

# CGIAR Climate Action Program in Sri Lanka

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## CGIAR Climate Action Program

The CGIAR Climate Action Program aims to drive science, innovation, and collaboration to transform food, land, and water systems for a climate-resilient, net-zero, and equitable future in Bangladesh, Cambodia, Côte d'Ivoire, Ethiopia, Honduras, India, Kenya, Nepal, Nigeria, Pakistan, Philippines, Senegal, Sri Lanka, Sudan, Tanzania, Zambia, and Zimbabwe.

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## List of Abbreviations

ADB	Asian Development Bank
BTR	Biennial Transparency Report
BDN	Better Diets and Nutrition
CBDRRM	Community-Based Disaster Risk Reduction Mechanism
CGIAR CASP	CGIAR Climate Action Program
CIC	Chemical Industries (Colombo)
ClimBeR	CGIAR initiatives on Climate Resilience
DMC	Disaster Management Centre
DAD	Department of Agrarian Development
EW	Early Warning
GGGI	Global Green Growth Institute
ID	Irrigation Department
INDC	Intended Nationally Determined Contributions
IOM	International Organization for Migration
IWMI	International Water Management Institute
KPI	Key Performance Indicator
LLA	Locally Led Adaptation
MAFF	Ministry of Agriculture, Forestry and Fisheries
MoE	Ministry of Environment
NBRO	National Building Research Organisation
NAP	National Adaptation Plan
NDMP	National Disaster Management Plan
NEOP	National Emergency Operation Plan
NDC	Nationally Determined Contribution
NPD	National Planning Department
PAP	Provincial Action Plan
PPP	Public-Private Partnership
SLRC	Sri Lanka Red Cross
UNFCCC	United Nations Framework Convention on Climate Change
WFP	World Food Programme
WLE	Water, Land and Ecosystems

# Workshop Launch Report - CGIAR Climate Action Program in Sri Lanka

## EXECUTIVE SUMMARY

This summary provides contextual grounding for the Sri Lanka Climate Action Workshop, highlighting the country’s growing climate risks, evolving policy frameworks, and the strategic relevance of CGIAR’s Climate Action Program. The workshop serves as a catalytic platform to refine country-level implementation pathways, strengthen cross-sectoral collaboration, and align efforts with Sri Lanka’s development and climate priorities.

## Introduction

### Sri Lanka’s Climate Imperative

Sri Lanka faces intensifying climate-related risks, including prolonged droughts, erratic monsoon patterns, floods, droughts, and heatwaves. These events increasingly disrupt agricultural productivity, threaten food and water security, and the livelihoods of rural communities, particularly smallholder farmers and marginalized groups. Climate vulnerabilities are most acute in agro-ecological zones (Figure 1) such as the North Central, Central, and Uva Provinces, where rainfall variability and dry spells have affected key sectors, including rice farming, inland fisheries, and irrigation-dependent agriculture.

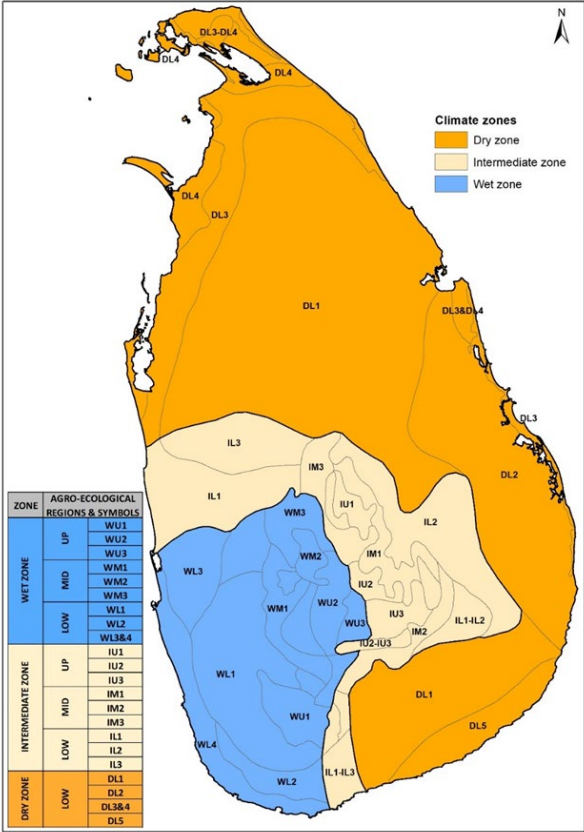


Figure 1: Agro-Climatic zones map of Sri Lanka

## A Policy Landscape in Transition

At the same time, Sri Lanka is undergoing a significant transformation in its climate and development policy framework, guided by its commitments under the Paris Agreement, its Nationally Determined Contributions (NDCs), and the National Adaptation Plan (NAP). The program supports cross-scale collaboration among stakeholders in digital agriculture, climate-smart governance, and water-resilient infrastructure, offering critical entry points to integrate science and innovation into national planning and community-level action.

Recent momentum, such as the scaling of digital advisory services through GeoGoviya smart farming platform and anticipatory action pilots through AWARE Platform, demonstrates the country's readiness to transition toward a more adaptive, inclusive, and future-oriented development pathway.

## The CGIAR Climate Action Program: A Strategic Opportunity

Amidst this evolving landscape, the CGIAR Climate Action Program offers a timely and strategic initiative that builds on the achievements of the CGIAR Climate Resilience projects and ongoing efforts, supported by Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF) and other partners. The program aims to support countries like Sri Lanka in building a just, climate-resilient, and low-emissions future by harnessing actionable science, cutting-edge innovation, and inclusive partnerships.

Leveraging CGIAR's research expertise in food, land, and water systems, the program integrates global science with local knowledge to co-create solutions aligned with national goals. It emphasizes inclusive partnerships and evidence-based action, with a strong focus on adaptation, mitigation, and sustainable transformation of food, land, and water systems.

## Workshop Objectives

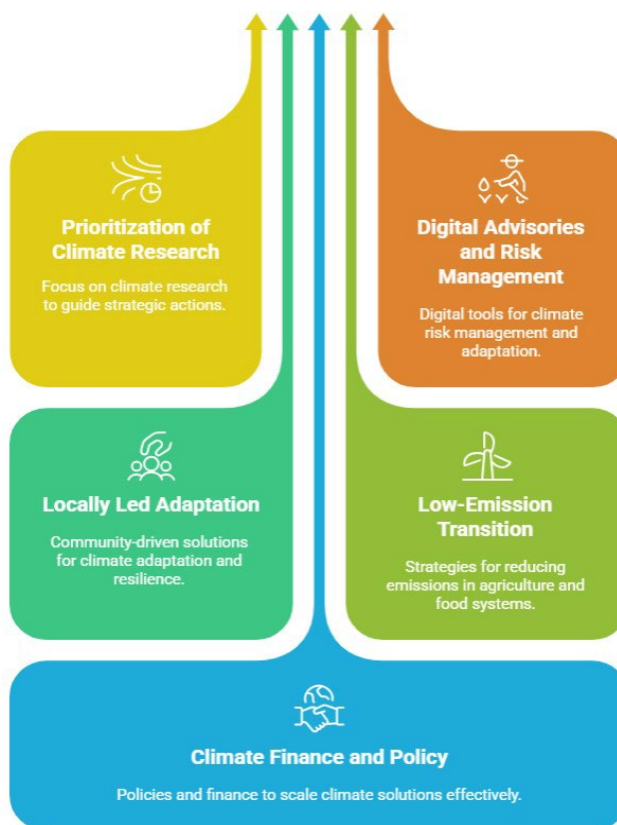
This workshop will serve to:

- Introduce the CGIAR Climate Action Program and its alignment with national priorities under the National Determined Contributions (NDCs), National Adaptation Plan (NAP), and Sustainable Development Goals (SDGs)
- Identify entry points for co-developing adaptation and mitigation strategies in agriculture, food, and water systems
- Engage national stakeholders, including government agencies, research institutions, private sector actors, and civil society organizations, in shaping a locally driven research and action agenda
- Explore opportunities for policy alignment, capacity development, and resource mobilization

## Program Pillars and National Relevance

The Climate Action Program is structured around five interconnected Areas of Work (AoWs) shown in Figure 2, which are directly relevant to Sri Lanka's priorities:

1. Strategic Foresight and Climate Intelligence – informing agri-food system decisions under uncertain futures.
2. Digital Advisories and Climate Risk Management – enhancing early warning systems and delivering timely, actionable insights to farmers.
3. Locally-Led Adaptation (LLA) – empowering communities, enhancing institutional capacities, and driving context-specific solutions.
4. Low-Emission Innovation – reducing greenhouse gas emissions from agriculture and water systems through science-based interventions.
5. Climate Transitions – supporting policy reform, facilitate access to climate finance, and scale impact through system-wide change.



CGIAR's Climate Action Portfolio (2025 - 2030)

Figure 2: Areas of Work (AoW) in Climate Action

These interconnected areas provide a coherent framework for research, implementation, and scaling of climate-smart solutions across Sri Lanka's food, land, and water systems.

