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Moving the Needle on Global Food Systems Financing

Translating Evidence from Health to Agriculture Development Finance

May 2023

Duke World Food Policy Center
Duke Center for Policy Impact in Global Health
Open Consultants

Bridging to Better Policy

An abstract geometric pattern composed of numerous triangles of various sizes and colors, including shades of blue, green, orange, pink, and grey, arranged in a complex, non-repeating tessellation.

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Acronyms

Acronym	Meaning
ADB	Asian Development Bank
ADF	African Development Fund
AfDB	African Development Bank
Agri-SMEs	Agricultural small- and medium-sized enterprises
CRS	Creditor Reporting System
CSO	Civil-society organization
DAC	Development Assistance Committee
EBRD	European Bank for Reconstruction and Development
FAO	Food and Agriculture Organization of the United Nations
Gavi	Gavi, the Vaccine Alliance
GAFS	Global Alliance for Food Security
GAFSP	Global Agriculture and Food Security Program
Global Fund	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GPG	Global public good
GDP	Gross domestic product
HLPE	High-level Panel of Experts on Food Security and Nutrition
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFFIm	International Finance Facility for Immunisation
IFM	International Finance Mechanism
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IMF WEO	International Monetary Fund World Economic Outlook
KII	Key informant interviews and focus group discussion input
LMICs	Low- and middle-income countries
MDB	Multilateral Development Bank
ODA	Official development assistance
OECD	Organization for Economic Cooperation and Development
OOF	Other official flows
R&D	Research & development
RBAs	Rome-Based Agencies
SDGs	Sustainable Development Goals
UMIC	Upper middle-income country
WFP	World Food Programme of the United Nations

Glossary

GLOSSARY TERM	DEFINITION
Bilateral	Funding or commitments from one government to another government.
Blended finance	A combination of concessional and commercial funds.
Food security	One of the most broadly accepted definitions is from the World Food Summit in 1996, defined as having “physical, social, and economic access to sufficient, safe, and nutritious food that meets food preferences and dietary needs for an active and healthy lifestyle”. Food security is typically measured via a number of indicators within the categories of availability, access, utilization, and stability. Several scales or tools are used to assess the severity of food security for an individual. The FAO uses the Food Insecurity Experience Scale, utilizing a spectrum from food secure/mild food insecurity, to moderate food insecurity, to severe food insecurity (the last category indicative of no food for a day or more).
Gross Domestic Product	The total value of goods produced and services provided in a country, measured annually.
International Financial Institution	Multilateral, regional, and national development banks with international operations.
Multilateral	Funding or commitments from three or more entities, such as governments or non-governmental organizations.
Official development assistance	<p>A term used by the Organization for Economic Cooperation and Development's Development Assistance Committee (DAC) to define what counts as aid. Currently, official development assistance (ODA) is defined as: flows to countries and territories on the DAC List of ODA recipients and to multilateral development institutions which are:</p> <ol style="list-style-type: none"> 1. provided by official agencies, including state and local governments, or by their executive agencies; and 2. each transaction of which: <ol style="list-style-type: none"> 1. is administered with the promotion of the economic development and welfare of developing countries as its main objective; and 2. is concessional in character. In DAC statistics, this implies a grant element of at least <ul style="list-style-type: none"> • 45 per cent in the case of bilateral loans to the official sector of LDCs and other LICs (calculated at a rate of discount of 9 per cent). • 15 per cent in the case of bilateral loans to the official sector of LMICs (calculated at a rate of discount of 7 per cent). • 10 per cent in the case of bilateral loans to the official sector of UMICs (calculated at a rate of discount of 6 per cent). • 10 per cent in the case of loans to multilateral institutions (see note 5) (calculated at a rate of discount of 5 per cent for global institutions and multilateral development banks, and 6 per cent for other organizations, including sub-regional organizations).

GLOSSARY TERM	DEFINITION
Official development assistance for agriculture and food security	According to the OECD DAC, “aid to agriculture” refers to agriculture, forestry and fishing (DAC5 codes 311, 312, 313) and rural development (CRS code 43040). While we apply the OECD DAC definition of aid to agriculture in this report, we also present data for the specific DAC5 code on agriculture (311). In addition, the OECD DAC definition of aid to agriculture excludes aid to sectors that are relevant for food security. We therefore provide additional analyses that include ODA for food assistance (CRS code 52010), emergency food assistance (CRS code 72040) and agro-industries (CRS code 32161). Source: https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/agriculture.htm
Official development assistance for health	The official OECD DAC definition of health ODA was used for this report. Aid to health is covered by two main sectors: general and basic health; and population policies/programmes and reproductive health, including HIV/AIDS. For this report we utilize DAC5 codes 120 and 130. https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/aidtohealth.htm
Other official flows	A term used by the Organization for Economic Cooperation and Development’s Development Assistance Committee (DAC). They define other official flows (OOF) as official sector transactions that do not meet official development assistance (ODA) criteria. OOF include: grants to developing countries for representational or essentially commercial purposes; official bilateral transactions intended to promote development, but having a grant element of less than 25%; and, official bilateral transactions, whatever their grant element, that are primarily export-facilitating in purpose.
Private flows	Private flows are defined by the DAC as flows at market terms financed out of private sector resources and private grants.
Small and medium-sized enterprise	Non-subsidiary, independent firms that employ personnel below a certain numbers threshold, which varies across countries. According to the OECD, the most frequent upper limit is 250 employees. Small firms are generally those with fewer than 50 employees.
Undernourishment	Defined by the Food and Agriculture Organization as not being able to acquire enough food to meet the daily minimum dietary energy requirements, over a period of one year. Hunger is considered synonymous with chronic undernourishment.
Value chain	The FAO defines value chain as the set of actors (private, public, and including service providers) and the sequence of value-adding activities involved in bringing a product from production to the final consumer. In agriculture they can be thought of as a ‘farm to fork’ set of processes and flows.



1. Executive Summary

We are currently experiencing the largest displacement and food crisis since the Second World War and things may get worse.^{1,2} If we maintain on the current trajectory, we will not reach Sustainable Development Goal 2 (SDG2): “end hunger, achieve food security and improved nutrition and promote sustainable agriculture”.

Policymakers have had a strong global response to the spiking levels of food insecurity and supply disruptions in the face of the Russian invasion of Ukraine, COVID-19, and recent economic uncertainties. However, progress towards reaching SDG2 has reversed course. The current global institutional aid financing mechanisms in place are not up to the full task. The global development community must use this moment to step back and think creatively about learning from the current food crisis response efforts.

Building off what we have learned from the recent crisis response, how do we better set ourselves up for the future? This study explores how innovative approaches from the global health sector can be adapted to food systems financing to ensure we are more resilient to avoid or better address future crises.

We acknowledge that there are important differences between the health sector and the agriculture and food sectors. However, the dramatic innovation for pandemic response in health provides a source of new ideas for the agriculture and food security sectors. With lessons from the health sector as a lens, we conducted desk research, key informant interviews and two focus groups (both referred to in this report as KIIs) to explore: the role of grant-based mechanisms, resource mobilization with a focus on innovative financing mechanisms, crisis coordination, and global functions (i.e. activities with transnational benefits) and their application in the food and agriculture space.

Key Recommendations

Trends in donor financing:

- **Agriculture:** Official donor assistance (ODA) declined in 2021 (a drop of 14.7% compared to 2020). The share of total ODA allocated towards agriculture also declined from 2002 (3.5%) to 2021 (3.3%).ⁱ Private flows stagnated between 2017 (US\$817 million) and 2021 (US\$796 million).
- **Emergency Food Assistance:** ODA for emergency food assistance grew from US\$4.7 billion in 2012 to a peak level of US\$8.9 billion in 2020 but decreased to US\$7.7 billion in 2021 despite growing demand for external support.
- **Health:** In 2021, donors disbursed the highest-ever level of health ODA, US\$34.0 billion (15% of total ODA). Private flows increased 185% between 2009 and 2021 and other official flows (OOF) for health quadrupled compared to pre-pandemic levels.

1. Increase multilateral grant-based funding to support smallholders and agricultural small- and medium-sized enterprises (agri-SMEs). COVID-19 has triggered an unprecedented increase in debt for low- and middle-income countries (LMICs), making it more difficult to borrow for agriculture. Agriculture is often seen as a “soft” sector that does not generate enough revenue to service loans. A social, pro-poor agenda with a focus on smallholders requires more grant financing. Further, grants and blended finance are needed to create an enabling environment for private funding.

2. Provide additional finance for medium-term agricultural development/the transition phase between humanitarian and longer-term investments. The nexus between humanitarian aid and longer-term agriculture investments needs to receive more attention from donors and multilateral agencies alike. ODA for emergency food assistance is about as high as for longer-term agricultural development. Several KIIs noted that the agencies that deal with humanitarian aid are entirely distinct from the agencies that deal with development activities. A “transition gap” exists between the humanitarian agencies

leaving the field and development agencies entering. This also means there are short-term investments and long-term investments in the field, but a missing middle-term set of activities that should be further explored, especially via grants-based mechanisms.

3. Build on the added value of innovative financing mechanisms in agriculture and food security sectors as introduced by the health sector. Over the past two decades, global health has seen the introduction of innovative financing mechanisms (IFMs) to mobilize additional resources for the Vaccine Alliance (Gavi), the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund), and UNITAID. These mechanisms have contributed to the increase in health ODA. Advance market commitments were noted by KIIs as particularly promising. While studies indicate that innovative financing could play a major role in agriculture and food security, existing examples of IFMs for food security in agriculture are rather small-scale.

i. If the OECD DAC definition of agriculture ODA (which includes agriculture, forestry, fishery, and rural development; see glossary) is used, the share of agriculture ODA out of total ODA declined from 5.1% (2002) to 4.6% (2021).

4. **For middle income or wealthier countries, additional resource mobilization is possible from multilateral development banks (MDBs) and repurposing government subsidies.** A G20 review of MDBs' capital adequacy frameworks shows they can take on additional risks to increase available resources. A 2021 United Nations report noted that US\$540 billion a year goes into agricultural subsidies for agricultural producers. These subsidies can be distorting, unequal, and cause environmental and human harm, but can be repurposed as investments in public goods and services for agriculture.
5. **The possibility of joint fundraising strategies in response to the global food crisis should be explored by the food and agriculture sectors.** The launch of new multilateral financing instruments around the turn of the millennium, such as Gavi, and the Global Fund, was associated with a sharp rise in global health multilateral grant ODA. These groups raised the sector's profile and innovated the financing value chain through mobilization and pooling of large-scale resources from both public and private donors, new governance structures, and new approaches to channeling resources.
6. **To improve coordination at the country level and to provide multi-agency support to countries and populations in greatest need, policymakers could consider a model based on the COVID-19 Vaccine Delivery Partnership.** The interagency initiative targeted the 34 countries that in January 2022 had less than 10% coverage of COVID-19 vaccination. By October, 2022, vaccine coverage had increased in 23 out of 34 countries. This could be valuable in crisis situations for coordination in specific countries in the agriculture and food security sectors, with a view towards long-term development.
7. **Improve coordination between global and regional organizations, and encourage regional organizations to play a larger role, including in-country coordination.** The COVID-19 pandemic has led to stronger regionalization, for example through regional procurement mechanisms. Regional organizations played a key role in the pandemic response, for example through newly founded institutions in Africa (e.g., the African Vaccine Acquisition Trust) and Multilateral Development Banks. KIIs argued that the agriculture sector should follow suit.
8. **Increase investments in global functions (activities with transnational benefits), such as data generation and distribution, harmonization of standards, better policies, research and development (R&D), technology transfer, and treaties for intellectual property.** The global health sector has seen significant investments in global functions, such as data and R&D. These investments were critical to increase donor trust in the sector and for scaling up access to new health tools. The agriculture and food security sectors have devoted less attention to these global functions. KIIs especially emphasized data needs for understanding what is being spent on agricultural development activities, the effectiveness of investments, and creating more investor-friendly environments.
9. **Transition to an "investment approach" paradigm. Investment cases quantified the health and economic impact of investments in certain health sector activities or programs.** For example, the first Global Fund investment case was released right after the 2008 financial crisis in support of the 2009 replenishment meeting (which had a funding target of US\$12 billion). The investment case demonstrated and quantified the public health and economic benefits resulting from investments in the Global Fund. This 'investment approach' has been replicated in many other health areas and was a paradigm shift. While the approach has also been used in agriculture and food security sectors, it could be further emphasized.

2. Introduction

In 2020, the World Food Policy Center at Duke University launched a new project to identify ways to improve the ecosystem of global financing for food security and agricultural development and suggest more effective ways to scale and deploy financial resources. A study, including concrete and actionable recommendations to improve the global architecture, was developed in partnership with the Center for Policy Impact in Global Health at Duke University and Open Consultants, Berlin.³

Since the release of the study in December 2020, the global food security situation has further deteriorated. The COVID crisis, economic instabilities, the Russian invasion of Ukraine, and climate change have led to supply chain disruptions impacting agricultural inputs, increasing food prices and spiking levels of global food insecurity.⁴ Food prices are now at a 10-year high – 53 out of 60 countries monitored by the World Food Programme (WFP) reported a >15% increase in domestic food prices compared to September 2022. According to the WFP, 45 million people were acutely food insecure across 82 countries while 60 million children under five were expected to be acutely malnourished by the end of 2022. In addition, 50 million people in 45 countries are experiencing emergency levels of hunger, and eight million children in 15 countries are at risk of dying from acute malnutrition.

In response to this unique moment of crisis response, Duke University and Open Consultants conducted a brief assessment of the global financing ecosystem for food security that (i) builds on the 2020 study, and (ii) analyzes what lessons can be brought from the global health architecture to agricultural development and food security.

