

GLOBAL
ALLIANCE
FOR THE
FUTURE
OF **FOOD**

A woman in traditional attire is shown from the side, pouring rice from a large, woven basket. She is wearing a colorful headscarf, a blue long-sleeved shirt, and a vibrant, patterned skirt. The rice is falling in a thick stream, creating a dynamic sense of movement. The background is a soft-focus landscape with greenery and a clear sky.

PUBLIC CLIMATE FINANCE FOR FOOD SYSTEMS TRANSFORMATION

GLOBAL ALLIANCE FOR THE FUTURE OF FOOD
NOVEMBER 2024



DISCLAIMER

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FOREWORD

In 2022, the Global Alliance for the Future of Food commissioned a [report](#) on the state of climate finance for food systems transformation. We were concerned that even though food systems were linked to one-third of greenhouse gas emissions driving the climate crisis, and climate instability is severely impacting food systems and livelihoods, climate finance flowing to food systems seemed to be far under-resourcing the support required to address these emissions. Our analysis confirmed our suspicion: less than 3% of all public climate finance was going to food systems.

We rang the alarm. Many of our colleagues called for bolder action for climate finance — action that supports and aligns food systems with climate resilience and mitigation — understanding that transitions across all sectors of our economies is vital to ensuring we meet our climate targets. Food must be a central part of the just transition.

Curious to see what progress, if any, has been made toward improving financing for food systems transformation, we dove into the figures again in 2024, analyzing OECD data on international climate-related development finance. We reviewed available information about projects that received finance to understand how they related to food systems transformation.

Unfortunately, our findings did not surprise us. While the numbers overall have gone up considerably across most sectors, financing for food systems interventions has slipped from 3% to just 2.5%, with even less allocated to sustainable, agroecological food systems interventions. We continue to be concerned.

In this report, we take a more nuanced look at public climate finance, and screen for investments aligned with sustainable food systems interventions (see [page 24](#) for the methodology we used to determine which types of interventions were receiving finance). What we measure and track matters, and every dollar spent to advance resilient, renewable, diverse, healthy, inclusive, and equitable food systems supports adaptation and mitigation, and can reduce the estimated USD 12 trillion annual spend on “business as usual.”¹

In our 2022 report, we said it was time for climate finance to take food systems seriously. Two years later we know even more about the potential of food systems for adaptation and mitigation — and yet our findings tell us an even smaller percentage of money is being moved in this direction.

The need for sustainable, agroecological food systems to receive significantly more climate finance is more urgent than ever.

Food systems transformation is crucial not only for climate stability and adaptation, but also to aid the very people and communities who are hardest hit by the climate crisis. We know that farmers, fishers, and Indigenous Peoples the world over are critical to building resilience. While we welcome the upward trend for climate finance overall, we call on policymakers, parties to the Paris Agreement, and climate finance donors to increase funding for food systems transformation through agroecology and regenerative approaches, healthy food environments and diets, enhanced social protection, and inclusive governance in order to improve livelihoods, build resilience, mitigate greenhouse gas emissions, and preserve agrobiodiversity.

As leaders at COP29 negotiate the new collective quantified goal on climate finance, we urge them to put food systems at the centre of climate action.



A handwritten signature in black ink that reads "Lauren Baker".

LAUREN BAKER
Deputy Director
Global Alliance for the Future of Food



A handwritten signature in black ink that reads "Anna Lappé".

ANNA LAPPÉ
Executive Director
Global Alliance for the Future of Food

SUMMARY

Between 2017 to 2022, the percentage of climate finance flowing to food systems has fallen.

- Between 2017 and 2022, public climate finance almost doubled, growing from USD 321 billion to 640 billion.² However, the percentage of climate finance for food systems fell from 3% to 2.5% during the same period.
- We analyzed the flows of public climate finance for food systems and found that only 1.5% was being allocated to sustainable, agroecological food systems interventions. Of the USD 16.3 billion of public climate finance that flowed to food systems, only USD 9.1 billion could be labelled as “sustainable” based on our predefined keywords (see [page 21](#)).
- To unlock the mitigation and adaptation potential in food systems while contributing to biodiversity, food sovereignty, and sustainable development around the world, climate finance — both public and private — must increase by orders of magnitude and flow directly to underinvested climate solutions: smallholder farmers and fishers, Indigenous Peoples, healthy food environments, and building inclusive, equitable food systems policy and governance.

Climate finance for food does not match the significant emissions and hidden costs of food systems, nor does it take into account the current impacts of climate change affecting the millions of people who rely on food and agriculture for their livelihoods.

- Food systems account for one-third of global emissions and 15% of fossil fuel use globally each year. The hidden costs of our current industrial food systems is approximately USD 12 trillion annually.³
- The USD 16.3 billion currently allocated to food systems from public climate finance is significantly below the cost of transition to sustainable, agroecological food systems estimated at USD 430 to 500 billion per year.
- While over 90% of current Nationally Determined Contributions (NDCs) mention adaptation and mitigation in the agriculture sector as a priority,⁴ the scale of climate finance going toward food systems does not align with the 1.5°C (2.7°F) Paris Agreement targets.
- By 2025, updated NDCs must outline clear plans for investments from public climate finance and rapid redirection of subsidies away from the USD 670 billion a year of harmful, polluting fossil fuel-intensive food systems and toward sustainable, agroecological food systems that work for people and the planet.
- For an effective transformation, investment is needed across all areas of food systems. Resources need to flow to transform agricultural practices and production, as well as to healthier food environments and diets. Resources also have to address food loss and waste, and support inclusive, equitable governance and decision making.

- Projects that target healthy diets and address food loss and waste receive only 6% of the public climate finance going to sustainable, agroecological food systems. Climate finance needs to flow not only to agriculture and land use, but also to other intervention areas, such as improving food environments that enable healthy and sustainable diets and food choices, and food governance.
- The new collective quantified goal on climate finance negotiated at COP29 needs to channel more funds toward urgently needed climate action through adaptation, mitigation, and to address loss and damage in support of resilient and equitable food systems.

Investment in food systems reaps multiple co-benefits.

- Quantifying mitigation efforts in food systems is challenging. But with half of public climate finance flowing to adaptation, sustainable, agroecological food systems interventions are ripe for investment and will result in multiple co-benefits: resilience, improved livelihoods, poverty reduction, food security, and mitigation.
- Farmers, fishers, pastoralists, food producers, and Indigenous Peoples who face the brunt of climate change lack access to climate finance to increase their climate resilience. New finance mechanisms are required to ensure funds flow directly to these groups and their organizations.
- The cost of food systems transformation in the Global South cannot be shouldered by those countries alone, as the legacies of colonialism, extractive economies, debt burden, vested corporate interests, and unequal power dynamics contribute to extraction of resources and funding from poorer to richer regions of the world.
- New financial instruments have to increase climate finance from the North to South, while also forging new relationships that disrupt dependencies.