## Focus Regions and Programmatic Priorities

Implementation will prioritize climate-vulnerable regions including Anuradhapura, Polonnaruwa, Nuwara Eliya, Monaragala, and Badulla, districts highly sensitive to monsoon variability and prolonged dry spells. These areas are central to the country's rice, high-value crops, and livestock systems and well-positioned for piloting innovations due to existing institutional and digital infrastructure. They provide strong entry points to align and build upon existing climate initiatives that support Sri Lanka's Nationally Determined Contributions (NDCs) and broader adaptation and mitigation priorities.

Key interventions will include:

- Water-smart management and strengthening nature-based solutions
- Digital advisory platforms and climate smart bundles through GeoGoviya platform

- Anticipatory action mechanisms through AWARE innovation
- Policy support through the Climate Smart Governance (CSG) dashboard
- Alternate wetting and drying (AWD) in paddy systems
- Sustainable livestock practices

By working through established partnerships, IWMI/CGIAR will co-develop locally relevant adaptation pathways, enhance early warning capabilities, and catalyze climate investment in support of the NDCs and broader development goals.

## Expected Outcomes and Next Steps

The workshop is expected to catalyze the following next steps:

- Introduce the CGIAR Climate Action Program and its alignment with Sri Lanka's national priorities under the NDCs, NAP, and SDGs
- Identify collaborative entry points for co-developing adaptation and mitigation strategies in food, land, and water systems. (e.g., climate advisories services, drought risk management, water resilience agricultural systems, LLA, digital platforms like GeoGoviya smart farming platform, AWARE for anticipatory action and Climate Smart Governance (CSG) dashboard for climate adaptation planning)
- Engage national stakeholders (government, research institutions, private sector, civil society) in shaping a locally-led research and action agenda
- Establish a multi-stakeholder platform or advisory group to discuss opportunities for policy alignment, capacity sharing, and resource mobilization to scale climate action

## Contribution to Global CGIAR Outcomes

Activities under the Climate Action Program in Sri Lanka will contribute to the following global outcomes:

- **38 million** producers and food-land-water system actors use climate adaptation or low-emissions solutions by 2030
- **US\$15 billion** in public and private climate finance mobilized for just transitions by 2030
- **100 policies** informed by climate data and evidence across sectors by 2030
- **1 gigaton of CO<sub>2</sub>** avoided, reduced, or sequestered through program activities by 2030

# OPENING SESSION

## Welcome Remarks and Setting the Scene

Dr Giriraj Amarnath, Principal Researcher at IWMI and Transition Deputy Director for CGIAR Climate Action Science Program, welcomed the participants (Figure 3), stating that the launch of the climate resilience workshop marked an important milestone in IWMI's ongoing efforts since 2022. He noted that this event signified a key step in the transition of the CGIAR Research Initiatives on Climate Resilience, "ClimBeR", to where it stands today.

He explained that the Climate Action Program is a multi-year initiative grounded in the new CGIAR-led strategies. With an investment of approximately USD 100 million from CGIAR multi-donor trust funds between 2025 and 2030, the program spans more than 30 countries. Notably, Sri Lanka is the first country to launch this workshop, while other country programs are in the planning phase of the launch.

Outlining the agenda for the day, Dr. Giriraj shared that the workshop would focus on identifying priorities and actionable points for IWMI to pursue in collaboration with its partners. He acknowledged the many ongoing efforts led by international financial institutions such as the World Bank and the Asian Development Bank as well as contributions from the private sector, government, and non-governmental organizations represented at the workshop.

He concluded by emphasizing the goal of developing a practical and coordinated program for the Climate Action Portfolio 2025–2030. The emphasis, he said, is on achieving alignment rather than duplication, which is why convening this workshop is important.



Figure 3: Welcome remarks given by Dr Giriraj Amarnath, Principal Researcher at IWMI and Transition Deputy Director for CGIAR Climate Action Science Program. (photo: Pradeep Liyanage/IWMI).

## Opening Remarks

Dr Ian Overton, Country Manager, Sri Lanka, IWMI, began by highlighting the significant threats Sri Lanka faces due to climate extremes (Figure 4). He provided an overview of IWMI's extensive research efforts across various regions of Sri Lanka, which have ranged from revitalizing ancient irrigation systems and pioneering digital tools to empowering farmers, to supporting national climate action policies and strategies. These initiatives have had a profound impact on science, communities, policy, and practice.

He further noted that the CGIAR ClimBeR initiative and the new CGIAR climate action programs in Sri Lanka have been instrumental in supporting key government agencies, enhancing institutional capacities, and driving progress in climate adaptation. Dr. Overton emphasized that IWMI's ongoing work in Sri Lanka demonstrates the power of research, innovation, and collaboration in addressing the complex challenges posed by climate change.

He concluded by stating that building a resilient and sustainable future for all requires continued partnerships and collective action. The new CGIAR climate action program allows IWMI to further these collaborations and provide ongoing support. Dr. Overton highlighted that today's discussions—spanning topics such as climate risk, intelligence, locally led adaptation, water resilience, agriculture, enabling policies, and finance—are both timely and essential for navigating growing uncertainty.



Figure 4: Opening remarks by Prof Ian Overton, Country Manager, Sri Lanka, IWMI (photo: Pradeep Liyanage/IWMI).

## Special Remarks

### **Ms. Chamani Kumarasinghe, Director, Climate Change Secretariat, Ministry of Environment**

Ms. Kumarasinghe began by congratulating IWMI and the CGIAR Climate Action team for bringing this important regional project to Sri Lanka. She noted that the initiative has created valuable platforms for open knowledge sharing among stakeholders and brought tangible benefits to the country (Figure 5).

Reflecting on the journey so far, she acknowledged that several initiatives have been introduced and numerous lessons learned, culminating in the launch of the Climate Smart Governance Dashboard. This dashboard represents a significant milestone and serves as a vital platform for informed decision-making on climate action. Now at the implementation stage, it reflects the strong collaboration and technical expertise of the partner organizations.

She emphasized that today's program is a continuation of these efforts, an integrated and collaborative approach designed to align national and regional stakeholders around shared climate goals and support long-term sustainability.

Ms. Kumarasinghe highlighted the Ministry of Environment's role as the National Designated Authority for the The United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. She reaffirmed the Ministry's commitment to supporting vulnerable communities facing climate-related impacts and emphasized the importance of national initiatives such as the Nationally Determined Contributions (NDCs), National Adaptation Plan (NAP), and Greenhouse Gas (GHG) Inventories. Achieving these targets, she noted, will provide a structured plan of action that aligns national decision-making with both global and domestic climate commitments.



Figure 5: Special remarks by Ms. Chamani Kumarasinghe, Director, Climate Change Secretariat, Ministry of Environment. (photo: Pradeep Liyanage/IWMI)

She commended the multi-stakeholder effort behind this six-year project, which focuses on three of the most climate-sensitive provinces in the country. Its goal, she stressed, is to enhance the resilience of vulnerable communities through targeted, evidence-based action.

In conclusion, Ms. Kumarasinghe reiterated the Ministry's full cooperation and the continued support of all associated organizations to ensure the success of this initiative.

**Ms. Shiranthi. Ratnayake, Director General, National Planning Department**

Ms. Ratnayake (Figure 6) opened her remarks by stating that the workshop marked a timely and important initiative in the collective effort to address the challenges of climate change. She highlighted Sri Lanka's evolving climate conditions, noting that regional climate models project temperature increases of 1°C to 1.7°C by 2030, and between 2.3°C and 3.6°C by 2080 under high-emission scenarios. Rainfall is also expected to rise by 3.6% to 11% by 2030, and up to 40% by the end of the century. These climatic shifts will have wide-ranging impacts on economic activities and livelihoods, with projections indicating that climate-induced disasters could result in economic losses amounting to 1.2% of Gross Domestic Product (GDP). Without mitigation measures, such losses could escalate to over 2% of GDP by 2050.

In response to these challenges, Ms. Ratnayake emphasized that Sri Lanka is launching a suite of ambitious climate initiatives. These include implementing the National Adaptation Plan (NAP), updating Nationally Determined Contributions (NDCs), and expanding digital tools such as the Climate Smart Governance Dashboard. These initiatives are aimed at mainstreaming climate resilience into planning, early warning systems, and community-level decision-making.

She further noted the government's active participation in international climate action, including carbon credit mechanisms and the integration of Article 6 of the Paris Agreement. These global partnerships, she said, are crucial for accessing valuable resources and financing channels that support both national development goals and the global climate agenda.

Ms. Ratnayake also drew attention to several blue-green finance initiatives led by the Ministry of Finance and the Central Bank, which aim to place Sri Lanka in a position of strength in this emerging field. These efforts are expected to catalyze innovative financial tools that channel capital into sustainable economic practices. However, she cautioned that policy frameworks alone are not enough; it is essential to equip stakeholders with the necessary data and tools to make informed decisions.