The study focuses on three key questions:

- **To what extent can experiences from global health financing be translated to food security and agriculture?**
- **What institutional reforms tested out in the global health sector can help to promote long-term agricultural development and food security?**

- **How relevant are innovative resource mobilization approaches from global health for agriculture and food security?**

Cross-sectoral learning in global development is limited; thus, we believe that our study fills a critical gap. Over the past two decades, the health sector experienced substantial changes in the global architecture, with a surge in official development assistance (ODA)⁵ and the creation of new mechanisms for research and development (R&D), resource mobilization, and service delivery. The global health architecture has also seen substantial investments in data and metrics, and new coordination mechanisms were created, including in response to the COVID-19 pandemic. The surge in funding and the launch of new initiatives contributed to important results for health, such as increased access to medicines, vaccines, and health services. These results have led to increased life expectancy and substantial, though still insufficient, declines in child and maternal mortality and in the burden caused by major infectious diseases, such as malaria and HIV.⁶

Methods

Our report is based on a mixed-methods design. Four complementary methods were used to collect and analyze data:

- **Document analysis:** We reviewed academic and grey literature on the agricultural development and food security architecture and on the global health financing landscape.
- **Key informant interviews (KIIs):** We conducted KIIs with 18 key informants from multilateral institutions, bilateral donor agencies, civil society organizations (CSOs), and academics to understand how organizations responded to the ongoing food crisis, how the global response could be organized more effectively, which longer-term changes to the global financing architecture for food security are needed, and what lessons from global health could be translated to promote food security.

- **Focus group discussions (also referred to as KIIs):** On 16 March, 2023, we organized a focus group discussion with a subgroup of the Global Agriculture and Food Security Program's (GAFSP) Steering Committee members (bilateral donors, multilateral agencies, technical experts, the private sector, and others) to foster dialogue with global food security funders and experts (16 March 2023). A second focus group discussion took place in Washington D.C. on 11 April 2023.
- **Quantitative database assessment:** To assess trends in ODA for agricultural development and food security (see glossary for definitions), we conducted a quantitative database analysis using the Creditor Reporting System (CRS) database. This database is run by the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD DAC). The database also includes data on Other Official Flows (OOF) and private flows. We analyzed gross disbursements (constant \$2020 prices). We also used data from the International Monetary Fund World Economic Outlook (IMF WEO) to assess debt levels of countries.

out-of-the-box thinking at a time when creative solutions are urgently needed.

Structure

In the following section ([Section 3](#)), we lay out our analytical framework. We then assess some global financing trends ([Section 4](#)), followed by assessing global systems across four functions: the role of grant-based mechanisms ([Section 5](#)), resource mobilization with a focus on innovative financing mechanisms ([Section 6](#)), crisis coordination ([Section 7](#)), and global functions (i.e. activities with transnational benefits) ([Section 8](#)). In [Section 9](#), we summarize our findings and provide policy recommendations.

Limitations

The focus of this study is on the global institutional architecture. Making progress on global food security will require substantial action and increased domestic investment by low- and middle-income countries (LMICs) themselves, so we fully acknowledge that the global aid architecture can only play a supportive role in improving food security. We also recognize key differences exist between the food security and agriculture sectors and the health sector. Reforms that have worked in health might not necessarily always translate to agriculture. One difference between the sectors is that agriculture has a stronger involvement of private actors and it is also a productive sector, while health is a social sector. However, as we also lay out in the paper, LMICs often consider agriculture and rural development as 'soft' sectors. So, while we acknowledge that the health sector differs in certain ways from the agriculture and food security sector, our study aims to facilitate

3. Analytical Framework

Sustainable Development Goal (SDG) 2 aims to end hunger and all forms of malnutrition by 2030 but the number of people suffering from food insecurity has been gradually on the rise from 2014 onwards.⁷ The recent COVID-19 crisis has pushed those rising rates even higher and has also exacerbated all forms of malnutrition, particularly in children. In 2020, 720 to 811 million people globally were suffering from hunger – about 161 million more than in 2019. In addition, 2.4 billion people were moderately or severely food insecure, lacking regular access to adequate food. The figure increased by 320 million people in just one year.⁸ The Russian attack on Ukraine has further disrupted supply chains, creating the biggest global food crisis since the Second World War.^{9,10}

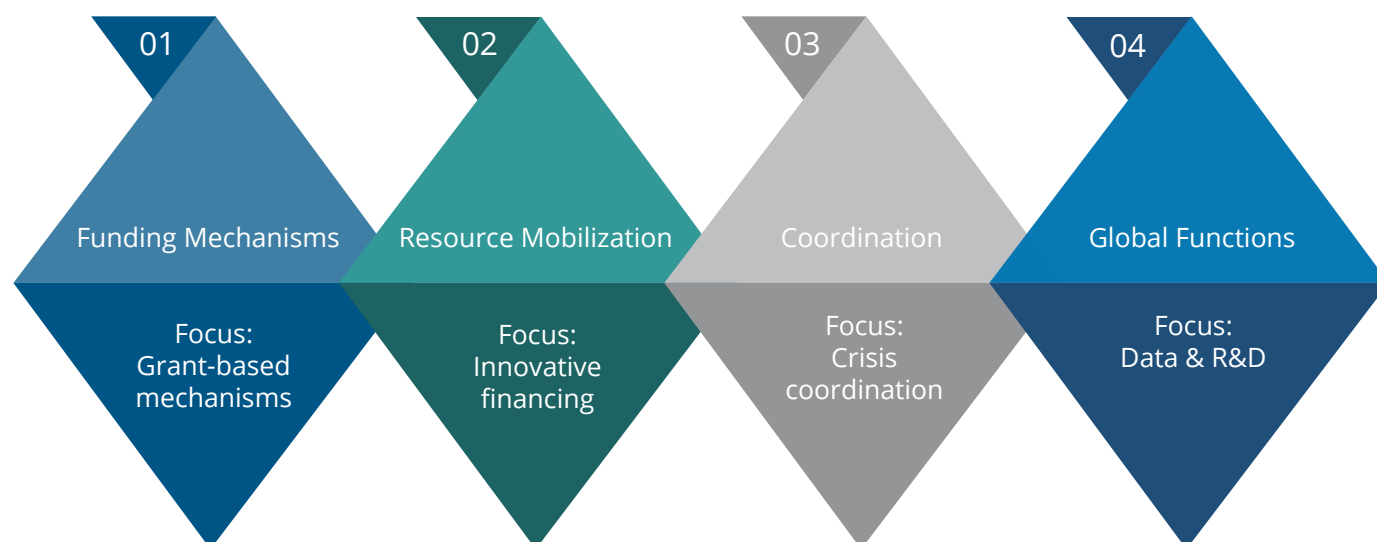
The global agriculture and food security community undertook substantial efforts to respond. Bilateral and multilateral funders provided increased financial and technical support to LMICs and created new initiatives to coordinate their efforts. For example, in April 2020, the International Fund for Agricultural Development (IFAD) launched the Rural Poor Stimulus Facility in response to the COVID-19 crisis. Building on this experience, IFAD further initiated the Crisis Response Initiative (CRI) in April 2022 in response to the shocks from the war in Ukraine. The CRI supplements IFAD programs with grants and

aims to ensure small-scale farmers in high-risk countries can produce food and reduce the threat to future harvests. However, IFAD member states had only provided US\$21 million to the CRI as of 1 August 2022. Other multilateral organizations in agriculture have leveraged existing mechanisms to respond to the ongoing crisis. The WFP has increased its financial support to countries and launched a Corporate Scale-Up to mitigate a wider food crisis ahead. The World Bank committed up to US\$30 billion between 2022 and 2023 (see [Annex 1](#) for more details). In addition, the Black Sea Grain Initiative allowed nearly 25 million metric tons of foodstuff from Ukraine to reach global markets.¹¹

Despite these efforts, major challenges persist, and it is not clear to what extent the global architecture for agriculture and food security is prepared to handle them.

To understand opportunities for cross-sectoral learning, we adopted a framework with four essential functions of the global architecture ([Figure 1](#)). The analysis in this paper is structured around these four functions, which are: the role of grant-based mechanisms, resource mobilization with a focus on innovative financing mechanisms, crisis coordination, and global functions.

Figure 1. Analytical framework: Four functions of the global architecture



These four functions are relevant for the global agriculture and food security architecture:

Funding Mechanisms – Focus on the Role of Grant-Based Mechanisms

Studies conclude that the current multilateral architecture is too loan-heavy and that LMICs could benefit from additional grant financing.^{12,13}

Resource Mobilization – Focus on Innovative Funding Mechanisms (IFMs)

The food security and agriculture sector has long been facing a financing gap. The Ceres2030 report noted an additional US\$14 billion per year is needed from donors until 2030 to “end hunger and double the incomes of small-scale producers”, and an additional US\$19 billion per year on average will be needed from LMIC governments.¹⁶ Other recent estimates suggest that in sub-Saharan Africa (SSA) and Southeast Asia the estimated annual financing gap for agricultural small- and medium-sized enterprises (SMEs) alone (2022) is US\$106 billion.¹⁷ Dalberg and IDH estimate (2022) the annual SME finance gap in sub-Saharan Africa (SSA) is over US\$100 billion.¹⁸ Other data suggest that the financing gap for smallholder finance in South and Southeast Asia, SSA, and Latin America is US\$170 billion (2019).¹⁹ The Blended Finance Taskforce estimates that the overall cost of transforming food and land use systems (including regenerative farming practices, minimizing food loss, strengthening local supply chains and rural infrastructure, etc.) is over US\$300 billion a year (2020).²⁰

No single definition exists for IFMs, but we use the term broadly to describe new, additional financing using non-traditional mechanisms outside the usual sources, and some approaches deemed to be particularly innovative by KIIs, such as advance market commitments.²¹ For a further classification scheme of IFMs in the global health sector, see [Annex 1](#).

Coordination – Focus on Crisis Coordination

The global landscape for food and agriculture is made up of a broad range of actors, such as multilateral agencies, bilateral donors, the private sector, civil society organizations, and countries. As pointed out by Winters et al., fragmentation is both “horizontal, between themes and sectors, and vertical, in terms of crossover between different levels”.¹⁴ This creates overlapping mandates and competition for scarce resources.”¹⁵

Global Functions – Focus on Data, Research and Development

Recent policy papers by high-level groups highlight a stronger need to invest in data. For example, the High-Level Panel of Experts on Food Security and Nutrition (HLPE) identifies a need to harmonize data collection standards globally.²²

4. Trends in Donor Funding

KEY TAKEAWAYS

- **Agriculture sector financing trend:** ODA investments declined in 2021 (a drop of 14.7% compared to 2020). The share of total official development assistance (ODA) allocated towards agriculture also declined from 2002 (3.5%) to 2021 (3.3%). Private flows stagnated between 2017 (US\$817 million) and 2021 (US\$796 million).
- **Emergency Food Assistance sector financing trend:** ODA for emergency food assistance grew from US\$4.7 billion in 2012 to a peak level of US\$8.9 billion in 2020 but decreased to US\$7.7 billion in 2021 despite growing demand.
- **Health sector financing trend:** In 2021, donors disbursed the highest-ever level of health ODA, US\$34.0 billion (15% of total ODA). Private flows increased 185% between 2009 and 2021 and other official flows (OOF) for health quadrupled compared to pre-pandemic levels.

Longer-term investments in agriculture declined in 2021. ODA disbursements for agriculture (DAC5 code 311) grew from US\$2.8 billion in 2002 to US\$8.6 billion in 2020. However, agriculture ODA decreased to US\$7.3 billion in 2021, a significant drop of 14.7% from 2020 ([Figure 2](#)). In addition, the share of total ODA allocated towards agriculture dropped between 2002 (3.5%) and 2021 (3.3%). If the OECD DAC definition of agriculture ODA (which includes agriculture, forestry, fishery, and rural development; see glossary) is used, the share of agriculture ODA out of total ODA declined from 5.1% (2002) to 4.6% (2021) ([Figure 3](#)). In absolute terms, ODA to agriculture according to the OECD DAC definition declined in 2021, from US\$11.5 billion in 2020 to US\$10.2 billion in 2021.

ODA for emergency food assistance grew substantially between 2002 and 2020 but fell in 2021. ODA for emergency food assistance DAC 5 Codes 52010, 72040 grew from US\$4.7 billion in 2012 to a peak level of US\$8.9 billion in 2020 but decreased to US\$7.7 billion in 2021 despite growing demand ([Figure 4](#)).

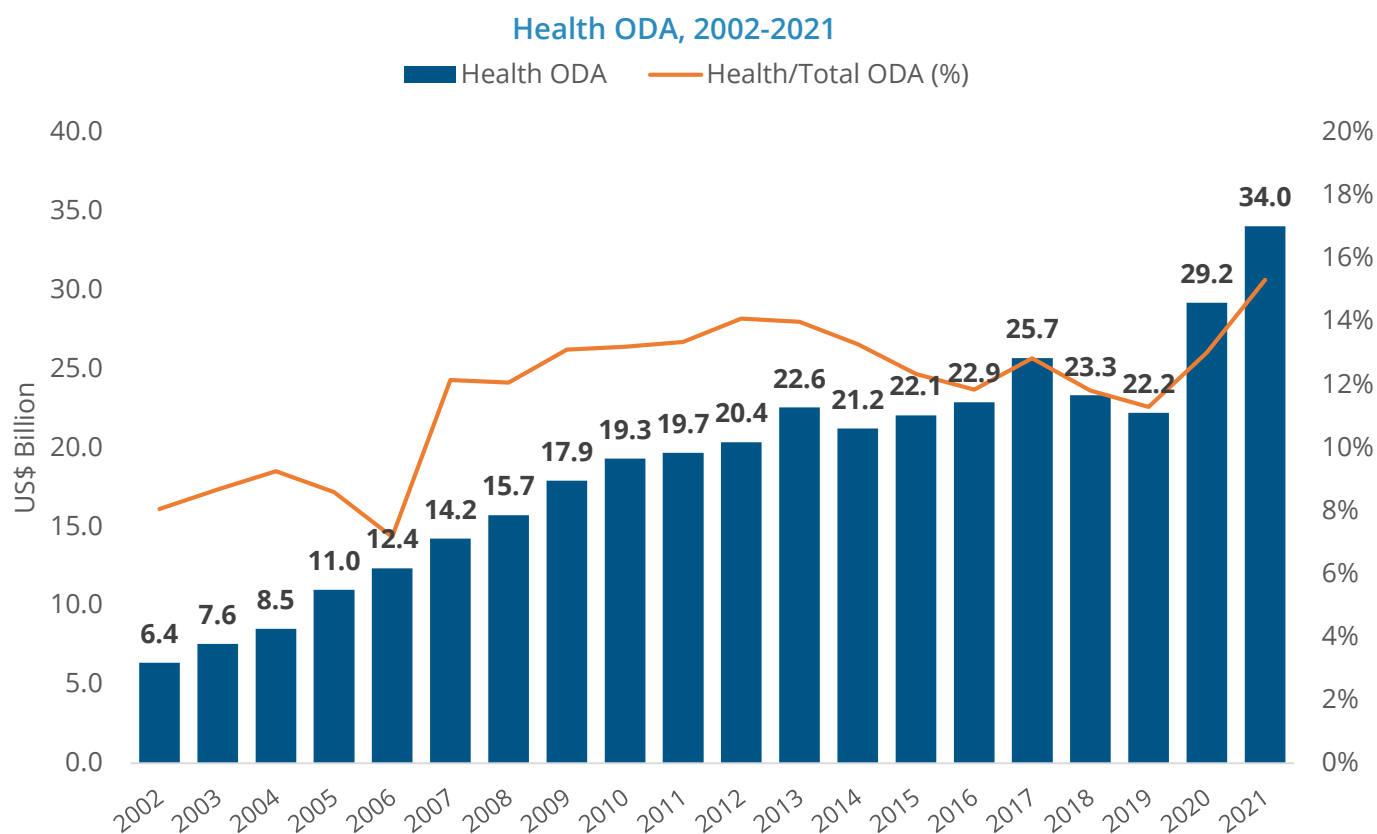
Health ODA significantly increased since 2002. Funding mechanisms like Gavi, the Vaccine Alliance (Gavi) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) were created around the millennium and successfully mobilized substantial additional amounts of

funding to spearhead the fight against infectious diseases in LMICs. In 2021, donors disbursed US\$34.0 billion in health ODA (15% of total ODA), the highest-ever level. The COVID-19 pandemic drove the rise in health ODA in 2020 and 2021.²³