We call on policymakers, parties to the Paris Agreement, and public sector climate finance donors to shift and increase funding for food systems transformation.

BOX 1: WHAT IS CLIMATE FINANCE?

Climate finance: In this report, the term “climate finance” is used to describe overall finance flows as reported by the Climate Policy Initiative (CPI) in the Global Landscape of Climate Finance, which estimates climate finance from both public and private sources. See the methodology [here](#). The CPI working definition of climate finance is aligned with the recommended operational definition of the UNFCCC Standing Committee on Finance, which states: “Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts.”

Public climate finance: This refers to domestic financing by public institutions and the finance flows captured in the OECD Climate-related Development Finance Dataset that tracks climate-related development finance from bilateral, multilateral, and private philanthropic sources using Rio Markers (i.e., how development finance contributes to the Rio Conventions – United Nations Convention on Biological Diversity, United Nations Framework Convention on Climate Change, United Nations Convention to Combat Desertification). This database does not include private sector investments in climate action.

Public climate finance for food systems: This refers to climate-related development finance flows that are marked as finance targeting the agriculture, forestry, and fishing sector in the OECD Climate-related Development Finance Dataset.

Public climate finance for sustainable food systems: This refers to climate-related development finance flows — within the OECD Climate-related Development Finance Dataset — to projects that explicitly included at least one of 173 keywords chosen specifically by the report team to designate sustainable food systems practices. See the [Appendix](#) for the full list.*

*Governments have established [voluntary guidelines](#) on food and nutrition that include guiding principles and recommendations useful in defining what is “sustainable.”

Global Agriculture and Food Security Program

The Global Agriculture and Food Security Program (GAFSP) is a multilateral financing platform dedicated to improving food and nutrition security worldwide. Launched by the G20 in the wake of the global response to the 2007–08 food price crisis, GAFSP works to build resilient and sustainable agriculture and food systems in the world's poorest countries. In 2016, GAFSP launched the Missing Middle Initiative (MMI) pilot to provide funding and technical assistance to farmer and fisher organizations, producer organizations, and small and medium enterprises. Now, GAFSP provides small-scale grants directly to producer organizations to help them meet the demand for agricultural financing. Almost half of GAFSP's public sector financing, totaling USD 540 million, supports climate adaptation (48%) and mitigation (8%) efforts. Since 2017, all public sector projects have included climate co-benefits.

The Global Environmental Facility

The Global Environment Facility (GEF) is a multilateral environmental fund that was established in the lead-up to the 1992 Rio Earth Summit. It serves as a financial mechanism of the UNFCCC with the core objective of supporting developing countries in the transition toward low-emission development pathways. To date, GEF has provided over USD 25 billion in finance to over 1600 projects globally. GEF funds several programs specifically dedicated to food systems, including:

- *Food Systems, Land Use and Restoration Impact Program (FOLUR)*: FOLUR is a 7-year initiative (2019–2026) funded by GEF and led by the World Bank. It is designed to transform food systems by mobilizing sustainable production landscapes in 27 countries and focusing on 8 major commodities, including livestock, cocoa, coffee, maize, palm oil, rice, soy, and wheat. FOLUR promotes the sustainable management of agricultural ecosystems and policies by collaborating with land managers, governments, researchers, the private sector, and financial institutions. Implementing partners include IFAD and the United Nations Development Programme (UNDP).*

*Other implementing partners include the World Wildlife Fund (WWF), Conservation International (CI), the United Nations Environment Programme (UNEP), and the Food and Agriculture Organization (FAO).

- *Food Systems Integrated Program (FSIP)*: FSIP, developed under the GEF-8 programming strategy (2022–2026), is intended to catalyze the transformation of food systems, reducing environmental degradation and negative externalities in global food production. Core objectives include creating an enabling environment for regenerative food production, reducing livestock's impact on the environment, and expanding investment into sustainable aquaculture management. FSIP will support projects in

32 countries, supporting participating countries to implement their National Food Systems Pathways or other government-led frameworks. Implementing partners include the Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD).**

**Other implementing partners include United Nations Development Programme (UNDP), International Union for Conservation of Nature (IUCN), and the World Bank (WB).

The Green Climate Fund

The Green Climate Fund (GCF) is the world's largest climate fund. It was established in 2010 under the United Nations Framework Convention on Climate Change (UNFCCC) and exists to allocate resources to low-emissions and climate-resilient projects and programs in developing countries. To date, GCF has committed a total of USD 15 billion to support 270 projects and programs globally.⁵ GCF targets eight areas, including health, food, and water security as well as forests and land use because of their potential to deliver a substantial impact on mitigation and adaptation. Other areas, such as ecosystems and ecosystems services, energy generation and access, and transport are also relevant to food systems transformation. While GCF does not have a funding program specific for food systems, under GCF Strategic Plan 2024–27, the Fund aims to enable smallholder farmers to adopt low-emissions climate-resilient agricultural and fisheries practices and to secure livelihoods while reconfiguring food systems. In 2023, GCF launched the Project-specific Assessment Approach (PSAA), a new disbursement mechanism designed to increase access to its finance for countries and entities that have been underserved by the GCF Accredited Entity network, such as small-scale and family farming organizations. The PSAA, currently in a pilot phase, will enable public, private, and non-profit organizations that are not accredited by the Fund to apply for funding.

INTRODUCTION

Despite compelling evidence of the benefits of transforming food systems, including for climate mitigation and adaptation, only a marginal share of climate finance is directed to food systems.

In 2022, our analysis of climate finance found that between 2017 and 2021, food systems received only 3% of annual public climate finance. In 2024, our updated analysis found that this share dropped to 2.5% (USD 16.3 billion) in 2022, as finance to other sectors, especially energy and transport, increased significantly while finance for food systems increased only slightly. A further analysis of the USD 16.3 billion flowing to food systems found that projects which explicitly included sustainable food systems practices received only USD 9.1 billion (see Table 1).

Increasing finance to sustainable practices across food systems is of urgent importance.

