



A Real Mosaic of Solutions to Respond to Loss and Damage from Climate Change

Food

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Introduction

This publication is part of a [series of briefs](#) unpacking the pieces of a fit for purpose “mosaic of solutions” to respond to loss and damage from climate change. This series expands on our earlier work, which presented a [five-year vision for Loss and Damage under the United Nations Framework Convention on Climate Change \(UNFCCC\)](#) to look beyond the international climate regime at catalysing a wider mosaic of solutions.

In the [flagship paper](#) of the series, we unpack the pieces of the mosaic. In these thematic briefs, we dive deeper into existing solutions and how they can be strengthened. We also consider any reforms needed and explore emerging solutions.

This brief unpacks key aspects of loss and damage response related to food security. It provides a short introduction to how loss and damage is impacting food security, highlights emerging and existing solutions and related challenges, and how these challenges can be addressed.

What are agrifood systems?

Agrifood systems include everything from how food is grown, harvested, processed, packaged, transported, distributed, traded, bought, prepared, eaten, and disposed of. Agrifood systems also include non-food agricultural products such as forestry, feedstock, biomass for biofuels, and fibres, such as cotton or hemp.¹

What is the problem?

Agrifood systems are both a major driver of climate change —responsible for over one-third of global greenhouse gas emissions— and highly vulnerable to its impacts.² 84 percent of the world’s 570 million farms are smallholdings, which produce around a third of food globally.³ Of these, small holder farmers in developing countries⁴ —particularly women—⁵ are most acutely affected by climate impacts.

Each year, hundreds of billions of dollars’ worth of crops and livestock are lost due to loss and damage events. This is undermining hard-won development gains and devastating livelihoods, pushing people into food insecurity, hunger, and poverty.⁶ In 2024 alone, between 7.8 and 8.8 percent of the global population faced hunger⁷ and as many as 2.3 billion people across the world are estimated to have been moderately or severely food insecure.⁸

Globally, it is estimated that each additional degree Celsius of warming could reduce the global food supply by 120 calories per person per day—roughly 4.4 percent of current recommended daily consumption.⁹ Approximately 80 percent of the global population most at risk from climate change induced crop failures and hunger are in Sub-Saharan Africa, South Asia, and Southeast Asia, where farming families are disproportionately poor and vulnerable.¹⁰ Low-income countries have also disproportionately borne the brunt of recent food price increases as a result of, amongst other things, the COVID-19 pandemic and escalating conflict.¹¹ Global challenges that are likely to further undermine food and nutrition security.¹²

What are the existing solutions?

The United Nations [Food and Agriculture Organization \(FAO\)](#) plays a central role in the global governance of food security, alongside the [World Food Program \(WFP\)](#), and the [International Fund for Agricultural Development \(IFAD\)](#). Supporting entities and mechanisms include the [Committee on World Food Security \(CFS\)](#), [UN-Nutrition](#), and the [Food Security Cluster \(FSC\)](#). Food crises are monitored by instruments such as the [Integrated Food Security Phase Classification \(IPC\)](#), the FAO’s [Global Information and Early Warning System \(GIEWS\)](#), and WFP’s [HungerMapLIVE](#) and [Hunger Hotspots Report](#).

Investment in agriculture and rural development to boost food production and nutrition is a priority for the World Bank Group¹³, which convenes the Global Alliance for Food Security (GAFS) and hosts the [Global Agriculture and Food Security Program \(GAFSP\)](#). Key treaties and frameworks relevant to food security include the CFS's [Global Strategic Framework for Food Security and Nutrition](#).

Key treaties and frameworks relevant to food security include the CFS's [Global Strategic Framework for Food Security and Nutrition](#), [International Treaty on Plant Genetic Resources for Food and Agriculture \(ITPGRFA\)](#), amongst others. [Zero Hunger](#) is the second goal of the 2030 [Sustainable Development Goals \(SDGs\)](#).