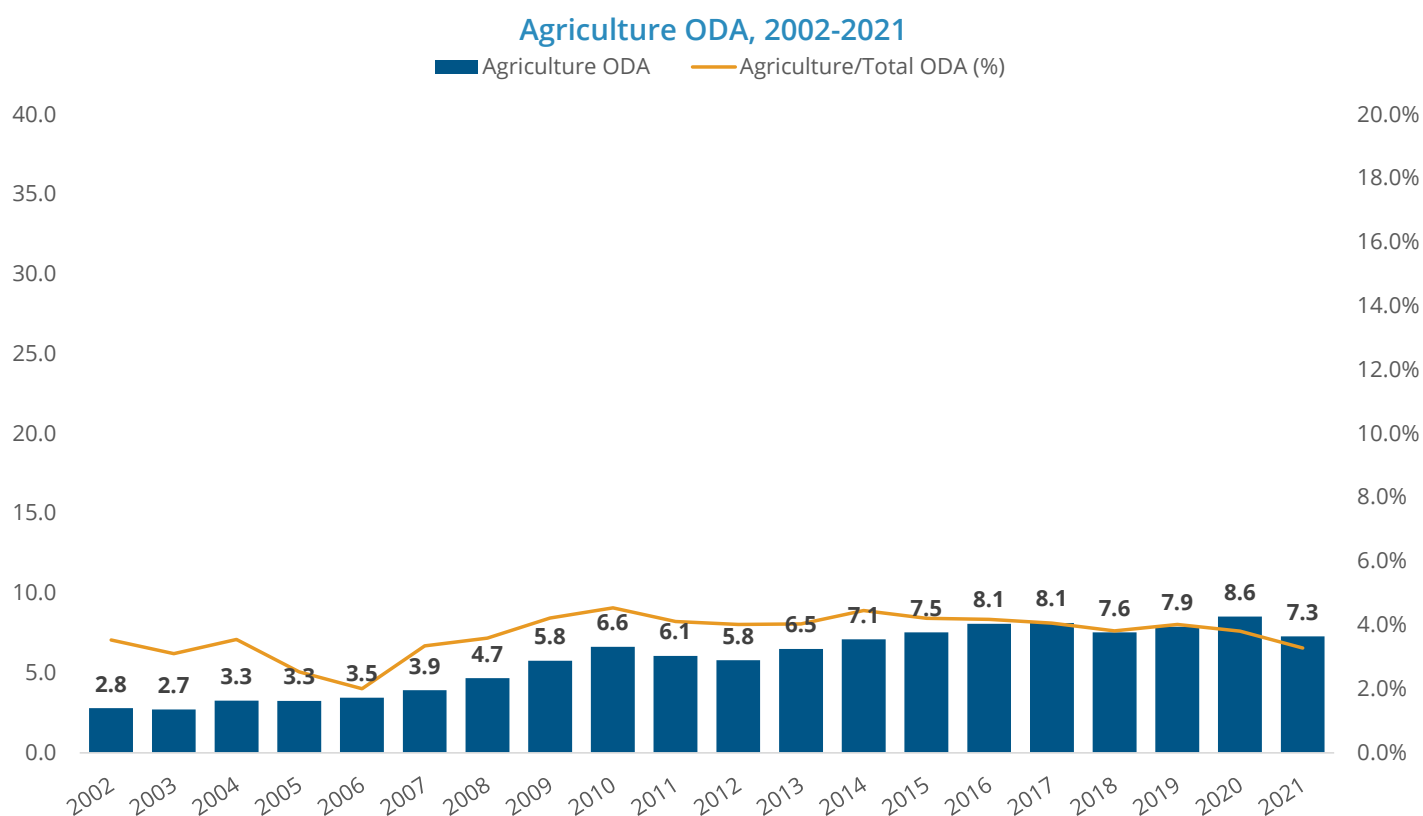
Private flows for agriculture have remained largely flat since 2017, but have risen significantly in the health sector. Private flows to health increased from US\$1.8 billion in 2009 to US\$5.1 billion in 2021, an increase of 185% ([Figure 5](#)). While private flows to agriculture also grew from US\$0.4 billion (2009) to US\$0.8 billion (2021), these flows stagnated between 2017 (US\$817 million) and 2021 (US\$796 million).

OOF have traditionally played a more important role for agriculture than for health, but OOF for health quadrupled compared to pre-pandemic levels. In 2021, OOF for agriculture totaled US\$2.3 billion, and US\$3.1 billion if fishery, forestry, and rural development are added in ([Figure 6](#)). OOF for health increased sharply from US\$1.6 billion in 2019 to US\$7.7 billion in 2021.

Figure 2: Health and agriculture ODA, 2002-2021

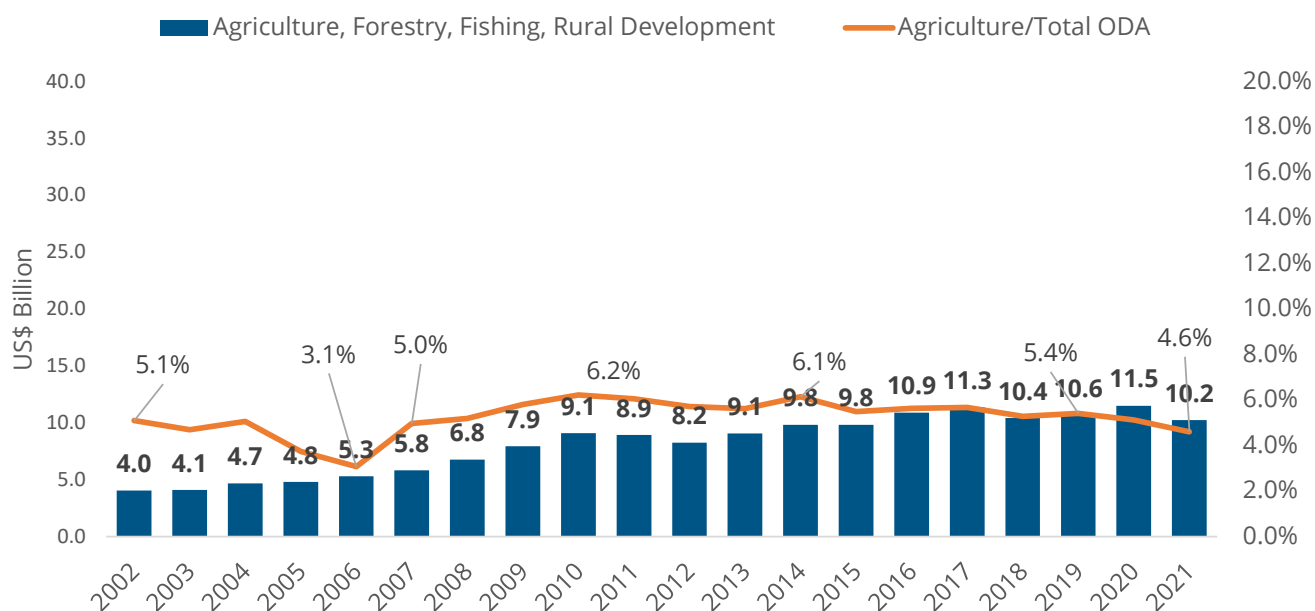


Source: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, ODA. Health (120, 130).



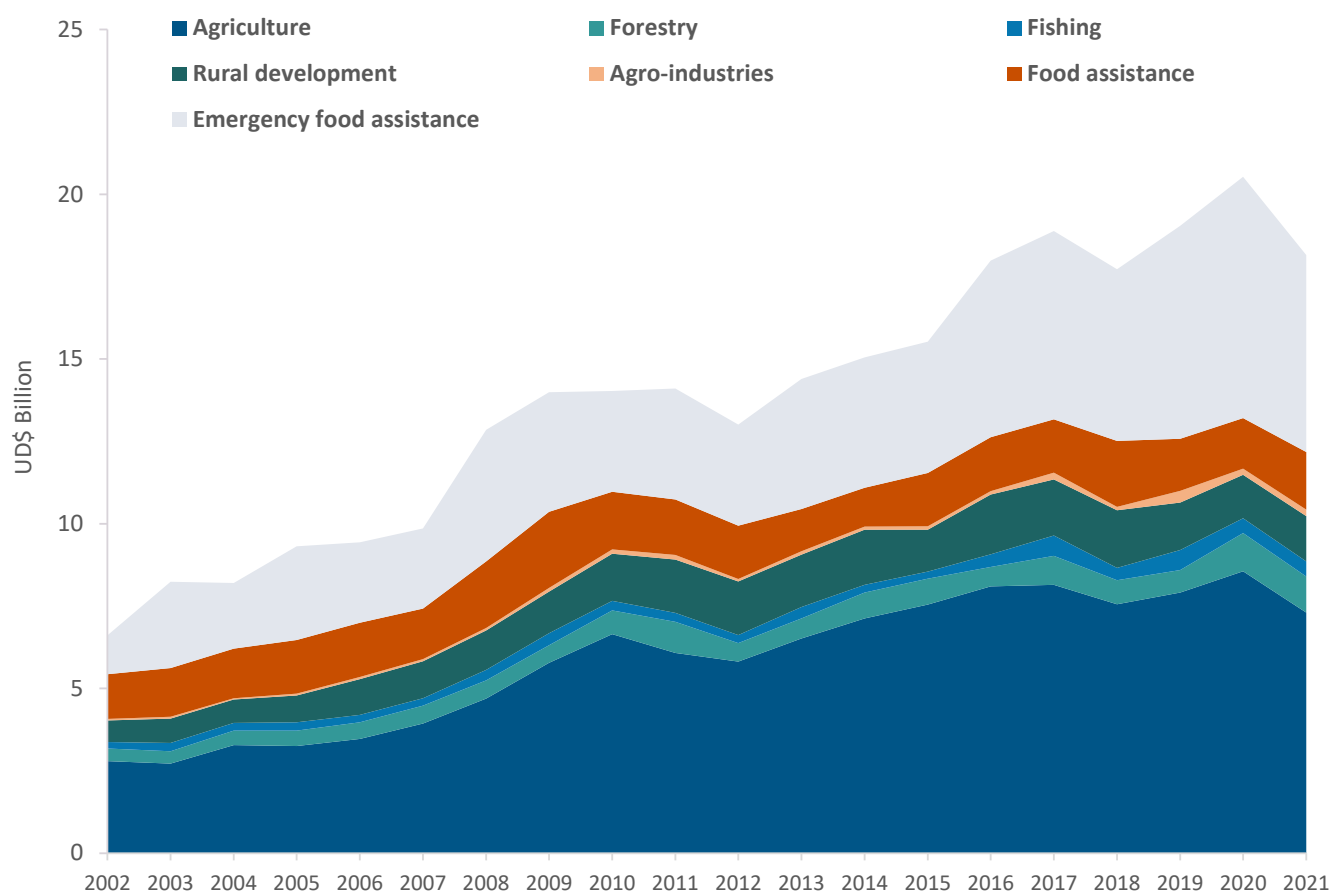
Source: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, ODA. Agriculture (311).

Figure 3. Agriculture ODA (DAC Definition), 2002-2021



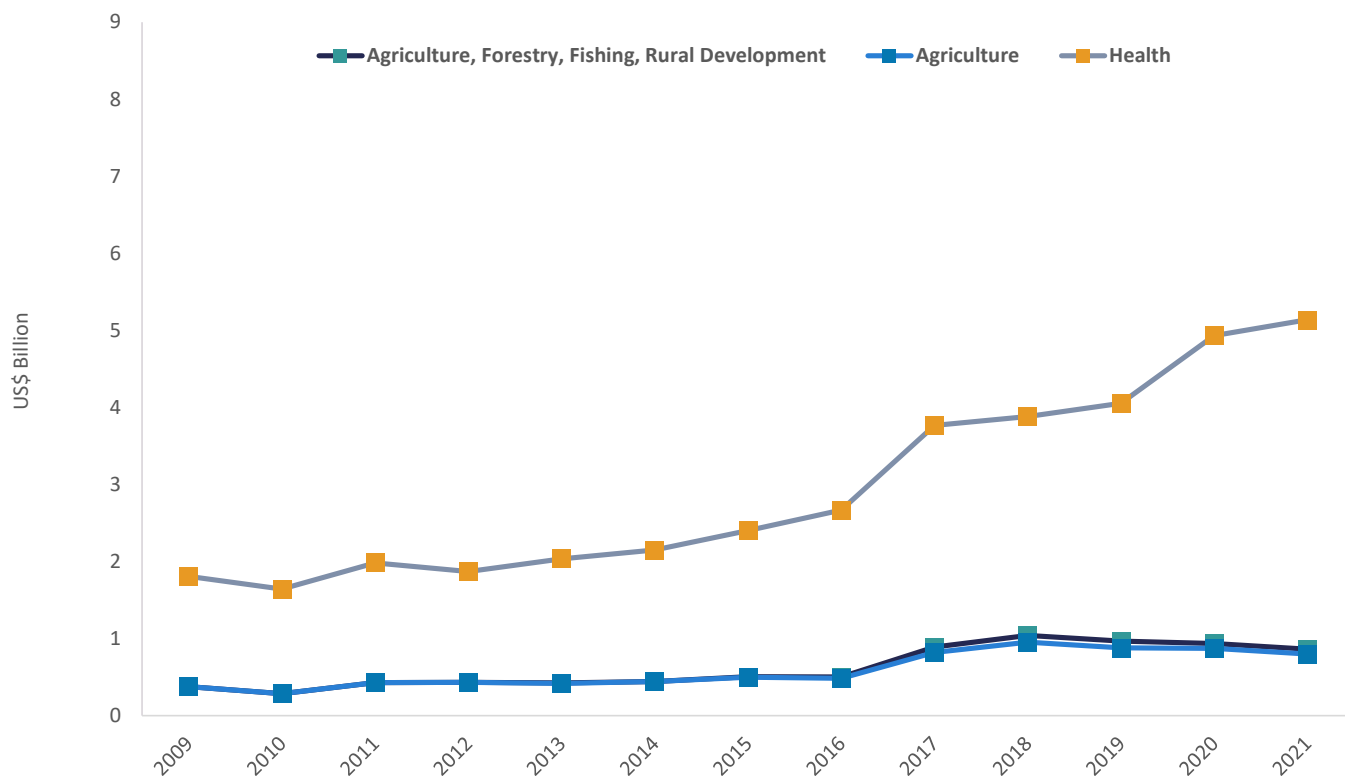
Source: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, ODA. Agriculture, Forestry, Fishing, Rural Development (311, 312, 313, 43040).