She highlighted the relevance of the CGIAR Climate Action program, whose five core areas of work are directly aligned with Sri Lanka's NDCs. The program, she stated, offers vital support to national climate and development priorities and provides a platform to identify entry points for collaboration and develop strategies for climate mitigation across the water, agriculture, and food systems.

Ms. Ratnayake concluded by affirming that today's discussions will play a crucial role in shaping a locally led agenda for climate research and action. Importantly, they will facilitate the alignment of policies, sharing of capacities, and mobilization of resources to scale up climate action. She closed by reiterating the Department of National Planning's strong commitment to supporting the CGIAR program and aligning its outcomes with the Department's planning national priorities.



Figure 6: Special remarks by Ms. Shiranthi Ratnayake, Director General, National Planning Department. (photo: Pradeep Liyanage/IWMI)

### **Maj. Gen. Sampath Kotuwegoda, Director General, Disaster Management Centre (DMC)**

Major General Sampath Kotuwegoda (Figure 7) began by noting that his role at the DMC—and its close engagement with communities—gives him a first-hand view of both the suffering and the strength of people during disasters. In this context, he expressed deep appreciation for the initiative, especially given the increasingly extreme weather patterns threatening Sri Lanka’s water and food security, homes, and future.

He commended the timely arrival of the program, which brings together tools, science, and partnerships to help build a stronger, safer Sri Lanka. He particularly welcomed its focus on early warning systems, digital advisories, climate-smart agriculture, and community-led adaptation, describing these not merely as technical solutions but as lifelines for vulnerable families across the country.

He stressed, however, that these efforts must not remain confined to documents, as has too often been the case, and called on planners, scientists, government officials and partners to prioritize implementation at the grassroots for building resilience

He reaffirmed the DMC’s strong commitment to partnering with stakeholders to bring innovation and knowledge directly to the people, closing with a call to make this program a genuine turning point, not only in planning but also in practice.



Figure 7: Special remarks by Maj. Gen. Sampath Kotuwegoda, Director General, Disaster Management Centre (DMC). (photo: Pradeep Liyanage/IWMI)

### **Ms. Tanaka Sachi, Second Secretary, Embassy of Japan; Representative, MAFF**

Ms. Tanaka (Figure 8) outlined Japan's continued commitment through the Ministry of Agriculture, Forestry and Fisheries (MAFF) to advancing water management technologies and supporting collaborative projects with IWMI and other partners in Sri Lanka.

She noted that rising global populations and the resulting increase in food demand have placed growing pressure on water resources. Given that agriculture remains one of the most water-intensive sectors, she stressed the urgent need for climate adaptation. Asia, including Sri Lanka, is already experiencing changing water patterns, with the unusual timing of this year's monsoon as a clear sign.

She reaffirmed that Japan, through MAFF, will continue supporting Sri Lanka in addressing these climate challenges. She expressed confidence that IWMI's research and CGIAR's climate actions will play an essential role in building a resilient and sustainable future.



Figure 8: Special remarks by Ms. Tanaka Sachi, Second Secretary, Embassy of Japan; Representative, MAFF. (photo: Pradeep Liyanage/IWMI)

## Overview of CGIAR Climate Action:

Dr. Giriraj gave an overview of the origins of the CGIAR Climate Action initiative, explaining that it was launched three years ago with the Climate Resilience Initiative. He emphasized that the current workshop would build on this foundation by facilitating discussions on both ongoing and planned stakeholder activities, with the goal of enhancing coordination and impact across climate-related programs.

He highlighted several climate-related programs already implemented by IWMI, observing that other development-focused institutions such as the World Bank and Asian Development Bank (ADB) have launched similar initiatives. However, he emphasized that creating synergies across these programs is essential to maximizing their collective impact.

He underscored that the CGIAR Climate Action Science Program (CASP) seeks to play a catalytic role in responding to the growing challenge of a rapidly warming world, aiming to build a better future for today's children.

Dr. Giriraj shared a diagram from the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report on 'Opportunities for Climate Adaptation and Mitigation through Science and Innovation in Food Systems', which illustrated integrated adaptation and mitigation options for limiting global warming to 1.5°C. He stressed the importance of addressing the climate challenge through the nexus of water, land, and food systems—areas already being targeted through various government-led mitigation efforts. The Climate Action Program, he said, will increasingly invest in diversification and mitigation initiatives in the coming years.

He provided an overview of key CGIAR initiatives introduced to Sri Lanka from 2022 to 2024, including:

- Governance for Resilience (a three-year program),

- The MPG Transformative Adaptation Tool Guide,
- The GeoGoviya Smart Farming platform and climate services dissemination tool,
- The AWARE Platform,
- The Climate-Smart Governance Dashboard, and
- The Locally-Led Adaptation – ACTION Grant Program.

Aligned with IPCC recommendations for frontier climate action, Dr. Giriraj explained that IWMI is addressing the climate crisis through CGIAR’s science and innovation, aiming to influence 100 policies across 39 countries within its six-year program cycle and mobilize over USD 15 billion in climate finance. A dedicated CGIAR sustainable finance group is working to align climate action evidence with improved finance mechanisms, extending support to over 30 million small-scale producers. Parallel initiatives by other CG centers aim to remove one gigaton of CO<sub>2</sub>.

The CGIAR CASP takes a data-driven, inclusive, and scalable approach to climate science. Innovative projects under this initiative may be eligible for support through the CGIAR Scaling for Impact program. Dr. Giriraj emphasized CGIAR’s role as a globally trusted institution delivering cutting-edge, evidence-based solutions across food, land, and water systems. Its integrated strategy—combining innovation, capacity building, and policy engagement—delivers scalable benefits, particularly to vulnerable regions and communities. He noted that the Sri Lanka program exemplifies this leadership and has already delivered tangible outcomes.

The workshop, he said, was a vital opportunity to receive feedback and guidance on what the program can achieve in Sri Lanka. He outlined the country’s climate vulnerability, its firm commitments under the Nationally Determined Contributions (NDCs), and IWMI’s success in implementing climate-smart interventions locally. He identified additional areas of vulnerability that the CGIAR CASP is well positioned to address.

He then detailed five key areas of focus for the program in Sri Lanka:

1. Prioritization of Climate Actions – Establishing a CGIAR Research Data Hub providing global climate models and aligning national climate agendas.
2. Digital Advisories and Risk Management – Co-led with DCAS to provide early warning systems, strengthening water resilience to future climate, and co-develop national climate risk management strategies.
3. Locally-Led Adaptation – Scaling up regional innovations and Sri Lanka’s best practices with a strong focus on equity and inclusion.
4. Low-Emission Transitions – Targeting emissions reduction and offsetting, including through water-efficient agricultural practices.
5. Climate Finance and Policy for Scaling Solutions – Operationalizing loss and damage frameworks, strengthening private sector engagement, and scaling investments through innovation.

A shared diagram, titled “Contextualized, equitable and human-centered climate information products, decision support systems, and service bundles for localized advisory and climate

risk reduction,” illustrated the planned areas of work. These include upgrading platforms such as GeoGoviya with real-time data, closer institutional partnerships, and the integration of climate services with indigenous knowledge and training.

Further strategic components included:

- Integrated water resilience for the future, utilizing the Water Resilience Management Tool (WAT-NRM) and integrating it with GeoGoviya to embed water information into climate services.
- Mainstreaming gender and social inclusion across all thematic areas of work.

Dr. Giriraj emphasized that the convergence of science, policy, and investment must ensure a just transition, one that prioritizes vulnerable communities and delivers equitable impact.

He also shared an initiative that has introduced high-value fruit and vegetable crops to promote sustainable, healthy diets. These efforts blend agronomic advisories with indigenous knowledge, support the optimization of inputs such as irrigation and fertilizer, and will be more closely aligned with farmer needs.

The Better Diets and Nutrition (BDN) program is working with new villages to introduce climate-resilient crops and improve dietary diversity. Nutrition-smart advisories, aligned with climate variability, will be delivered via GeoGoviya, supporting existing government and partner-led initiatives and enhancing local government capacity. The platform offers significant potential for upscaling.

To increase the program’s long-term impact, Dr. Giriraj outlined eight strategic actions for CGIAR Climate Action in Sri Lanka:

1. Establish a Program-Level Climate Action Task Group  
Convene a multi-ministerial, cross-sectoral advisory group for quarterly coordination.
2. Align with Ongoing Initiatives and Priorities  
Identify priority areas for solution development and capacity building.
3. Launch a Climate Action Investment Drive  
Mobilize funding from climate finance mechanisms, development banks, and the private sector.
4. Co-Design Cross-Sectoral Climate Solutions  
Collaborate with stakeholders and funders to develop integrated actions.
5. Pilot Resilience Interventions in Climate-Sensitive Regions  
Test and refine scalable solutions in areas of highest impact.
6. Empower Local Implementation and Ownership  
Engage communities and sector actors to deliver context-specific solutions.
7. Mainstream Climate Action Principles into Policy  
Support the Government of Sri Lanka’s adoption of anticipatory, risk-informed approaches.
8. Create Inclusive Platforms for Dialogue and Innovation  
Facilitate human-centered, gender-responsive co-creation spaces.

