



Commission
on Water for
Food Futures

COMMISSION ON WATER FOR FOOD FUTURES (CWFF)

A CAMBRIDGE SUSTAINABILITY COMMISSION

The Commission on Water for Food Futures (CWFF) is focused on tackling the urgent challenges at the intersection of water and food security. Through a collaboration between the **International Water Management Institute (IWMI)**, the **Daugherty Water for Food Global Institute (DWFI)**, **C4W (Collective Action for Water Security)**, and **Cambridge University Press (CUP)**, the CWFF's mission is to rethink and catalyze how we manage water in food systems to address the many challenges faced today.

The CWFF builds on the findings of the Global Commission on the Economics of Water (GCEW), which highlighted the need for a “new revolution in food systems”. This revolution requires a fundamental shift not simply in water management, but in how we produce food to meet a growing global population while preserving our planet's resources. The CWFF aims to translate the GCEW's core principles into practical, grounded recommendations for balancing water security and food security, by 2040.



Field of sorghum in Ethiopia (David Dorss)

Drawing on a wide range of expertise and research, the CWFF will identify and highlight emerging innovations and actionable solutions that address future needs, proposing solutions that connect different scales—from local farms and river basins to national and global policies—providing essential guidance for practitioners, investors, and policymakers to drive meaningful change.

Background

Progress in agricultural water management in recent years has been marginal in transforming how water is used within food systems, even as pressure on resources intensifies and climate uncertainty grows. Addressing persistent water insecurity in an increasingly uncertain world requires a fundamental shift in how we conceptualize, plan, and implement water solutions—ensuring that rising food demands are met without degrading ecosystems or undermining livelihoods and health outcomes in the face of climate instability. Successful solutions should be amplified and scaled, while outdated or ineffective approaches must be replaced with viable, context-specific alternatives. Crucially, agricultural systems must no longer be viewed solely as water consumers, but as potential contributors to water generation and ecosystem restoration—essential for securing livelihoods, protecting habitats, and ensuring long-term sustainability.

The GCEW identified five mission pathways to address the water crisis. The first—“launching a new revolution in food systems to improve water productivity in agriculture while meeting the nutritional needs of a growing population”—makes clear that incremental change is no longer sufficient. Transforming agriculture requires a fundamental rethinking of how water is used in food production, with decisive action to increase water productivity, preserve soil moisture, and strengthen farmers' livelihoods while ensuring equitable access to nutritious food.

However, the opportunities to reconcile water and food security are broader and more complex than this framing alone captures. The commission will consolidate the latest evidence and set out a more comprehensive and actionable agenda to drive systemic change at scale. The CWFF aims to assess the state of policy, practice, and science to enhance water security for food security and food security for water security. It will explore solutions, investments, and policies to drive conversation and guide strategic thinking towards a just transition in both water and food systems.

Demand-led Rationale

To ensure its recommendations are relevant and actionable, the CWFF is adopting a demand-led approach, with priorities shaped by key global and regional processes, including the Transformative Futures for Water Security consultation, which engaged over 1,000 stakeholders across Africa, Asia, and Latin America and underscored the central role of climate-smart agriculture and improved water productivity in driving agricultural transformation.

Further consultations in 2024 identified climate resilience, governance, infrastructure modernization, and enabling market conditions as critical priorities across Africa and Asia, and insights from the Water for Food Global Conference 2025 reinforced the need for the CWFF to go beyond food production—addressing data and knowledge gaps, strengthening policy coherence, and improving communication of findings to decision-makers and practitioners alike.

The Commission

The CWFF will catalyze a global dialogue to operationalize the “new revolution in food systems” called for by the GCEW, delivering practical, grounded recommendations to balance water and food security by 2040.

To achieve this, the CWFF will mobilize collective action and strategic investment, drawing on diverse research and expertise to identify scalable solutions and actionable guidance for policymakers, investors, and practitioners. Its recommendations will span from farm-level practices to national and global policy, ensuring impact at scale.



Solar pumps empower women farmers in India (Tanmoy Bhaduri/IWMI)

Through a co-creation process, the CWFF will engage key stakeholders across water and food systems, alongside Commissioners and subject-matter experts. By incorporating perspectives from the Global South and North, and engaging farmers, youth, and other critical voices, the Commission will ensure its recommendations are credible, relevant, and actionable.