Figure 4. Agriculture and Food Security ODA 2002-2021



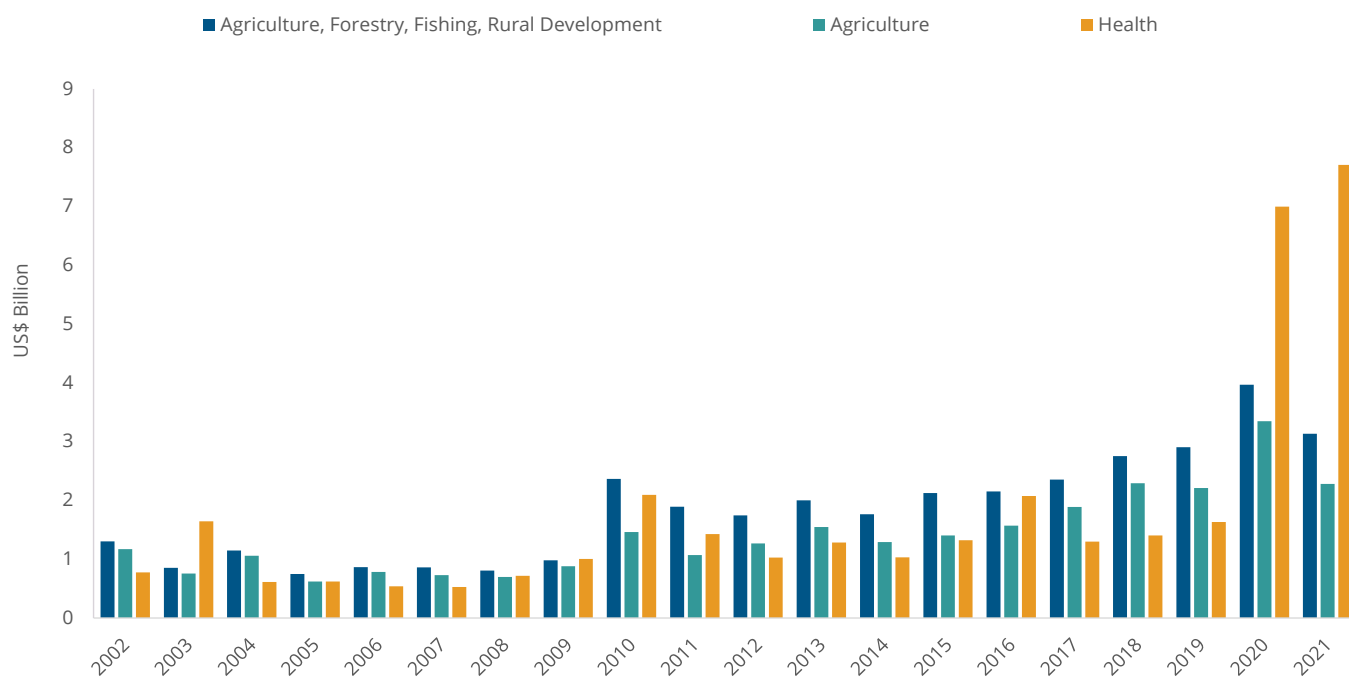
Source: Agriculture, Forestry, Fishing, Rural Development (311, 312, 313, 43040), Agro-Industries (32161), Food Assistance (52010), Emergency Food Assistance (72040).

Figure 5. Agriculture & Health Private Flows, 2009-2021



Source: OECD CRS. Disbursements, Constant 2020 prices, Private Donors, Private Development Finance. Agriculture, Forestry, Fishing, Rural Development (311, 312, 313, 43040). Agriculture (311). Health (120, 130).

Figure 6. Agriculture & Health Other Official Flows, 2002-2021



Source: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, Other Official Flows. Agriculture, Forestry, Fishing, Rural Development (311, 312, 313, 43040). Agriculture (311). Health (120, 130).

5. Funding Mechanisms: Role of Grant-Based Mechanisms

KEY TAKEAWAYS

- Global health multilateral grant ODA increased substantially since the launch of “proto-institutions” such as Gavi and the Global Fund (from less than US\$1 billion in 2002 to US\$9.8 billion in 2021).
- These proto-institutions raised the sector’s profile and impacted the health financing value chain via mobilization and pooling of large-scale resources from both public and private donors, new governance structures, and new approaches to channeling resources.
- A large-scale dedicated mechanism for grant funding could significantly change the food and agriculture architecture.
- Grants could help to mobilize and channel significant new funding, coordinate the ecosystem, enlarge the share of multilateral funding, and allow philanthropic funders to participate meaningfully in the governance of agriculture and food’s financing mechanisms.

Funding mechanisms like Gavi and the Global Fund were created around the millennium and successfully mobilized substantial additional amounts of funding to spearhead the fight against infectious diseases in LMICs. Our analysis shows that the health sector mobilized substantial additional donor funding since the turn of the millennium. KIIs highlighted that the launch of new funding mechanisms in the early 2000s played a key role in the mobilization of additional resources. These mechanisms raised the profile of health and established strong resource mobilization capacity. “Proto-institutions” (agencies in which the “rules of governance” were created by “extensive collaboration and coordination between civil society groups”²⁴) such as Gavi and the Global Fund and to some extent also UNITAID, raised the profile of the sector and innovated the whole value chain of financing in three specific ways:

- Mobilization and pooling of large-scale resources from both public and private donors.
- New governance structures – inclusive governance models, which include public and private partnerships and donors, LMIC governments, civil society, affected

communities, and private industry (“proto-institutions”²⁵).

- New approaches to channeling resources:
 - Proposals were conceived by technical review panels (such as the technical review panel for the Global Fund) and approved with inclusive country ownership, and multi-stakeholder models at the country level.
 - The funding mechanisms introduced results-based financing, allocating funds based on the performance of countries.
 - Allowed direct funding to non-governmental implementers (affected communities, key populations, international NGOs, and other UN agencies).
 - Enabled pooled procurement and market-shaping for commodities (volume aggregation mechanisms) for commodities, enabling subsidization of cost-effective technologies, competitive and dispersed markets, and widespread adoption by LMICs.

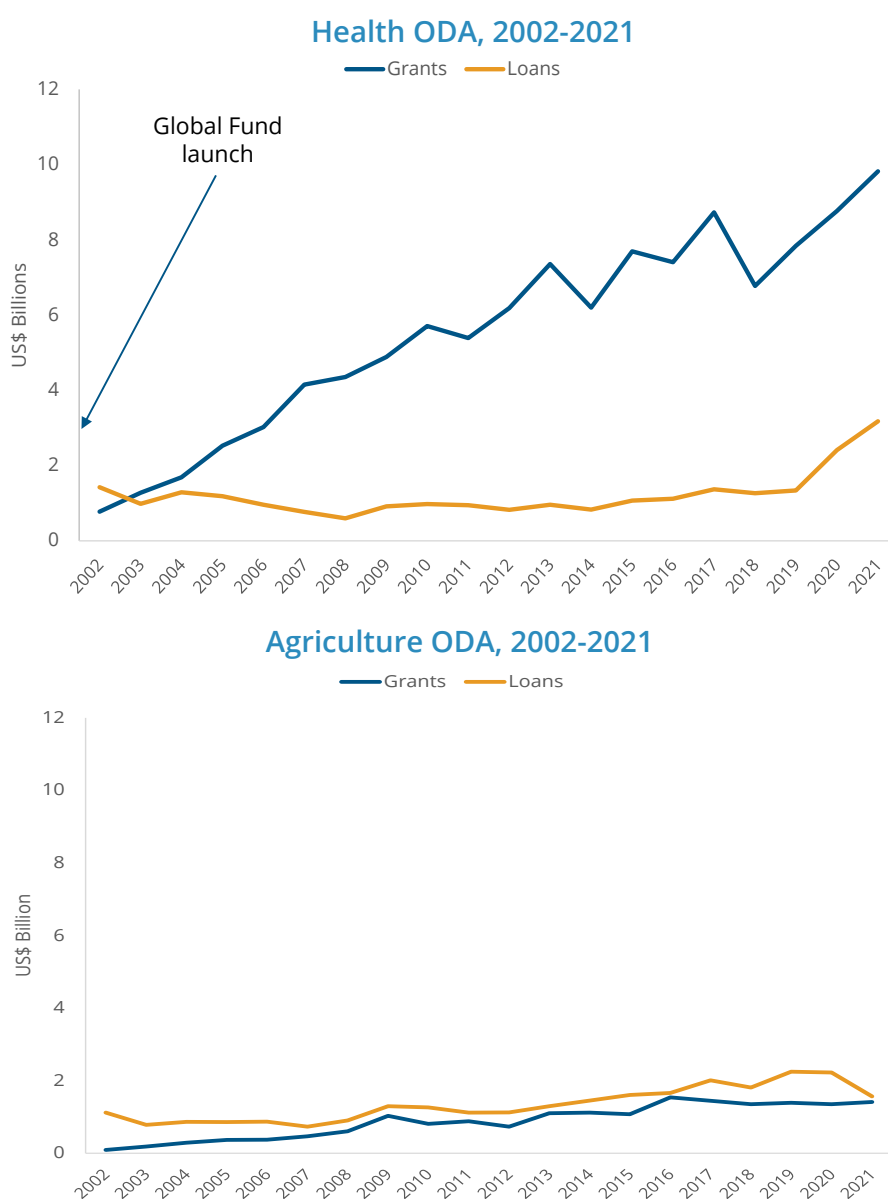
Following the launch of Gavi in 1999 and the Global Fund in 2002, multilateral grant ODA increased more than ten-fold, from less than US\$1 billion in 2002 to US\$9.8 billion in 2021 (Figure 7). In 2022, multilateral grant funding likely increased further due to substantial disbursements made by the Global Fund, Gavi, and other multilaterals in response to the COVID-19 pandemic. Because of these mechanisms, between 84-88% of all multilateral health funding came in grants between 2012 and 2019 ([Annex 3, Figure 1](#)). Due to the pandemic, the share of grants fell slightly as countries requested more loans for health from multilateral development banks than in previous years to respond to the COVID-19 crisis.

Thus, Gavi, the Global Fund and other grant-based health funders provided accessible at-scale funding for governments without governments increasing their debt levels. However, one critique of these new global health financiers is that they led to fragmentation of funding in the health sector because these mechanisms are organized around certain diseases (e.g. HIV, TB, or malaria) or product types (e.g. vaccines).²⁶ In other words, as one of our KIIs pointed out, the downside of these mechanisms includes focusing too much on specific results, and not strengthening the system as a whole.

Multilateral grant funding for agriculture increased between 2002 and 2021, starting from US\$0.1 billion in 2002, and reaching US\$1.4 billion in 2021. While multilateral grant funding for agriculture has increased, it remains at a low compared to the health sector. Multilateral support in the agriculture sector is dominated by loans, with 53%-62% of multilateral aid being given via loans between 2019 and 2021 ([Annex 3, Figure 1](#)).

COVID-19 has triggered an unprecedented increase in debt for LMICs, making it more difficult to borrow for agriculture. LMICs carry a heavy public debt burden that has markedly increased due to COVID-19. On average, LMIC public debt levels as a proportion of GDP rose 11% (from 52.9% to 63.4%) between 2017 and 2021 ([Table 1](#)). Many countries have such high levels of debt that they are in breach of a debt solvency threshold, resulting in concerns about future debt sustainability. These concerns are further aggravated by rising interest rates, leading to harder lending terms. These economic challenges have significant policy implications for how governments fund agriculture and food security: the fiscal space of LMICs to borrow for agriculture is shrinking. Often, countries have limits on public borrowing – even at concessional terms.

Figure 7. Multilateral grant financing in health and agriculture, ODA, 2002-2021



SOURCE: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, ODA. Health (120, 130). Agriculture (DAC 311).

Table 1: Growing debt burden in LMICs

Country income group	General Government Gross Debt as a % of GDP		Increase (% points)
	2017	2021	
LIC	59.5	72.9	13
LMIC	51.5	58.6	7
UMIC*	47.6	58.9	11
Average	52.9	63.4	11

* Upper middle-income country

Source: IMF, World Economic Outlook Dataset

Agriculture is often seen as a “soft” sector that does not generate enough revenue to service loans.

A study by the Overseas Development Institute (ODI), which was based on a survey with 30 LMIC governments, found that investments in rural and agricultural investments often do not generate sufficient returns to cover debt-service repayments.²⁷ Agriculture and rural development were rather considered ‘soft’ sectors. Almost three-quarters of survey respondents (74%) expected that future government demand for grants will increase over the next 5-10 years.

A social, pro-poor agenda with a focus on smallholders requires more grant financing.