Transforming food systems will need investments and financial transfers averaging USD 500 billion per year between now and 2050.⁶ About USD 200 billion of this is needed for investments in rural infrastructure, the protection and restoration of forests through agroforestry, the reduction of food loss and waste, support for a shift to affordable healthy diets for all, and agricultural research and development. The remaining USD 300 billion can build the safety nets needed to ensure affordable food for all. While over 90% of current Nationally Determined Contributions (NDCs) mention adaptation and mitigation in the agriculture sector as a priority, countries need to include food more systematically in their revised NDCs, in particular by incorporating deep transformative interventions to ensure they are aligned with a 1.5°C (2.7°F) future and encourage public climate finance to flow to food systems.⁷

TABLE 1. CLIMATE FINANCE FOR FOOD SYSTEMS: NUMBERS AT A GLANCE

ANNUAL FINANCE FLOWS 2017–2020	ANNUAL FINANCE FLOWS 2021–2022
Overall climate finance: USD 653 billion	Overall climate finance: USD 1.3 trillion ⁸
Overall public climate finance: USD 321 billion a year for climate mitigation and adaptation.	Overall public climate finance: USD 640 billion a year for climate mitigation and adaptation.
Food systems received only 3% of public climate finance.	Food systems received only 2.5% of public climate finance.
USD 9.3 billion per year of public climate finance directed to food systems measures in the agriculture, forestry, and fisheries sector.	USD 16.3 billion per year directed to food systems measures across all sectors.
	Only 1.5%, or USD 9.1 billion, of public climate finance went to projects that explicitly mentioned sustainable food systems practices.*

*In our 2017–2020 analysis, we did not analyze food systems–related projects outside the agriculture, forestry, and fisheries sector, nor did we explore if projects explicitly included sustainable practices.

The New Collective Quantified Goal for Climate Finance (NCQG) is a momentous opportunity to increase climate finance for food systems transformation. As Parties to the Paris Agreement decide on the ambition, structure, and timelines for the new climate finance goal, they must consider the finance needs and agree on explicit finance targets for scaling and implementing transformative interventions for climate change mitigation and adaptation across food systems. Momentum for systemic approaches to policy-making is building across convention bodies, and member states are increasingly calling for coherence through national climate and nature policies.⁹ Given the potential for food systems to provide solutions to the multiple planetary crises the world faces, food systems should be at the centre of negotiations on NCQG at COP29.

Globally, the hidden costs of our food systems exceeds USD 12 trillion, with environmental costs alone amounting to about USD 3 trillion per year.¹⁰ These environmental costs are incurred as a result of the negative impacts our food systems have on ecosystems and climate — the impacts of current agricultural land use and food production practices as well as biodiversity loss and environmental damage arising from a range of industrial agricultural practices, e.g., overuse of synthetic fertilizers and pesticides, which leach into waterways, impacting aquatic ecosystems and releasing greenhouse gas (GHG) emissions.

Food systems contribute one-third of global GHG emissions or 16 gigatons of carbon dioxide equivalents, annually.¹¹ At the same time, climate change is already affecting food security through higher temperatures, changing precipitation patterns, and more frequent extreme weather events. Disasters driven by climate change have caused about USD 3.8 trillion worth of lost crops and livestock globally over the past 30 years (USD 123 billion per year).¹² Low-income countries and small island developing countries have suffered the highest share of agricultural losses from disasters; this severely impacts the rural communities that depend on food and agriculture for their livelihoods.¹³ We urgently need to transform our food systems to make these communities more resilient to climate change and lower their associated GHG emissions.

Transforming food systems could provide at least USD 5 trillion a year in economic benefits.¹⁴ These benefits result from reductions in the unaccounted costs of food systems, including a shift to sustainable production in agriculture reversing biodiversity loss, reducing demand for irrigation water, reducing nitrogen use, restoring and protecting ecosystems, and reducing food systems emissions.

Food systems transformation could help us achieve multiple global goals in climate mitigation, adaptation, biodiversity, and sustainable development. Policy interventions in food systems are crucial to ensure we are on track to achieve not only the 1.5°C (2.7°F) Paris Agreement goal but also the Global Biodiversity Framework targets, as well as multiple Sustainable Development Goals (SDGs). Interventions in food systems provide up to 20% of emission reductions needed to meet the 1.5°C (2.7°F) target.¹⁵ They directly contribute to GBF Targets 1, 2, 3, 7, 8, 10, 11, and 16, and indirectly to the remaining 15 targets, as food production is the biggest driver of biodiversity loss, responsible for 70% of terrestrial biodiversity loss and 50% of freshwater biodiversity loss globally.¹⁶

Section 1 of this report provides a snapshot of current public climate finance flows and how these have evolved recently. Section 2 details where funds are allocated and for which components of food systems. Section 3 discusses the need to shift existing funds and allocate new sources. This report concludes with a set of recommendations for policymakers and other stakeholders to increase climate finance in food systems.

SECTION 1: CURRENT FLOWS OF PUBLIC CLIMATE FINANCE FOR FOOD SYSTEMS



PUBLIC CLIMATE FINANCE FOR FOOD SYSTEMS REMAINS MINUSCULE

While governments invested an additional USD 305 billion mostly in climate change mitigation in 2021/22 (reaching a total of USD 640 billion), climate finance for food systems declined in proportional terms.¹⁷ Current government spending — by both domestic and international sources — on climate change action focuses primarily on energy and transport, with over 58% of climate funding going to these sectors. Of the total public climate finance committed or delivered during 2021/22, USD 379 billion (59%) was invested mostly in mitigation activities in the energy and transport sectors, while only USD 35 billion (5%) went to mitigation and adaptation projects in agriculture, forestry, other land-uses, and fisheries (AFOLU) sector.¹⁸ While these flows cannot be considered entirely distinct from food systems activities — e.g., energy or transport interventions may indirectly facilitate more sustainable production and distribution of food, and large portions of finance for land use go to food systems — the volume of climate finance being channelled to food systems remains dwarfed by finance being provided to other sectors.

Similarly, international climate-related development finance targeted at agriculture and food committed only USD 9.1 billion (8%) to projects with sustainable food systems objectives. From the USD 114 billion committed by Global North to Global South countries in climate-related development finance, USD 16.3 billion went to food systems projects but only USD 9.1 billion was slated for projects that explicitly included sustainable food systems practices (e.g., sustainable agriculture, agroecology, smallholders, integrated landscape management, procurement policies, agroforestry, soil health, and food loss, among many others) for climate change mitigation and adaptation. When compared to overall public climate finance (USD 640 billion), finance for food systems is only 2.5% of that figure, and finance for sustainable food system practices is only 1.5%.

See the Appendix for details on the methodology and sustainable food system practices considered in our analysis.

