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International Water Management Institute

Co-identifying priority Resilient Nature-Based Water Solutions for a climate resilient future in Bangladesh

Workshop Report



(Participants at the workshop/Source: IWMI)

25th August 2026
09.30 am – 1.30 pm
Sheraton Hotel, Dhaka, Bangladesh

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October 2026

Resilient Nature-Based Water Solutions for Food Systems and Women's Empowerment (RENEW)

Co-identifying priority Resilient Nature-Based Water Solutions for a climate resilient future in Bangladesh

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Summary

Purpose:

- The workshop was held to identify and prioritize locally relevant, scalable, and conflict-sensitive Resilient Nature-Based Water Solutions (RNBWS) for the High Barind and coastal regions of Bangladesh.
- This forms part of the RENEW project's broader process of identifying solutions that can contribute to climate resilience, sustainable resource management, resilient livelihoods, and inclusive development.

Approach:

- Participants first developed a shared understanding of RNBWS by expanding their understanding of Nature-based-Solutions as approaches that work with natural processes to address environmental and development challenges to water-related challenges by combining water supply and demand management with technical, economic, social, and institutional considerations. Given RENEW's particular focus on conflict contexts, participants appreciated that inclusion, governance, and resource-related tensions are central considerations.
- with specific emphasis on water security, livelihoods, governance, gender and social inclusion, and their relevance in fragile or water-stressed contexts.
- Potential solutions were then assessed using criteria related to scalability, evidence, affordability, policy relevance, and conflict sensitivity.

Key outputs:

- The workshop generated a shortlist of priority RNBWS for further consideration in the High Barind and coastal regions.
- The solutions that received the most attention included pond and canal restoration for rainwater harvesting, which ranked first in almost all groups. In the High Barind region, participants also highlighted conservation and diversified agriculture, solar irrigation, and Alternate Wetting and Drying (AWD). In the coastal region, other key solutions included tidal river and basin management, Sorjan (raised-bed) farming, wetland and watershed management, salt-tolerant crops, and integrated farming.
- Participants also highlighted the importance of combining individual interventions into integrated RNBWS packages rather than treating them as stand-alone solutions, to combine water security with optimal water productivity and diverse benefit flows.

Important observations:

- A key observation was that most participant groups agreed on the main priority solutions, even though the workshop started with a long list of possible options.
- The discussions showed that RNBWS should not be seen as only technical or environmental solutions. Factors such as local knowledge, community ownership, institutional support,

affordability, gender and inclusion, and mitigating tensions or conflicts over water and other resources should also be considered when selecting and scaling solutions.

Next steps:

- One priority solution will be selected for scaling in 2027 after the shortlisted solutions ground-truthed.
- For the selected RNBWS, a scaling strategy, cost estimate, and financing plan will be co-developed with relevant government and other stakeholders at the local level, followed by implementation and scaling activities in 2027.

Participants

The workshop brought together 24 participants from 20 organizations, spanning government, NGOs, research and academic institutions, and the RENEW project team:

- **Government**: Department of Agricultural Extension (DAE), Bangladesh Agricultural Development Corporation (BADC), Water Resources Planning Organization (WARPO), BMDA
- **NGOs**: Practical Action, CARE Bangladesh, Friendship, NGO Forum, Jagrata Juba Shangha (JJS), Solidaridad Network Asia
- **Research and academia**: International Rice Research Institute (IRRI), WorldFish, International Union for Conservation of Nature (IUCN), International Fertilizer Development Center (IFDC), Institute of Water and Flood Management (IWFM) of Bangladesh University of Engineering and Technology (BUET), an independent consultant, and Prime University
- **Project team**: IWMI (5 participants)

This composition reflected both physical and social science expertise, and diversity across government, NGOs and academia, with participants collectively bringing agricultural water management (AWM) experience relevant to the High Barind and coastal regions. A full participant list, with organizational affiliation, is provided in Appendix 1.