A study by the Center for Global Development (CGD) shows that governments seek to ensure that project borrowing can generate an identifiable economic rate of return sufficient to cover the cost of borrowing.²⁸ On softer lending terms (i.e., highly concessional loans), and particularly grant terms, this is less of a constraint and thus enables greater consideration of social investments. Thus, borrowing correlates with investment in ‘hard’ agriculture projects (larger-scale, infrastructure-focused projects; commercial projects), and is not optimal for smallholders and SMEs. Many of our KIIs also highlighted insufficient focus in the global architecture on grant funding for smallholders. According to them, a social, pro-poor agenda requires more grant funding because revenues may be insufficient to service loans and credits, but the current architecture does not sufficiently enable such private sector investments to smallholders. Large-scale support to industry – for example through the International Finance Committee (IFC) – comes with the caveat that industry may not be incentivized enough to invest in projects with social objectives.

“I think, again, there’s missing finance. There is not finance that actually could go and compliment. And I think this would be tricky because then it looks like you’re subsidizing rich companies. But in principle, if Mars wants to take action to improve its value chain and is willing to facilitate inclusion of smaller scale producers but doesn’t know how to do that, I think it would be useful to provide grants to allow that to happen. And that you could in theory have a private sector window of a grant making institution that is actually looking to facilitate private sector engagement for social objectives, either the climate or even nutrition, but mostly, in my mind, at least inclusion.

” — Key Informant Interview

Grants and blended finance are needed to create an enabling environment for private funding. KIIs argued that grant funding needs to be considered as a form of investment to create a foundation for private investments. These interviewees reported an overemphasis on the private sector (“fallacy to a private market approach as there will need to be a heavy subsidy for a while”). From this perspective, grants are needed to enable and unlock commercial finance. In this context, multiple studies and our KIIs

“There is a clear call to the community of practice to start thinking about scaling up blended finance at an entirely different scale [and] compliment the transaction-based models that are being rolled out by development finance institutions... [to] move beyond that and see what more systemic sector-wide programmatic solutions could be promoted to address some of the constraints in the broader enabling environment that shape capital markets and how they interact with the agri-food sector in these low-income countries.” — Key Informant Interview

point to the need for more blended finance, such as matching grants.^{29,30,31} This need is especially acute since credit risk is a barrier to financing agribusinesses, especially for agricultural SMEs, and for creating new markets and value chains around them.³² Finally, several KIIs suggested a focus on middle-income countries for private sector mobilization and more highly concessional finance to countries more in need.

Grant funding can be instrumental in providing medium-term agricultural development support. KIIs noted the significance of grant financing for medium-term interventions, i.e., those interventions that do not have an immediate impact but perhaps after one year. Grant funding could be used to provide fertilizers, contingent cash programs in case of unexpected events (e.g., droughts), and technical support to farmers, which can have key benefits in the longer run. Building digital agriculture, grading systems, and strengthening local weather information are also examples of such support. In this sense, the grant funding could help to bridge the “transition gap”, i.e., to better link humanitarian interventions with longer-term interventions and those interventions that help to strengthen the resilience of systems (see [Section 7](#)). The One Acre Fund, a nonprofit social enterprise working in Eastern and Southern Africa, is an example of how agricultural resources, financing, and technical

training and services can be bundled together and offered to smallholder farmers to create long-term impact. To some extent, WFP uses grant financing to support smallholder farmers via business-skill development and training, along with offering contingent food and cash support to meet immediate needs in times of crisis, which in turn boosts local smallholder production, and positively impacts the financial sector.

Grant funds need a clear purpose, must be strategic, and have performance-based assessments attached to them. Consulted health experts argued that grant funding can be used to catalyze action, support non-governmental actors, and shape actions on the ground. They emphasized that grant funding should have a clear purpose, and it needs to be strategic and results-based.

GAFSP was launched as a multi-stakeholder mechanism to enable large-scale investment in agriculture and food security. However, GAFSP never reached a similar scale as the large global health financing mechanisms such as Gavi and the Global Fund. Other existing agencies rather rely on traditional governance models, with less involvement of private foundations, CSOs, and other private actors.

The Global Fund and Gavi were game-changing mechanisms for the provision of new health technologies and their impact was quite significant. We believe that the agriculture and food security space might be in a similar situation – new technologies exist but current funding vehicles have not been able to deliver to the extent needed. This might include various types of inputs including soil amendments, building digital agriculture, grading systems, or building local weather information.

**“...[need to] make a distinction of what the goals are for grant or debt.”
— Key Informant Interview**

6. Resource Mobilization: Innovative Financing Mechanisms

KEY TAKEAWAYS

- IFMs successfully raised new funds for global health, including vaccine bonds that frontload resources, airline levies collecting funds from travelers, debt swap agreements that cancel debt in exchange for country investments in health programming, pooled procurement risk-sharing facilities, and advance market or purchase commitments.
- Existing examples of IFMs for food security in agriculture are small-scale.

Over the past two decades, global health has seen the introduction of innovative financing mechanisms (IFMs) to mobilize additional resources for Gavi, the Global Fund, and UNITAID. These mechanisms have contributed to the rise in health ODA. There are multiple examples of IFMs in global health:

- **IFFIm:** The International Finance Facility for Immunisation (IFFIm) raises funds with vaccine bonds, which turn long-term contributions by donors into available (“frontloaded”) cash. Launched in 2006, IFFIm was created to support Gavi. It mobilized US\$7.9 billion from 2006 to 2021. In response to the pressing need for resources on a large scale created by the COVID-19 pandemic, IFFIm also became a vehicle through which donors could support the COVAX AMC as well as CEPI.³³
- **Airline solidarity levy:** In 2006, the French government introduced a small mandatory tax, known as the “air ticket levy”—a contribution that passengers make when they purchase their airline ticket (a few other countries also introduced the tax). The tax is a key revenue stream for UNITAID, which has mobilized about US\$2.5 billion through the tax since 2006.³⁴
- **Debt2Health:** The Global Fund’s Debt2Health program converts debt repayments into lifesaving investments in health. Under individually negotiated “debt swap” agreements, an implementing country agrees to invest in programs to fight the three diseases or strengthen health systems through the Global Fund. In return, a creditor country cancels the debt owed by the implementing country. Since the inception of Debt2Health in 2007, ten implementing countries have invested more than US\$226 million in domestic health programs through the Global Fund. In return, three donors have canceled debt in these countries.
- **Risk-sharing facility:** In 2022, the Open Society Foundations, MedAccess, and Gavi announced the creation of a US\$200 million risk-sharing facility that aims to enable the procurement of COVID-19 vaccine doses. Procurement guarantees bridge the gap between international procurers’ funding commitments and disbursement for commodity purchases.
- **Advanced market commitments (AMCs):** AMCs have incentivized vaccine manufacturers to develop a pneumococcal conjugate vaccine tailored to the needs of LMICs and to scale up manufacturing by guaranteeing an initial purchase price and quantity of vaccines for purchase. Advanced purchase commitments are a similar instrument. For example, based on a pre-payment made by Gavi, Merck committed to creating a stockpile of its Ebola vaccine.

These IFMs mobilized additional donor funding, contributed to increased domestic funding through debt reductions, and accelerated R&D and production of needed health tools.

Less successful examples would include the Pandemic Emergency Financing Facility (PEF), which was closed in 2021.³⁵ Shortcomings of PEF included strict bond payout conditions that were slow to be initiated, coupled with targeting the wrong fund recipients, and financial ineffectiveness that did not allow the face value of the bond to be fully utilized during an emergency scenario such as the COVID-19.^{36,37} If we look at UNITAID, most of the funding from the airline levy comes from France and KIIs cited there are political hurdles for other countries to adopt such a tax.³⁸

While studies indicate that innovative financing could play a major role in agriculture and food security, existing examples of IFMs for food security in agriculture are rather small-scale. Multiple studies discuss the role of innovative financing in agriculture and food security, concluding that there is significant potential for such instruments.^{39,40,41} Studies indicate that innovative financing can support regenerative agriculture and climate adaptation, create more favorable market access conditions and reduce the pressure on public financing. Most importantly, IFMs have the potential to catalyze private investment - including funding from financial institutions, private investors, impact investors, foundations, and philanthropists - blended with traditional sources of financing.^{42,43} The high-level Committee to the Leading Group on Innovative Financing for agriculture, food security, and nutrition explores the viability of major IFMs, including taxes (tobacco, sugar, and energy), and retail and voluntary contributions (food security branding, lottery, rounding up bank payment transactions).⁴⁴ Yet other studies point to the role of AMCs and bonds. At this stage, IFMs in food security are more likely to not be created at scale. IFMs in agriculture include:

- **Development Impact Bonds:** e.g., in Peru, Asháninka DIB was the first impact bond launched in Latin America in 2015. It supports coffee and cocoa production and has raised \$110k (minimum)⁴⁵; the Climate-Smart DIB 2018 in Peru was created to increase productivity and quality of cocoa and coffee,

access high-value markets, and preserve forest landscapes (US\$3 million).⁴⁶

- **Green Bonds:** Although the thematic bond market has grown significantly, green bond sovereign markets remain fairly “shallow” as sovereign green bonds only make up 0.2% of all government debt securities in the OECD region and 12% in emerging and developing economies⁴⁷; emerging markets represent a small fraction of the total thematic bond market.⁴⁸
- **Other instruments:** sustainability-linked debt; value chain financing; nature-linked insurance, and pay-for-results prize competitions (combining financing with market commitments to the private sector). Examples:
 - Better Cotton Growth and Innovation Fund (US\$10 million);
 - Seychelles Debt Swap (US\$22 million);
 - ACRE Agriculture Parametric Insurance to protect smallholder farmers in case of extreme weather events (US\$181 million, 2014-2020);
 - AgResults (\$152 million).

As such, our findings indicate that there is potential to develop and use IFMs for agriculture and food security.

Resource Mobilization – Beyond IFMs

Multilateral Development Banks (MDBs) were mentioned by KIIs as the “next step” to focus on before private sector mobilization for middle income countries. KIIs felt MDBs could be taking on more risk with their investments, as backed by an independent review panel convened by the G20 of the capital adequacy framework review.⁴⁹ [Section 9](#) on global functions will discuss this more in detail, but KIIs also mentioned a need for MDBs to view activities as “investments” rather than development projects. KIIs also emphasized that they could play a stronger role in moving more initiatives to scale (although ultimately some noted this will be the role of national governments).

KIIs suggested more synergies between agriculture and health, and agriculture and climate financing. KIIs acknowledged that in addition to taking a food systems approach to thinking about our projects and funding, we ultimately should be rebranding “agriculture” as “food”, to change mindsets and attract new synergies with the public health space. Some investments in agriculture could reduce healthcare costs via improved nutrition. “Nutrition-focused value chain” development was suggested as a means for bridging this gap. Climate finance was repeatedly mentioned as a major new source of funding for agriculture, but KIIs noted that smallholders were having trouble accessing these new funds. An example of these financing synergies can be found in the initiative launched by the Government of Egypt in November 2022 on the “Nexus of Food Water and Energy”, which has called on development partners to channel projects through the program to create more sector linkages for investments. Nine projects with a total cost of US\$14.7 billion will be led by: the African Development Bank (AfDB) for the Water pillar, IFAD for Food and Agriculture, and the European Bank for Reconstruction and Development (EBRD) for Energy.⁵⁰

Pension funds were also mentioned as helpful for longer-term investments, although not for immediate needs on the ground. Finally, a last innovation noted by KIIs was for development agencies to proactively reach out to fund managers/social impact spaces for financing partnerships, as opposed to waiting to be approached by them.

Repurposing subsidies. The FAO, United Nations Development Programme, and UN Environment Programme published a report in 2021 on the “billion-dollar opportunity” for repurposing national government subsidies for agricultural producers (USD 540 billion/year, 15% of total agricultural production value), although this is for higher-income countries. The report noted bias towards supports that were distorting, unequal, and deleterious to environmental and human health, and proposed repurposing towards other investments such as public goods and services for agriculture.⁵¹ This was supported strongly by KII interviews and was also one of the five imperatives recommended by the UN Food Systems Summit’s Finance Lever.⁵²

“...that’s where we get to scale. Because the level of funding that can be brought to bear by the [multilateral development] banks is so much bigger than ODA. It is huge.” — Key Informant Interview

“Requirements for funding are large, so bringing grants together with lending by MDBs (loans) is an area where more collaboration is needed. Climate financial intermediary funds do more intentional co-financing with MDBs, so more like the Global Financing Facility but across the MDBs system (like the Pandemic Fund model is supposed to be). This is an area where there could be more evolution (e.g. partnerships with governments financed by AfDB or the World Bank).” — Key Informant Interview

7. Crisis Coordination

KEY TAKEAWAYS

- Studies point to the need for stronger and more efficient coordination between the Rome-Based agencies.
- There is a need to strengthen the nexus between humanitarian aid for food security and longer-term agriculture investments.
- In the health sector, new coordination models emerged and regional organizations took on larger roles during the COVID-19 pandemic that may be relevant to agriculture.

In global health, the COVID-19 pandemic drove the creation of the ACT-Accelerator (ACT-A), which facilitated an unprecedented level of coordination between global health agencies. According to KIIIs, there had not been anything quite like this before. The model had four main pillars, one for treatment, one for diagnostics, one for vaccines, and one for health system strengthening (see [Annex 5](#)). It had an inclusive structure with a “Principals Group” made of representation from the pillars, donors, UN agencies, industry associations, civil society, and country representation. As highlighted by the ACT-A independent evaluation, ACT-A enabled light-touch coordination between multilateral health funders, technical/normative agencies, and – to some extent – bilateral funders.⁵³

ACT-A’s coordinated resource mobilization was also effective, mobilizing US\$24 billion by October 2022. While donors still made pledges to the individual agencies, the fundraising was coordinated and based on joint branding, investment cases, costing exercises, fundraising events, and a “fair-share” model to determine the fair level of contributions. “Fair shares” were calculated “based on the size of countries’ national economy and what they would gain from a faster recovery of the global economy and trade.”⁵⁴ A survey conducted as part of the independent evaluation showed that 74% of surveyed stakeholders found the joint resource mobilization model preferable compared to uncoordinated fundraising efforts.

Additional improvements on the model suggested by the independent evaluation included: the development of a joint R&D platform for knowledge exchange and tech transfer,

including priority setting for the R&D pipeline; stronger LMIC involvement and accountability; a mechanism with access to a credit line to ensure funding on day one of next pandemic; a high-level political panel to track progress/remove political barriers, and the use of a specialized delivery mechanism in future pandemics (discussed below).⁵⁵

The COVID-19 Vaccine Delivery Partnership (CoVDP) effectively contributed to vaccine delivery and may be a promising model for food security that involves coordinated efforts by multiple agencies. The initial thrust of the ACT-A effort was focused on vaccine supply development. By 2022, supply was no longer the issue and that led to a new vaccine delivery partnership that focused on delivery, CoVDP.