Ensuring climate finance is directed at sustainable food systems is of paramount importance. Measurement tools such as the [Agroecology Finance Assessment Tool](#)¹⁹ help the global community understand the impacts of food systems finance with greater confidence.

FOOD SYSTEMS NEED TO MOVE FROM THE MARGINS TO THE CENTRE OF CLIMATE FINANCE DISCUSSIONS

When world leaders negotiate the New Collective Quantified Goal on climate finance (NCQG) at COP29, we urge them to place food systems at the centre of their discussions. A food systems approach to climate finance would help decision-makers shift away from siloed approaches and move toward systemic approaches that consider all costs and benefits of climate action. As parties to the Paris Agreement decide on the ambition, structure, and timelines for the new climate finance goal, they must consider global finance needs and agree on explicit finance targets for scaling and implementing transformative interventions for climate change mitigation and adaptation in food systems.

The cost of transitioning to sustainable food systems is USD 500 billion — a fraction of the cost of inaction. While climate funding is currently flowing to food systems, it is not enough. The current public climate finance of USD 9.1 billion per year has to increase by 47 times (or USD 430 billion) to enable a transition to sustainable food systems.²⁰ This is much less than the USD 670 billion per year in harmful subsidies that agriculture and fisheries sectors receive.²¹

SECTION 2: HOW FUNDS ARE ALLOCATED



This section provides a detailed breakdown of climate finance for food systems by source, climate objective, food systems practices, and financial instruments. Our analysis shows that finance for sustainable food systems comes in the form of grants and loans, targeting both mitigation and adaptation, but they largely focus on food production practices only. Efforts are underway to increase international climate finance to food systems transformation, but they need to scale and accelerate.

TRACKING FINANCE FOR SUSTAINABLE, AGROECOLOGICAL FOOD SYSTEMS

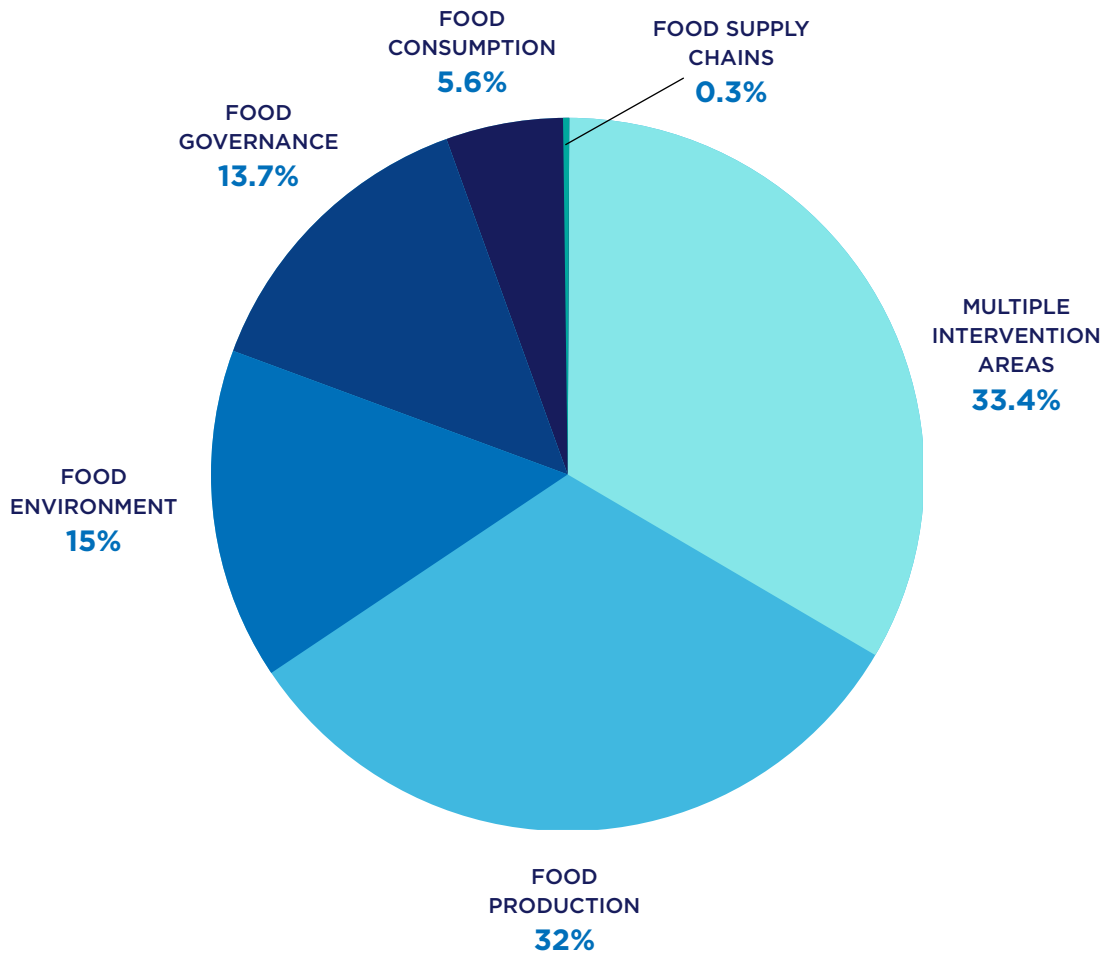
The majority (68%) of USD 9.1 billion climate-related development finance for sustainable food systems activities comes from governments in the form of grants and loans. Global North governments channelled USD 6.2 billion to food system projects directly, while another USD 2.5 billion was channelled by multilateral development banks and other multilateral organizations. Only USD 400 million (4%) came from private donors, including philanthropic organizations. More than half (59%) of the USD 9.1 billion was in the form of grants, while another 37% was in the form of debt and 4% other instruments.

Climate-related development finance almost evenly targets projects with mitigation and adaptation outcomes in food systems. USD 3.7 billion (41% of the total) goes to mitigation projects and USD 3.2 billion (35%) goes to adaptation projects, while USD 2.2 billion (24%) goes to projects that target both adaptation and mitigation outcomes. Projects with a focus on mitigation include those with activities related to addressing deforestation and land degradation, agroforestry, soil health, and sustainable rice cultivation, among others. Projects with an adaptation focus, on the other hand, aim at building adaptation capacity and resilience of agriculture and the food sector, including supporting local communities and Indigenous Peoples, among other priorities.

