University</p> <p>3. Dr. Muhammad Jehanzeb Cheema, Researcher, IWMI Pakistan</p> <p>4. Dr. Bashir Ahmad, Director CEWRI, PARC</p> <p>5. Dr. Imran Saqib Khalid, Director Governance &amp; Policy, WWF</p>
<p><b>16:00 - 16:05</b></p> <p><b>16:05 - 16:20</b></p> <p><b>16:20 - 16:40</b></p> <p><b>16:40 - 17:10</b></p> <p><b>17:10 - 17:25</b></p> <p><b>17:25 - 17:30</b></p>	<p><b>Agenda</b></p> <p><b>Moderator:</b> Dr. Claudia Ringler, Director, Natural Resources &amp; Resilience, IFPRI</p> <p><b>Rapporteur:</b> Ms. Iqra Akram, IWMI Pakistan</p> <p><b>Setting the Scene:</b> Dr. Claudia Ringler, Director, Natural Resources &amp; Resilience, IFPRI</p> <p><b>Keynote Speaker:</b> Dr. Bunyod Holmatov, Researcher, IWMI Global: WEF Nexus Modeling: Applying PyWR in Central Asia</p> <p><b>Keynote Speaker:</b> Dr. Steve Davies, Senior Research Fellow IFPRI: Releasing Water from High Delta Crops for Other Beneficial Uses - Potential Opportunities and Challenges</p> <p>Panel Discussion</p> <p>Questions and Answers from Audience</p> <p><b>Closing Remarks:</b> Capt. (R) Muhammad Mahmood, Secretary, Ministry of National Food Security and Research</p>

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## Thematic Area 1 - Session 3

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 3: The Climate-Migration Nexus: Leveraging Anticipatory Action for Disaster Management and Strengthening Food, Land, and Water Systems in Pakistan
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	09:30 - 11:00 (PKT)
<b>Venue</b>	Shamadan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_yhourx4cQ_aoHA1pQyoV7g">https://us02web.zoom.us/webinar/register/WN_yhourx4cQ_aoHA1pQyoV7g</a>
<b>Summary</b>	<p>This session will delve into the intricate dynamics of Pakistan's climate-migration nexus, particularly its effects on critical food, land, and water systems (FLWS). Sudden or unplanned migration, often triggered by conflicts and complex disasters, can place significant strain on FLWS and lead to potential tensions in host communities. Pakistan serves as a unique case study for the CGIAR's Fragility, Conflict, and Migration (FCM) initiative, aimed at addressing these multifaceted challenges with a strong emphasis on climate resilience, gender equity, and social inclusion. The session will highlight the importance of recognizing and understanding the complex interplay between climate stress, human-made crises, and gender perspectives. Experts will share insights on using anticipatory action (AA) approaches to enhance disaster response within this complex context. We will hear insights on Pakistan's evolving response strategy to address challenges stemming from climate-induced migration and disaster management and opportunities for strengthening evidence-based decision-making.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. Anticipatory action (AA) is a key approach to enhance disaster response. How is Pakistan currently addressing disaster preparedness in policy and practicality, including addressing climate-induced migration and the resulting stresses brought on to FLWS?</li> <li>2. What new measures (nature-based solutions, engineered structures, any responsive and inclusive humanitarian action to local context) have been set in</li> </ol>



place or implemented at the national level to strengthen the resilience of communities against natural hazards?

3. Are the needs of women, children, and other vulnerable groups considered in the planning and development of disaster response mechanisms? What measures can be taken to make Pakistan’s anticipatory action strategies more gender-inclusive?
4. How are early warning systems and technology being leveraged to improve disaster prevention and response? Are the most vulnerable communities being reached? How can private sector and government work together to improve digital communications during times of crises?

**Panelists**

1. Engr. Ahmad Kamal, Chairman Federal Flood Commission, Ministry of Water Resources
2. Mr. Muhammad Abid Bodla, Member (Water/ID/CC), Planning and Development Board, Punjab
3. Mr. Mubashar Hussain, Manager Disaster Risk Reduction/Finance (DRR/DRF), NDRMF
4. Barrister Sarah Kazmi, Legal and Gender Expert; Partner, Energy Resource Management
5. Ms. Nusrat Nasab, CEO, Aga Khan Agency for Habitat

**Agenda**

**Moderator:** Dr. Juan Carlos, IWMI Global

**Rapporteur:** Ms. Sidra Khalid, IWMI Pakistan

**09:30 - 09:35**

**Setting the Scene:** Engr. Ahmad Kamal, Chairman Federal Flood Commission, Ministry of Water Resources

**09:35 - 09:55**

**Keynote Speaker:** Dr. Evan Easton-Calabria, Red Cross Red Crescent Climate Centre: Research and Evidence to Inform Anticipatory Action

**10:00 - 10:45**

Panel Discussion

**10:45 - 10:55**

Questions and Answers from Audience

**10:55- 11:00**

**Closing Remarks:** Dr. Sandra Ruckstuhl, IWMI Global

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## Thematic Area 1 - Session 4

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 4: Pathways for Climate Smart On-Farm Water Management in Pakistan: Challenges and Opportunities
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	11:30 - 13:00 (PKT)
<b>Venue</b>	Shamadan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_BS29o1VAQX2FbHoeK6Cq9g">https://us02web.zoom.us/webinar/register/WN_BS29o1VAQX2FbHoeK6Cq9g</a>
<b>Summary</b>	<p>On-farm water management (OFWM) plays a strategically significant role in the agricultural and rural development landscape of Pakistan. The OFWM directorates, operating within provincial agriculture departments, serve as crucial intermediaries between public sector entities and the farming community. Farmers encounter diverse challenges in optimizing water and agricultural practices, including defining crop water demand and supply, uneven surface water distribution, low water application efficiencies, depleting groundwater, water and land salinity, poor drainage, and impacts of climate extremes. These challenges necessitate science-based solutions, improved coordination among public sector institutions, and increased participation of the farming community. In this session, a panel discussion will bring together representatives from provincial OFWM directorates, farmers, academia, and development agencies/NGOs/private sector to explore the status of their efforts in identifying obstacles and pathways for efficient on-farm water management in Pakistan.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. The practice of water indenting (ordering) and supplies is still not science-based - what is being done to improve it and how?</li> <li>2. A bottleneck in developing command areas is to construct branch watercourses assuming that farmers will do it themselves - can this be done differently and innovatively?</li> <li>3. The draining system is almost nonexistent resulting in huge post-flood damages - do we know the hotspots and how to tackle this challenge?</li> </ol>



4. The agriculture sector is the largest consumer of depleting groundwater resources - with increasing competition between sectors on GW, how prepared is the agriculture sector for a trade-off?
5. How can the private sector play a role in efficiently improving farm water management, and does any business model exist?

### Panelists

1. Mr. Masoud Ahmed Baloch, DG OFWM, Agriculture and Cooperative Department, Government of Balochistan
2. Mr. Muhammad Ayub Burdi, DG Training, Agriculture, Supply and Prices Department, Government of Sindh
3. Engr. Hafiz Qaisar Yasin, Director OFWM, Agriculture Department, Government of Punjab
4. Engr. Javed Iqbal Khattak, DG OFWM, Agriculture Department, Government of Khyber Pakhtunkhwa
5. Ms. Sameena Nazir, Executive Director, Potohar Organization for Development Advocacy

### Agenda

**Moderator:** Dr. Tousif Bhatti, IWMI Pakistan

**Rapporteur:** Ms. Bareerah Fatima, PCRWR

**Setting the Scene:** Dr. Tousif Bhatti, IWMI Pakistan

**Opening Remarks:** Engr. Kifayat Zaman, DG, Federal Water Management Cell, MNFSR

**Keynote Speaker:** Dr. Hifza Rasheed, DG PCRWR: Overview of National Water Conservation Strategy 2023 - Challenges & Opportunities for Implementation  
Panel Discussion

Questions and Answers from Audience

**Closing Remarks:** Dr. Umair Arshad, Progressive Farmer

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## Thematic Area 1 - Session 5

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 5: Youth-Led Innovations for Climate-Resilient Water Management and Food Security (PM's Youth Program)
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	14:00 - 15:30 (PKT)
<b>Venue</b>	Shamadan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_SMeH8I4gRqKeKXECa4vmfg">https://us02web.zoom.us/webinar/register/WN_SMeH8I4gRqKeKXECa4vmfg</a>
<b>Summary</b>	<p>The session, featuring a keynote speech by the Special Assistant to the Prime Minister on Youth Affairs, will facilitate discussions aimed at fostering knowledge sharing and collaboration to drive youth-led solutions for a climate-resilient Pakistan, crucial in a country where the youth bulge accounts for 70% of the total population. Focused on 'Youth-Led Innovations for Climate-Resilient Water Management and Food Security,' this session underscores the pivotal role of young innovators in tackling water-related issues. Keynote presentations will showcase innovative projects from students and members of the Green Youth Movement (GYM) clubs, highlighting their contributions to water conservation. The session will also delve into the potential for international development partners to support and enhance these clubs, contributing to climate-resilient solutions, sustainable water management, and food security.</p>