# Reflections from Experts on CGIAR CASP Presentation

*Ms. Priyanka Dissanayake, World Bank*

Ms. Dissanayake commended (Figure 9) Dr. Giriraj for establishing a strong framework, noting that IWMI and other organizations have already laid substantial groundwork. However, she emphasized that for anticipatory action to truly contribute to economic resilience, tools and technical expertise must be accessible at the grassroots level.



Figure 9: Ms. Priyanka Dissanayake, World Bank, provided reflections on the Climate Action program (*photo: Pradeep Liyanage/IWMI*)

Ms. Ratnayake remarked that these initiatives are very timely. At the policy level, discussions are ongoing around various climate change strategies, including blue-green platforms and other climate-smart initiatives. A key challenge, she noted, is how to effectively transfer this knowledge to stakeholders. Disseminating information and enhancing stakeholder understanding is essential for impactful implementation.

Response by Dr. Giriraj

Dr. Giriraj acknowledged the remarks and observed that while development solutions often result in excellent action plans for specific districts or regions, scaling them is a different challenge. Climate finance may support scaling efforts, but governance, institutional capacity, and knowledge-sharing mechanisms often lag behind. He cited *GeoGoviya* as an example, stressing that such tools should extend beyond farmers to include institutional users as well. IWMI is currently conducting further research to develop instruments that support scaling and redesigning implementation pathways. He emphasized the need for continuous stakeholder

engagement and regular feedback to identify gaps and adjust strategies accordingly to meet broader climate resilience goals.

Follow-up Comment by Ms. Priyanka Dissanayake

Ms. Dissanayake pointed out that most of these systems are ICT-based, and questioned whether system maintenance is adequate. She stressed the importance of building ICT capacity alongside system development to ensure long-term sustainability.

Response by Dr. Giriraj

Dr. Giriraj responded that technological advancements, especially in cloud computing, have mitigated many earlier limitations. Furthermore, institutions involved have received ICT training, and efforts are ongoing to identify and address any remaining capacity gaps.

## Panel Discussion

**Topic “From Vulnerability to Resilience: Shaping Climate Action Pathways for Sri Lanka”**

Moderator – Prof. Buddhi Marambe, University of Peradeniya, Sri Lanka

Figure 10 shows the list of Panellists:

1. National Planning Department | Mr. Rohitha Wickramaratna
2. Climate Change Secretariat, MoE | Ms. Thiris Inoka
3. Irrigation Department | Eng. Ms. Nadeeka Wickramasinghe
4. Disaster Management Center | Mr. Chathura Liyanaarchchi
5. Sri Lanka Red Cross | Ms. Ganga Kariyawasam
6. Department of Agrarian Development | Mr. Daham Nandarathne
7. World Food Programme | Ms. Gothami Chandraratne



Figure 10: Panel members: From right to left, Mr Rohitha Wickramaratna, Ms Thiris Inoka, Ms Nadeeka Wickramasinghe, Mr Chathura Liyanaarchchi, Ms Ganga Kariyawasam, Mr Daham Nandarathne, and Ms Gothami Chandraratne. (photo: Pradeep Liyanage/IWMI)

Question from the Moderator:

**Question 1. for Mr. Rohitha Wickramaratna | National Planning Department**

*“All plans developed at the national level must be submitted for approval by the Department of National Planning. However, planning initiatives must be aligned with climate change initiatives. What mechanisms are in place to ensure climate resilience is embedded into the sectoral and provincial planning process?”*

**Answer:** ‘This is a very relevant and timely question. While various climate-related initiatives have been launched across different regions, it is essential to establish strong synergies among them to achieve their full impact. To this end, a *National Development Policy Framework* has been formulated, which integrates climate action through both mitigation and adaptation strategies, as well as outlines the associated investment requirements (Figure 11).

The Department of National Planning evaluates proposals at three key levels: policy, project, and investment facilitation. All submitted policies are reviewed to ensure alignment with the national development framework and the country’s broader strategic priorities.

In addition to its evaluative role, the Department also acts as a facilitator—particularly in identifying and supporting innovative financing mechanisms, given that many climate-related initiatives extend beyond the scope of existing budgets.

Furthermore, the ‘Climate Governance Dashboard’, developed in collaboration with the International Water Management Institute (IWMI), serves as a valuable tool for assessing proposals through a national lens. However, we recognize that further enhancements are needed to make the dashboard more comprehensive and inclusive, ensuring that it effectively supports climate-resilient planning across all sectors and provinces.’

**Question 2. for Ms. Thiris Inoka |Climate Change Secretariat, Ministry of Environment**

a. *'Have Key Performance Indicators (KPIs) been identified for different sectors and stakeholders at the national and regional levels?'*

b. *'What monitoring mechanisms are in place to assess progress in achieving these KPIs?'*

**Answer:** 'As a signatory to the Paris Agreement, Sri Lanka submitted its Intended Nationally Determined Contributions (INDCs) in 2016 and updated Nationally Determined Contributions (NDCs) in 2021. We are currently in the process of developing NDC 3.0. Although this was initially due in February, we required additional time to engage stakeholders in reviewing the interim report and revisiting our current NDCs to ensure they are more ambitious, practical, and actionable.

The development and implementation of NDCs—alongside the National Adaptation Plan (NAP)—are essential for progress tracking, data-driven decision-making, and effective resource allocation. Our NDCs cover 16 mitigation sectors, 9 adaptation sectors, and 1 sector on loss and damage. KPIs have been identified for each of these sectors in alignment with the NAP.

Under the NAP framework, we have also developed provincial adaptation plans, supported by the establishment of provincial boards and units to ensure effective local-level implementation. Several ongoing projects are contributing to NDC tracking efforts.

In 2024, Sri Lanka submitted its first Biennial Transparency Report (BTR), which further supports monitoring of NDC progress. We also have an NDC Implementation and Monitoring Plan for 2021–2030, which is overseen by a cabinet-appointed steering committee. This plan will be updated to align with NDC 3.0.

Additionally, we now utilize a Climate Smart Dashboard and a centralized NDC tracking system, which consolidates all NDC initiatives in one platform. This system helps identify and address gaps and challenges in implementation. Strong collaboration among all stakeholder groups is essential, especially for robust data collection and analysis—areas where further research is still needed.'

**Question 3. for Eng. Ms. Nadeeka Wickramasinghe | Department of Irrigation.**

*'How is the Department of Irrigation using new tools and approaches to respond to the increases in floods and droughts experienced in the recent past?'*

**Answer:** 'The Department of Irrigation is adopting both structural and non-structural measures to address the rising frequency of floods and droughts. Central to these efforts is the National Water Resources Development Master Plan, originally proposed in 1958 and continuously updated to incorporate integrated watershed planning.

Structural interventions include new reservoirs within river basins and upgrades to irrigation infrastructure, while planning considers climate scenarios, soil conditions and water demand to ensure sustainable water availability. A multi-criteria analysis is used to prioritize interventions, balancing social, environmental, and economic factors. For instance, high-priority basins like the Kelani are targeted for flood mitigation in the second phase of the plan.

Non-structural approaches include annual rehabilitation of irrigation systems, and the adoption of alternate wetting and drying methods to reduce water use and greenhouse gas emissions. Expanding meteorological networks, enhanced flood modelling and data collection aim to improve early warning systems. The master plan aligns closely with the National Physical Plan,

ensuring coherence in national development, climate resilience efforts and overall water management.'

**Question 4. for Mr. Chathura Liyanaarchchi | Disaster Management Centre:**

*'As a disaster-prone country, how does the DMC strengthen anticipatory action and community-based disaster preparedness, particularly through the integration of early warning systems and local governance structures?'*

**Answer:** 'The Disaster Management Centre (DMC) is the lead agency mandated to oversee disaster risk reduction (DRR) efforts across the country, addressing both natural and human-induced hazards. The Disaster Management Act signifies a strategic shift from reactive response mechanisms to a more proactive, anticipatory approach.

In alignment with this policy direction, the DMC is responsible for preparing the National Disaster Management Plan and the National Emergency Operation Plan, both of which are approved by the Cabinet and designed for immediate implementation. These plans are consistent with global frameworks such as the Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals (SDGs), and the Paris Agreement. They outline key pillars, strategic and priority actions, and operational entry points that facilitate early warning, early action, and early financing.

As a technical and coordinating body, the DMC works in close collaboration with other national and sectoral technical agencies. It has also established a core group on anticipatory action at the disaster level, reinforcing efforts to predict, prepare for, and mitigate risks ahead of time.