Projects that address food loss and waste, and transition to healthy and sustainable diets, receive the least amount of climate finance. From the USD 9.1 billion going into sustainable food systems activities, only about USD 542 million (6%) goes to projects that focus on addressing food loss and waste and dietary transitions, while more than USD 3 billion (33%) goes to projects across multiple intervention areas, and another USD 3 billion (33%) goes to food production measures. See Figure 1.

FIGURE 1. CLIMATE-RELATED DEVELOPMENT FINANCE FLOWS TO FOOD SYSTEMS INTERVENTIONS

TOTAL: USD 9.1 BILLION



BOX 3: FOOD SYSTEMS INTERVENTION AREAS

Food production: Food production systems that advance the protection of nature by relying on sustainable and ecological practices enhance the richness and abundance of biodiversity in land and water, and rehabilitate the functions of degraded natural systems.^{22, 23} Agroecological practices including organic farming, agroforestry, and regenerative farming have gained prominence as approaches to protect, manage, and restore nature, as well as to reduce emissions, while providing healthy food and securing the livelihoods of the people that produce it.²⁴

Food environment: The food environment represents the physical, economic, political, and socio-cultural context in which consumers engage with the food system. This encompasses the availability, affordability, convenience, and desirability of foods that shape people's dietary preferences.²⁵ Healthy and sustainable food environments enable consumers to make sustainable food choices with the potential to improve diets and reduce environmental impacts.²⁶ Policy measures that promote healthy dietary choices for consumers through marketing and advertising, healthy and sustainable food product placements, and pricing enable a physical, economic, political, or socio-cultural change in how stakeholders engage with food systems.

Food governance: Food governance refers to the institutions, actors, rules, and norms that shape how food is produced, distributed, and accessed within and across borders as well as processes by which diverse actors within food systems are incorporated into decision and policy-making at different levels. A food systems approach to biodiversity and climate change needs to be inclusive and collaborative, where all stakeholders are involved in designing and implementing relevant interventions, and which prioritizes those groups that are most affected by the impacts of these systems. This can help encourage a more holistic understanding of agriculture, not only as a system for producing healthy food but also for ensuring healthy soil, biodiversity, clean water, landscape management, and livelihoods for communities. Policy measures for food governance can facilitate equitable, coherent, coordinated, and transparent design, implementation, and monitoring of food system measures.²⁷

Food supply chains: Food supply chains encompass all activities that move food from the production to the consumption stage, including storage, distribution, processing, packaging, retailing, and marketing, have impacts on food production practices and consumption patterns.²⁸ Food loss and waste that occurs at scale along supply chains create additional sources of pollution, resulting in the environmental degradation of land, water, and soil — all of which is involved in food production.²⁹

Food consumption: Sustainable food consumption focuses on diets with low environmental impacts that contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair, affordable, nutritionally adequate, safe, and healthy, while optimizing natural and human resources.³⁰

SUPPORTING DIRECT ACCESS FOR FARMERS, FISHERS, INDIGENOUS PEOPLES, AND LOCAL COMMUNITIES

The Global Environmental Facility and the Green Climate Fund that serve the Paris Agreement as the climate-funding mechanisms to channel finance to climate action in the Global South are increasingly targeting food systems transformation. They have official mandates to channel finance for mitigation and adaptation, and have the potential to be important vehicles for directing more climate finance into food systems transformation. For the GEF and GCF to scale and accelerate finance for food systems transformation, they must embed food systems priorities in all their thematic and programmatic areas as well as lower the barriers for small-scale projects and farmer and fisher organizations to access finance. Currently, small-scale farmers and fishers cannot directly access international climate finance mechanisms like the Global Environmental Facility (GEF) and Green Climate Fund (GCF). For example, a review of 40 GEF and GCF projects revealed that small-scale farmers and fishers are generally included as mere beneficiaries of project activities and do not have direct access to finance in the form of grants or loans.³¹ The Global Agriculture and Food Security has a program to directly fund producer-organization-led projects and could be a model going forward.*

BOX 4: PUTTING FARMERS AND WOMEN AT THE CENTRE OF FOOD SYSTEMS TRANSFORMATION

Globally, small-scale farms of less than 2 hectares (5 acres) produce one-third of the world's food, while farms of up to 5 hectares (12 acres) located in developing countries account for more than half of the global production of nine staple crops (rice, peanut, cassava, millet, wheat, potato, maize, barley, and rye) and grow almost three-quarters of the coffee and 90% of the cocoa.³² Based on an analysis of a broader category of peasant farmers, analysts have determined that peasants feed as much as 70% of the global population on less than one-third of the world's agricultural land. Small-scale farms are also the backbone of rural economies, with over 2.5 billion people globally depending on them for their livelihoods.³³

However, small-scale farmers are largely underfunded. Based on the analysis of climate finance for this report, from the USD 9.1 billion to sustainable food systems, only USD 1.3 billion (15%) targeted activities most relevant to small-scale farmers and women, including projects that support agroecology, cooperatives, smallholders, women and girls, Indigenous Peoples, and rural income. This is only 1.2% of total climate-related development finance and 0.1% of all climate finance in 2021/22. This is no match to the scale of finance they need. As a result, many small-scale farmers are forced to rely on their own dwindling savings in order to adapt and survive, spending an estimated USD 368 billion per year.³⁴ This, in turn, increases their vulnerability — both to financial shocks and to climate impacts — and reduces their capacity to become resilient and continue to contribute to climate change mitigation.

*See www.gafspfund.org.

PRIVATE SECTOR FINANCE IN AGRICULTURE AND FOOD SYSTEMS REMAINS SMALL AND FOCUSES ONLY ON TECHNOLOGICAL FIXES

Globally in 2023, some 960 private investment funds invested in food and agriculture technologies for climate change adaptation, amounting to USD 15.7 billion; from this only USD 415 million (2.7%) was for climate change adaptation technologies for smallholder producers.³⁵ Private capital targeting the small-scale agriculture sector in Global South countries focuses largely on digital tools and digital marketplaces to back the scalable aggregation of smallholder farmers to supply them with inputs and markets.³⁶ A significant share of private investment is also in farm technologies, including mechanization and robotics for precision agriculture and analysis of crop yields.³⁷

Getting climate finance directly to grassroots organizations, where they have control over their own adaptation and mitigation projects, is the best way to support climate action.^{38, 39} Small-scale family farmers and community-based fisheries are key to delivering the diverse and nature-positive practices needed to build climate resilience, restore and protect nature, increase food security, and reduce emissions while safeguarding their livelihoods and the food security of billions of people around the globe.*