Within the UNFCCC, loss and damage to agrifood systems features prominently in the [Nationally Determined Contributions \(NDCs\)](#) of many countries, where it is often referred to as the single most impacted sector.¹⁴ However, policy making on agrifood under the UNFCCC primarily focuses on transforming agriculture to be more sustainable and climate-resilient, aiming to reduce emissions, protect food security, and further integrate food systems into NDCs.

The main workstreams are the [Koronivia Joint Work on Agriculture \(KJWA\)](#) and its Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security, which aim to enhance food security through building resilience and developing sustainable agricultural systems. Other initiatives under the UNFCCC have included the [COP28 Declaration on Agriculture, Resilient Food Systems](#) and the [Climate Action and the Climate Resilient Food Systems Alliance](#).

What do we need to see?

To reduce food insecurity, the resilience of agrifood systems must be increased at the same time as transitioning to sustainable practices to reduce emissions. To do so, developing countries will need between 300-400 billion USD per year.¹⁵ Under the UNFCCC, the KJWA must prioritise a transition to humane and agroecological food systems that protect people, animals, and our planet, while guaranteeing food security and sovereignty.¹⁶

At the same time, finance and support to address unavoidable loss and damage to agrifood systems, with a focus on small holder farmers in developing countries, will need to be scaled up by developed countries. This includes ensuring that the FAO and WFP, as well as international and local non-governmental organisations (NGOs) (e.g. World Vision, Action Against Hunger, and Save the Children) have the finance they need to assist people most at risk of famine. Table 1 highlights existing solutions and how to strengthen them.

Table 1: Strengthening existing responses to loss and damage related to food security.

CURRENT SOLUTIONS	HOW DOES IT WORK?	WHAT ARE THE ISSUES?	WHAT NEEDS TO CHANGE?
Koronivia Joint Work on Agriculture	Under the UNFCCC are the KJWA and its Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security, which aim to enhance food security through building resilience and developing sustainable agricultural systems,	While the KJWA has successfully brought agriculture into the mainstream UNFCCC negotiations, progress has been slow and has failed to centre agroecological and rights-based solutions to address food insecurity and emissions caused by agrifood systems. ¹⁷	The KJWA must prioritise humane and agroecological food systems that protect people, animals, and our planet, while guaranteeing food security and sovereignty. ¹⁸
Food and Agriculture Organization / World Food Programme / UN-Nutrition	The FAO leads international efforts to defeat hunger. The WFP focused on saving lives in emergencies, providing food assistance, and promoting food security in conflict zones and disaster areas. UN-Nutrition is an inter-agency mechanism that coordinates nutrition actions.	As of the end of October 2025, only 10.5 billion USD out of the 29 billion USD required to assist people most at risk of famine had been received. The severe shortfalls in funding are crippling emergency responses, forcing deep ration cuts and reducing access to food for the most vulnerable groups, with refugee food assistance at a breaking point. ¹⁹	Developed countries must re-prioritise <u>Official Development Assistance (ODA)</u> and leverage innovative sources to exceed the <u>target of 0.7 percent of gross national income (GNI)</u> target.
Food Security Cluster (FSC)	The FSC is co-led by FAO and WFP. It coordinates food-security responses during humanitarian crises.	Funding cuts are reducing the capacity of the FSC to coordinate food-security responses in the aftermath of loss and damage events.	The FSC should increase coordination with humanitarian, development, and climate actors to address the root causes of food crises and enhance long-term resilience.