CoVDP was formed in January 2022 as a joint initiative by UNICEF, WHO, and Gavi to focus efforts on 34 countries that still had less than 10% COVID-19 vaccination coverage. CoVDP focuses on supporting countries to reach their national objectives with a focus on high-priority groups, on the way to global targets. It brings partners together around the principle of “one team, one plan, and one budget” to align support to governments and to ensure country ownership. CoVDP supports political advocacy and engagement, leverages funding from its core partners through an accelerated process, and lines up technical assistance.

The interagency initiative played a key role in catalyzing support and increasing vaccine coverage in 23 of the 34 countries in a short period of time (between January and October 2022). Such a coordinated and focused model

might also be useful to support food security efforts in the countries with the highest demand for support.

Studies indicate that the three RBAs play critical and complementary roles in food and agriculture, but that limited governance and coordination are inhibiting their capacity to contribute to achieving SDG2. Multiple studies and evaluations found that better coordination between the RBAs is required despite the existence of a collaboration framework.^{56,57,58,59}

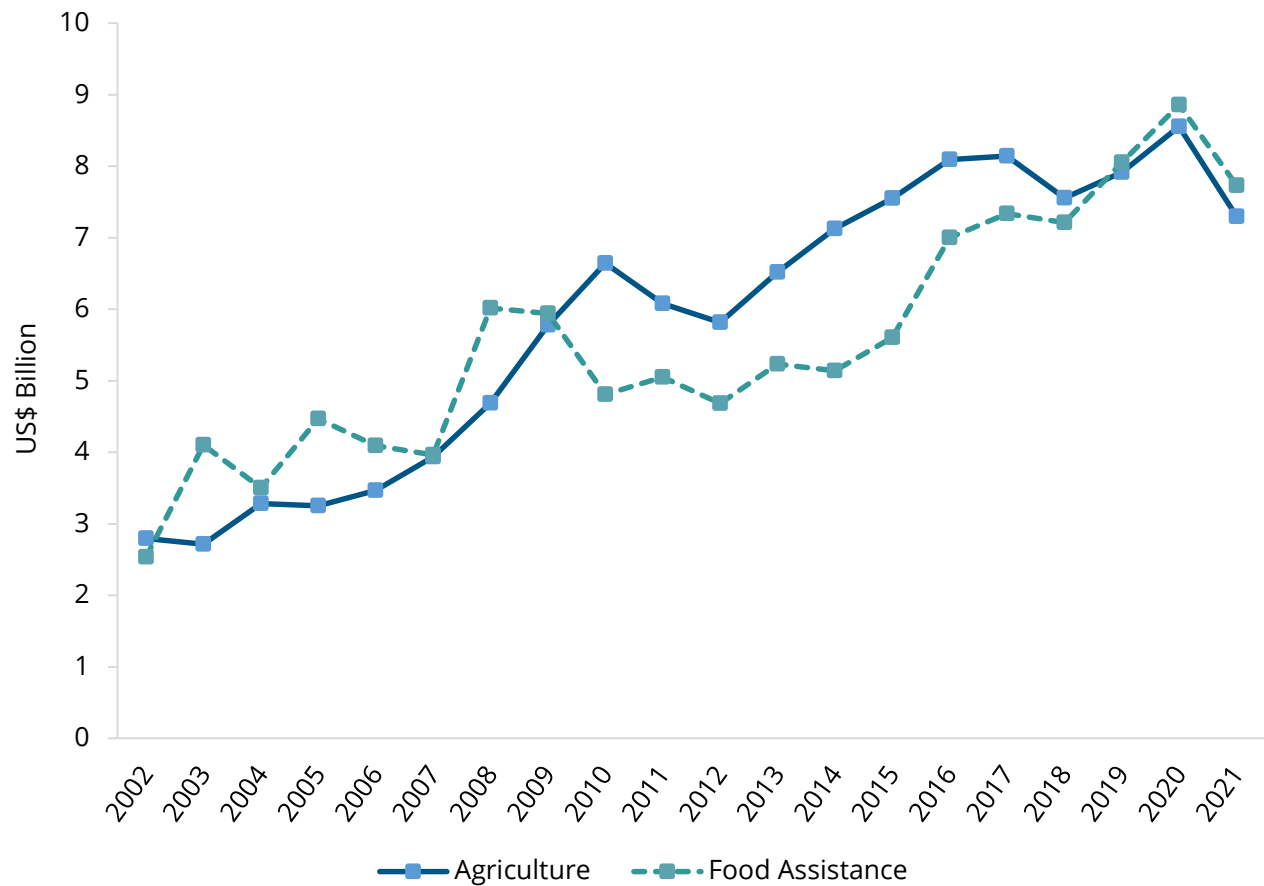
Promising developments include: the G20 launch of the Global Alliance for Food Security (GAFS), the United Nations launch of a Food Systems Coordination Hub⁶⁰, and the Good Food Finance Network’s⁶¹ creation to build on outcomes of the Finance Lever of the UN Food Systems Summit.

Coordination between bilateral funders remains low. The financial ecosystem for agriculture is highly fragmented due to many small aid activities, especially by bilateral donors.⁶² The existing

“What I would like to see is more I joint programming or funding... So let’s say you have a certain project with different components and then one donor funds component one and two, another donor components three and four and so on and so forth, really to show the like-mindedness also in practice.” — Key Informant Interview

coordination framework by bilateral donors should be better used to coordinate funding. Many KIIs mentioned the need for more bilaterals to channel funding into multilaterals, or to at least explore more joint programming. Finally, there was an emphasis on the division of labor staying clear – some funding instruments should focus on acute need and some should continue their focus on building long-term resilience.

Figure 8: ODA for food emergencies and agriculture



Source: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, ODA. Agriculture (311). Food Assistance (52010 and 72040).

The nexus between humanitarian aid and longer-term agriculture investments needs to receive more attention from donors and multilateral agencies alike. ODA for emergency food assistance is about as high as for longer-term agricultural development (Figure 8). KIIs indicated that longer-term investments need to be much better coordinated with responses to the short-term crisis by multilateral agencies and bilaterals working on both sides of the continuum.

The chief critique we heard repeated in interviews for the nexus was: entirely separate agencies deal with humanitarian aid and then with development activities. A “transition gap” exists between the humanitarian agencies leaving the field and development agencies entering, for development and resilience-building purposes. This also means there are both short-term and long-term investments in the field, but a missing middle-term set of activities that should be further explored, especially via a grants-based mechanism.

Finally, KIIs suggested funds earmarked for quick responses to crises could potentially be allowed to have more flexible usage for prevention of future emergencies (e.g. investing in soil health) depending on the region or need.

In both health and agriculture, coordination demands are increasing due to the increasingly important role played by regional organizations. The COVID-19 pandemic has led to stronger regionalization, for example through regional procurement mechanisms. Regional organizations played a key role in the pandemic, for example through newly founded institutions in Africa (e.g., the African Vaccine Acquisition Trust) and MDBs, such as the African Development Bank (AfDB) and the Asian Development Bank (ADB). For example, ADB’s Asia Pacific Vaccine Access Facility delivered 426.9 million vaccine doses by February 2022. It also committed funding of US\$4.1 billion, with a cumulative vaccine delivery target of over 1 billion doses. There is a similar trend in food security and agriculture. KIIs highlighted that the role of regional organizations in agriculture is becoming increasingly important, also because these organizations are closer to country needs. Going forward, there should be

greater emphasis on in-country and regional coordination of funding, or even localized based on agroecological zones with the highest productivity impact. Development agencies also need to increase efforts for internal coordination to avoid duplication, in addition to inter-agency coordination within the same government.

“We need flexible funding instruments to get the funding flowing when a country is in need (World Bank, FAO, World Food Programme) to help countries prepare crisis response plans. These platforms, funding mechanisms, institutional coordination should be ready to go. Other entities like GAFSP will help prepare resiliency for the next crisis (although they can provide some flexibility or funding as well due to the nature of a crisis – like emergency loans).” — Key Informant Interview

“You’re not going to solve this type of crisis with organizations that have the breadth but not the depth. And that depth comes from your regional organizations.” — Key Informant Interview

“[Blank development agency] currently has four projects focused on coffee financing. And they literally never realized they had four projects and these are their own projects. So an interagency coordination needs to happen and then a lot of it is shared results.” — Key Informant Interview

8. Global Functions

KEY TAKEAWAYS

- The global health sector has seen significant investments in global functions, such as data and R&D. These investments were critical to increase donor trust in the sector and for scaling up access to new health tools.
- The agriculture and food security sectors have devoted less attention to these global functions.

The global health sector has seen significant investments in “global functions”. These are functions “characterized by their ability to address transnational issues”. Global functions can be further categorized into three areas: (i) provision of global public goods; (ii) management of negative regional and global cross-border externalities; and (iii) fostering of global health leadership and stewardship management of negative regional and global cross-border externalities. See [Table 2](#) for examples of global functions in public health.

Investing in these functions came with multiple benefits.

Strong investments in data and metrics contributed to the mobilization of funding, increased donor trust, an ‘investment approach’ paradigm shift, and improved service delivery. First, substantial evidence on country progress was collected and publicly shared, contributing to transparency and accountability. Population, policy, and implementation research increased, including through university providers. Second, investment cases were developed to quantify the benefits of investments. For example, the first Global Fund investment case was released right after the 2008 financial crisis in support of the 2009

Table 2. Categories of global functions in public health⁸⁹

Provision of global public goods	Research and development for health tools
	Development and harmonization of international health regulations
	Knowledge/data generation and sharing
	Intellectual property sharing
	Market-shaping activities (e.g. pooled procurement of vaccines, which drives down prices)
Management of negative cross-border externalities	Pandemic/outbreak preparedness and response
	Responses to antimicrobial resistance
	Responses to marketing of unhealthful products
	Control of cross-border disease movement
Fostering of global health leadership and stewardship	Health advocacy and priority setting, convening policy makers for negotiation consensus building
	Promotion of aid effectiveness and accountability

replenishment meeting (funding target of US\$12 billion). The investment case demonstrated and quantified the public health and economic benefits resulting from investments in the Global Fund. This ‘investment approach’ has been replicated in many other health areas and sectors and was a paradigm shift (“not just funding activities, but rather it’s an investment that has health and economic returns”).^{63,64}

Substantial investments in data collection and analysis (e.g., policy and implementation research) also helped to make interventions more evidence-based and service delivery more efficient.

The development of new health tools was a critical factor in the progress achieved in global health over the past decades. The health sector has also seen the development of new health tools for poverty-related and neglected diseases (PRNDs), including new vaccines, drugs, and diagnostics. Annual funding for PRND R&D amounts to more than US\$4 billion annually.⁶⁵ Major funding institutions helped to drive down prices for new tools to make them accessible to LMICs.

Institutional vehicles for neglected disease R&D also include product development partnerships such as the Medicines for Malaria Venture and the Drugs for Neglected Diseases initiative, which provided forums for collaboration and ultimately funding.

“There’s climate finance out there and we can’t get it into the hands of farmers and we can’t get innovations in the hands of farmers. And I think that is part of the fundamental problem. So there’s innovations out there, and this is the same issue that we had in health in 20 years ago. We couldn’t get vaccines in arms, we couldn’t get HIV AIDS drugs. And we have the same issue with innovations that are available from the CGIAR and others that we do not have the institutional mechanism to get them out there.” — Key Informant Interview

There are also ongoing efforts to develop a pandemic treaty and a high-level political council. Another example of a key global function is the ongoing pandemic treaty negotiations, which include discussions about access agreements to make new technologies more rapidly available in LMICs.⁶⁶ Discussion is ongoing on the creation of a high-level political council (“Global Health Threats Council”).⁶⁷ One KII mentioned numerous treaties in Africa dictating the sharing of genetic resources of plants, and cautioned that conflicting treaties can get in the ways of intellectual property sharing for agriculture.

“For R&D, it’s hard to move from the analysis and ideas stage to actually getting it into the field.” — Key Informant Interview

Recent studies and consulted KIIs highlight the need for more investments in data and research. Recent studies indicate the need to invest more strongly in data, research, and the development and transfer of new technologies. The HLPE and the Global Donor Platform for Rural Development recommend investing in data and evidence collection, and wide distribution (including South-South learning). The HLPE also identifies the need to harmonize data collection standards globally. Multiple studies also suggest larger investments in research to identify policy-relevant food system solutions (including for small-scale producers), to increase the efficiency of value chains, and to develop climate-resilient and low-carbon food production systems, etc. Shifts in national policies will be needed to drive a transformation of food systems.^{68,69}

The need for more data collection was strongly emphasized in KIIs, especially for understanding what is being spent on agricultural development activities, understanding the effectiveness of investments and leveraging activities, and creating more investor-friendly environments. The GAFS is making initial steps to create a hub for the collection of more updated data on the severity of food crises, other relevant data on interventions, and to track financing.⁷⁰

Arbiters and harmonizers of data such as the FAO need far increased funding to be able

“Everybody wants the data. Nobody wants to pay for the very unsexy business of data. Everybody’s saying, ‘Hey, have you got any data on this?’ ‘Well, no, but if you’d like to fund us, we’d be happy to...’ ‘Nah, no, we just want it for free.’ This is the constant thing. Or ‘We can fund it. Can we have it next Thursday?’ No, it takes time. We need to build up data sets. We need to negotiate it. And besides, to have any meaningful results, it’s going to take you a couple of years just to see some trends.” — Key Informant Interview

“...data that is currently with MDBs and DFIs in regard to their lending to this sector, they keep to themselves. So I think a very low-hanging fruit, which is also very much on the public domain, is basically push a proposal and ask for this data to be shared more widely so that all actors, including also private sector investors, have a better understanding as to what is the track record over many years and many different countries in this area, in the agricultural sector, when it comes to lending products or, more broadly a kind of blended finance product.” — Key Informant Interview

“...the private sector will always only invest in research if there is a market.” — Key Informant Interview

“...the little funding that is going on for global ag research for development, maybe a third is duplicative.” — Key Informant Interview

“Very little budgets in many countries are devoted to the same public good type of research. So if you connect that into a regional fund, sub-regional fund, you have to have plenty countries to do that.” — Key Informant Interview

to continue to help countries improve their own primary data collection, de-risk investments through the provision of data, and inform global markets to avoid trade restrictive policies in crisis situations (such as closing borders to trade to protect internal supplies of goods). Data for forecasting future shocks was also emphasized. And finally, digitalization must be rapidly scaled and leveraged to aid in transparency efforts around financial flows, sustainable supply chains, and information flow to benefit producers on the ground.