Preliminary findings will be tested at major global policy and investment forums, with final recommendations presented in a high-level report in 2027—twenty years after the Comprehensive Assessment of Water Management in Agriculture, which underscored the need for fundamental shifts in water governance, investment, ecosystem stewardship, and support for smallholders to sustain global food production.

Key Themes and Research Questions

The CWFF approach will be structured around four key themes, serving as entry points for rethinking how water is managed **for and within** farms and food systems. Commissioners will explore recent framings and innovations around water use and food production and processing practices, and they will move beyond narratives of degradation and scarcity toward solutions that are sustainable and forward-looking.

Theme 1:

Using all our water sources wisely to tackle water and climate challenges in food production

Overarching question 1. How can farms and food producers adapt to a world where water is becoming less reliable and make sure that the way they use water doesn't cause problems elsewhere?

Theme 1 includes:

Optimizing water use in food systems

to address inefficiencies in food production and across the whole food value chain, including reduced/managed 'waste' at each stage that consumes water, from seed development and crop production to processing, storage, and distribution.

Harnessing rainfed and irrigation practices,

acknowledging the distinct and complementary roles of supplementary, farmer-led, rainfed, and large irrigation systems, and related infrastructure, such as drainage.

Embedding water in agricultural and aquacultural intensification

through nature-based practices, enhanced soil-water storage and infiltration, and reduced water uncertainty and insecurity in cases of drought or flood.

Repurposing water resources

to turn wastewater, and polluted and saline water into a resource for food systems.

Indicative research questions related to this theme focus on practical interventions, such as water co-management, system redesign, innovative farming, and alternative water use, that reshape food systems to adapt to water and ensure agricultural viability.

Theme 2:

Building fairer, more effective rules and institutions for managing water so that both people and nature have their needs met

Overarching question 2. What kinds of decision-making structures and policies can encourage communities, governments, and industries to work together to manage water sustainably and make sure everyone has access to the water they need for food and good nutrition?

Theme 2 includes:

Creating enabling conditions for integrated, inclusive water and food solutions.

Governments, NGOs and agencies need to partner with public and private sector bodies to improve policy and institutional conditions for optimizing water management practices, energy access, transport infrastructure, and food and beverage system business and investment ecosystems. These processes must incorporate the perspectives of farmers and value chain actors in the food system.

Understanding trade-offs to manage competing demands.

This will provide an evidence base for actions that balance competing demands on economic, social, nutrition and health, and environmental trade-offs at multiple scales and across boundaries. This theme recognizes that water scarcity may be economic as well as environmental, and that such differences contribute to differential nutritional security.

Indicative research questions emphasize governance mechanisms that promote inclusivity, cooperation, and scalability, ensuring water management supports inclusive and sustainable food systems. Implementation may require workforce development and 'capacity building'.

Theme 3:

Making markets work better for water so that the way we grow, sell, and buy food encourages smarter water use

Overarching question 3. What business and economic approaches within food systems can help protect water supplies while also making sure people can still afford and access the food they need?

Theme 3 includes:

Market conditions

interlinked with water governance, which are key to integrated and sustainable water and food solutions.

Political economy and institutional context, including market and trade regimes, which shape the food system.

Market-based interventions that can incentivize improved water management

in agricultural production, energy access, food transport infrastructure, and food system businesses, as well as across regions and scales.

Indicative research questions address the types of market mechanisms, regulatory systems, and financial tools needed to incentivize water sustainability without compromising healthy food access.

Theme 4:

Shaping diets and consumption to reflect water uncertainties

Overarching question 4. How do we help people shift toward healthy, locally appropriate diets that don't put unsustainable pressure on water supplies or damage the natural water cycle?

Theme 4 includes:

Shaping diets and consumption to align with high water uncertainty in food systems.

To fill some of the large knowledge gaps, a critical step will be to gather evidence on the range of drivers and consequences of dietary change, health impacts, and social demographics. This evidence base would provide a foundation for general guidance on diets within water constraints that will improve nutrition and health outcomes. Guidance must be relevant to local context and reduce potential negative health impacts.

Indicative research questions address strategies to positively influence dietary behavior in different contexts, locally relevant foods that can reduce the water-footprint, and aligning water in food systems to support nutrition, gut biome health, and reduced disease risk.

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