## Agenda

	<b>Moderator:</b> Mr. Ali Khan, Technical Advisor, PM's Youth Program
	<b>Rapporteur:</b> Syeda Saniya Batool Zaidi
<b>14:00 - 14:05</b>	<b>Setting the Scene:</b> Mr. Ali Khan, Technical Advisor, PM's Youth Program
<b>14:05 - 14:10</b>	Short Documentary on Prime Minister's Green Youth Movement
<b>14:10 - 14:20</b>	<b>Young Scientist Contribution:</b> Ms. Hafsa Aeman, IWMI Pakistan: Innovations in Water Resources Management
<b>14:20 - 14:35</b>	<b>Keynote Speaker:</b> Dr. Muhammad Ali Malik, Deputy Secretary PMYP: Overview of PMYP & How Youth Can Seek Maximum Benefits from PMYP and Digital Youth Hub
<b>14:35 - 14:50</b>	<b>Keynote Speaker:</b> Sayad Wasi Ahmad Fatimi, Special Assistant to the Prime Minister on Youth Affairs: Seek Maximum Benefits from PMYP and Digital Youth Hub
<b>14:50 - 15:30</b>	Presentations by GYM Club Members on Innovative Water Conservation Projects

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## Thematic Area 1 - Session 6

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 6: Maintaining Productivity of Salinity Affected Landscapes in the Indus Basin
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	09:00 - 10:30 (PKT)
<b>Venue</b>	Kehkashan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_D965KyWJTKWCmsSNKm2x5w">https://us02web.zoom.us/webinar/register/WN_D965KyWJTKWCmsSNKm2x5w</a>
<b>Summary</b>	<p>Pakistan's agriculture-dependent economy is facing a water crisis. With over 90% of water withdrawals dedicated to irrigated agriculture, unsustainable extraction and widespread degradation prevail. Tube wells, pumping 70% brackish water, exacerbate salinization, notably in Southern Punjab and Sindh, impacting over 449,201 hectares annually, with 40,000 abandoned. Salinity affects 56% of Sindh's irrigated land, contributing to soil degradation and rural poverty. Despite past initiatives like the Salinity Control and Reclamation Project (SCARP), challenges persist, impacting around 6.3 million hectares with salts and an additional 1 million hectares with waterlogging. The session will explore best salinity management practices in agriculture and the potential of aquaculture as an alternative livelihood for saline land, underscoring the need for shared understanding and modern farming techniques. Ground truthing insights for aquaculture potential in Punjab and Sindh will be discussed, alongside a panel conversation to foster collaborative efforts in combating salinity, promoting sustainable agriculture practices, and shaping effective government policies.</p>

### Key Questions

1. What are the main causes and geographic distribution of soil and water salinity in Indus Basin, and how is it affecting the crop production and livelihoods in Pakistan?
2. What are the most suitable agronomic, water management, and soil and water amendment practices to combat salinity, which can be adapted locally?
3. Are there any nature-based solutions to mitigate salinity, and how effective and practical are these solutions?



<p><b>Key Questions</b></p>	<p>4. How does salinity management appear in water, environmental, and agricultural policies? What is missing at the policy level and how can it be better integrated?</p> <p>5. What are the prospects to utilize saline water for aquaculture in Pakistan? Which fish breeds are locally available to flourish in saline water and how can aquaculture help in improving food security and livelihoods in saline areas?</p>
<p><b>Panelists</b></p>	<p>1. Dr. Judit Snethlage, Wageningen University</p> <p>2. Dr. Martijn van Staveren, Netherlands Water Partnership</p> <p>3. Dr. Muhammad Ashfaq Anjum, Soil Salinity Research Institute</p> <p>4. Mr. Muhammad Junaid Wattoo, Fisheries Development Board Pakistan</p> <p>5. Mr. Raheel Mustafa Gondal, Director Salinity &amp; Env, IWASRI-WAPDA</p>
<p><b>09:00 - 09:05</b></p> <p><b>09:05 - 09:15</b></p> <p><b>09:15 - 09:25</b></p> <p><b>09:25 - 09:35</b></p> <p><b>09:35 - 10:20</b></p> <p><b>10:20 - 10:25</b></p> <p><b>10:25 - 10:30</b></p>	<p><b>Agenda</b></p> <p><b>Moderator:</b> Dr. Sarfraz Munir, IWMI Pakistan</p> <p><b>Rapporteur:</b> Dr. Shahid Iqbal, IWMI Pakistan</p> <p><b>Setting the Scene:</b> Dr. Sarfraz Munir, IWMI Pakistan</p> <p><b>Keynote Speaker:</b> Dr. Javier Mateo-Sagasta, IWMI Global: Water Salinization by Agriculture - A Global Overview</p> <p><b>Keynote Speaker:</b> Prof. Ed Barrett-Lennard, University of Western Australia: Making Agriculture Work Better on Saline Soils in Pakistan</p> <p><b>Keynote Speaker:</b> Dr. Mohsin Hafeez, Director, Water, Food &amp; Ecosystems, IWMI: Potential of Saline and Brackish Aquaculture in the Indus Basin</p> <p>Panel Discussion</p> <p>Questions and Answers from Audience</p> <p><b>Closing Remarks:</b> Mr. Muhammad Abid Bodla, Member (Water/ID/CC), Planning and Development Board, Punjab</p>

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6. Prepare thematic paper outlining each theme and the topics to be covered



## Thematic Area 1 - Session 7

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 7: Need of Response, Disruption of WASH Services in Climate Emergencies
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	11:00 - 12:30 (PKT)
<b>Venue</b>	Kehkashan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_W1m_7Sx-Rwi67yk4rtE89g">https://us02web.zoom.us/webinar/register/WN_W1m_7Sx-Rwi67yk4rtE89g</a>
<b>Summary</b>	<p>In the face of escalating climate emergencies, such as the devastating floods in 2022 that impacted over 33 million people, Pakistan confronts severe challenges in maintaining essential Water, Sanitation, and Hygiene (WASH) services. Despite contributing less than 1% to global greenhouse gas emissions, Pakistan bears the brunt of climate impacts. Following the floods, over 8 million people still lack access to safe drinking water, emphasizing the pressing need for responsive WASH services in the aftermath of climate-related events. As a lower middle-income country, Pakistan's vulnerability underscores the importance of innovative strategies, enhanced governance, and community-focused initiatives to ensure the resilience and sustainability of WASH services amidst the increasing unpredictability of climate events. This session will delve into these challenges, exploring practical solutions to fortify WASH infrastructure and address the heightened demands posed by climate emergencies in Pakistan. Through expert insights and collaborative discussions, participants will gain valuable perspectives on navigating the complex intersection of climate change and WASH services in the country.</p>



<p><b>Key Questions</b></p>	<ol style="list-style-type: none"> <li>1. In the current economic outlook, how can we ensure adequate financial resources for climate emergencies? How can development funds for WASH be better put to use?</li> <li>2. Are there any gaps in knowledge and data that can help improve the sector preparedness and response to climate emergencies?</li> <li>3. What are some of the lessons learned in Pakistan following the 2022 Floods?</li> <li>4. Given the ongoing challenges in providing safe drinking water and sanitation post-floods, what innovative approaches can be adopted to bridge the gap and expedite recovery in the affected areas?</li> <li>5. As climate events exacerbate existing inequities, how can the WASH sector work towards reducing disparities in service provision, particularly in vulnerable communities?</li> </ol>
<p><b>Panelists</b></p>	<ol style="list-style-type: none"> <li>1. Ms. Sarah Lumsdon, Humanitarian Advisor, FCDO</li> <li>2. Mr. Rashid Rehan, Professor Urban Infrastructure Planning, NIUIP, UET Peshawar</li> <li>3. Mr. Sarfraz Lal Din, Country Director, ACTED</li> <li>4. Mr. Haile Gashaw, Chief of WASH, Climate Change, Environment and DRR, UNICEF Pakistan</li> </ol>
<p><b>11:00 - 11:10</b> <b>11:10 - 12:15</b> <b>12:15 - 12:30</b></p>	<p><b>Agenda</b>  <b>Moderator:</b> Ms. Asiya Ashraf Chaudhry, UNICEF Pakistan  <b>Rapporteur:</b> Ms. Kiran Qazi, UNICEF  <b>Setting the Scene:</b> Ms. Asiya Ashraf Chaudhry, UNICEF Pakistan                  Panel Discussion                  Questions and Answers from Audience</p>

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## Thematic Area 1 - Session 8

<b>Thematic Area</b>	Climate Resilient Pathways: Adaptation, Mitigation and Sustainable Development for a Secure Pakistan
<b>Title</b>	Thematic Session 8: The Role of Climate Risk Analysis in Improving Resilience of Agricultural Systems
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	13:30 - 15:00 (PKT)
<b>Venue</b>	Kehkashan-1
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_JkA8n9Y1Qla07fFoQmfm6w">https://us02web.zoom.us/webinar/register/WN_JkA8n9Y1Qla07fFoQmfm6w</a>
<b>Summary</b>	<p>As climate change impacts are becoming more frequent and severe, many governments are rethinking approaches on how to assess and prioritize climate change risks. New ideas and novel approaches to climate change risk assessments are increasingly being explored, including co-development, enhancing engagement, centering equity, increasing the scope and comprehensiveness of what's assessed, using the latest science and methodologies, and exploring new ways to overcome limitations. These attempts are most often met with a mix of expected and unanticipated successes, challenges, and lessons learned. With much effort put into developing climate change risk assessments, their benefit in terms of adaptation planning rests on overcoming challenges in communicating, translating, and mobilizing findings in ways that are relevant, practical, compelling, and accessible for diverse audiences. This session will begin by offering insights and lessons learned in challenging the status quo in both implementing and sharing climate change risk assessments and will create space for conference participants to connect and share their respective successes, challenges, and lessons learned with one another.</p>

### Key Questions

1. What technological advancements or tools can enhance the precision and reliability of climate change risk assessments, particularly when applied to agricultural systems
2. How can climate risk analyses and assessments contribute to the resilience of agricultural food systems?