Workshop objectives

The workshop focused on working with the participants to identify RNBWS that are relevant to the High Barind and coastal regions of Bangladesh, particularly in relation to water security, food systems and climate resilience. A preliminary long list of RNBWS options was then reduced to a shortlist of priority RNBWS for the High Barind and coastal regions to facilitate RENEW's goal in 2026 of identifying locally relevant and investment-ready solutions for climate-resilient water and land management in fragile and climate-vulnerable settings that can be scaled in 2027. The process of developing the longlist followed by a shorter priority list per region involved:

- Assessing and prioritizing potential RNBWS using criteria including scalability, evidence, affordability, policy relevance and conflict sensitivity;
- Drawing on the knowledge and practical experience of stakeholders working on water, agriculture, climate and natural-resource management to identify solutions that are locally appropriate and feasible, and
- Developing a shortlist of promising RNBWS that could be further investigated through ground-truthing and stakeholder engagement.

Summary of Sessions

Session 1: Welcome and context setting

The workshop began with an introduction to IWMI's work in Bangladesh, focusing on water risk management, sustainable water management and reducing inequalities. IWMI's work in Bangladesh includes solar irrigation, groundwater management, coastal salinity, water storage, climate-smart agriculture, and drought and flood management, with an increasing focus on scaling successful innovations.

Session 2: Context setting and introduction to RENEW

Mr. Sanjiv de Silva (IWMI) introduced the RENEW Project, spearheaded by the International Water Management Institute and the International Food Policy Research Institute. He explained that over 2026 and 2027, RENEW seeks to address critical environmental and social hurdles across Bangladesh, Sudan, and Nigeria. Operating under the CGIAR Food Frontiers and Security Program, the initiative tackles severe land degradation, water scarcity, climate shocks, and resource competition by promoting Resilient Nature-Based Water Solutions (RNBWS). He clarified that by integrating natural and social frameworks into solution design, this initiative aims to replace traditional, siloed approaches with holistic, locally managed strategies that generate co-benefits rather than costly trade-offs. Furthermore, the project prioritizes conflict-sensitive processes to expose hidden power dynamics, ensuring that marginalized groups such as smallholders, landless citizens, and women receive a meaningful voice in agricultural water management. Specifically in Bangladesh, Mr. de Silva explained that activities focus on cataloguing existing practices in the High Barind and coastal regions, ranking scalable community-driven options, and co-developing practical financing models and scaling pathways. He concluded that ultimately, the framework strives to achieve sustainable resource management, foster resilient livelihoods, and drive inclusive development through systematic evidence gathering and stakeholder collaboration.

Session 3: Understanding NbS and RNBWS

In her presentation, by Dr. Wasudha Abeyrathna (IWMI) introduced NbS as approaches that use or work with natural processes to address environmental and development challenges. She explained that RNBWS applies this approach to water-related challenges by combining water supply and demand management with technical, economic, social, and institutional considerations. In the RENEW context, RNBWS aims to improve water security, climate resilience, and livelihoods, while also considering inclusion, governance, and resource-related tensions. This means bundling solutions to ensure that increased water security translate into greater and socially inclusive productivity. Dr. Wasudha highlighted previous RNBWS-related projects of IWMI, including Al Murunah and Al Murunah+ in Egypt, Jordan, Lebanon, and Palestine, JAHEZ in Jordan, and Wiqaya in southern Iraq. These projects demonstrate how nature-based approaches can support climate

resilience, water and food security, livelihoods, and community resilience, while also promoting community participation, governance, inclusion, and scaling. She explained that IWMI leverages learning from these projects into its approach in RENEW.

In her presentation on Social Exclusion and Nature-Based Solutions in NbS, Dr. Deepa Joshi (IWMI) explained how social exclusion, gender inequality, and water insecurity intersect within NbS. Dr. Joshi argued that effective NbS must encompass ecological, technical, and socio-political dimensions to resolve both blatant and latent resource conflicts. She proceeded to point out clear gendered differences in water allocation and labor: men report higher access to agricultural water (73.75% vs. 57.50% for women), whereas women experience higher domestic water responsibility (42.50% vs. 26.25% for men), reflecting the increasing feminization of agricultural labor and productive water insecurity. Dr. Joshi highlighted the importance of appreciating the intersectional axes that shape exclusion, including age, marital status, household type, social class, land ownership, and water management group participation. Dr. Joshi also brought attention to the fact that water insecurity inflicts widespread physical, psychosocial, and economic consequences: economic strain affects 95.65% of women and 92.88% of men, while food insecurity impacts 83.47% of women compared to 62.03% of men. To assess these intersectional experiences, Dr. Joshi pointed to cross-cultural measurement frameworks, including the Agricultural Water Insecurity Experiences (AgWISE) guide and the Water Insecurity Experiences (WISE) Scales.

