



## OUR WORK IN SRI LANKA

IWMI is committed to strengthening Sri Lanka's climate resilience and sustainable economic development through water management solutions that support communities, agriculture, and ecosystems. Our work includes influencing water management practices in groundwater dependent areas and in ancient cascade tank systems, enhancing ecosystem services, improving wetland management, and empowering communities, including women and youth.

As climate risks intensify, IWMI collaborates with the Government and partners to promote sustainable agriculture, and integrated approaches to managing floods and droughts. Our goal is to secure water resources, improve anticipatory action and early warning of water-related disasters, enhance food security, and improve livelihoods across the country.

IWMI has been developing evidence-based responses to these urgent issues in Sri Lanka since 1984.

## WATER MANAGEMENT IN SRI LANKA

Sri Lanka's water management is shaped by monsoonal seasonality, a dense river network, and a tradition of irrigation-based development. Of 103 river basins, 21 generate nearly 80% of annual surface runoff. Water availability remains adequate, yet resources are unevenly distributed. Over 60% of annual rainfall occurs during the Maha season, increasing dependence on storage in dry and intermediate zones where seasonal water stress is most pronounced.

Agriculture dominates water use, supporting rural livelihoods for nearly 80% of the population. Large and medium irrigation schemes and an estimated 16,000 small tanks, forming ancient tank cascade systems, provide about 8.4 billion cubic meters of surface storage, buffering rainfall variability, enabling dry season cultivation, and supporting groundwater recharge. Groundwater supplies drinking water for about 42% of the population.

Climate-related disasters such as Cyclone Ditwah highlight Sri Lanka's growing exposure to floods and landslides. Strengthening institutional coordination, data driven planning, and climate informed decision-making can enhance long-term water security and resilience.



**60%** of annual rainfall occurs during the Maha season, increasing reliance on storage for dry season water use.



**16,000** small tanks form extensive cascade systems supporting dry zone agriculture and groundwater recharge.

# AREAS OF WORK

## Flood and drought management

IWMI's work on flood and drought management focuses on strengthening resilience by blending real-time data, anticipatory triggers, and community-led responses. IWMI develops inclusive systems that link early warning and early finance to prompt action, enabling vulnerable populations to adapt to and reduce the risks of extreme weather events.

Through the **AWARE platform**, IWMI is supporting Sri Lanka's transition toward proactive disaster risk management. AWARE integrates meteorological forecasts, socio-economic indicators, and multi-stakeholder coordination to trigger preparedness measures and financial support before floods or droughts strike.



## Groundwater management

Our work on groundwater management focuses on improving how aquifers are monitored, governed, and sustained over time. IWMI's research supports policies and practices that make groundwater use more equitable, reduce environmental stress, and strengthen resilience to climate impacts.

IWMI is supporting the provincial and central government authorities in **Jaffna peninsula to improve groundwater management**. By engaging school students as citizen scientists for salinity monitoring, expanding near real-time monitoring networks, and facilitating the establishment of a multi-stakeholder platform for groundwater governance, IWMI is supporting informed decision-making to enhance groundwater resilience.



## Climate-smart agriculture

IWMI works to strengthen sustainable agriculture in Sri Lanka by advancing water-smart farming and land management. This includes developing, piloting, and testing climate-resilient practices, advancing digital agriculture tools, and supporting the revitalization of ancient irrigation systems. This work places particular emphasis on improving climate resilience of farmers and expanding access to innovation.

**GeoGoviya**, a smart farming platform developed by IWMI and partners, provides climate-smart advisories for over 1.42 million farmers with real-time insights on weather patterns, land use, soil conditions, crop health, and water availability. The platform enables farmers to make informed decisions tailored to their specific agricultural needs.



# Wetland and upper watershed conservation

Our work to conserve wetlands transforms the relationship between humans and wetlands based on reciprocity, kinship, and gratitude. IWMI generates evidence, pilots policy pathways, and shapes governance reforms that recognize wetlands as living entities with rights. Protecting upper watershed areas is critical to stabilize slopes from landslides and soil erosion that impacts hydropower capacity.

In Colombo, IWMI is working to **Operationalize the Rights of Wetlands** and to safeguard urban wetland ecosystems. IWMI is developing a mechanism to align community practices with national policy, promote community-led wetland management at catchment scale, and ensure that biodiversity, livelihoods and the well-being of 2.3 million people are protected. Efforts also focus on modeling land management practices to protect upper watershed areas.



## Circular food systems

IWMI's work on circular economy strengthens the links between waste, food production, and resource security, identifying practical ways to turn waste into value, and reduce pollution and food loss. This approach supports national policy, empowers small businesses to adopt greener models, and helps create more sustainable and resilient food systems.

In Colombo, Galle and Nuwara Eliya, IWMI's **Circular Economy in the Food Sector** project helps prevent food losses from production to wholesale and reduce food waste from retail to household. Through the project, IWMI builds capacities of small and medium enterprises to develop sustainable business models.

## Water governance

IWMI supports the government in developing and implementing land and water management policies. By strengthening governance with data and evidence, and building capacity among various stakeholders, our work sets out to improve climate adaptation at the policy level.

Through consultancy services for Sri Lanka's National Adaptation Plan, IWMI has strengthened the country's capacity to enhance climate-resilient development. This includes supporting national, sectoral, and provincial institutions to apply the best available climate information, methods, and tools for medium and long-term planning.



# IMPACT STORIES



## Climate projections strengthen Sri Lanka's adaptation planning

Sri Lanka's reliance on monsoon rainfall makes the country extremely vulnerable to climate change. As rainfall patterns shift, projections that are based on historical averages may underrepresent future risks.

To support Sri Lanka's climate adaptation, IWMI in partnership with the Department of Meteorology, developed climate projections that provide localized insights on rainfall, temperature, humidity, wind speed, and solar radiation under moderate and high-emission scenarios. Early analyses indicate how some districts may face more severe droughts.

These projections equip planners and policymakers to design targeted adaptation strategies for communities relying on agriculture. By informing provincial adaptation plans and guiding climate finance allocation, these data-driven projections empower Sri Lanka to protect ecosystems, secure livelihoods, and build resilience against the growing impacts of climate change.

## Communities shape anticipatory action for drought mitigation

Over 300 participants from more than 100 households in Anuradhapura district took part in Sri Lanka's first community-level anticipatory action simulation in 2024.

The exercise combined early warning forecasts with practical interventions to safeguard lives, livelihoods, and ecosystems. Community members co-designed and received timely seasonal drought alerts that reflected real conditions, repaired water infrastructure, and learned water-saving and food preservation techniques. Livestock protection measures and strategic water distribution were practiced, while farmers learned about adaptive agricultural techniques.

This simulation set a new benchmark for drought-prone regions, demonstrating how locally grounded early action, coordinated governance, and community-led solutions powered by citizen science can transform disaster preparedness from reactive relief to proactive resilience.



## ABOUT IWMI

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.

## CONTACT US

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