To ensure these strategies are effective at the grassroots level, it is vital to involve local governance structures more actively. There is a growing need for collaboration between researchers, practitioners, and community stakeholders to develop context-specific systems tailored to local realities. Enhancing the Community-Based Disaster Risk Reduction Mechanism (CBDRM) and empowering local authorities to take a leading role in preparedness and response are central to this effort.

Moreover, improving the precision of early warning information and identifying at-risk communities with greater accuracy will significantly enhance the efficiency of response actions. The DMC is committed to coordinating and implementing DRR activities at the community level, ensuring that preparedness is both inclusive and locally driven.'



Figure 11: Panel Discussion. (photo: Pradeep Liyanage/IWMI)

#### **Question 5. for Ms. Ganga Kariyawasam | Sri Lanka Red Cross**

*‘What are the most effective local-level interventions that have moved vulnerable communities from adopting reactive responses to proactive climate risk reduction?’*

**Answer:** ‘As an organization deeply engaged at the community level, the Red Cross has implemented a range of effective local interventions that have helped shift vulnerable communities from reactive responses to proactive climate risk reduction.

Key examples include groundwater recharging, rainwater harvesting, and the co-development of the Agromet advisory, often in collaboration with technical partners. These initiatives have demonstrated significant impact. For instance, the block-and-spill groundwater recharge system used in dry zone communities has led to increased coconut harvests and reduced water salinity.

Rainwater harvesting is an effective and sustainable solution for both domestic and irrigation use. By utilizing rooftops as catchment surfaces, a 5,000-liter tank can be filled over two rainy seasons—providing enough clean water to meet the annual needs of a family of five. This method not only enhances water security but also reduces reliance on unreliable sources during extreme weather events. Additionally, the provision of Agromet advisories and the adoption of water management technologies for rice cultivation have proven successful. These advancements enable farmers to make informed, data-driven decisions to improve productivity and resilience.

The success of these interventions lies in their community-centered approach. It begins with raising awareness and providing climate and disaster education. Communities are then actively involved in both the planning and implementation stages. This process empowers them to take ownership, enhancing sustainability and building long-term resilience.’

### **Question 6. for Mr. Daham Nandarathne | Department of Agrarian Development (DAD)**

*'How does the Department of Agrarian Development support smallholder farmers to adapt to climate extremes, focusing on technology, climate-smart agriculture and capacity building?'*

**Answer:** 'Enhancing the climate resilience skills of farmers in the minor irrigation schemes and diversion schemes under the purview of DAD is a key priority. DAD has taken several present and future actions to enable this. Firstly, catering to situations of climate extremes necessitates good data, so rainfall data is being collected from 566 of our agrarian centers set up around the country daily. Additionally, 22 Agromet stations have been established around the country that collect weather data. Also, with the support of the Met Dept, we publish a paper that provides twice-weekly weather advisories to farmers. An irrigation database is also being developed which will enable weather advisories. An irrigation database is also being developed, which will connect with the IWMI-developed *GeoGoviya* platform, enabling irrigation advisories to be communicated to farmers. Strengthening the tank cascade systems is another important initiative. Plans are on board to redesign the spill structure, and reinforcing dams against weather extremes. . Several of these projects are underway supported by donor organizations like the World Bank. Also, public-private partnership has been introduced to de-silt tanks and increase their capacities. Several water management projects have also been introduced, also developed downstream infrastructures for farmer use, advanced technologies have also been introduced to farmers. An extensive capacity-building program for farmers has also been implemented.'

*'What are the most effective local-level interventions used by the Red Cross that have moved vulnerable communities from adopting reactive responses to proactive climate risk reduction?'*

### **Question 7. for Ms. Gothami Chandraratne |World Food Programme**

*'How does WFP support national food systems to better anticipate and respond to climate insecurity? And what models have proven effective at the ground level?'*

**Answer:** 'Sri Lanka's food system is particularly vulnerable to the increasing frequency and intensity of climate-related events. At WFP, we recognize that reactive crisis response alone is no longer sufficient. Our focus has shifted to anticipating risks, preparing early, and taking proactive action. This marks a strategic shift—from our tagline of simply '*saving lives*' we have changed to '*saving lives and changing lives*' through long-term efforts aimed at building resilient food systems, advancing the Sustainable Development Goals and strengthening food security and nutrition in the face of climate change.

One of our key approaches to new projects will be the establishment of all-stakeholder task forces. These are essential for addressing complex challenges through coordinated action across sectors.

Another challenge in Sri Lanka is the lack of robust, timely data on food security and climate vulnerability. To fill these gaps, WFP conducts comprehensive food security and climate vulnerability assessments. These are shared with national and local stakeholders to support evidence-based policymaking. We have found that countries that update and act on this type of data tend to make meaningful progress in strengthening their food systems.

We also emphasize *anticipatory action*, a proactive approach that enables us to support communities before disasters strike. This can include distributing cash assistance, food

rations, or drought-resilient seeds in advance of expected climate shocks. Such measures reduce humanitarian impacts and help stabilize food security.

Finally, we are promoting *shock-responsive social protection systems*, along with community-based adaptation and capacity-building models. These approaches have shown success in enhancing resilience at the grassroots level by promoting sustainable agricultural practices, water management and early warning systems, and can be scaled up in various regions to strengthen national food systems against future climate risks.

Questions from Participants:

**1. Question:** *‘Many different organizations are undertaking climate-related activities across Sri Lanka. How are these efforts coordinated, and what tools are available to facilitate this integration?’*

Dr. Dayan Munasinghe, NBRO

**Answer:** Mr. Rohitha Wickramaratna, NPD responded: ‘This is a critical issue that has been under discussion for several years. Numerous initiatives are being implemented by various public, private, and development actors, but aligning these under a single, cohesive framework remains a challenge. The National Planning Department is working to consolidate policies and programs into one platform to minimize duplication. As the Ministry of Finance, we are also leading the financing aspects of both adaptation and mitigation, given our institutional capacity. While the challenge of synergy remains, there is a concerted effort across government entities to align and streamline initiatives.’

**2. Question:** *‘Financing climate action is crucial. Can this be done effectively through Public-Private Partnerships (PPPs)?’*

**Answer:** Mr. Rohitha Wickramaratna, NPD responded: ‘Yes, the government encourages PPPs in climate finance. A dedicated unit under the Ministry of Finance has been established to evaluate and recommend PPP proposals. Additionally, under the new Public Finance Management Act, the National Planning Department has the authority to screen these proposals. The policy environment is supportive, but there remain some legal and regulatory barriers - especially concerning the equitable sharing of benefits -which need to be addressed. Nonetheless, the framework for PPPs is in place and evolving positively.’

**3. Question:** *‘Is Sri Lanka doing enough, and is the pace of climate action adequate?’*

Dr. Ian Overton, IWMI

**Answer:** Mr. Chathura Liyanaarchchi, DMC responded: ‘Sri Lanka has many active programs, including a World Bank-supported initiative to integrate disaster response and technical agencies through a centralized server for early warning dissemination. The DMC works closely with technical, humanitarian agencies, NGOs, academia, and research bodies like IWMI. The AWARE platform serves as a good example of multi-agency collaboration. However, governance challenges and limited capacity in some organizations need to be addressed. Meeting international frameworks like the Sendai Framework requires better understanding and management of disaster risks, which calls for enhanced technical expertise and institutional coordination.’

**4. Question:** *‘We talk about community-based approaches. What are the challenges you have faced when ensuring the sustainability of these projects, and what can be done to*

*ensure sustainability?’*

Mr. Winson Gnanatheepan, FAO.

**Answer:** Mr. Chathura Liyanaarchchi, DMC, responded: ‘There are a lot of plans, policies, and procedures being developed, some are abstract and some are already published, but they often don’t reach the community. One key challenge is the lack of effective communication channels to convey these initiatives to the grassroots level. Just as importantly, there needs to be a mechanism for integrating community voices into the planning process. Community-based research should be conducted in tandem with anticipatory action planning to ensure we understand what the community actually needs. Strengthening Community-Based Disaster Risk Management (CBDRM) systems is crucial to enable informed decision-making at the community level and to ensure long-term sustainability.’

**5. Question to NPD:** *‘We have several activities addressing climate change mitigation and adaptation. Right now in Sri Lanka, government initiatives and development agendas are in place. But when it comes to adaptation, do we have policies that specifically address climate action?’*

Ms. Tharika Fernando, World Vision.

**Answer:** Mr. Rohitha Wickramaratna, National Planning Department (NPD), responded: ‘Yes, our policies are fully conducive to supporting climate adaptation. The real challenge, however, lies in financing. There’s a significant funding gap when it comes to adaptation initiatives. While considerable investment, often supported by external sources like the World Bank and ADB, is currently being directed towards sectors such as irrigation, it still falls short of the overall need.’

One of the biggest issues we face is water scarcity. Many adaptation projects place a high demand on water, which is not always readily available. As a result, we are now prioritising effective water management as a key strategy. By optimising how we manage existing water resources, we can address several challenges linked to adaptation. So, while the policy framework exists and acknowledges the need for adaptation, financing remains the primary bottleneck.’