During discussions following the presentations, the participants acknowledged that water-related conflicts are not always visible. Issues such as unequal water access, competition between water users (e.g. shrimp farming and rice cultivation), and elite control of common pool resources can create hidden or long-term tensions that can undermine the efficacy and inclusiveness of RNBWS. Thus, considering governance, resource access, and stakeholder relationships alongside technical solutions was highlighted as a critical element of RNBWS.

Session 4: Identifying a short list of priority RNBWS relevant to the High Barind and coastal regions

Dr. Wasudha explained the steps involved in selecting and prioritizing RNBWS. She explained that prior to this workshop, existing literature was reviewed and 49 possible solutions were identified for improving agricultural water management in Bangladesh. These 49 solutions were reduced to 20 solutions by applying the following rationales:

- 9 solutions were removed because they were not suitable or feasible for Bangladesh.
- 20 solutions were agricultural practices, such as crop rotation and intercropping. These were included as part of other bundled solutions instead of being assessed separately.
- 20 solutions were kept for further assessment during the workshop.

The participants then broke into four groups, two focusing on the High Barin and two on the coastal region, based on each participant's knowledge and experience. Each group was asked to apply two "Gates" to generate a preliminary list of RNBWS for each region:

Gate 1: Scale and Evidence
During the workshop, participants individually scored 20 solutions from −2 to +2 based on four questions:

1. Can the solution be developed and used at the community level?
2. Is it affordable and financially sustainable for communities?
3. Has it already been successfully used in Bangladesh or a similar delta area?
4. Is there government policy support or a connection to existing government programs?

Gate 2: Conflict Sensitivity
Participants also scored each solution from −2 to +2 based on whether it could create or reduce conflicts related to:

1. Unequal access to resources
2. Conflict within communities
3. Negative effects on the environment
4. Conflicts between institutions or organizations

A score of −2 meant the solution could create a serious conflict, while +2 meant it could help reduce or solve the conflict. A score of **0** meant the issue was not relevant. There was also a Do No Harm check. If a solution could cause serious and unavoidable harm, it was automatically removed.

As the final step, each group discussed the results from the individual scoring and selected its top 5 solutions. The final selection was based on plenary discussions involving all participants and general consensus on what the priority RNBWS were form the preliminary list.

Output

The workshop identified the top 5 RNBWS for each region. Rainwater harvesting was the strongest common priority, while AWD, solar irrigation and integrated farming were also deemed important (Table 1). The four participant groups generally preferred combining several solutions rather than using one solution alone. This reflected the importance of RNBWS integrating water security with water productivity and inclusive benefit flows. However, questions remain about which RNBWS can be sustained through long-term financing and maintenance, and a need to ensure that the engagement processes underpinning RNBWS promote the stakeholder diversity and engagement needed for context-relevant and embedded solutions and outcomes.

Table 01- RNBWS Selection and Ranking — Barind and Coastal Regions

Rank	Barind 1	Barind 2	Coastal 1	Coastal 2
1	Rainwater harvesting (pond and canal excavation)	Rainwater harvesting	Rainwater harvesting	Revival of khal, canal, etc.
2	Conservation and diversified agriculture	Crop diversification	Tidal river and basin management	Integrated farming
3	Buried pipe water distribution	Canal excavation	Sorjan (raised-bed vegetable and fruit cultivation)	Salt-tolerant crops
4	Solar irrigation (high government policy demand)	Community engagement	Wetland and watershed management	Solar irrigation
5	Alternate Wetting and Drying (AWD)	Solar and efficient irrigation/AWD	Integrated agriculture	Rainwater harvesting

Follow-Up Action

Ground-truthing (September–October 2026)

The highest-priority RNBWS for High Barind and coastal regions will be better understood through fieldwork and discussions with local stakeholders. This process will check whether the selected solutions are realistic and suitable on the ground.

Final selection

After the ground-truthing, RENEW will select one priority RNBWS to take forward.

Sub-national consultations (October – November 2026)

IWMI will identify and engage important government and non-government organizations relevant to the selected RNBWS. These discussions will help plan how selected solutions can be expanded to more areas in 2027.