3. Are there any real-world success stories in climate risk assessments, particularly in the agriculture sector?
4. How can fostering collaboration and networking among stakeholders contribute to the effective utilization of Climate Risk Analysis (CRA) findings?
5. In what ways can policymakers integrate climate risk assessment findings into broader strategies for sustainable agricultural development, ensuring alignment with global climate goals?

**Panelists**

1. Ms. Nuzbah Shaheen, Senior Scientist, GCISC
2. Dr. Ghani Akber, Principal Scientific Officer and Program Leader, PARC
3. Dr. Kauser Takrim, Director China Study Center, UOP
4. Dr. Muhammad Azmat, Head of Department, Geoinformatics Engineering, IGIS-SCEE, NUST
5. Dr. Shahid Iqbal, Researcher, IWMI Pakistan

**Agenda**

**Moderator:** Mr. Sana Ullah Khan, Technical Advisor CRA, GIZ

**Rapporteur:** Ms. Arooba Irfan, GIZ Pakistan

**13:30 - 13:35**

**Setting the Scene:** Mr. Sana Ullah Khan, Technical Advisor CRA, GIZ

**13:35 - 13:50**

**Opening Remarks:** Ms. Basma Mhamdi-Jacobi, Project Manager SAR, GIZ Pakistan

**13:50 - 14:05**

**Keynote Speaker:** Prof. Dr. Anwar-ul-Hassan Gilani, Chairman, Pakistan Council for Science & Technology: Smart Agriculture: Navigating Climate Uncertainties through Data-driven Solutions

**14:05 - 14:20**

**Keynote Speaker:** Dr. Zafar Gafurov, Researcher, IWMI Global: Role of Digital Information System for Climate Risk Assessment in Agriculture Sector

**14:20 - 14:40**

Panel Discussion

**14:40 - 14:55**

Questions and Answers from Audience

**14:55 - 15:00**

**Closing Remarks:** Ms. Stoyanka Stich, Cluster Coordinator, Energy and Climate Change, GIZ Pakistan

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# THEMATIC AREA 2

**Inclusive Water Governance:  
Exploring New Pathways and Perspectives**





## Thematic Area 2 - Session 1

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 1: Water Governance Challenges Across Sectors in Pakistan
<b>Date</b>	Day 1: Monday, 4 December 2023
<b>Time</b>	14:00 - 15:30 (PKT)
<b>Venue</b>	Shamadan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_jSqqgueHzS2utmfsk177jhA">https://us02web.zoom.us/webinar/register/WN_jSqqgueHzS2utmfsk177jhA</a>
<b>Summary</b>	<p>Water governance in Pakistan remains weak, top-down, siloed, and male-dominant. There is an absence of an integrated water resource management approach across different institutions and across different sectors. Strengthening the institutional capacity to improve water governance is crucial. This includes improving the regulatory framework, enhancing monitoring and enforcement mechanisms, promoting research and sex-disaggregated data collection on water resources, and providing training and technical support to water management institutions and promoting participation of gender and youth in water resources management and practice. This session will explore these challenges and solutions, featuring a keynote presentation and a panel discussion. The dialogue will focus on strategies to improve water governance, increase women's involvement, and foster public-private sector partnerships.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. What comes to mind when we use the phrase "Water Governance"?</li> <li>2. How can we become more holistic in terms of including all sectors when we take initiative toward improving water governance?</li> <li>3. How can the private sector play its role in improving water governance?</li> <li>4. Can Pakistan adopt a public-private partnership model for the execution and operation of large water sector projects to ensure pay back of investment in defined time period?</li> </ol>



5. How can we re-appropriate the water allocation across various sectors based on their contribution to the GDP?
6. What steps are required to ensure better participation and decision-making of women in water governance?

**Panelists**

1. Engr. Ahmad Kamal, Chairman, Federal Flood Commission, Ministry of Water Resources
2. Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor, University of Agriculture Faisalabad
3. Dr. Shaheen Akhtar, HoD Department of IR, FCS, NDU, Islamabad
4. Prof. Bakhshal Lashari, Emeritus Professor, USPCAS-W, MUET

**Agenda**

**Moderator:** Dr. Azeem Shah, IWMI Pakistan

**Rapporteur:** Dr. Abdur Rehman Cheema, IWMI Pakistan

**Setting the Scene:** Dr. Azeem Shah, IWMI Pakistan

**Keynote Speaker:** Dr. Juan Carlos Sanchez Ramirez, Senior Researcher, IWMI Global: Effective Water Governance for a Sustainable Future – Policy Coherence and Best Practices Across Multiple Sectors

Panel Discussion

Questions and Answers from Audience

**Closing Remarks:** Dr. Nadeem Javaid, Professor of Economics & Strategy, KSBL

**14:00 - 14:05**

**14:05 - 14:20**

**14:20 - 15:10**

**15:10 - 15:25**

**15:25 - 15:30**

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6. Prepare thematic paper outlining each theme and the topics to be covered



## Thematic Area 2 - Session 2

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 2: Opportunities, Needs and Challenges for Achieving Sustainable Growth and Inclusive Development through the Water-Energy-Food (WEF) Nexus in the Indus Basin
<b>Date</b>	Day 1: Monday, 4 December 2023
<b>Time</b>	16:00 - 17:30 (PKT)
<b>Venue</b>	Shamadan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_EMUSUjTLTTqixOxIJszeRA">https://us02web.zoom.us/webinar/register/WN_EMUSUjTLTTqixOxIJszeRA</a>
<b>Summary</b>	<p>Critical challenges facing water, energy, food, and the environment (WEFE) are intricately intertwined. Yet, national policies, the institutional architecture and supporting technical capacity treat these issues in fragmented, sectoral ways. This results in inefficient investments that fail to account for potential trade-offs and for prospective synergies stemming from an integrated management of these resources. Also, significant capacity enhancement of younger and female participants in NEXUS sectors in technical, social and gender analysis must be encouraged in parallel to any institutional reforms. This session will explore the opportunities and challenges associated with institutionalizing an integrated WEFE nexus approach within the Government of Pakistan and related training and educational institutions. Government and academic actors across the water, energy, agriculture, and environment sectors will discuss capacities and institutional change required to bring a nexus approach to life. The session will support a shared vision of capacity and institutional strengthening strategies to improve the integrated management of WEFE resources for more sustainable growth and inclusive development.</p>



<p><b>Key Questions</b></p>	<ol style="list-style-type: none"> <li>1. What institutional challenges does the Government of Pakistan face in adopting a WEFE nexus approach?</li> <li>2. What capacity strengthening and/or institutional change is required to foster a WEFE nexus approach within Government of Pakistan?</li> <li>3. What opportunities, strategies, resources and training programs can support adoption of such an approach?</li> <li>4. What are the needed features of a multidisciplinary focus in education to support these new approaches?</li> </ol>
<p><b>Panelists</b></p>	<ol style="list-style-type: none"> <li>1. Prof. Rasool Bux Mahar, VC, BBS University of Technology and Skill Development</li> <li>2. Engr. Aamir Khan, Chief SPRU, Punjab Irrigation Department</li> <li>3. Ms. Sehrish Raja, IFPRI Pakistan</li> <li>4. Engr. Nadeem Sadiq, DG BARDC, PARC</li> </ol>
<p><b>16:00 - 16:05</b></p> <p><b>16:05 - 16:20</b></p> <p><b>16:20 - 16:35</b></p> <p><b>16:35 - 17:10</b></p> <p><b>17:10 - 17:25</b></p> <p><b>17:25 - 17:30</b></p>	<p><b>Agenda</b></p> <p><b>Moderator:</b> Dr. Mohsin Hafeez, Director, Water, Food &amp; Ecosystems, IWMI</p> <p><b>Rapporteur:</b> Ms. Sidra Khalid, IWMI Pakistan</p> <p><b>Setting the Scene:</b> Dr. Mohsin Hafeez, Director, Water, Food &amp; Ecosystems, IWMI</p> <p><b>Keynote Speaker:</b> Dr. Afreen Siddiqi, Senior Researcher, MIT USA: An Adaptive Systems Framework for Leveraging the WEFE Nexus in Pakistan</p> <p><b>Keynote Speaker:</b> Prof. Julien Harou, University of Manchester, UK: New Tools and Approaches to Assess and Plan Interdependent Water-Energy-Food-Environment Systems</p> <p>Panel Discussion</p> <p>Questions and Answers from Audience</p> <p><b>Closing Remarks:</b> Engr. Mushtaq Gill, Former DG ONFWM, Government of Punjab</p>
<ol style="list-style-type: none"> <li>1. Each session is 1.5 hrs.</li> <li>2. Session to be mixed and lively, gender balance in panel</li> <li>3. Sessions to comprise: panelist perspectives on a topic, or presentation and panel feedback and Q&amp;A, or intersperse with video to break up</li> <li>4. Use Menti polls (online system logging with mobile phone) to take audience poll, seek feedback</li> <li>5. Option of roundtable discussion as a different type of session with presenters and active debate</li> <li>6. Prepare thematic paper outlining each theme and the topics to be covered</li> </ol>	