ODA for agricultural R&D remains low. While some donors invest in agriculture R&D (e.g., the UK pledged £133 million for research and development), there is a need for more coordinated investments in R&D. The extreme underfunding of R&D for agriculture was a strong theme in interviews, as it was noted the private sector will only invest if there is a market. More regional approaches could be helpful for leveraging the small amount of R&D funding. Increased uptake of technology, avoidance of duplication, expansion of SMEs and the role of universities and ensuring developing countries play a stronger role in R&D were highlighted by KIIs.

9. Lessons Learned and Recommendations

In this paper, we have assessed to what extent experiences from global health can be translated to food security and agriculture. [Table 3](#) summarizes the lessons learned and results.

Based on our assessment, we make the following recommendations:

1. Increase multilateral grant-based funding to support smallholders and agri-SMEs. A social, pro-poor agenda with a focus on smallholders requires more grant financing. Further, grants and blended finance are needed to create an enabling environment for private funding.
2. Provide additional finance for medium-term agricultural development/the transition phase between humanitarian and longer-term investments. Address the “transition gap” between one agency leaving the field and one entering where there is a deleterious gap between activity and investment.
3. The agriculture and food security sectors should build on the added value of innovative financing mechanisms as introduced by the health sector. IFMs have substantially contributed to the mobilization of additional funding for health. AMCs were noted by KII as particularly promising.
4. For middle income or wealthier countries, additional resource mobilization is possible from multilateral development banks (MDBs) and repurposing government subsidies.
5. The possibility of joint fundraising strategies in response to the global food crisis should be explored by the food and agriculture sectors. Joint fundraising was successfully applied in the global response to COVID-19.
6. To improve coordination at a country level and to provide multi-agency support to countries and populations in greatest need, consider a CoVDP-type model, which has effectively helped to increase access to COVID-19 vaccines within a short period of time.
7. Improve coordination between global and regional organizations, and encourage regional organizations to play a larger role, including for in-country coordination.
8. Increase investments in global functions, such as data generation and distribution, harmonization of standards, better policies, R&D, and technology transfer – including treaties for intellectual property.
9. Transition to an “investment approach” paradigm as opposed to viewing projects as “development”.

Table 3: Lessons Learned

Lessons learned from health	Potential for use in agriculture and food security	Additional lessons from KIIs
FUNDING MECHANISMS - FOCUS ON GRANTS		
New grant-based mechanisms ("proto-institutions") raised the profile of health, provided substantial resources to LMIC governments and private implementers without increasing debt.	Additional multilateral grant funding appears to be critical for smallholders and agri-SMEs (who are often not strong candidates for financing), for de-risking private sector investment; the fiscal situation of countries makes lending more difficult; grant funding for the medium-term development/ transition phase between humanitarian and longer-term investments; need more performance-based assessment of these investments and to clarify the goals for grants vs debt.	Blended finance as a potential tool for leveraging further resources.
RESOURCE MOBILIZATION - FOCUS ON IFMS		
Additional funds were raised from non-traditional sources such as IFMs; investment in data and evidence and a results-based focus helped with fundraising.	<p>IFMs examples exist but are often small-scale or in the pilot phase; large-scale use suggested by experts.</p> <p>Examples: development bonds, green bonds, sustainability-linked debt; value chain financing; nature-linked insurance.</p>	<p>DFIs as the "next step" to focus on before private sector mobilization, taking on more risk (for more middle-income contexts).</p> <p>MDBs should be moving more initiatives to scale.</p> <p>More synergies in financing between agriculture and health, and agriculture and climate financing.</p> <p>Potential for pension funds (for longer-term investments).</p> <p>Need for development agencies to proactively seek financing partnerships.</p> <p>Regional development banks and even domestic lenders could play a larger role.</p>

Lessons learned from health	Potential for use in agriculture and food security	Additional lessons from KIIs
COORDINATION - FOCUS CRISIS COORDINATION		
A coordinated response to the COVID-19 pandemic through ACT-A, with a joint resource mobilization campaign and multi-agency delivery at the country from 2002 onwards.	The pandemic response may offer learnings in terms of joint resource mobilization, and mechanisms to coordinate delivery in the neediest countries (e.g. joint investment cases, costing exercises, fundraising events, and a fair-share model to determine the fair level of donor contributions).	Regional and in-country coordination of funding efforts heavily emphasized. Regional banks can play a stronger role in this.
GLOBAL FUNCTIONS - FOCUS ON DATA R&D		
Substantial investments in data, research, and product development. Recent initiatives to create pandemic treaty and a high-level forum for political oversight.	Further investments in data generation and distribution (especially domestic data collection), R&D, harmonization of standards, technology transfer.	Data on what investments are being made (MDBs, DFIs, private funds could share their data more widely on blended finance track records), their effectiveness, and for assessing risk.

Annex 1. Classification Scheme for Innovative Financing Mechanisms for Global Health

Novel funding mechanisms

- Directing private investment, catalysing private investments in health
- Consumer-based funding, tapping into voluntary contributions from consumers
- Front-loading funds, leveraging long-term pledges of assistance to generate funding in the short-term
- Re-directing credits or debts, leveraging credits and debits for financing
- New taxes or levies, new funds generated by applying taxes to select transactions

Mechanisms to stimulate innovation, research & development (R&D)

- “Push” mechanisms, financing or other incentives provided to innovators up front, which reduce risks or costs of R&D
- “Pull” mechanisms, financial rewards or other incentives provided to innovators for progress or completion of research, development, or scale-up of production, which enhanced market opportunities

Mechanisms incentivizing performance/results

- Supply side, meant to incentivize governments and health care providers
- Demand side, meant to incentivize patients/clients of health care system

Annex 2: Multilateral and bilateral responses to the ongoing food crisis⁷¹

Multilateral Organization	Response
World Food Programme (WFP) ^{72,73}	<ul style="list-style-type: none"> • WFP has not created any new mechanisms/channels in response to the crisis. It is using and increasing existing mechanisms. • Prioritizing emergency action to prevent millions from dying of hunger and to help build and stabilize national food systems and related supply chains. Increase in cash-based assistance between January and May 2022. Over that period of time, WFP has transferred US\$997 million (increase of 14.5% compared to the same period in 2021).⁷⁴ • Scaling up its direct food and nutrition assistance. In the first quarter of 2022, WFP reached 83 million people (55% of its total annual beneficiary target). • Implementing measures to diversify pool of suppliers and promote local food procurement, negotiating humanitarian access and export waivers. • Programmatic priorities include:⁷⁵ <ul style="list-style-type: none"> • Direct food and nutrition assistance to prevent increased mortality. • Technical assistance and services to support governments to manage and mitigate the impacts of the Global Food Crisis. • Enabling the continued functioning of food systems to mitigate wider impacts on food availability. • WFP has widened its engagements with IFIs including the World Bank, IMF and WTO to diversify its funding. During the pandemic, WFP has partnered with the World Bank, IMF and IDB to help governments put government-to-person (G2P) in place.

Multilateral Organization	Response
IFAD ⁷⁶	<ul style="list-style-type: none"> • Launched its Crisis Response Initiative (CRI) in May 2022 in response to the shocks from the war in Ukraine. It aims to ensure small-scale farmers in high-risk countries can produce food over the next few months and reduce the threat to future harvests. IFAD will: <ul style="list-style-type: none"> • Re-double its focus on longer-term resilience programs through the Programme of Loans and Grants (PoLG) and supplementary funds. • Work with partners (including other Rome-based agencies) to support government policy responses to deal with the crisis in rural areas while building more sustainable food systems. • Deliver on initiatives currently designed by the international community that respond to the specific needs of countries and rural populations hit hardest by the spike in food and fuel prices. • Seek support to scale up the Facility for Refugees, Migrants, Forced Displacement and Rural Stability (FARMS) for countries neighboring Ukraine where there are IFAD-financed projects. • Explore opportunities to scale up support through specialized initiatives such as the Financing Facility for Remittances (FFR) and the Platform for Agricultural Risk Management (PARM). • Repurpose investments through ongoing projects where resources allow immediate needs to be addressed. • Rural Poor Stimulus Facility⁷⁷ was established in April 2020 in response to the COVID-19 crisis. It is a short-term strategy to improve the food security and resilience of poor rural people by supporting production, market access and employment. In 2020, \$36.6 million was approved for 53 projects, which were expected to reach around 1.6 million beneficiaries. <p>It is a multi-donor fund. IFAD committed \$40 million at its launch; it then raised over \$50 million through contributions from Canada, Germany, the Netherlands, Sweden and Switzerland.⁷⁸</p>
FAO ⁷⁹	<ul style="list-style-type: none"> • Food Important Financing Facility (FIFF; proposed in 2022) created to respond to increases in food import costs and address needs of most vulnerable. Available for countries that need support to mitigate the long-last impacts on their agrifood systems. <ul style="list-style-type: none"> • A background paper is available and estimated an overall cost of \$25 billion to over 62 of the most exposed countries and reach 1.78 billion people.

Multilateral Organization	Response
World Bank ^{80,81}	<ul style="list-style-type: none"> • With the G7 Presidency, established the GAFS in May 2022 to “catalyze an immediate and concerted response to the unfolding global hunger crisis.” Partners of this alliance includes the AU, UN Global Crisis Response Group, WFP, FAO, IFAD and IFPRI. • In commitment to the GAFS, G7 leaders committed in June 2022 an additional \$4.5 billion, bringing total commitment to global food security in 2022 to \$14 billion.⁸² No details provided on where remaining funding would come from. • Developed a comprehensive, global response with a series of planned actions to the ongoing food security crisis by making up to \$30billion available over a 15 months period in areas including agriculture, nutrition, social protection, water and irrigation. Relevant actions in that response include: <ul style="list-style-type: none"> • \$315 million loan to support Chad, Ghana, and Sierra Leone to increase their preparedness against food insecurity and improve the resilience of their food systems (July 2022). • \$2.3 billion Food Systems Resilience Program for Eastern and Southern Africa (June 2022). Aims to improve inter-agency food crisis response strategies and will include a Contingent Emergency Response Component to facilitate rapid availability of funds.
GAFSP ⁸³	<ul style="list-style-type: none"> • GASFP was set up as an instrument for long-term development and resilience and largely plans to stay that way (according to interviews). GAFSP did retool its call for proposals to shorten the time between allocation and disbursement for country-led projects (from 12-18 months, to 6-9 months). • According to interviews, the call was also designed to provide co-financing and additional financing to existing projects where countries were working with GAFSP’s supervising entities, and to provide GASFP financing to scale up or to expand to most impacted areas they had not been able to reach.
IMF ⁸⁴	<ul style="list-style-type: none"> • Establishment of a new temporary Food Shock Window, approved by the Executive Board in September 2022, under the Rapid Financing Instrument (RFI) and Rapid Credit Facility (RCF) currently under consideration.^{85,86} This will be open for a period of 12 months. The financing terms are the same as for other emergency financing. • To assist its member countries during the current food shock, the Fund is increasing its existing Upper Credit Tranche (UCT) quality arrangements and approving new ones .

Ukraine Food Crisis Response by Key Bilateral Donors⁸⁷

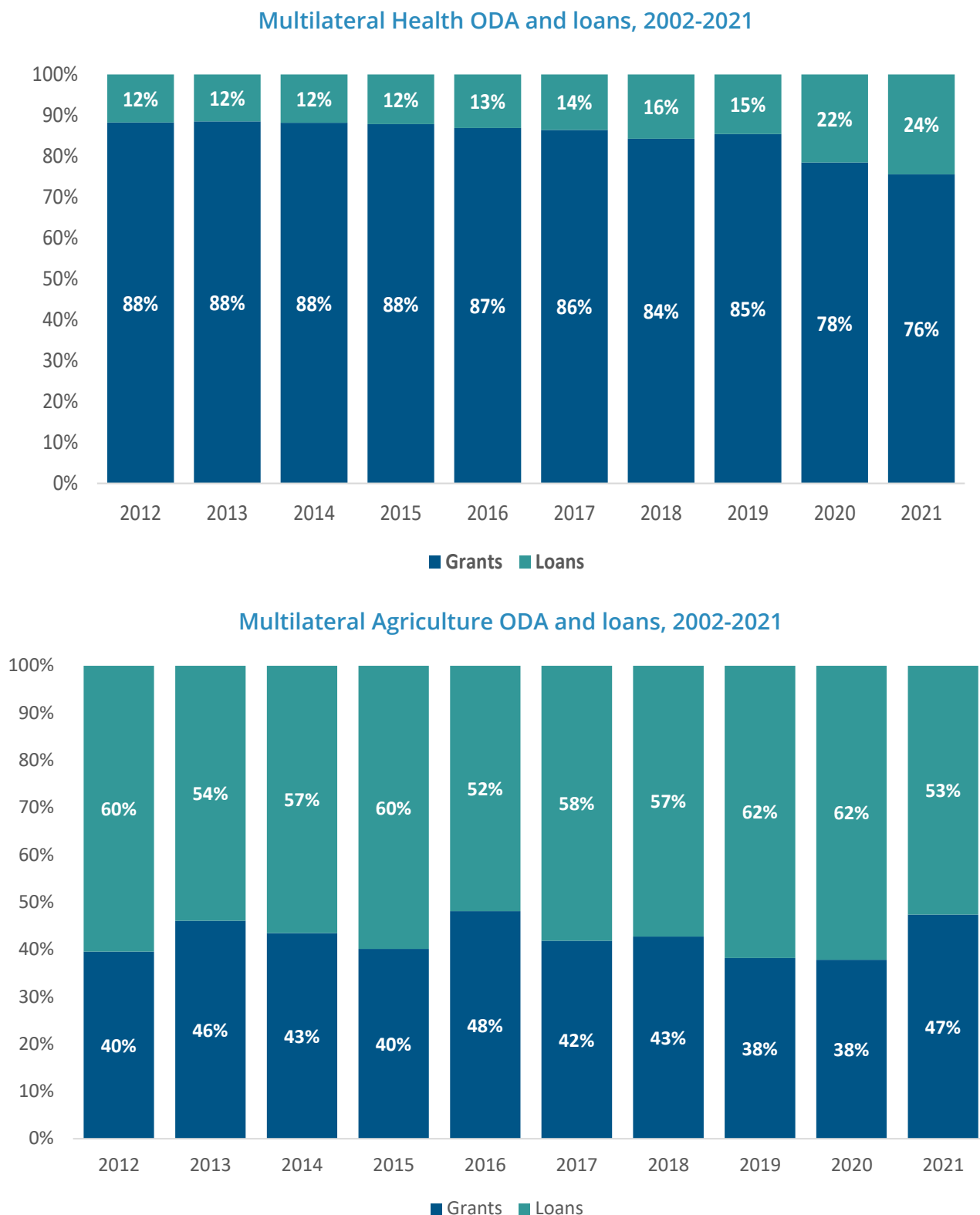
Country	Total bilateral commitments*	Total bilateral commitments (% GDP)	Humanitarian commitments (€ billion)	Humanitarian share of total	Humanitarian (% GDP)	Food System examples
Canada	4.01	0.25%	0.34	9%	0.022%	Canada has been aggressive with direct support to Ukraine, although less known about direct food system support
France	1.67	0.06%	0.31	19%	0.012%	France presented the FARM initiative to EU in March 2022 with three pillars: 1) trade to ease tensions on the agricultural markets; 2) solidarity to prepare for first effects of the war in Ukraine; and 3) to develop production in the worst affected countries
Germany	6.15	0.16%	2.49	41%	0.068%	GAFS has been centerpiece of country's responses GAFS is coordination mechanism that aims to facilitate discussions around short-term and medium/long-term considerations (not trying to replicate other institutions) The BMZ had also pledged £880 million to fight the global food security implications of Russia's invasion of Ukraine
Japan	1.05	0.02%	0.47	45%	0.009%	Japan committed more \$200 million to fighting global food insecurity in the wake of Russia's invasion through two primary channels: 1) Food assistance and capacity building for countries facing food shortages; and 2) Emergency food assistance to promote grain exports from Ukraine
UK	8.30	0.31%	0.40	5%	0.015%	UK committed £372 million to support emergency food aid, malnutrition programs and scientific advances in agriculture