**Additional Response:** Ms. Nadeeka Wickramasinghe, Irrigation Department (ID): ‘As the question primarily relates to water resources, I believe it’s important to contribute from the perspective of the Irrigation Department. According to the Water Development Masterplan, there are several proposals in place for both developing new water infrastructure and rehabilitating existing systems, including components of water management. However, implementing these initiatives comes with social, environmental, and economic constraints.’

The National Adaptation Plan (NAP) is a key policy tool that helps us track and evaluate progress in adaptation efforts. The Irrigation Department has submitted its own proposals as part of the NAP framework. However, financing remains a significant barrier. Moreover, in certain water basins, the challenges cannot be resolved through water management alone - we must also consider new infrastructure developments. While we are well-equipped with proposals, we continue to face real-world limitations in terms of resources and feasibility.’

**6. Question:** *“Have provincial climate cells been activated to implement the Provincial Adaptation Plans (PAPs)?”*

Mr. Dumindu Herath, International Organization for Migration (IOM)

**Answer: Ms. Thiris Inoka, Climate Change Secretariat:** ‘The Provincial Adaptation Plans, developed in alignment with the National Adaptation Plan (NAP), are nearing completion. Following upcoming validation workshops, they are expected to be officially adopted. Our partner, the Global Green Growth Institute (GGGI), will support this process in collaboration with the Ministry of Environment.’

**Additional Response:** Ms. Ganga Kariyawasam, Sri Lanka Red Cross (SLRC): ‘The Sri Lanka Red Cross has facilitated the workshops for PAP development, which are now in their final stages. The climate cells have already been activated and are operational, supported through funding from the World Bank.’

**Additional Response:** Ms. Nadeeka Wickramasinghe, Irrigation Department (ID): ‘A flood modelling platform has been established to connect key stakeholders. While extensive research exists on floods, much of it lacks the necessary depth. However, integrating this information into a centralized platform could enhance our ability to analyse and utilize it more effectively’

**7. Question:** *‘Looking at GDP projections through 2050, alongside rising temperatures and increasing extreme events, we’re seeing a push for accelerated interventions by ministries, including some transformative adaptation programs. Typically, interventions run on 3- or 5-year project cycles, but over time, communities are left behind when projects move to different districts. How do we ensure the sustainability of these programs—what we refer to as the transformation of social and economic systems? Also, do we have any permanent benchmarking sites that international donors can visit to observe our long-term progress towards transformation? It’s difficult to measure impact when everyone is implementing initiatives in silos without meaningful intersections. Is there a bold, unified pathway we can pursue?’*

**Answer:** Ms. Gothami Chandraratne, WFP: ‘Returning to the all-stakeholder approach, we already have the necessary policies, frameworks, and strategies in place—it’s now about operationalizing them. For this, strong leadership and top-level monitoring are essential, but currently lacking. The National Planning Department (NPD) is well-positioned to lead this effort. While numerous activities are being implemented, we must ask ourselves: are we moving fast enough, or innovating enough, to confront emerging challenges? Not all sectoral actors are adequately connected. A national-level coordinating body is urgently needed. Sustainability issues persist largely because continuous monitoring is insufficient. I believe the fundamental challenge lies in coordination. We must begin operationalizing existing plans and programs in a more forward-looking, integrated manner.’

**Moderator’s Summary:**

**Prof. Buddhi Marambe:**

‘Coordination is indeed key, but unfortunately, despite repeated efforts in the past, coordination mechanisms often disappear within the system. More and more stakeholders are entering the space, but without a structured mechanism, alignment doesn’t occur. We can’t wait for negative impacts to force action—this is why we emphasize the need for anticipatory, proactive responses. A dedicated mechanism must be established to ensure coordination is sustained and effective.’

# Group Discussion

## Group 1

**Topic:** Climate Risk Intelligence, Early Warning and Digital Advisories

**Facilitator:** Dr. Niranga Alahacoon, IWMI

**Focus:** Enhancing climate foresight, analytics, and early warning systems to anticipate risks and support timely action. Exploring how digital platforms and bundled services can strengthen adaptive capacity for farmers and institutions (Figure 12).

The discussion focused on evaluating and improving multi-hazard early warning systems with emphasis on forecasting, community engagement, data integration, and technology-driven dissemination.

### KEY POINTS AND FINDINGS

#### Current Early Warning Systems:

- Significant reduction in loss of life since 2016–2017 due to improved early warning systems.
- Effectiveness at the farmer level is limited; systems require enhancement to address agricultural and livestock losses.
- The Disaster Management Centre (DMC) focuses on technical warnings, relying on input from technical agencies.
- An app for farmers in Anuradhapura, under the Climate Resilience Integrated Water Management program, provides tailored early warnings, crop variety recommendations, and water management measures.

#### Need for Location-Specific and Impact-Based Forecasting:

- Warnings must be precise, location-specific, and understandable to local communities.
- Community consultations are essential to ensure warnings are comprehensible and actionable.
- Impact-based forecasting is needed to address specific hazards and community needs, considering factors like hazard type and community comprehension levels.



Figure 12: Discussion of group-1. (photo: Pradeep Liyanage/IWMI)

#### **Data and Technology Challenges:**

- General forecasts from the Meteorological Department have an accuracy of 63–70% (2016–2024), with global guidance incorporated.
- Data sharing is hindered by institutional reluctance, lack of policies, and concerns over cost, time, and reliability.
- Existing platforms like *GeoGoviya*, which contains data on 1.9 million individuals (including 95% of paddy farming data), are underutilized due to privacy regulations and a lack of integration.
- Incompatible systems and the lack of collaboration between institutions impede effective forecasting and warning dissemination.

#### **Digital Tools and Dissemination:**

- Warnings are primarily disseminated via SMS and text messages, with platforms like Dialog’s “Sayuru” enabling location-specific alerts for fishermen.
- A new system for location-specific messaging has been developed by Dialog but awaits broader implementation.
- AI and advanced technologies offer potential for innovative warning dissemination, as demonstrated by Pakistan’s anticipatory action simulation for cyclones, which used AI to model flood levels, community preparedness, and evacuation plans.

#### **Integration and Policy Needs:**

- A centralized data platform, such as the World Bank-supported CRIS-MP, is being developed to integrate spatial and sectoral data.
- National-level policies are needed to facilitate data sharing, establish a governing body, and ensure collaboration across departments.
- Infrastructure, particularly telecommunications, plays a critical role in effective warning dissemination.

## CHALLENGES

- **Data Reliability and Sharing:** Limited data sharing due to institutional barriers, lack of policies, and unreliable datasets.
- **System Integration:** Incompatible systems and lack of inter-institutional collaboration hinder effective forecasting.
- **Community Readiness:** Communities may not fully understand or act on warnings due to jargon-heavy messages or lack of consultation.
- **Resource Constraints:** Insufficient human resources and infrastructure limit the scalability of early warning systems.

## RECOMMENDATIONS

- Strengthen Technical Coordination:** Position DMC as the central entity for coordinating early warning systems, ensuring technical inputs from relevant agencies.
- Establish a Central Data Platform:** Create an accessible, integrated system for spatial and sectoral data, leveraging platforms like GeoGoviya, with clear policies for data sharing.
- Enhance Early Warning Systems:** Conduct a thorough review of current systems to improve accuracy, localization, and impact-based forecasting.
- Form a Governing Body:** Establish a national institute to oversee early warning processes, data integration, and inter-agency collaboration.
- Simplify and Localize Warnings:** Issue warnings in clear, jargon-free language, translated into Sinhala, Tamil, and English, tailored to specific sectors and communities.
- Promote Inter-Agency Collaboration:** Link warnings with actionable precautions from relevant sectors (e.g., the health department for heat warnings).
- Leverage Technology:** Adopt AI and digital tools for anticipatory action, location-specific messaging, and community feedback validation.
- Increase Resources:** Invest in human resources and telecommunications infrastructure to support scalable warning dissemination.

- i. **Improve Community Engagement:** Conduct consultations to ensure warnings are understandable and actionable, with feedback mechanisms to validate system effectiveness.

## CONCLUSION

The discussion highlighted the progress in early warning systems since 2016, particularly in reducing loss of life, but underscored the need for location-specific, impact-based forecasting and better data integration. By addressing institutional barriers, leveraging technology, and fostering community engagement, a more effective, inclusive, and reliable early warning system can be developed to protect lives, livelihoods, and infrastructure.

## Group 2

Topic: Locally Led Adaptation and Community Empowerment

Facilitator: Dr. Emmanuel Attoh, IWMI

Focus: Empowering local institutions, producer groups, and marginalized communities to co-design and implement inclusive, context-specific climate adaptation solutions that are scalable and sustainable (Figure 13).