## Thematic Area 2 - Session 3

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 3: SDG 6: Clean Water and Sanitation - Where Do We Stand?
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	09:30 - 11:00 (PKT)
<b>Venue</b>	Shamadan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_wTJVTRb-Sl25gdTCCu3MJw">https://us02web.zoom.us/webinar/register/WN_wTJVTRb-Sl25gdTCCu3MJw</a>
<b>Summary</b>	<p>This session will provide an overview of the current status of Water, Sanitation, and Hygiene (WASH) in Pakistan, focusing on the benchmarks set by SDG 6, particularly targets 6.1 (safe drinking water) and 6.2 (sanitation and hygiene). Despite progress, gaps persist, hindering the achievement of SDG 6. Based on the Joint Monitoring Programme (JMP) criteria for safely managed drinking water services, 79.3% of the population has access to drinking water whenever needed while 71.5% of the population has water available on premises. However, only 35.8% of the national water supply is free from contamination. The discussion will feature insights from a distinguished panel of experts representing both government and international organizations actively engaged in advancing WASH initiatives, providing a comprehensive perspective on policies, institutional arrangements, planning, monitoring, capacity building, and financing within the sector.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. Is Pakistan on track to meet its SDG 6.1 and 6.2 target?</li> <li>2. What are financing needs and options to cover the financing gap?</li> <li>3. How WASH targets in Pakistan can be monitored?</li> <li>4. Are there institutional arrangements in place to identify and remove bottlenecks impeding progress of WASH Sector?</li> <li>5. How can we ensure that WASH initiatives in Pakistan incorporate a gender-responsive approach to address the unique needs and challenges faced by women, girls, and marginalized communities in accessing safe water and sanitation and hygiene?</li> </ol>





## Panelists

1. Mr. Abdul Wali Kakar, Secretary PHED, Balochistan
2. Mr. Muhammad Karim, Assistant Director LG&RD Balochistan
3. Dr. Hifza Rasheed, Director General, PCRWR
4. Ms. Sana Habib, Senior Statistician, PBS
5. Dr. Saima Shafique, Director WASH MoCC&EC
6. Dr. Muhammad Masud, WASH&CED Specialist, UNICEF Balochistan
7. Mr. Arif Jabbar Khan, Country Director WaterAid Pakistan
8. Mr. Asim Saleem, Country Director Mercy Corps Pakistan
9. Engr. Arsala Khan, WASH Specialist, Islamic Relief Pakistan

## Agenda

**Moderator:** Mr. Kamran Naeem, WASH & CED Specialist, UNICEF Pakistan

**Rapporteur:** Dr. Naheed Rajper, MoWR

**09:30 - 09:35**

**Setting the Scene:** Mr. Kamran Naeem, WASH & CED Specialist, UNICEF Pakistan

**09:35 - 09:50**

**Keynote Speaker:** Mr. Tanveer Rahim, Deputy Secretary, PHED, Balochistan

**09:50 - 10:05**

**Keynote Speaker:** Mr. Niazullah Khan, AWF Pvt. Ltd, Representative Private Sector SWA Constituency

**10:05 - 10:40**

Panel Discussion

**10:40 - 10:55**

Questions and Answers from Audience

**10:55 - 11:00**

**Closing Remarks:** Mr. Haile Gashaw, Chief of WASH, Climate Change, Environment and DRR, UNICEF Pakistan

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## Thematic Area 2 - Session 4

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 4: Pathways towards Implementing the National Water Policy: Federal and Provincial Perspectives
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	11:30 - 13:00 (PKT)
<b>Venue</b>	Shamadan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_6vHkTMBOTA0ftCWV3yjn2g">https://us02web.zoom.us/webinar/register/WN_6vHkTMBOTA0ftCWV3yjn2g</a>
<b>Summary</b>	<p>The Government of Pakistan (GoP) considers water as a strategic resource, recognizing its direct connection to food security and, consequently, the nation's overall security. The Pakistani government formulated the National Water Policy (NWP) in 2018, outlining seven key principles and strategic priorities. This policy serves as a comprehensive framework, guiding the development of sustainable solutions for effective water management. Substantial progress has already been achieved in aligning with NWP priorities, such as the construction of two new dams (Mohmand and Basha). Additionally, all four provinces are actively working towards the development of provincial water acts to align with the NWP, with Punjab and KP provinces having already approved the Punjab Water Act 2019 and KP Water Act 2020, respectively. This session will critically assess progress made by different provinces in implementing the NWP. The dialogue will provide a better understanding of the different initiatives carried out by the federal government and the irrigational departments from the four provinces while shedding light on the challenges encountered during the NWP implementation.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. The National Water Policy 2018 – has five main targets (Clause 28.4) for 2018-2030. Are we on track?</li> <li>2. What are the constraints that has prevented the National Water Council from convening?</li> <li>3. Do the provincial Water Acts – Water Commission, Water Regulatory Authority align with the National Water Policy?</li> <li>4. What more can we do to ensure that this policy converts into practice?</li> </ol>



## Panelists

1. Mr. Tahir Orakzai, Secretary, KP Government Irrigation Department
2. Dr. Wasif Khursheed, Secretary, Punjab Government Irrigation Department
3. Mr. Niaz Ali Abbasi, Secretary, Sindh Government Irrigation Department
4. Engr. Nasir Majeed, Chief Engineer, Balochistan Government Irrigation Department
5. Dr. Shaheen Akhtar, HOD and Regional Security Expert, NDU

## Agenda

**Moderator:** Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI

**Rapporteur:** Dr. Abdur Rehman Cheema, IWMI Pakistan

**11:30 - 11:35**

**Setting the Scene:** Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI

**11:35 - 11:40**

**Opening Remarks:** Syed Ali Murtaza Shah, Secretary, Ministry of Water Resources

**11:40 - 12:00**

**Keynote Speaker:** Engr. Syed Mehar Ali Shah, Joint Secretary (Water), Ministry of Water Resources

**12:00 - 12:45**

Panel Discussion

**12:45 - 12:55**

Questions and Answers from Audience

**12:55 - 13:00**

**Closing Remarks:** Dr. Steve Davies, Senior Research Fellow, IFPRI

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## Thematic Area 2 - Session 5

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 5: Shaping Water Solutions: Stakeholder Feedback on IWMI's Strategy 2024-2030
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	14:00 - 15:30 (PKT)
<b>Venue</b>	Shamadan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_eUshr1EYQ4aJC9ja5fah1g">https://us02web.zoom.us/webinar/register/WN_eUshr1EYQ4aJC9ja5fah1g</a>
<b>Summary</b>	<p>IWMI's mission is to advance the transformation of water systems through collective action by generating and applying evidence for impact on sustainable, climate-resilient development. To succeed in this mission, IWMI is in the process of rolling out its 2024-2030 organizational strategy. The strategy has three strategic areas: alleviating water risks, reducing global inequalities, and managing water sustainability. Each area is supported by four transformational levers, including water data science, gender youth and social inclusion, water governance, and scaling finance and investment. Recognizing partners as the linchpin of this strategy, this session is dedicated to sharing the roadmap with our esteemed partners and gathering their invaluable feedback to enhance water and food security in Pakistan. Your insights and perspectives are crucial in shaping our collective journey toward a water-secure and resilient future. Join us in this collaborative dialogue as we work together to address the challenges and opportunities on the path to achieving impactful, sustainable outcomes in the realm of water and food security.</p>



## Agenda

**Moderator:** Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI

**Rapporteur:** Dr. Novaira Junaid, IWMI Pakistan

**14:00 - 14:05**

**Setting the Scene:** Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI

**14:05 - 14:25**

**Keynote Speaker:** Dr. Mark Smith, Director General, IWMI: IWMI's Global Strategy 2024-30

**14:25 - 15:25**

Feedback from the Audience

**15:25 - 15:30**

**Closing Remarks:** Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI

1. Each session is 1.5 hrs.
2. Session to be mixed and lively, gender balance in panel
3. Sessions to comprise: panelist perspectives on a topic, or presentation and panel feedback and Q&A, or intersperse with video to break up
4. Use Menti polls (online system logging with mobile phone) to take audience poll, seek feedback
5. Option of roundtable discussion as a different type of session with presenters and active debate
6. Prepare thematic paper outlining each theme and the topics to be covered