CURRENT SOLUTIONS	HOW DOES IT WORK?	WHAT ARE THE ISSUES?	WHAT NEEDS TO CHANGE?
International Fund for Agricultural Development	The <u>International Fund for Agricultural Development (IFAD)</u> is an international financial institution dedicated to eradicating rural poverty and improving food production in developing countries.	As of late 2025, the IFAD is facing a shortfall in its funding targets of 1.875 billion USD. As a result, in 2026 IFAD will only disburse grants and loans of up to 1.02 billion USD. ²⁰ IFAD's prioritisation of loans increases the risk of debt crisis in developing countries.	Funding must be increased to meet food security challenges and provided in the form of grants to avoid exacerbating debt crises.
Committee on World Food Security (CFS)	The CFS is hosted by FAO. It is the main, inclusive international, and intergovernmental platform for all stakeholders to review and ensure food security and nutrition.	The CFS is working to promote the integration of evidence-based solutions on hunger and poverty into climate action in NDCs to avoid and reduce loss and damage. ²¹	The CFS must continue to work to ensure food security and nutrition in the face of loss and damage by strengthening synergies between food security and Loss and Damage measures and enhancing collaboration between food and Loss and Damage stakeholders.
Global Network Against Food Crises	The <u>Global Network Against Food Crises (GNAFC)</u> is an international, multi-stakeholder alliance established to prevent, prepare for, and respond to acute food crises. Launched by the EU, FAO, and WFP, it bridges humanitarian, development, and peace actions to tackle the root causes of hunger and promote sustainable food systems.	The GNAFC currently only works to align policies related to climate change and adaptation with transformative food system interventions, lacking a dedicated focus on Loss and Damage policies. ²²	The GNAFC should expand its focus to include Loss and Damage policy.

CURRENT SOLUTIONS	HOW DOES IT WORK?	WHAT ARE THE ISSUES?	WHAT NEEDS TO CHANGE?
Global Alliance for Food Security (GAFS)	The GAFS is co-convened by the World Bank. It coordinates policy and financial responses to the global hunger crisis.	The GAFS focus is on the Global Food and Nutrition Security Dashboard , which aims to equip decision-makers with high-quality data to enhance policy coordination on crisis response, preparedness planning, and resilience-building efforts for better food and nutrition outcomes. ²³	Emerging risks could better reflect loss and damage.
Global Agriculture and Food Security Program (GAFSP)	The World Bank hosts the GAFSP, which provides financial and technical support to reduce poverty and enhance food security, reaching over 32 million people by the end of 2024. It also manages the West Africa Food System Resilience Program .	The GAFSP Public Sector Window prioritises grant financing for government projects. Since 2010, the GAFSP has mobilised only 2.44 billion USD in funds, providing financial and technical support to projects across 55 countries. ²⁴	The World Bank must increase the mobilisation of grants through the GAFSP.
R4 Rural Resilience Initiative	The R4 Rural Resilience Initiative (R4) is implemented by the WFP. R4 equips smallholder farmers to manage climate risks. It combines improved natural resource management, microinsurance, savings, and credit —to enhance food security and build long-term resilience against loss and damage. ²⁵	R4 requires funding to scale up to reach more households. Certain crop types and loss and damage events (excess rain) were not covered in the past. ²⁶ Key lessons from the evaluation of R4 between 2017 and 2022 suggest ways to improve the initiative. ²⁷	Key lessons from evaluation of R4 should be taken forward. ²⁸ Developed countries must increase financial support for R4.

CURRENT SOLUTIONS	HOW DOES IT WORK?	WHAT ARE THE ISSUES?	WHAT NEEDS TO CHANGE?
South Sudan Resilient Agricultural Livelihoods Project	The South Sudan Resilient Agricultural Livelihoods Project (SSLRP or ReAL) is a development initiative aimed at strengthening farmer capacity, improving agricultural production, and enhancing food security in South Sudan. By using a community-driven development approach, it helps farmers transition from subsistence to commercial farming, fostering climate resilience, sustainable livelihoods, and stability in food-insecure regions.	Funding of the SSLRP includes concessional loans that risk exacerbating the debt crisis in South Sudan despite debt sustainability considerations. ²⁹	Funding must be provided in the form of grants rather than loans under SSLRP. Developed countries must increase funding for SSLRP.
Forest and Farm Facility	The Forest and Farm Facility (FFF) provides direct financial support and technical assistance to strengthen forest and farm producer organisations.	The FFF only disbursed 16.3 million USD in 2024. Challenges of implementation included procedural delays and administrative bottlenecks, limited capacity of Forest and Farm Producer Organisations, and loss and damage impacting crops. ³⁰	Funding should be scaled up, and technical and capacity building support increased.

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