Figure 13: Discussion of group-2. (photo: Pradeep Liyanage/IWMI)

The group explored how locally led adaptation (LLA) empowers communities to take ownership of climate resilience through inclusive, community-driven projects. Key strategies for success include strengthening local institutions, developing early warning systems, involving community groups in disaster response, and promoting sustainable livelihoods. However, implementation is often hindered by financial constraints, gender-related barriers, limited

access to information, and capacity gaps. To make adaptation efforts more equitable, durable, and context-specific, participants emphasized the need to scale successful initiatives through strong partnerships, targeted investments, and improved knowledge sharing.

### KEY POINTS AND FINDINGS

- Locally Led Adaptation (LLA) empowers communities through inclusive, community-driven approaches, strengthening resilience to climate risks.
  - **Successful examples include:**
    - Surface water engineering and groundwater recharge projects.
    - Community-based early warning systems and disaster response groups.
    - Rehabilitation of tea estates through community management.
    - Community-led hazard assessments and practical innovations (e.g., flood-level markers).
    - Climate-resilient farming techniques and eco-village development.
    - Income diversification strategies for agriculture-based households.
  - **Local governments play crucial roles by:**
    - Integrating local knowledge into Disaster Risk Reduction (DRR) plans.
    - Facilitating monitoring, education, and capacity-building programs.
    - Coordinating with NGOs and CSOs for relevant, inclusive actions.
    - Partnerships, knowledge sharing, and multi-source funding are key enablers for scaling LLA.

### CHALLENGES

- **Structural and Capacity Barriers:**
  - Limited capacity among government officials to implement inclusive approaches.
  - Insufficient awareness and capacity-building programs, particularly for vulnerable groups.
- **Access and Inclusion:**
  - Restricted access to climate-related information for marginalized communities.
  - Inadequate inclusion of vulnerable voices (e.g., women, youth) in decision-making.
  - Gender-specific and financial constraints hinder full participation in LLA processes.
- **Resource Limitations:**
  - High labor and financial costs (e.g., replanting efforts) impede local participation.
  - Lack of sustained financial support affects long-term viability of initiatives.

### RECOMMENDATIONS

**a. Enhance Knowledge Sharing:**

- Use accessible tools (dashboards, reports) to spread learnings and support evidence-based decisions.
- Combine scientific, traditional, and community knowledge for inclusive adaptation planning.

**b. Strengthen Partnerships and Investments:**

- Build strong linkages between communities, governments, NGOs, and donors to scale initiatives.
- Institutionalize LLA by embedding practices within formal planning and funding mechanisms.
- Create financial support schemes and relief programs for vulnerable populations.

**c. Support Inclusion:**

- Develop gender-sensitive and youth-focused adaptation programs.
- Improve access to training, information, and resources for all community segments.
- **Economic Incentives and Market Linkages:**
- Promote climate-resilient livelihoods through market development and outreach.

## CONCLUSION

Locally Led Adaptation is a powerful strategy for building community resilience in the face of climate change. When communities are co-designers and co-owners of solutions, outcomes are more sustainable and context-specific. However, to unlock the full potential of LLA, barriers such as limited capacity, exclusion of marginalized groups, and financial constraints must be addressed through strategic investments, inclusive practices, and robust partnerships. By doing so, LLA can be scaled effectively to achieve broader climate resilience and equity goals.

## Group 3

**Topic: Water Resilient Agriculture for a Climate Ready Future**

**Facilitator: Dr Upali Amarasinghe, IWMI**

**Focus:** Strengthening water resilience in both irrigated and rainfed systems through watershed management, sustainable irrigation, water accounting, and climate-smart tools and practices.

The discussion focused on strategies to enhance the resilience of irrigation and rainfed agricultural systems in the face of climate change. Insights from government departments, the private sector and NGOs were brought together to assess ongoing initiatives, identify challenges, and explore practical, climate-smart water management solutions (Figure 14).

### KEY POINTS AND FINDINGS

**Department of Agriculture:**

- Developed drought- and flood-tolerant crop varieties.

- Introduced water-saving technologies such as Alternate Wetting and Drying (AWD) and micro-irrigation.
- Implemented multipurpose soil conservation bunds and solar-powered water pumps.
- Faced constraints including weak agricultural extension services, water losses due to aging infrastructure, limited financial resources, and low farmer uptake of innovations such as fertigation.

#### **Chemical Industries (Colombo) CIC (private sector)**

- Collaborating with the Department of Agriculture on high-yield, drought-resistant paddy varieties.
- Importing and promoting drip irrigation systems and other advanced technologies.
- Encountering challenges in low adoption rates and delays in distributing improved seeds to farmers.



Figure 14: Discussion of group-3. (photo: Pradeep Liyanage/IWMI)

#### **Irrigation Department (ID)**

- Engaged in river basin planning, groundwater management, flood early warning, and development of water resources.
- Rehabilitating cascade systems, affecting both major and minor irrigation areas.
- Recognized the interdependence of minor, major, and rainfed agricultural systems.

- Stressed the importance of empowering farm organizations for effective land and water management.

#### **Department of Agrarian Development (DAD)**

- Managing minor irrigation systems through projects such as CSIAP, SAAP, and future integrated climate-resilient programs.
- Upgrading infrastructure: strengthening dams, spillways, and canal systems.
- Established *Cascade Management Committees (CMC)* under CSIAP to coordinate water management across linked farm organizations.
- Identified challenges in expanding tank capacities and ensuring sustained farmer participation.

#### **ChildFund Sri Lanka**

- Focused on renovating minor tanks, promoting sustainable groundwater use, and encouraging crops suited to low water availability.
- Highlighted the affordability barrier to adopting micro-irrigation systems among smallholder farmers.

#### **Janathakshan**

- Undertakes de-siltation, tank and ecosystem rehabilitation, capacity building, and awareness programs.
- Promotes climate-smart agriculture (CSA) practices including parachute planting, mulching, percolation pits, and micro-irrigation.

#### **Climate Change Secretariat**

- Recommended better use of existing knowledge products (manuals, guidelines, strategies, etc.).
- Emphasized the need for technical staff and more frequent capacity-building initiatives.

#### **CHALLENGES**

- **Infrastructure Gaps:** Aging and inefficient systems contribute to significant water loss.
- **Financial Constraints:** Limited funding hinders both infrastructure improvements and technology adoption.
- **Knowledge Transfer Deficits:** Inadequate extension services and untimely information sharing affect farmer preparedness.
- **Weak Institutional Capacity:** Farmer organizations need strengthening for coordinated water management, especially in minor irrigation systems.
- **Technology Awareness and Affordability:** Low awareness and high costs limit uptake of innovations such as solar pumps and fertigation.

- **Policy and Investment Gaps:** Inadequate policy support and investment in climate-smart, water-resilient agriculture.

## RECOMMENDATIONS

- a) **Strengthen Extension Services:** Improve the delivery of knowledge and support to farmers to promote adoption of water-saving technologies and CSA practices.
- b) **Invest in Infrastructure:** Prioritize the rehabilitation and modernization of irrigation systems to reduce water loss and improve efficiency.
- c) **Enhance Farmer Organizations:** Empower and formalize farmer groups, particularly through structures like Cascade Management Committees, to coordinate water and land management.
- d) **Promote Affordable Technology Access:** Develop subsidy schemes or financing options for low-cost irrigation solutions and CSA technologies.
- e) **Improve Seed and Input Delivery:** Address delays in the distribution of improved seeds and promote timely access to quality inputs.
- f) **Foster Cross-Sector Collaboration:** Strengthen coordination among government agencies, NGOs, and the private sector to scale up effective practices.
- g) **Expand Capacity Building:** Increase technical training and provide resources to field-level officers to support farmers more effectively.
- h) **Policy Alignment:** Develop and implement supportive policies and investment frameworks that prioritize climate-resilient agriculture and integrated water management.

## CONCLUSION

The discussion underscored the need for integrated, climate-smart approaches to water and agriculture management. While various initiatives are underway, their impact is limited by infrastructure gaps, institutional weaknesses, financial barriers, and poor knowledge dissemination. Strengthening collaboration across stakeholders, investing in scalable solutions, and empowering farmers with both tools and information are critical to building a climate-resilient agricultural future.

## Group 4

**Topic: Policy, Institutions, and Climate Finance**

Facilitator: Mr. Mohammed Aheeyar, IWMI

Focus: Strengthening coherence between local actions and national climate strategies (e.g., NDCs, NAP), while identifying institutional enablers and financing mechanisms to support long-term adaptation and mitigation.

The discussion centered on the critical interplay between policy, institutions, and climate finance in driving effective climate action. The group explored how current policies are developed, identified key gaps in policy alignment and implementation, and examined ways to create a more enabling environment for locally relevant climate solutions (Figure 15).