## Thematic Area 2 - Session 6

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 6: Harnessing Gender-Transformative Agents of Change for Improved Water Governance
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	9:00 - 10:30 AM (PKT)
<b>Venue</b>	Kehkashan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_Gy6a4_eXSjOzF0N6SEi4Rw">https://us02web.zoom.us/webinar/register/WN_Gy6a4_eXSjOzF0N6SEi4Rw</a>
<b>Summary</b>	<p>Gender equality in water governance is fundamental for ensuring equitable and efficient management of water resources. It entails promoting the participation of all gender and social groups in decision-making processes and fostering fair access to water resources, aligning with broader sustainability goals. While women are recognized as significant agents of change, bringing unique insights, skills, and experiences that result in more sustainable and effective water management practices, they are not the sole contributors. Gender transformative approaches in water governance challenge inequitable systems and include diverse voices and experiences. This session explores the opportunities and challenges of gender transformative approaches and their pivotal role in reshaping water governance. In this engaging session, expert panelists will showcase real-world examples of success and share practical strategies for implementation. Together, we will embark on a journey to champion gender equality as a driving force behind improved water management and governance.</p>



### Key Questions

1. Ms. Fatima Anila, Chief Operating Officer, ONENETWORK/Founder, Women in Renewable Energy PAK
2. Ms. Iffat Jamil, Project Manager WFP
3. Ms. Bareerah Fatima, Director, PCRWR
4. Ms. Tanya Khan, Team Leader, Adam Smith International
5. Dr. Masood Arshad, Senior Director, WWF
6. Ms. Shandana Khan, Chief Executive Officer, Rural Support Programmes Network

### Agenda

**Moderator:** Ms. Khadija Begum, IWMI Pakistan

**Rapporteur:** Ms. Kanwal Waqar, IWMI Pakistan

**Setting the Scene:** Ms. Khadija Begum, IWMI Pakistan

**Keynote Speaker:** Dr. Marlène Elias, Senior Scientist, Alliance Bioversity-CIAT: Gender Transformative Approaches for Equitable and Sustainable Management of Small Water Reservoirs

Panel Discussion

Question and Answers

**Closing Remarks:** Dr. Claudia Ringler, Director, Natural Resources & Resilience, IFPRI

**09:00- 09:10**

**09:10- 09:30**

**09:30- 10:15**

**10:15-10:25**

**10:25-10:30**

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## Thematic Area 2 - Session 7

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 7: Revitalizing the Indus - Exploring the Living Indus Initiative
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	11:00 - 12:30 (PKT)
<b>Venue</b>	Kehkashan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_OnsZIfTaS7KVI4yfdDgSDA">https://us02web.zoom.us/webinar/register/WN_OnsZIfTaS7KVI4yfdDgSDA</a>
<b>Summary</b>	<p>The Living Indus Initiative is a comprehensive strategy focused on revitalizing the Indus River Basin, a critical ecosystem in Pakistan. Its primary objective is to safeguard the basin's natural resources and biodiversity, which are under threat from climate change, pollution, and overexploitation. Led by the United Nations in Pakistan, this effort involves collaboration with the government, private sector, civil society, and local communities. The initiative has identified 25 initial measures centered on nature-based and ecosystem-focused adaptations. These include initiatives such as rehabilitating wetlands, mangroves, forests, and grasslands, advocating for sustainable agriculture and fisheries, improving water quality and quantity, advancing disaster risk management, and supporting environmentally-friendly livelihoods and education. The session aims to raise awareness about the Living Indus Initiative by providing background information and a summary of ongoing activities. The goal of the panel discussion is to explore ways in which partners and stakeholders can contribute to the Living Indus through collaborative efforts and how we can align our activities with the 25 identified interventions.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. How can stakeholders from different sectors collaborate to support the Living Indus Initiative?</li> <li>2. What specific ways does the Living Indus Initiative facilitate partnerships between government, private sector, and local communities?</li> <li>3. Are there opportunities for local communities to actively participate in the implementation of the Living Indus Initiative?</li> <li>4. How can businesses or industries align their operations with the goals of the Living Indus Initiative?</li> </ol>





5. Are there avenues for academic or research institutions to contribute to the success of the Living Indus Initiative?
6. Can you provide examples of successful collaborations that have positively impacted the Living Indus Initiative?
7. What resources or support mechanisms are available to assist organizations in their collaborative efforts with the Living Indus Initiative?
8. How can international organizations or entities contribute to the efforts of the Living Indus Initiative?

### Panelists

1. Mr. Shah Nasir Khan, Head of UNRCO, UNRCO Pakistan
2. Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI
2. Engr. Nasir Ghafoor Khan, Former Chief Engineer, Department of Irrigation, KP Government
3. Ms. Afia Salam, Journalist and Environmentalist
4. Dr. Shanzeela Farooq, Department of Environmental Sciences, International Islamic University Islamabad
5. Ms. Aisha Sarwari, Director Public Affairs, The Coca-Cola Company

### Agenda

**Moderator:** Mr. Fazli Imran, UNRCO Pakistan

**Rapporteur:** Dr. Asif Naseer, IWMI Pakistan

**Setting the Scene:** Mr. Fazli Imran, UNRCO Pakistan

**Keynote Speaker:** Dr. Aban Marker Kabraji, Sr. Technical Advisor, Sr. Advisor Climate and Biodiversity, UNDCO Asia Pacific

**Keynote Speaker:** Mr. Shah Nasir Khan, Head of UNRCO, UNRCO Pakistan

Panel Discussion

Question and Answers

**Closing Remarks:** Mr. Ashfaq Mahmood, Former Secretary, Ministry of Water Resources

**11:00 - 11:05**

**11:05 - 11:25**

**11:25 - 11:35**

**11:35 - 12:10**

**12:10 - 12:25**

**12:25 - 12:30**

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## Thematic Area 2 - Session 8

<b>Thematic Area</b>	Inclusive Water Governance: Exploring New Pathways and Perspectives
<b>Title</b>	Thematic Session 8: Environmental Flows are Necessary to Restore the Ecosystem of the Indus Basin
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	13:30 - 15:00 (PKT)
<b>Venue</b>	Kehkashan-2
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_we2mUljoS1CEkfUKNsVXQw">https://us02web.zoom.us/webinar/register/WN_we2mUljoS1CEkfUKNsVXQw</a>
<b>Summary</b>	<p>Environmental flows (e-flows) are internationally defined as the quantity, timing, and quality of freshwater flows and levels necessary to sustain aquatic ecosystems which, in turn, support human cultures, economies, sustainable livelihoods, and well-being. One of the great rivers of the world, the Indus River supports a multitude of people, many of whom are dependent on its ecosystem resources. As water is progressively withdrawn from the river, it is increasingly necessary to set e-flow targets for the river, so that flows do not decline and people can still benefit. Setting these e-flow targets, and integrating these targets into the management of the basin, are necessary if the river is to be protected. This session will review the practice of e-flow determination and how the management of the Indus would benefit from e-flow implementation under the WEFE Nexus Gains Initiative.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. What is the understanding about E-Flow requirements?</li> <li>2. What kind of datasets are available with their departments that can help determine E-Flow requirements of their respective basin/sub-basins?</li> <li>3. What kind of policies are available in the provinces that take into account E-Flows?</li> <li>4. What is the priority of different provinces/departments with regards to E-Flows?</li> <li>5. What steps/projects are being undertaken by provinces or departmentst E-Flows and what kind of projects are planed?</li> <li>6. In the current Water-Energy-Food-Climate nexus, what kind of steps are needed to address E-Flow issues?</li> </ol>



## Panelists

1. Prof. Dr. Bakhshal Khan Lashari, USPCAS-W, MUET
2. Ms. Ghazala Channar, Deputy Chief (Water), Planning Commission of Pakistan
3. Engr. Hammad Naqi Khan, DG, WWF Pakistan
4. Dr. Hifza Rasheed, DG, PCRWR
5. Mr. Mahmood Akhtar Cheema, Country Representative, IUCN
6. Dr. Chaturangi Wickramaratne, Researcher, IWMI

## Agenda

**Moderator:** Dr. Mohammad Ashraf, Former Chairman, PCRWR

**Rapporteur:** Dr. Sarfraz Munir, IWMI Pakistan

**Setting the Scene:** Dr. Mohammad Ashraf, Former Chairman, PCRWR

**Keynote Speaker:** Dr. Chris Dickens, Principal Researcher, IWMI Global:  
Environmental Flows, Ecosystems and Water Resources Management in Indus Basin

