

**ECONOMIST  
IMPACT**

# **Ending hunger:**

## **the role of agri-food financing**



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# Contents

<b>3</b>	Acknowledgements
<b>4</b>	Executive summary
<b>6</b>	Foreword
<b>8</b>	Introduction
<b>10</b>	Section 1. The role of agri-food financing in reducing hunger
<b>12</b>	Section 2. Trends in funding for agri-food systems
<b>18</b>	Section 3. Strategies to catalyse financing for agri-food systems
<b>21</b>	Conclusion

# Acknowledgements

*Ending hunger: the role of agri-food financing* is an Economist Impact report, sponsored by CGIAR. Our findings are based in part on a series of interviews with experts in the field. We would like to extend our thanks to all the participants in our interview programme (in alphabetical order):

- **Carin Smaller** - Executive Director, Shamba Centre for Food and Climate
- **Hedwig Siewertsen** - Head, Inclusive Finance, AGRA
- **Prasad Gopalan** - Former Global Sector Manager, Agribusiness and Forestry, International Finance Corporation
- **Rasmus Egendal** - Deputy Director, Government Partnership Division, World Food Programme
- **Saharah Moon Chapotin** - Executive Director, Foundation for Food & Agriculture Research
- **Sara Mbago-Bhunu** - Director, East and Southern Africa Division, International Fund for Agricultural Development

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# Executive summary



Hunger is on the rise, with 150m more people affected by hunger in 2021 than in 2019.<sup>1</sup> Manifold threats—including the covid-19 pandemic, war in Ukraine and escalating climate crisis—underpin this trend, which risks reversing decades of progress in the fight against world hunger. In fact, current projections estimate that nearly 670m people will face hunger in 2030.<sup>2</sup>

This gloomy outlook should not dissuade the international community from action.<sup>3</sup> “Ending hunger isn’t unattainable; it is actually quite an affordable goal,” emphasises Carin Smaller, executive director of the Shamba Centre for Food and Climate. Realising this goal will require a substantial uplift in funding, in order to strengthen the productivity, sustainability and resilience of agri-food systems worldwide. In fact, in 2020, Ceres2030 (a partnership between academia, civil society and other global partners) estimated that an additional US\$33bn would need to be spent annually to end hunger sustainably by 2030.<sup>4</sup>

Sourcing such funds will require a shift in mindset from a myopic focus on short-term crisis response to emphasising interventions that strengthen food security in the long term. Such interventions include extension services, agricultural R&D, digital information services and small-scale irrigation expansion. Similarly, additional funding may be mobilised through the repurposing of existing agricultural support measures—many of which do little to reduce the prevalence of hunger and contribute an outsized portion of the sector’s greenhouse gas emissions.

<sup>1</sup> FAO, IFAD, UNICEF, WFP and WHO. 2022. The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome, FAO.

<sup>2</sup> *ibid.*

<sup>3</sup> *ibid.*

<sup>4</sup> Laborde, D., M. Parent, and C. Smaller. 2020. Ending Hunger, Increasing Incomes, and Protecting the Climate: What Would it Cost Donors? Ceres2030: Sustainable Solutions to End Hunger.



*Ending hunger: the role of agri-food financing* is an Economist Impact report, sponsored by CGIAR. Drawing on our analysis of secondary data sources and interviews with experts, this report examines the role of agri-food financing in ending world hunger. It concludes with three broad strategies to increase the volume and impact of financing for agri-food systems, with the goal of accelerating progress towards zero hunger. These include:

1. Scaling up targeted development funding in the short term; for example, through leveraging of alternative sources of development assistance and reform of international financing institutions.
2. Realising the potential of the private sector; for example, through promotion of public-private partnerships, blended finance and digitisation.
3. Maximising the impact of existing investment; for example, through prioritisation of investment in high-impact, low-cost interventions such as extension services, as well as allocation of development funding to geographies most in need of external assistance.

Ending world hunger is an enormous task—but by no means an impossible one. Crucially, delaying progress not only risks humanitarian tragedy today; it will also increase the overall socioeconomic costs of ending hunger in the long term. There is no time to lose.