Developing a scaling plan (November - December 2026 into 2027)

For the selected RNBWS, RENEW will work with relevant organizations to develop:

- A plan for scaling out the solution, including estimated costs
- Financing options using national and international funding sources
- Monitoring, Evaluation and Learning (MEL) plans to track progress and support wider adoption

Annex 1: Workshop Participants

#	Organization	Name
1	Jagrata Juba Shangha (JJS)	Md. Abu Obaer
2	Friendship	Tahmina Huda
3	NGO Forum	Dr. Ahasan Habib
4	IWMI	Dr. S.M. Tanvir Hassan
5	BMDA / Prime University	Dr. Md. Iquebal Hossain
6	Practical Action	Farhana Parvin
7	DAE	Engr. Md. Belal Siddiqui
8	IRRI	Manoranjan Mondal
9	IUCN	Md. Tareq Aziz
10	IRRI	Mou Sarker
11	CARE	Md. Abid Ul Kabir
12	Independent Consultant	Dr. Haseeb Md. Irfanullah
13	IWFM, BUET	Lamiya Sharmeen Jaren
14	IWMI	Jayanta Bhattacharya
15	WorldFish	Dr. A.B.M. Mahfuzul Haque
16	WorldFish	Shafil Rheman
17	IFDC	Bilash Mia
18	IWMI	Tanmoy Bhaduri
19	WARPO	Dr. Maimuna Qazi
20	Solidaridad	Dr. Utpal Kumar
21	BADC	Md. Rezaur Rahman
22	IRRI	Md. Asfezzaman
23	IWMI	Dr. Wasudha Abeyrathna
24	IWMI	Sanjiv de Silva

Annex 2: Workshop Agenda

Objective

To identify and assess promising, locally relevant Resilient Nature-Based Water Solutions (RNBWS) in Bangladesh, with a focus on their potential for responsible, conflict-sensitive scaling and impact.

Key message

The RENEW project works across multiple countries to explore and scale RNBWS in conflict-affected and fragile contexts. In Bangladesh, where climate-vulnerable hotspots face growing pressures on water resources, livelihoods, and social resilience, RENEW is assessing the potential for locally relevant RNBWS to strengthen climate resilience, sustainable resource management, and resilient livelihoods. This process aims to identify solutions with potential for responsible, inclusive, and conflict-sensitive scaling, supported by the development of scaling pathways and indicative cost estimates.

09.00 - 09.30	**REGISTRATION & NETWORKING**
09:30 - 09:45	**WELCOME, RENEW INTRODUCTION & WORKSHOP OBJECTIVES** • Welcome • Opening remarks
09:45 - 10:30	**UNDERSTANDING RNBWS AND RENEW OVERVEIW** • Understanding RNBWS and implemented projects in other regions • RENEW project overview & Conflict sensitivity in Bangladesh • Integration of GEDSI into Project Implementation
10:30 - 11:15	**RNBWS REVIEW & INITIAL SHORTLISTING** • RNBWS Scoring Framework and Scoring Process • Group Activity: Objectives and Expected Outcomes • Q & A
11:15 - 11:30	**COFFEE BREAK**
11:30 - 12:30	**GROUP DISCUSSION: CRITERIA-BASED ASSESSMENT OF SHORTLISTED RNBWS** • Strategic setting - IWMI
12:30 - 13:10	**PLENARY FEEDBACK & CONSOLIDATION** • Moderator- IWMI
13:10 - 13:30	**WAY FORWARD AND CLOSE** • Closing remarks
13:30	**LUNCH**



Demonstration farm with modern irrigation, solar pumping and drainage improvements. Photo credit: CEDARE

Individuals attending this event may be photographed and videoed, and by attending grant permission for their likenesses and the content of their comments, if any, to be published, or otherwise reported. Questions? Please contact Shreya Chakraborty (shreya.chakraborty@cgiar.org) or Sanjiv De Silva (S.S.DESILVA@CGIAR.ORG)

IWMI International Water Management Institute

CGIAR RESEARCH CENTER

The International Water Management Institute (IWMI) is an international, research-for-development organization that works with governments, civil society and the private sector to solve water problems in developing countries and scale up solutions. Through partnership, IWMI combines research on the sustainable use of water and land resources, knowledge services and products with capacity strengthening, dialogue and policy analysis to support implementation of water management solutions for agriculture, ecosystems, climate change and inclusive economic growth. Headquartered in Colombo, Sri Lanka, IWMI is a CGIAR Research Center with offices in 17 countries and a global network of scientists operating in more than 55 countries.

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