Panel Discussion

Question and Answers

**Closing Remarks:** Engr. Ahmad Kamal, Chairman Federal Flood Commission, Ministry of Water Resources

**13:30 - 13:35**

**13:35 - 14:00**

**14:00 - 14:40**

**14:40 - 14:55**

**14:55 - 15:00**

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# THEMATIC AREA 3

**Technologies and Innovations:  
Responding to the Challenges of Water and Food Security**





## Thematic Area 3 - Session 1

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 1: Policy Dialogue on Transformative Pathways for Water, Food, and Land Systems in a Socially Inclusive and Climate Resilient Pakistan
<b>Date</b>	Day 1: Monday, 4 December 2023
<b>Time</b>	14:00 - 15:30 (PKT)
<b>Venue</b>	Shamadan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_8W_ajoymRRWt7EcHZxEYWQ">https://us02web.zoom.us/webinar/register/WN_8W_ajoymRRWt7EcHZxEYWQ</a>
<b>Summary</b>	<p>Pakistan stands at the forefront of multiple crises, grappling with the challenges of water scarcity, food insecurity, economic instability, and the looming risk of conflicts. In the face of these pressing issues, the need for political action is now. This session will convene enators and ministry representative in an open and constructive dialogue on improving Pakistan’s policies related to water and food systems in the context of climate change. Discussions with a dynamic group of experts will focus on aligning existing policies, engaging diverse stakeholders, and enhancing policy considerations for socio-economic impacts. We will also explore strategies for policymakers to work together more collaboratively toward climate resilient solutions. Join the dialogue to contribute to the crucial dialogue on shaping policy interventions that address the urgent and interconnected challenges facing water, food, and land systems in Pakistan.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. Pakistan has no shortage of policies related to water, food, and climate change. What is the biggest obstacle in properly implementing these policies?</li> <li>2. How can we better align existing policies to avoid duplication and confusion surrounding roles and responsibilities? Further, how can we ensure improved engagement of all stakeholders, including the government, civil society, and international organizations, for more effective policy implementation?</li> <li>3. Many existing policies often lack consideration of the socio-economic aspects of water, food, and land systems, focusing more on technical aspects and</li> </ol>



'hardware' outputs. How can policymakers enhance policies to ensure the impacts on different societal groups are considered? What steps are needed to incorporate more gender, economic, and social indicators in the development of policies?

4. What role do parliamentarians envision for Pakistan in regional and international collaborations to address shared water challenges, and how can diplomatic efforts be leveraged to ensure cooperative and sustainable management of transboundary water resources?
5. Do you think Pakistan is well positioned to achieve the targets under SDG 1 (no poverty) and SDG 6 (clean water and sanitation)? What strategies can effectively tackle the socio-economic challenges of poverty reduction and vulnerability mitigation in Pakistan amidst an uncertain climatic future?

**Panelists**

1. Senator Dr. Muhammad Humayun Mohmand, Member, Standing Committee on Water Resources and Climate Change
2. Senator Dr. Musadik Masood Malik, Member, Senate Standing Committee on Water Resources
3. Senator Sana Jamali, Member of Standing Committee on Water Resources
4. Mr. Ashfaq Mahmood, Former Secretary, Ministry of Water Resources
5. Engr. Muhammad Tahir Anwer, Former Director General, Federal Water Management Cell, Ministry of National Food Security and Research

**Agenda**

**Moderator:** Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI

**Rapporteur:** Dr. Novaira Junaid, IWMI Pakistan

**Setting the Scene:** Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI

Panel Discussion

Questions and Answers from Audience

**Closing Remarks:** Dr. Mark Smith, Director General, IWMI

**14:00 - 14:05**

**14:05 - 15:10**

**15:10 - 15:25**

**15:25 - 15:30**

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## Thematic Area 3 - Session 2

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 2: Sustainable Aquifer Management - Challenges and Opportunities
<b>Date</b>	Day 1: Monday, 4 December 2023
<b>Time</b>	16:00 - 17:30 (PKT)
<b>Venue</b>	Shamadan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_c1dgC0K7T2qQ-tWXjGWNmg">https://us02web.zoom.us/webinar/register/WN_c1dgC0K7T2qQ-tWXjGWNmg</a>
<b>Summary</b>	<p>Widespread over-extraction of groundwater has led to the rapid depletion of aquifers, outpacing their natural recharge rates in many regions globally. This overexploitation places immense strain on groundwater resources, risking water security for agriculture, industry, communities, and the environment at large. Simultaneously, contamination from several sources, including industrial discharges and agricultural runoff, poses a significant risk to water quality and aquatic ecosystems. Balancing the often-competing demands of different stakeholders, ranging from large-scale agricultural enterprises to local communities, proves to be a multifaceted and contentious challenge. Moreover, the impact of climate change further exacerbates these challenges, altering precipitation patterns and increasing the unpredictability of aquifer recharge rates. This session sheds light on the paramount challenges facing sustainable aquifer management across regions and provides insights into the diverse tools and strategies employed for preserving aquifer health. It will include an insightful panel discussion that explores how emerging technologies, policy interventions, and legislation can contribute to more effective aquifer management.</p>



**Key Questions**

1. How can we effectively regulate and curtail the over-extraction of groundwater in regions experiencing rapid aquifer depletion, and what measures can be implemented to align extraction rates with natural recharge rates?
2. What innovative strategies and technologies are being deployed to address and mitigate contamination issues arising from industrial discharges and agricultural runoff, thereby safeguarding water quality and protecting aquatic ecosystems?
3. What adaptive measures and strategies are being adopted to enhance aquifer resilience and stability in the face of changing environmental conditions?
4. How can emerging technologies, policy interventions, economic incentives and legislation effectively contribute to improving aquifer management?

**Panelists**

1. Mr. Tariq Yameen, Deputy Chief, Water Resources Zone, Punjab Irrigation Department
2. Engr. Zafar Iqbal Watto, Director, Rehman Habib Consultants
3. Ms. Hafsa Aeman, IWMI Pakistan
4. Dr. Yasir Niaz, HoD, KFUEIT
5. Mr. Francois Onimus, Senior Water Resources Specialist, World Bank

**Agenda**

**Moderator:** Dr. Muhammad Ashraf, Former Chairman, PCRWR

**Rapporteur:** Dr. Muhammad Tahir Ali, IWMI Pakistan

**Setting the Scene:** Dr. Muhammad Ashraf, Former Chairman, PCRWR

**Keynote Speaker:** Dr. Ruth Meinzen-Dick, Senior Research Fellow, Natural Resources & Resilience, IFPRI: The Role of Governance in Sustainable Aquifer Management

Panel Discussion

Questions and Answers from Audience

**Closing Remarks:** Engr. Hafiz Qaisar Yasin, Director, OFWM, Punjab

**16:00 - 16:05**

**16:05 - 16:25**

**16:25 - 17:15**

**17:15 - 17:25**

**17:25 - 17:30**

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## Thematic Area 3 - Session 3

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 3: The Impact of Climate Change on Drought, Flooding and Food Security in Pakistan
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	09:30 - 11:00 (PKT)
<b>Venue</b>	Shamadan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_DqOWTp-jTsmSE1Q2bZIV2Q">https://us02web.zoom.us/webinar/register/WN_DqOWTp-jTsmSE1Q2bZIV2Q</a>
<b>Summary</b>	<p>Climate change, coupled with inefficient water use in agriculture, is amplifying global water resource challenges, leading to increased droughts and floods. The Indus Basin, diverting 90% of freshwater for food production with low irrigation efficiency, faces heightened vulnerabilities. Anthropogenic climate change and intensifying extreme weather events, particularly in Pakistan, necessitate proactive measures. This session will highlight Pakistan's increasing susceptibility to floods and droughts, prompting considerations for an Early Drought Warning System (EDWS) to mitigate the impact. The proposed EDWS aims to anticipate and prepare for prolonged droughts crucial for a population heavily reliant on agriculture. The discussion will cover the system's reliance on meteorological and hydrological data, its communication strategy for disseminating alerts, and the pivotal role of community engagement. A pilot implementation in select regions will be detailed, paving the way for a gradual scale-up based on its success. Through keynote speeches and a panel discussion, we will gain insights into the interplay of climate change, water security, and early warning systems in vulnerable regions like Pakistan.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. What are the most important indicators to monitor for early drought detection in Pakistan?</li> <li>2. What are the best data sources and monitoring methods for each indicator? Some data may be available from existing monitoring networks, while other data may need to be collected through new surveys or remote sensing.</li> </ol>



3. How can the data be integrated and analyzed to develop timely and accurate drought warnings?
4. How can the drought warnings be communicated to stakeholders in a timely and effective manner?
5. How can the EDWS be integrated with existing disaster management and preparedness plans?