CASE STUDY: GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM AND MTANDAO WA VIKUNDI VYA WAKULIMA (MVIWATA) IN TANZANIA — INCREASING CLIMATE RESILIENCE WITH MULTIPLE CO-BENEFITS



In Tanzania, a USD 2.5 million grant from the Global Agriculture and Food Security Program to Mtandao wa Vikundi vya Wakulima (MVIWATA) is increasing household incomes, addressing nutritional challenges arising from COVID-19, and reducing post-harvest losses by developing food supply services around horticulture production areas. The project revamps rural economies that have been adversely affected by COVID-19 by increasing production, marketing, and supply services on horticultural produce value chains, especially on fresh vegetables and spices, and the professionalization of MVIWATA Market Companies (MMC) and rural SMEs in and around existing rural bulk markets. The project builds on the existing initiatives and experiences of MVIWATA in rural markets and consequently contributes to improving diets for coping with COVID-19 nutritional demands, climate change mitigation strategies, and gender equality while attaining sustainable income generation. Professionalization of smallholder producers' rural SMEs and MVIWATA market companies improves the business transactions capacity of smallholder producers to serve the sub-urban and urban consumers, bridges the food supply gap arising from the COVID-19 pandemic, and enhances gender-equitable value chains while increasing institutional, national, and global efforts on poverty reduction, climate resilience, and building long-term solutions to food supply and security in both rural and urban areas.

*See www.agroecology-pool.org/resources/ for resources on positive outcomes of agroecology for climate, nature, and people.

SECTION 3: GETTING CLIMATE FINANCE FOR FOOD SYSTEMS RIGHT



Food systems transformation will require investments and financial transfers averaging USD 500 billion per year between now and 2050.⁴⁰ Approximately USD 200 billion of this estimate is needed for investments in rural infrastructure, the protection and restoration of forests, the reduction of food loss and waste, support for the dietary shift, and agricultural research and development. The remaining USD 300 billion can build the safety nets needed to ensure affordable food for all. This could generate estimated net economic benefits of approximately USD 10 trillion a year until 2050.⁴¹

Investing in food systems transformation can generate a multitude of social and environmental benefits, including lowering GHG emissions and improving climate resilience, reversing biodiversity loss, reducing food insecurity and poverty, and increasing access to sufficient, nutritious food for all.⁴² Farmers, fishers, pastoralists, food producers, and Indigenous Peoples who continue to face the brunt of climate change on the frontlines most often lack access to climate finance to build their climate resilience.⁴³ They face difficulty in meeting the funding requirements of donors, such as the requirement to quantify and outline mitigation benefits of their projects, which is often a condition in accessing climate finance,⁴⁴ and often have to invest their own savings to improve their practices. Donors and particularly international climate finance mechanisms must ensure that farmer- and fisher-led organizations are accredited and create specific funding streams for these groups that are easy to access to ensure that funding flows where it can have the most impact.

Low-income countries bear a higher burden of the cost of food systems transformation, which is beyond their financing capacity and needs to be provided by Global North countries. Globally, the cost is roughly equivalent to 0.2% of global GDP based on purchasing power parity in 2020, while for low-income countries it is 1.9% of their annual GDP.⁴⁵ In contrast, the financial burden on high- and upper-middle-income countries is only at 0.03% and 0.26% of their GDP, respectively. The lack of public finance flowing into these countries can reinforce the current unequal distribution of value in food systems — created by the legacy of colonial, extractive economic dynamics as well the current concentration of market

power in the hands of a handful of international companies and investors. This can inhibit the production and trading opportunities available to rural communities. In turn, the lack of investment reaching rural producers both perpetuates poverty and limits farmers' ability to build resilience against climate change impacts.⁴⁶ Therefore, a global food system transformation is possible only if it is financed in full everywhere.

Meeting global finance needs for food systems transformation will require redirecting existing finance flows and raising new finance. Most of the finance currently flowing to agriculture undermines climate goals and perpetuates destructive practices that weaken the sustainability of food production and distribution. Agriculture and fisheries sectors receive more than USD 670 billion per year in harmful subsidies.⁴⁷ For example, agricultural subsidies are responsible for the loss of 2.2 million hectares (5.4 acres) of forest per year, equivalent to 14% of global deforestation.⁴⁸ This finance can be repurposed to agricultural practices (e.g., agroecology) and to create greater land tenure security for women, smallholder farmers, and Indigenous peoples and access rights to small-scale fishers that can have multiple climate and environmental benefits without undermining local livelihoods. However, turning around incentive structures to build sustainable food systems requires political will and careful policy design to ensure an equitable and just transition with farmers and fishers at the centre of decision-making.

Governments can use an array of instruments to channel finance into food systems that influence what is produced, where, and how much. Historically, public finance has supported producers directly through subsidies and price incentives or targeted the wider sector to create an enabling environment for the production and marketing of food products. Governments, for example, direct budget spending on credit lines and subsidies, and raise revenue through taxes, fees, and levies in the food sector, or channel public finance through grants, debt, equity, guarantees, and insurance both domestically and internationally.⁴⁹ They also use regulations to steer the financial system and financial institutions within it, including regulations that affect monetary supply and influence how and where state and non-state actors allocate their investments. For example, based on national and local contexts, public support for fertilizer use and fossil fuels should be redesigned to align with climate objectives and agroecological practices.

Current finance for agriculture and food systems must be aligned with global climate and biodiversity goals, and climate finance for food must increase by orders of magnitude to unlock mitigation and adaptation potential in food systems while contributing to biodiversity, food sovereignty, and sustainable development in all parts of the world.

RECOMMENDATIONS

The following recommendations aim to facilitate the flow of climate finance that contributes to food systems transformation:

- 1. Parties to the Paris Agreement must put food systems transformation at the heart of the New Collective Quantified Goal for Climate Finance (NCQG).** As Parties discuss and negotiate the ambition, structure, and operationalization of NCQG at COP29, they should highlight the mitigation potential and adaptation needs in food systems and the magnitude of the climate finance gap for food systems, and include an explicit finance target for food systems transformation.
- 2. Governments must ensure that finance for sustainable food systems transformation is part of climate mitigation and adaptation priorities with a focus on justice and equity.** This includes ensuring enabling environmental policies and mechanism to finance safety nets, reskilling training, investments in adequate rural infrastructure and legislative frameworks, including guarantee of land tenure rights and stronger labour laws. This comprehensive approach can deliver climate and socioeconomic development benefits at the same time.
- 3. Governments must put in place finance coordination mechanisms to ensure finance flows to all key policy areas through comprehensive projects and programs.** These coordination mechanisms can enable dialogue and coordination among donors and stakeholders to channel finance to policies and projects that contribute to multiple outcomes, including climate, food security, and biodiversity benefits across sectors. As this analysis shows, most finance currently targets mitigation in the energy and transport sectors. These coordination mechanisms should actively include all stakeholders, in particular small-scale family farmers, Indigenous Peoples, and fishing communities and their organizations in leadership positions, attending to power dynamics and diverging interests and needs.
- 4. Climate funds should aim to increase the provision of concessional finance through blended finance instruments.** This may include leveraging private finance to scale and fund local and national food and nutrition security, agroecology, and regenerative food systems projects in line with the local and national food systems transformation priorities. Such blended finance instruments can serve the needs of small projects, including those by small-scale farmers transitioning from conventional agriculture to agroecology and regenerative approaches, by supporting upfront costs together with adequate technical assistance and climate insurance. For example, a small grants fund that is flexible and easy to access by locally led and innovative food systems initiatives can deliver multiple benefits to local communities.
- 5. Donors should take a food systems approach to climate financing to increase funding going to all parts of food systems.** Presently, most climate finance focuses on mitigation activities at the farm level, such as crop production, livestock, and actions to conserve and restore ecosystems from the impacts of agriculture. Food supply chain and food consumption measures, such as the promotion of dietary changes, tackling food waste, and reducing emissions in food processing,

storage, and transformation, receive the least amount of finance. For example, investing in local value-added enterprises (e.g., for food packaging, processing, and distribution) can reduce emissions and create jobs and additional income. Taking a food systems approach linking production and consumption through local value addition and markets can address climate, biodiversity, food security, employment, and health priorities holistically

- 6. Redirect public finance and leverage private finance to activities that align with mitigation targets and adaptation needs.** In many cases, existing finance stymies the achievement of climate goals and perpetuates other social and environmental crises. Policymakers must reform public support for business-as-usual agriculture. This can be done either by supporting long-term just transition strategies and planning while re-channelling mainstream agricultural support to other public goods and services aligned with climate targets and by making investments conditional upon achieving environmental and social outcomes. Another option is to use public finance to de-risk investments that yield high social and environmental returns but have longer payback periods, such as many investments in climate resilience through food systems transformation.
- 7. Substantially increase climate finance directly to small-scale family farmers, Indigenous Peoples, and community-based fisheries.** These groups currently lack direct access to climate finance from international finance sources, as finance is channelled mainly to governments and large international and national institutions. Climate finance institutions need to create dedicated funds that are easy to access by farmers, fishers, and community-based organizations that produce most of the food in the Global South.

APPENDIX: NOTES ON METHODOLOGY

This appendix outlines the key steps in data cleaning, transformation, reclassification, and aggregation that were used to analyze data on international climate finance flows into projects for food systems transformation.

Dataset

We analyzed the international climate finance flows into projects for food systems transformation for the years 2021 and 2022 recorded in the [OECD database](#) on official development assistance (ODA) finance with climate objectives.

Keywords

To track financial flows into projects aimed at transforming food systems, we developed a list of 173 keywords specifically related to sustainable food systems. To account for the multiple reporting languages within the database, each keyword was translated into French and Spanish, expanding the list to a total of 519 keywords used in the search. The keywords were selected based on a literature review and peer review as part of the guidance material developed for the [Food Forward NDCs Tool](#).

The keywords were categorized into five distinct intervention areas, with each keyword assigned exclusively to one area: food environment, food governance, food production, food supply chains, and food consumption.

Some keywords may not always be directly associated with food systems, depending on the context in which they appear. To address this, we identified keywords that are only relevant to food systems when used within the agriculture, forestry, and fishing sector. These keywords were excluded from searches related to projects classified under other sectors.

The list of keywords, their classification, and sector relevance are reported in the following table.

KEYWORD	INTERVENTION AREA	SECTOR RELEVANCE
Adaptation/Circular economy/Pollute/Pollution/Productivity/Resilient	Food Environment	Agriculture, Forestry, Fishing
Food accessibility/Food advertising/Food deserts/Food insecurity/Food labelling/Food literacy/Food marketing/Food packaging/Food production/Food quality/Food safety/Food safety regulations/Food security/Food swamps/Organic waste bans/Agroecology	Food Environment	All sectors

KEYWORD	INTERVENTION AREA	SECTOR RELEVANCE
<p>Alternative market/Animal welfare/Conservation/ Conservation agriculture/Cooperation/Cooperative/ Ecological agriculture/Ecological principles/Employment/ Incentives/Income/Localism/Localization/Multi-stakeholder collaboration/Natural farming/Nature-based/Non-market costs/Organic/Organic agriculture/ Payment for ecosystem services schemes/Private finance/Public finance/Regionalism/ Regionality/ Subsidies/Sustainability/Sustainable/Tenure systems/ Transparency/True cost accounting/True pricing/Ultra-processed food taxes</p>	<p>Food Governance</p>	<p>Agriculture, Forestry, Fishing</p>
<p>Indigenous/Integrated landscape management/Land-use and freshwater governance/Land use planning/ Regenerative agriculture/Smallholders/Solidarity kitchens</p>	<p>Food Governance</p>	<p>All sectors</p>
<p>Adaptive nutrient management/Community-led forest monitoring/Crop residue/Crop rotation/Deforestation and conversion-free production/Deforestation-free/ Direct seeding/Eco-certifications and standards/Erosion control/Grassland restoration/Green manure/Herbicide/ Integrated crop-livestock management/Integrated crop-livestock systems/ICLS/Integrated manure management/ Integrated multi-trophic aquaculture/Integrated pest and disease management/Integrated soil fertility/ Management/Intercropping/Irrigation performance/ Nutrient cycling/Polycropping/Polyculture/Precision aquaculture/Procurement policies/Rainfed agricultural interventions/Aerobic rice system/Agricultural water management/Agro-climatic forecasts/Agroforestry/ Natural fertilizer/Rotational grazing/Silvopastoral systems/Soil cover/Soil health/Sustainable aquaculture management/Sustainable fishing management/ Sustainable livestock management/System of rice intensification/Tillage</p>	<p>Food Production</p>	<p>All sectors</p>