Figure 15: Discussion of group-4 (photo: Pradeep Liyanage/IWMI)

## KEY POINTS AND FINDINGS

- Policy Development Process:
  - Sectoral priorities are not consistently aligned across departments, provinces, and the national level.
  - There is a lack of synchronized priority-setting between local, provincial, and national stakeholders.
- National Climate Framework:
  - Institutional challenges exist, including inadequate facilities, limited staff capacity, and funding gaps.
  - Climate policy implementation is hindered by an immature system and lack of robust climate financing options.
  - A central coordination forum is needed to unify efforts and address fragmented approaches.
- Policy Gaps:
  - Absence of a holistic policy approach that integrates all sectors and considers long-term system-level impacts.
  - Weak monitoring systems and inconsistent political commitment, especially through changes in government.

- Underutilization of digital technologies to support planning, implementation, and monitoring.
- Integration Challenges:
  - National–Provincial policy alignment is limited; there is a need to incorporate province-specific climate vulnerabilities into national plans.
  - Policies often follow a downstream (reactionary) approach rather than an upstream (preventive and strategic) approach.
- Sectoral and Institutional Integration:
  - There is a push for a multi-sectoral approach, with clearly defined responsibilities for each sector.
  - Commitment and collaboration among institutions are weak, and a designated monitoring agency is missing.
  - Current institutional arrangements tend to focus on research without enough emphasis on implementation.
- Climate Finance:
  - There is low preparedness at the ground level to access and utilize innovative funding sources.
  - Application processes for climate finance are often inaccessible or underutilized by local actors.

## **RECOMMENDATIONS**

- Strengthen Policy Coordination:
  - Establish a central coordination committee or forum to streamline communication, policy alignment, and implementation.
  - Promote an upstream policy development approach, ensuring policies are preventive, inclusive, and forward-looking.
  - Ensure province-specific climate vulnerabilities are systematically integrated into national climate action plans.
- Enhance Institutional Frameworks:
  - Adopt a multi-sectoral governance structure with assigned roles and accountability mechanisms.
  - Identify or establish a dedicated monitoring authority to ensure policy follow-through and measurable outcomes.
  - Improve institutional commitment and collaboration beyond academic research to include real-world implementation.
- Innovative Climate Financing:

- Build capacity at the local level to access and manage innovative climate finance mechanisms.
- Encourage development of new funding models and partnerships (e.g., public-private, climate bonds, community-based funds).
- Provide technical assistance to communities and institutions for funding proposal development and management.
- Leverage Technology and Data:
  - Integrate digital tools to enhance policy monitoring, early warning systems, and data-driven decision-making.
  - Encourage adoption of climate data platforms and dashboards to increase transparency and engagement.

## **CONCLUSION**

To advance effective climate action, policies must be coherent, inclusive, and well-integrated across all levels of government and sectors. Fragmentation, limited institutional capacity, and poor access to climate finance currently hinder progress. Establishing a central coordination mechanism, fostering cross-sectoral collaboration, and building ground-level readiness for innovative funding are essential steps. Strengthening institutional commitment, using digital technologies, and adopting a holistic and upstream policy approach will ensure resilience, and that-building efforts are both sustainable and scalable.

# Annexures

## Annexure 1: Workshop Agenda

Time	Program	Lead
09:00 – 09:30	Registration	Ms. Nilanthi Ramanayake, IWMI
09:30 – 10:45	<p><b>Opening Session</b></p> <p><b>Welcome remarks</b> and setting the scene by Transition Deputy Director for CGIAR Climate Action Science Program</p> <p><b>Opening remarks</b> by Country Manager, IWMI, Sri Lanka</p> <p><b>Special remarks</b></p> <p>Director General, Department of National Planning</p> <p>Director, Climate Change Secretariat, MoE</p> <p>Director General, Disaster Management Center</p> <p>Second Secretary, Embassy of Japan in Sri Lanka</p> <p><b>Chief guest remarks</b> – Secretary, Ministry of Agriculture, Livestock, Land and Irrigation</p> <p><b>Overview of CGIAR Climate Action Science Program in Sri Lanka</b> (15 mins)</p>	<p>Dr. Giriraj Amarnath</p> <p>Dr. Ian Overton</p> <p>Ms. J.M.S.D Rathnayake</p> <p>Ms. K.K.A. Chamani Kumarasinghe</p> <p>Major Gen Sampath Kotuwegoda (Retd.)</p> <p>Ms. Tanaka Sachi</p> <p>Mr. D. P. Wickremasinghe</p> <p>Dr. Giriraj Amarnath</p>
10:45 – 11:15	<i>Group photo + Tea/coffee</i>	
11:15 – 12:30	<p>Panel discussion - From Vulnerability to Resilience: Shaping Climate Action Pathways for Sri Lanka</p> <p>Moderated by <b>Prof. Buddhi Marambe, University of Peradeniya</b></p> <p>National Planning Department   <b>Mr. Rohitha Wickramaratna</b></p> <p>Climate Change Secretariat, MoE   <b>Ms. Thiris Inoka</b></p> <p>Irrigation Department   <b>Eng. Mrs. Nadeeka Wickramasinghe</b></p> <p>Disaster Management Center   <b>Mr. Chathura Liyanaarchchi</b></p> <p>Sri Lanka Red Cross   <b>Ms. Ganga Kariyawasam</b></p> <p>Department of Agrarian Development   <b>Mr. Daham Nandarathne</b></p> <p>World Food Programme   <b>Ms. Gothami Chandraratne</b></p>	
12:30 – 13:30	<p><b>Group Discussion (45 mins and 10 mins to report back)</b></p> <p>This session invites participants to identify opportunities for implementing the CGIAR Climate Action Program by linking local knowledge with global science, focusing on risk-informed planning, inclusive adaptation, and enabling conditions like partnerships, data, and finance.</p>	<p><b>Proposed groups and Facilitators</b></p> <p><b>Group 1: Climate Risk Intelligence, Early Warning, and Digital Advisories</b> (Dr. Niranga Alahacoon)</p> <p><b>Group 2: Locally Led Adaptation and Community Empowerment</b> (Dr. Emmanuel Attoh)</p> <p><b>Group 3: Water-Resilient Agriculture for a Climate-Ready Future</b> (Dr. Upali Amarasinghe)</p> <p><b>Group 4: Policy, Institutions, and Climate Finance</b> (Mr. Mohammed Aheeyar)</p>
13:45 – 14:00	<b>Closing remarks and Next Steps</b>	IWMI and Partners
14:00	<i>Lunch break</i>	

## Annexure 2: List of Participants

Name	Organization
Dr. W. M. U. K. Rathnayake	Department of Agriculture
R. A. Chamila Perera	Department of Agriculture
V. Thawishnee	Department of Agrarian Development
D. D. Perera	Department of Agrarian Development
H. G. K. Priyashantha	Department of Agrarian Development
A. B. D. T. Nandharathne	Department of Agrarian Development
Nadeeka Wickramasinghe	Irrigation Department of Sri Lanka
Malith Fernando	Department of Meteorology
H. G. C. P. Gamage	Ministry of Disaster Management
Shann Pathirana	Ministry of Disaster Management
Savithri Jayakody	Ministry of Disaster Management
Chathura Liyanarachchige	Disaster Management Centre
Dr. Dayan Munasinghe	National Building Research Organization
Priyantha Dissanayake	World Bank
P. S. H. Silva	Institute of Policy Studies of Sri Lanka
Winson Gnanatheepa	Food and Agriculture Organization of the United Nations
Gothami Chandrartne	World Food Programme
Upali Imbulana	United Nations Development Programme
Asoka Ajantha	United Nations Development Programme
Nilwala Ravihari	Janathakshan
Tharika Fernando	World Vision Lanka
Shivani Rathnayake	National Planning Department
Diluka Piyasena	2 <sup>nd</sup> NDA Readiness Project/Global Water Partnership South Asia (GWP SAS)
Anura Sathurusinghe	2 <sup>nd</sup> NDA Readiness Project/Global Water Partnership South Asia (GWP SAS)
K. Wickrama	Water Resources Planning Division
Ganga Kariyawasam	Redcross – Sri Lanka
Duminda Herath	International Organization for Migration
Pindi de Silva	Acted
Sachi Tanaka	Japan Embassy
Dr. Chinthaka Perera	Batangala Campus
Hasanthi Amarasinghe	Save the Children
Pubudu Weerathna	CIC Holdings PLC
M. S. N. Rathnayake	Sri Lanka General Insurance
Upul Hewage	Child Fund Sri Lanka
Prof. Manjula Ranagalage	Rajarata University
Vidura Ekanayake	Asian Development Bank
Nirmala Fernando	Asian Disaster Preparedness Center
Chamini Kumarasinghe	Ministry of Environment
Inoka	Ministry of Environment



CGIAR is a global research partnership for a food-secure future. CGIAR science is dedicated to transforming food, land, and water systems in a climate crisis. Its research is carried out by 13 CGIAR Centers/Alliances in close collaboration with hundreds of partners, including national and regional research institutes, civil society organizations, academia, development organizations and the private sector. [www.cgiar.org](http://www.cgiar.org)

To learn more about this program, please visit:  
<https://www.cgiar.org/cgiar-research-portfolio-2025-2030/climate-action/>

#### Contact

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