<b>Panelists</b>	<ol style="list-style-type: none"> <li>1. Dr. Simone Field, Head of Climate Resilience, FCDO</li> <li>2. Dr. Shahzada Adnan, Director, Pakistan Meteorological Department</li> <li>3. Dr. Asif Khan, Consultant, Water and Climate Change</li> <li>4. Ms. Sobia Becker, Advisor, Pak-German Climate &amp; Energy Partnership, GIZ</li> <li>5. Mr. Asad Ali Zafar, Water Resources Specialist, ADB</li> </ol>
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	<p><b>Agenda</b></p> <p><b>Moderator:</b> Dr. Mohsin Hafeez, Director, Water, Food &amp; Ecosystems, IWMI</p> <p><b>Rapporteur:</b> Dr. Shahid Iqbal, IWMI Pakistan</p>
<b>09:30 - 09:35</b>	<b>Setting the Scene:</b> Dr. Mohsin Hafeez, Director, Water, Food & Ecosystems, IWMI
<b>09:35 - 09:40</b>	<b>Opening Remarks:</b> Lt. Gen. (R) Nadeem Ahmad, Regional Advisor, Asian Disaster Preparedness Centre, Islamabad
<b>09:40 - 09:55</b>	<b>Keynote Speaker:</b> Dr. Aditi Mukherji, Director, Climate Change & Impact Assessment Platform, CGIAR: Climate Change, Water and Adaptation
<b>09:55 - 10:10</b>	<b>Keynote Speaker:</b> Dr. Giriraj Amarnath, Research Group Leader, IWMI Global: Addressing the Complex Problem of Managing Floods And Drought through Integrated Approaches, Policies, and Practices For Disaster Risk Reduction Strategies
<b>10:10 - 10:40</b>	Panel Discussion
<b>10:40 - 10:55</b>	Questions and Answers from Audience
<b>10:55 - 11:00</b>	<b>Closing Remarks:</b> Mahr Sahibzad Khan, Director General, Pakistan Meteorological Department

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## Thematic Area 3 - Session 4

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 4: Youth for Climate Action Using Modern Technologies
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	11:30 - 13:00 (PKT)
<b>Venue</b>	Shamadan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_efzFPWP4Rz-MAbR1E_ACwQ">https://us02web.zoom.us/webinar/register/WN_efzFPWP4Rz-MAbR1E_ACwQ</a>
<b>Summary</b>	<p>The session will explore the significant role of Pakistan's youth, constituting 68% of the population, in addressing climate change challenges. Drawing insights from the 2021 Youth and Climate Change Perception Report, the discussion will explore the youth's high-level understanding of climate change, driven by firsthand experiences of its impacts. Despite possessing innovative ideas to tackle climate change, youth often encounter obstacles in translating these concepts into action due to resource constraints. Emphasizing the untapped potential for youth engagement, particularly integrating a gender dimension, the session will touch upon initiatives like the Climate Change Gender Action Plan and COP In My City. It will spotlight the Ministry of Climate Change and Environmental Coordination's efforts, supported by UNICEF, in providing a platform for over 1,500 delegates to showcase their climate awareness and contribute to discussions on pressing climate issues and potential policy interventions. The overarching theme will center on harnessing modern technologies to empower and mobilize youth for effective climate action.</p>



## Key Questions

1. How can young people be more effectively involved in climate action and climate negotiation processes?
2. How can technology choices enhance the engagement of young people in climate action?
3. How can modern technology facilitate young peoples' understanding of and response to climate change?
4. What are recent achievements in youth engagement for climate action by the government and other stakeholders?

## Panelists

1. Ms. Sabahat Ambreen, WASH & CED Specialist, UNICEF Pakistan
2. Mr. Usman Manzoor, Climate and Environment Specialist, UNDP Pakistan
3. Ms. Iina Pyykkö, Programme Analyst, Women Peace and Security
4. Mr. Ihtasham ul Haq, Commissioner Bahawalpur
5. Mr. Waqas Idrees, Mentor COP in My City
6. Ms. Zainab, Co-founder, Climate Forward Focus Pakistan

## Agenda

**Moderator:** Mr. Kamran Naeem, WASH & CED Specialist, UNICEF Pakistan

**Rapporteur:** Dr. Naheed Rajper, MoWR

**Setting the Scene:** Ms. Hafsa Rizwan, Consultant MoCC&EC

**Keynote Speaker:** Ms. Aisha, UN Women

**Keynote Speaker:** Ms. Zainab Waheed, UNICEF Youth Ambassador

Panel Discussion

Questions and Answers from Audience

**Closing Remarks:** Ms. Hadika Jamshed, Advisor on Carbon Markets, MoCC&EC

**11:30 - 11:35**

**11:35 - 11:45**

**11:45 - 11:55**

**11:55 - 12:35**

**12:35 - 12:50**

**12:50 - 13:00**

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## Thematic Area 3 - Session 5

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 5: Utilizing Water Accounting Insights and Big Data for Enhancing Agriculture Productivity in Pakistan
<b>Date</b>	Day 2: Tuesday, 5 December 2023
<b>Time</b>	14:00 - 15:30 (PKT)
<b>Venue</b>	Shamadan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_WCoobKc9Td2kSnB2xsCMAQ">https://us02web.zoom.us/webinar/register/WN_WCoobKc9Td2kSnB2xsCMAQ</a>
<b>Summary</b>	<p>This session will delve into the multifaceted challenges of water scarcity in Pakistan, stemming from both natural and anthropogenic factors. The discussion will underscore the critical role of water accounting insights and big data applications in addressing these challenges, particularly within the agricultural sector. Pakistan's vulnerability to climate-related events, such as floods, droughts, and heatwaves, will be highlighted, emphasizing the urgent need for robust data-driven approaches for resilient water resource management. The session aims to explore international best practices and potential solutions tailored to Pakistan's unique circumstances, fostering collaborative discussions with the global community to enhance agriculture productivity through innovative technologies and water accounting strategies.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. One of the important pillars of the National Water Policy of Pakistan is to develop water accounting systems for transparent water use among different users. How can big data be helpful for the implementation of the Water Accounting framework from the field to the system scale?</li> <li>2. We agree that monitoring systems (databases) are key to developing better water accounting systems. How can the federal/provincial government ensure the accuracy and reliability of data collected for an efficient water accounting system?</li> <li>3. Good water governance depends on transparent water accounting systems. What policy and regulatory frameworks are required to support the implementation of a comprehensive water accounting system?</li> </ol>



4. Do you think that national institutes have the capacity to develop water accounting systems? If not, how can we improve the capacity of national institutes to use modern techniques for water accounting?

**Panelists**

- 1. Dr. Robina Wahaj, Senior Land and Water Officer, FAO
- 2. Dr. Bashir Ahmad, Director, CWERI-NARC
- 3. Dr. Muhammad Riaz, Chief PMIU
- 4. Dr. Hifza Rasheed, Director General, PCRWR

**Agenda**

**Moderator:** Dr. Muhammad Jehanzeb Cheema, IWMI Pakistan

**Rapporteur:** Dr. Asif Naseer, IWMI Pakistan

**14:00 - 14:05**

**Setting the Scene:** Dr. Muhammad Jehanzeb Cheema, IWMI Pakistan

**14:05 - 14:10**

**Opening Remarks:** Engr. Habib Ullah Bodla, Chief Engineer, Punjab Irrigation Department

**14:10 - 14:30**

**Keynote Speaker:** Dr. Marloes Mul, Team Lead Water Accounting Plus, IHE Delft, the Netherlands: Utilizing Big Data for Water Accounting – A Remote Sensing Based Approach

**14:30 - 15:10**

Panel Discussion

**15:10 - 15:25**

Questions and Answers from Audience

**15:25 - 15:30**

**Closing Remarks:** Prof. Khalid Hafeez, VC, Balochistan University of Information Technology Engineering and Management Sciences (BUIEMS)

- 1. Each session is 1.5 hrs.
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- 4. Use Menti polls (online system logging with mobile phone) to take audience poll, seek feedback
- 5. Option of roundtable discussion as a different type of session with presenters and active debate
- 6. Prepare thematic paper outlining each theme and the topics to be covered



## Thematic Area 3 - Session 6

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 6: Management of Hill Torrents - Opportunities and Challenges
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	09:00 - 10:30 (PKT)
<b>Venue</b>	Kehkashan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_KSnrlavIQZy3pUsY7luOtA">https://us02web.zoom.us/webinar/register/WN_KSnrlavIQZy3pUsY7luOtA</a>
<b>Summary</b>	<p>This session will explore the critical dynamics of managing hill torrents in the context of Pakistan's heightened water resource challenges. The growing disparity between water supply and demand is evident, with a substantial, yet untapped, water volume from hill torrents and floods. The devastating super floods in 2022, primarily caused by hill torrents, resulted in significant human and economic losses, emphasizing the urgent need for effective flood and hill torrent management. While presenting challenges, these torrents also offer opportunities to offset water demand in agriculture and provide storage for future use. The session will stress the importance of prioritizing water resources development, management, and enhanced governance in flood-prone areas, calling for a paradigm shift away from infrastructure-centric approaches. Additionally, the need for hydrologists and engineers to reassess peak flows in designing hydraulic structures and related infrastructure will be highlighted in response to recent unprecedented rainfall events.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. What are the major impediments to dealing with floods?</li> <li>2. What is missing in our strategies to manage hill torrents and floods?</li> <li>3. Do any institutional arrangements exist for the management of hill torrents?</li> <li>4. What type of skills and capacity development initiatives are needed to better manage floods and hill torrents?</li> <li>5. What actions can expedite the implementation of hill torrents?</li> </ol>



## Panelists

1. Mr. Muhammad Nawaz, Development Specialist, USAID Pakistan
2. Mr. Yoro Sidbe, Task Team Leader, World Bank Pakistan
3. Dr. Robina Wahaj, Senior Land and Water Officer, FAO
4. Mr. Najeeb Ullah Khan Babri, Chief Foreign Aid, P&DD Government of Balochistan
5. Engr. Habib Ullah Bodla, Chief Engineer, Punjab Irrigation Department