USA	73.17	0.36%	3.72	5%	0.018%	<p>At least US\$1.5 billion can be directly tied to food system support</p> <p>USAID’s signature food insecurity program—Feed the Future—has expanded its global scope</p>
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Source: Based on Trebesch et al., 2023. * = € billion as of January 2023.

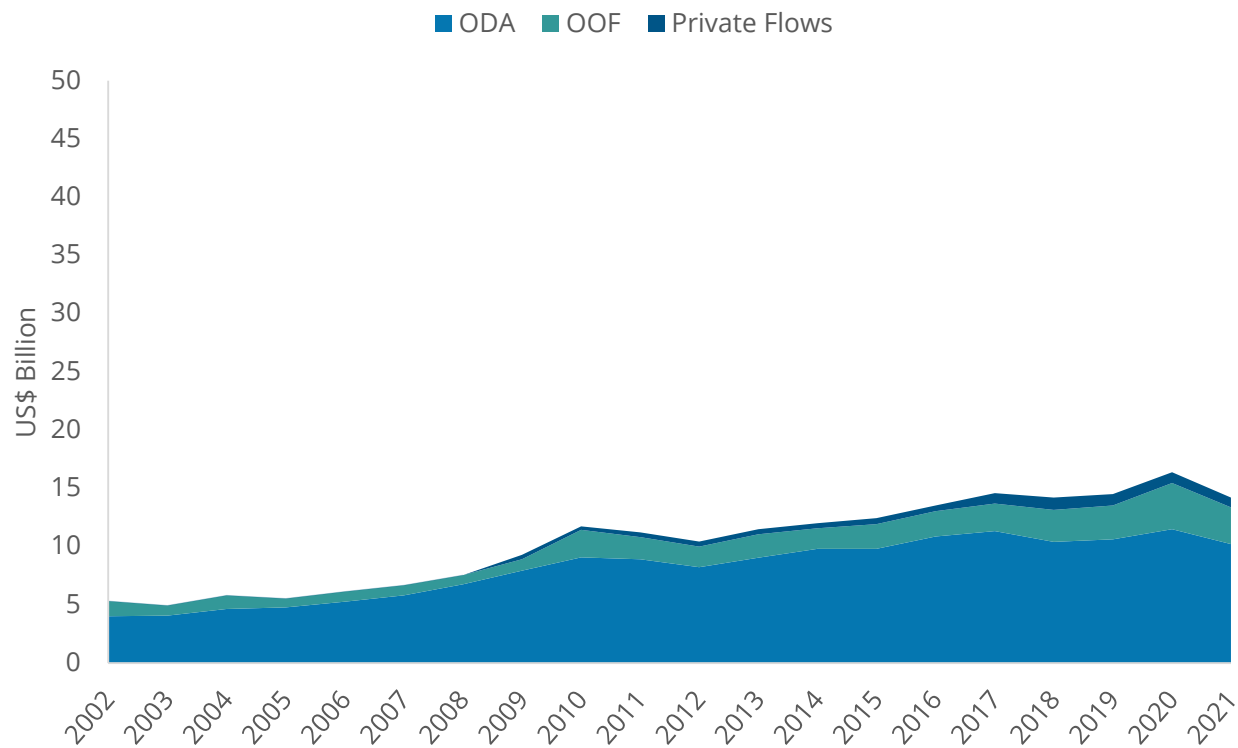
Annex 3: Additional financial analysis

Annex Figure 1. Multilateral ODA grants and loans in health and agriculture, 2012-2021



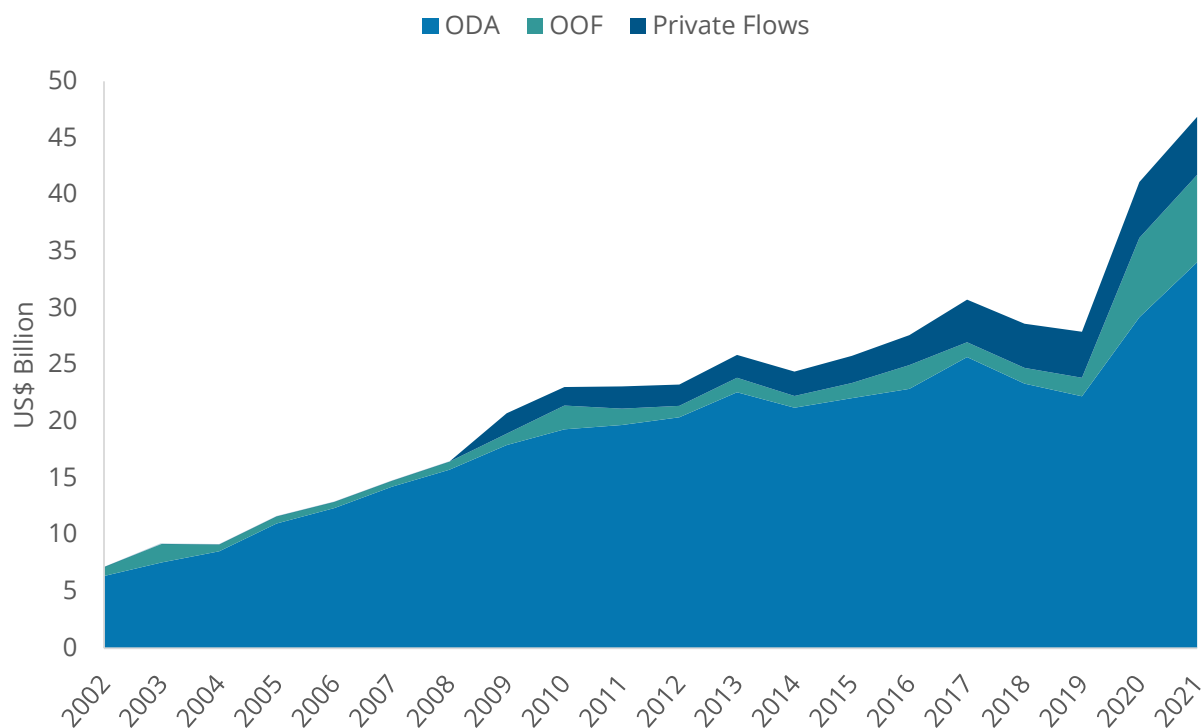
Source: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, ODA. Health (120, 130). Agriculture (311).

Annex Figure 2 Agriculture, Forestry, Fishing, Rural Development ODA, OOF, Private Flows (DAC Definition of agriculture)



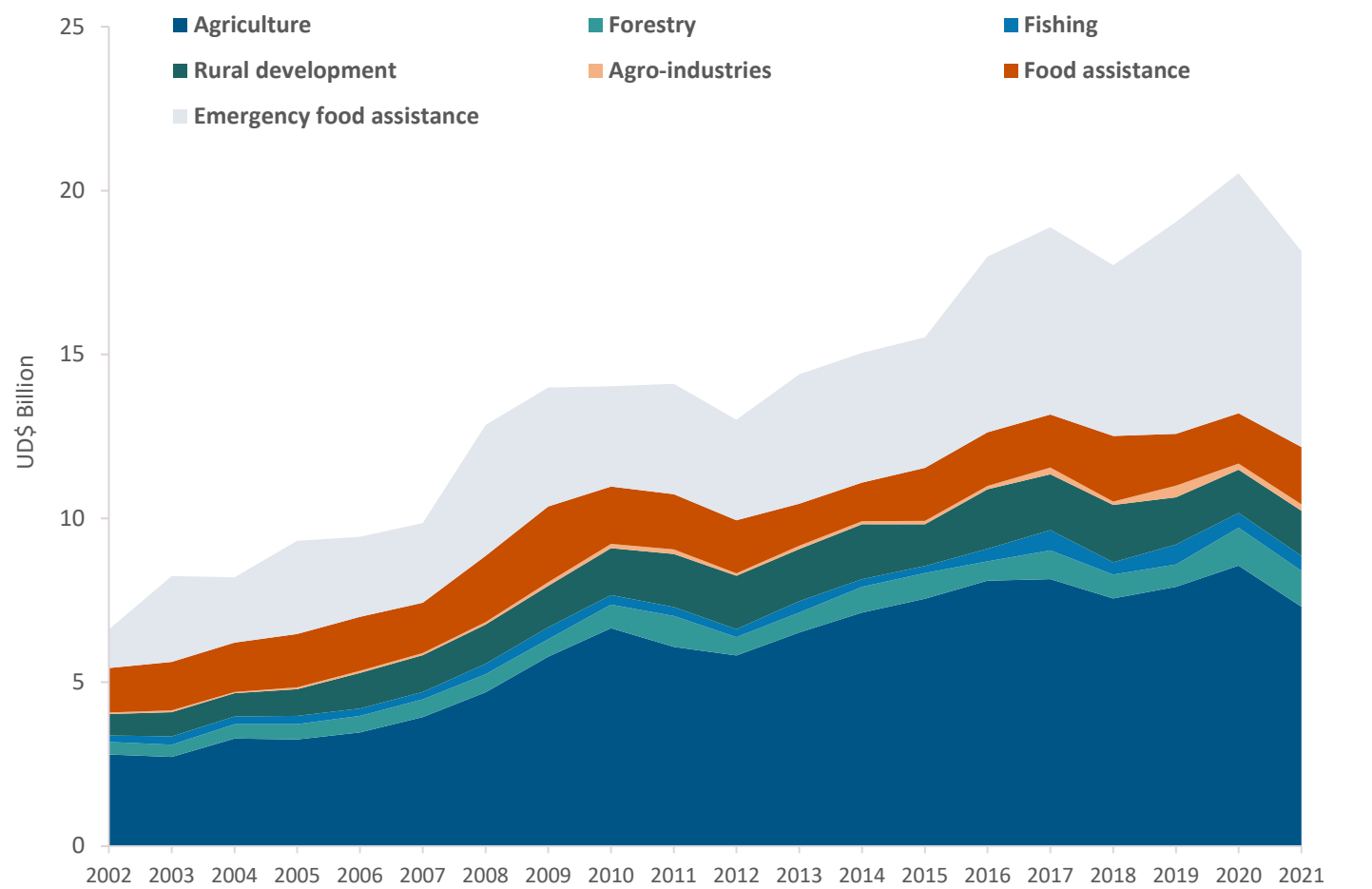
Source: OECD CRS. Disbursements, Constant 2020 prices, Official and private donors, ODA, Other Official Flows, and Private Development Finance. OECD DAC definition of Agriculture: Agriculture, Forestry, Fishing, Rural Development (311, 312, 313, 43040).

Annex Figure 3 Health ODA, OOF, Private Flows



Source: OECD CRS. Disbursements, Constant 2020 prices, official and private Donors, ODA, OOF, and Private Development Finance. Health (120, 130)

Annex Figure 4 ODA to agriculture according to DAC definition, agro-industries, food assistance and emergency food assistance



Source: OECD CRS. Disbursements, Constant 2020 prices, Official Donors, ODA. OECD DAC definition of Agriculture: Agriculture (311), Forestry (312), Fishing (313), and Rural Development (43040). In addition, the chart shows ODA for Agro-Industries (32161), Food Assistance (52010), Emergency Food Assistance (72040).

Annex 4: Global Functions⁸⁸

Provision of global public goods	Research and development for health tools
	Development and harmonization of international health regulations
	Knowledge/data generation and sharing
	Intellectual property sharing
	Market-shaping activities
Management of negative cross-border externalities	Pandemic/outbreak preparedness and response
	Responses to antimicrobial resistance
	Responses to marketing of unhealthful products
	Control of cross-border disease movement
Fostering of global health leadership and stewardship	Health advocacy and priority setting, convening policy makers for negotiation consensus building
	Promotion of aid effectiveness and accountability

Annex 5: ACT-A model



Source: WHO, 2021. What is the Access to COVID-19 Tools (ACT) Accelerator, how is it structured and how does it work?
[https://www.who.int/publications/m/item/what-is-the-access-to-covid-19-tools-\(act\)-accelerator-how-is-it-structured-and-how-does-it-work](https://www.who.int/publications/m/item/what-is-the-access-to-covid-19-tools-(act)-accelerator-how-is-it-structured-and-how-does-it-work)

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of non-governmental organizations that advocate for their needs), private foundations, and the private sector in their decision-making processes.”

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