KEYWORD	INTERVENTION AREA	SECTOR RELEVANCE
Agrotoxin/Alternate wetting and drying/Ammonia/ Aquaponics/Biodiversity/Biofertiliz/Biofertiliz/Clean energy/Compost/Cover crop/Crop health/Deforestation/ Degradation/Degrade/Desertification/Erosion/Fauna/ Feeding strategies/Fertile/Fertility/Flora/Forest/Inputs/ Manure/Manure management/Methane/Moratoria/ Mulch/Native nitrogen/Nitrogen fixation/Nutrient/ Nutrient density/Organic fertilizer/Pasture management/ Pathogen/Pest/Pesticide/Pollinate/Pollination/Pollutant/ Renewable energy/Restoration/Restore/Soil/Weed/Yield	Food Production	Agriculture, Forestry, Fishing
Zero-conversion policies/Zero-deforestation policies/ Circular food systems/Cold chains/Food distribution/ Food loss/Food processing/Food storage/Food transport/Food waste	Food Supply Chains	All sectors
Clean cooking/Diet costs/Dietary guidelines/Diverse food /Food banks/Food prices/Healthy diets/Healthy foods/Nutrition/Nutrition education/Pay-as-you-throw schemes/Price discounts/Social supermarkets/Surplus food management systems/Sustainable diets/ Sustainable public procurement	Food Consumption	All sectors

Data pre-processing and reclassification

We pre-processed the original dataset to ensure the accuracy of calculations and to reclassify financial flows as described below.

To ensure that no project would be excluded in the calculation of total finance flows, an initial pre-processing step involved converting missing (NA) values to zeros (0) for the following variables:

- Adaptation-related development finance – Commitment – Current USD thousand
- Mitigation-related development finance – Commitment – Current USD thousand
- Overlap – Commitment – Current USD thousand

Next, we calculated the volume of finance dedicated solely to adaptation and/or mitigation at the project level by subtracting the overlap finance from both adaptation-related development finance and mitigation-related development finance. This adjustment was essential because, in the OECD dataset, dual-purpose finance is

counted twice (i.e., double-counted) as part of both adaptation and mitigation finance. By subtracting the overlap from both categories, we ensured that the sum of the three components – mitigation, adaptation, and overlap – accurately reflected the total finance allocated to each project. This approach allowed us to classify the “climate objective” for each project as *adaptation*, *mitigation*, or *dual purpose*.

Further classification of the data was carried out in several dimensions:

Provider type:

PROVIDER TYPE OECD	PROVIDER TYPE THIS STUDY
DAC member	Countries
Non-DAC member	Countries
Multilateral development bank	Multilateral development bank
Other multilateral	Other multilateral
Private donor	Private donor

Financial instrument:

FINANCIAL INSTRUMENT OECD	FINANCIAL INSTRUMENT THIS STUDY
Grant	Grant
Debt instrument	Debt
Equity and shares in collective investment vehicles	Other instruments
Mezzanine finance instrument	Other instruments
Others	Other instruments

Sector assignment:

The data was mapped to different sectors based on the Purpose Code variable. A two-digit prefix from this code was used to identify the main sector, and these codes were cross-referenced with a predefined sector classification table developed by OECD.

SECTOR CODE	PROVIDER TYPE THIS STUDY	PROVIDER TYPE THIS STUDY
11	Education	Other sectors
12	Health	Other sectors
13	Population Policies/Programs & Reproductive Health	Other sectors
14	Water Supply & Sanitation	Water Supply & Sanitation
15	Government & Civil Society	Other sectors
16	Other Social Infrastructure & Services	Other sectors
21	Transport & Storage	Transport & Storage
22	Communications	Other sectors
23	Energy	Energy
24	Banking & Financial Services	Other sectors
25	Business & Other Services	Other sectors
31	Agriculture, Forestry, Fishing	Agriculture, Forestry, Fishing
32	Industry, Mining, Construction	Other sectors
33	Trade Policies & Regulations	Other sectors
41	General Environment Protection	Other sectors
43	Other Multisector	Other sectors
51	General Budget Support	Other sectors
52	Development Food Assistance	Other sectors

SECTOR CODE	PROVIDER TYPE THIS STUDY	PROVIDER TYPE THIS STUDY
53	Other Commodity Assistance	Other sectors
60	Action Relating to Debt	Other sectors
72	Emergency Response	Other sectors
73	Reconstruction Relief & Rehabilitation	Other sectors
74	Disaster Prevention & Preparedness	Other sectors
91	Administrative Costs of Donors	Other sectors
93	Refugees in Donor Countries	Other sectors
99	Unallocated/Unspecified	Other sectors

Keyword search and classification

The methodology for identifying and classifying projects related to food systems transformation involved three main steps: conducting a keyword search, recording the keywords found and the intervention areas they covered, and classifying the projects based on their relevance to food systems.

Keyword search in project descriptions

The first step involved searching for relevant keywords within the project descriptions in the dataset. For each project, the search was conducted according to the sector relevance of the keywords. Keywords that were relevant only to the agriculture, forestry, and fishing sector were applied exclusively to projects within this sector. In contrast, more general keywords that were applicable across all sectors were used for projects in non-agricultural sectors.

Recording found keywords and intervention areas

The second step was to document which keywords were found in each project and to identify the corresponding intervention areas. For each project, we marked whether any keyword from each intervention area was found. In cases where multiple intervention areas were identified, the project was categorized as covering “multiple intervention areas.” If no keywords were found, the project was marked as having “no intervention area.”

Classification of finance as “food,” “sustainable food,” or “non-food”

The third step in the methodology involved classifying each project into one of three categories: “food,” “sustainable food,” or “non-food,” based on the presence of keywords and the sector to which the project belonged. Projects classified under the agriculture, forestry, and fishing sector that had no associated keywords from the intervention areas were categorized as “food.” Projects that had relevant keywords within any intervention area were classified as “sustainable food.” Lastly, projects in non-agricultural sectors that lacked relevant keywords were classified as “non-food.”



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The authors remain responsible for the content of this report and any errors or omissions.

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Global Alliance for the Future of Food

The Global Alliance for the Future of Food is a strategic alliance of philanthropic foundations working together and with others to transform global food systems now and for future generations. We believe in the urgency of transforming global food systems, and in the power of working together and with others to effect positive change. Food systems reform requires that we craft new and better solutions at all scales through a systems-level approach and deep collaboration among philanthropy, researchers, grassroots movements, the private sector, farmers and food systems workers, Indigenous Peoples, government, and policymakers.

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Climate Focus is an impact-driven company with a mission to combat climate change and drive sustainable development. We deliver insights and solutions for climate action, empowering the public and private sectors, philanthropy, and civil society to shape policies, design and accelerate climate solutions, access and mobilize finance, and hold decision makers accountable. We strive toward a just future where the climate crisis is halted, nature is valued and restored, and all humans live in prosperous and resilient economies.

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