## Agenda

**09:00 - 09:05**

**09:05 - 09:10**

**09:10 - 09:30**

**09:30 - 10:10**

**15:10 - 15:25**

**10:25 - 10:30**

**Moderator:** Dr. Muhammad Ashraf, Former Chairman, PCRWR

**Rapporteur:** Dr. Tousif Bhatti, IWMI Pakistan

**Setting the Scene:** Dr. Muhammad Ashraf, Former Chairman, PCRWR

**Opening Remarks:** Dr. Ghulam Muhammad Ali, Chairman PARC

**Keynote Speaker:** Dr. Frank van Steenberg, CEO MetaMeta Research:

Management of Hill Torrents: Opportunities and Challenges - Untapped Potential of Spate Irrigation in Pakistan

Panel Discussion

Questions and Answers from Audience

**Closing Remarks:** Engr. Ahmad Kamal, Chairman Federal Flood Commission, Ministry of Water Resources

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## Thematic Area 3 - Session 7

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 7: Leveraging Technological Innovations for Ensuring Water and Food Security
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	09:00 - 10:30 (PKT)
<b>Venue</b>	Kehkashan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_KSnrlavIQZy3pUsY7luOtA">https://us02web.zoom.us/webinar/register/WN_KSnrlavIQZy3pUsY7luOtA</a>
<b>Summary</b>	<p>This session will delve into the pivotal role of innovative technologies in nurturing incubation and startups within the agriculture sector, particularly in the face of climate change. Emphasizing the significance of research-driven entrepreneurship, the discussion aims to address challenges and capitalize on opportunities for climate-resilient agriculture. By fostering collaboration among researchers, entrepreneurs, and investors, the session aims to facilitate the integration of research into startups, promoting sustainable and resilient agricultural practices. The key objectives include understanding the critical role of research in driving innovation, identifying associated opportunities and challenges, building connections for collaborative initiatives, and encouraging the adoption of research-driven solutions for sustainable agriculture and enhanced food security.</p>
<b>Key Questions</b>	<ol style="list-style-type: none"> <li>1. How can advanced technologies contribute to enhancing the resilience of the agriculture sector to climate change effects?</li> <li>2. In what ways can research-driven entrepreneurship in the agriculture sector promote sustainable and resilient practices while mitigating the effects of climate change? How do these practices contribute to ensuring long-term food and water security?</li> <li>3. What are some of the key challenges that innovative startups face in integrating their technologies into traditional agricultural systems, especially in regions with limited access to technology and resources?</li> </ol>



4. How can public-private partnerships facilitate the dissemination of innovative technologies and knowledge sharing to smallholder farmers and communities vulnerable to the impacts of climate change?
5. Gender inclusion recognizes and harnesses the unique strengths and contributions of both women and men in building resilient food systems. How can we ensure gender inclusivity in the context of fostering incubation and startups for climate-resilient agriculture?
6. What are some of the challenges associated with securing funding for agricultural startups and research initiatives in this field? How are young students coping and what are possible solutions?
7. What are some successful case studies of startups or initiatives that have effectively leveraged innovative technologies to build resilience in the agriculture sector? What lessons can be drawn from these success stories in terms of scalability, impact, and sustainability?

**Panelists**

1. Ms. Seher Afsheen, Country Director, VSO Pakistan
2. Dr. Muhammad Ashraf, Assistant Professor, Department of Agriculture Engineering, KFUEIT, RYK
3. Dr. Iktiar Ahmed Khoso, Director Incubation Centre, IBA Sukkur
4. Dr. Umair Arshad, Progressive Farmer, Bilal Farms RYK
5. Ms. Alishba Jehangir, Livelihoods Technical Assistant, UN-IOM

**Agenda**

**Moderator:** Dr. Muhammad Abid, Senior Advisor Climate Change SAR, GIZ

**Rapporteur:** Ms. Aruba Irfan, GIZ

**11:00 - 11:05**

**Setting the Scene:** Dr. Muhammad Abid, Senior Advisor Climate Change SAR, GIZ

**11:05 - 11:10**

**Opening Remarks:** Ms. Stoyanka Stich, Cluster Coordinator Energy and Climate Change, GIZ

**11:10 - 11:25**

**Keynote Speaker:** Prof. Dr. Mubassir Mehdi, Director BIC, MNSUAM: Insights and Lessons from the Incubation at MNSUAM

**11:25 - 12:10**

Panel Discussion

**12:10 - 12:25**

Questions from Panelists

**12:25 - 12:30**

**Closing Remarks:** Prof. Dr. Shahzad Murtaza, Vice Chancellor, KFUEIT RYK

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## Thematic Area 3 - Session 8

<b>Thematic Area</b>	Technologies and Innovations: Responding to the Challenges of Water and Food Security
<b>Title</b>	Thematic Session 8: Irrigation through SUN - Can we control the heat to sustain our groundwater aquifers?
<b>Date</b>	Day 3: Wednesday, 6 December 2023
<b>Time</b>	13:30 - 15:00 (PKT)
<b>Venue</b>	Kehkashan-3
<b>Zoom Link</b>	<a href="https://us02web.zoom.us/webinar/register/WN_Ezt9UWgPTBGROCb7ltgeKw">https://us02web.zoom.us/webinar/register/WN_Ezt9UWgPTBGROCb7ltgeKw</a>
<b>Summary</b>	<p>This session aims to debate the modes and mechanisms for the sustainable use of solar irrigation in Pakistan. In the recent past, solar pumping technology has emerged as an alternative to diesel and electric pumps. However, water professionals in Pakistan express concerns that converting pumps to PV solar may result in indiscriminate pumping, potentially leading to further groundwater depletion. While Pakistan lacks a specific policy on solar technology for groundwater pumping in agriculture, several policies have implications for its use. Following the 18th Amendment in the Constitution, the governance and management of water resources have devolved to provinces, each pursuing different trajectories to implement the National Water Policy. All provincial governments have planned and/or launched subsidized solar irrigation pump schemes, often coupled with High Efficiency Irrigation Systems (HEIS), particularly in Punjab and Sindh. Although extensive groundwater use has provided protection against drought, addressed waterlogging issues, and increased cropping intensity, over abstraction of groundwater has led to aquifer depletion in some areas and salinity in others.</p>



<p><b>Key Questions</b></p>	<ol style="list-style-type: none"> <li>1. Can we harness the benefits of solar-based irrigation without compromising groundwater depletion?</li> <li>2. How can we encourage farmers to adopt efficient irrigation techniques to conserve water?</li> <li>3. IWMI has developed a groundwater vulnerability assessment framework which provides information on the districts having low to high GW vulnerability - do you think such information at country level can help policy makers to devise appropriate policies for solarization of tubewells?</li> <li>4. How can we ensure standardization of equipment across the private sector to improve efficiency of the PVs and pumps?</li> <li>5. How can we promote alternative uses of solar - what kind of capacity building trainings are required to utilize access energy from the installed PVs?</li> </ol>
<p><b>Panelists</b></p>	<ol style="list-style-type: none"> <li>1. Mr. Francois Onimus, Senior Water Resources Specialist, World Bank</li> <li>2. Engr. Tahir Anwar, Former DG, Federal Water Management Cell</li> <li>3. Dr. Claudia Ringler, Director, Natural Resources &amp; Resilience, IFPRI</li> <li>4. Dr. Adeel Waqas, Principal of U.S.-Pakistan Center for Advanced Studies in Energy (USPCAS-E), NUST University</li> <li>5. Mr. Muhammad Nasir Jamal, CEO, Rabail Technologies</li> </ol>
<p><b>13:30 - 13:35</b> <b>13:35 - 13:50</b>  <b>1350 - 14:05</b>  <b>14:05 - 14:40</b> <b>14:40 - 14:55</b> <b>14:55 - 15:00</b></p>	<p><b>Agenda</b>  <b>Moderator:</b> Dr. Azeem Shah, IWMI Pakistan  <b>Rapporteur:</b> Dr. Novaira Junaid, IWMI Pakistan  <b>Setting the Scene:</b> Dr. Azeem Shah, IWMI Pakistan  <b>Keynote Speaker:</b> Engr. Kifayat Zaman, Director General, Federal Water Management Cell, MNFS&amp;R: Prime Minister's Initiative on Solar Irrigation  <b>Keynote Speaker:</b> Dr. Mohsin Hafeez, Director Water, Food, Ecosystems, IWMI:  Roadmap of Solar Irrigation in Punjab  Panel Discussion  Questions and Answers from Audience  <b>Closing Remarks:</b> Engr. Malik Muhammad Akram, DG OFWM, Punjab</p> <ol style="list-style-type: none"> <li>1. Each session is 1.5 hrs.</li> <li>2. Session to be mixed and lively, gender balance in panel</li> <li>3. Sessions to comprise: panelist perspectives on a topic, or presentation and panel feedback and Q&amp;A, or intersperse with video to break up</li> <li>4. Use Menti polls (online system logging with mobile phone) to take audience poll, seek feedback</li> <li>5. Option of roundtable discussion as a different type of session with presenters and active debate</li> <li>6. Prepare thematic paper outlining each theme and the topics to be covered</li> </ol>



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