# Foreword

There is a paradox when it comes to agri-food systems: world hunger is increasing, yet investment into agriculture in low-income countries is declining.

Far from being academic, the implications are deeply troubling. The world made significant progress towards reducing hunger and malnutrition in the first 15 years of this century. However, since then—even before Covid-19 and the conflict in Ukraine—both had started to rise. The pandemic saw an increase of 150m people living in hunger, with the war in Ukraine further adding to risks in global food systems.

Despite this regression, the UN Sustainable Development Goal of ending hunger by 2030 (SDG2) is still attainable, as this report makes clear. But without growing investment in agri-food systems, it will slip beyond reach, as will many related goals on malnutrition, climate change and inequality. Conversely, bridging the gap in agri-food investment can deliver progress on all these interconnected challenges, saving lives and bringing better standards of living to many in the global South. It is a brutally simple calculation.

Estimates are that up to an additional US\$50bn will be needed to bridge the funding gap, and at least US\$14bn of that will need to come from international donors in the form of overseas development assistance (ODA).

While humanitarian food aid is a natural response to a crisis, funding research and innovation allows us to break free of the crisis response cycle and build long-term resilience. Not nearly enough of ODA (just 7.4% in 2021) is spent on research and innovation that tackles the root causes of hunger and malnutrition, builds resilience in our food systems, and prevents crises from occurring in the first place. Investment in innovation takes time to bear fruit, but it pays off forever.

Many of the required climate-resilient and productivity-enhancing technologies and production practices are already available. At CGIAR we are breeding livestock tolerant to rising temperatures, and climate-resilient and yield-enhancing crop varieties. Our work in biofortification provides nutritious crops that spur brain development. Well-designed digital technologies provide farmers with better information on areas ranging from rainfall to pricing. Precision agriculture, improved soil management for productivity increases, and carbon sequestration all offer hope that we can deliver food and nutrition security within planetary boundaries.

Although increases in donor funding are important, they are not the only solution. The repurposing of environmentally harmful farm subsidies towards more efficient and sustainable production could free up hundreds of billions of dollars for investments in sustainable innovations. This shift could be accompanied by policy reforms and financial incentives promoting climate-smart agriculture and inclusive agri-food value-chain development.

Coaxing pools of capital into agri-food R&D, particularly from the domestic private sector, will require creative solutions to mitigate risk, especially if large investments are to reach millions of small-scale farmers. This will not be easy, but finance is ripe with innovation, the more so when combined with digital delivery.

The rewards for such investment are potent: as this report notes, a single percentage point increase in annual growth of agricultural production in Nigeria lifts 6m people out of poverty. Giving small-scale farmers modern storage equipment can shred food loss—the most unnecessary of obstacles in our food systems—by 40%.

Investment brings tangible impact. CGIAR has measured a ten-to-one benefit-cost ratio on our investments over the past five decades. Better still, the rewards go where they need to, benefitting the most vulnerable, from smallholder farmers to the fragile food systems in which they participate.

This is an important report that articulates how increased investment can make a transformational difference to complex and global problems. With urgent action and growing investment, an end to world hunger, and the possibility of sustainable food systems, are within reach.

**Claudia Sadoff,**  
Executive Managing Director  
CGIAR

# Introduction

Throughout human history, agri-food systems—encompassing agriculture, forestry and fisheries—have played a leading role in driving socioeconomic development. Most recently, during the Green Revolution of the 20th Century, investment in agri-food systems fostered immense gains in agricultural productivity, enabling widespread poverty alleviation and improvements in nutrition.<sup>5</sup> Investment in agri-food systems is no less relevant today, given its potential to strengthen climate resilience, elevate rural incomes and accelerate progress towards gender equity.<sup>6,7,8</sup>

“When you look at tackling climate change, inclusive growth, and alleviating poverty, you just cannot ignore food”, notes Prasad Gopalan,

**“When you look at tackling climate change, inclusive growth, and alleviating poverty, you just cannot ignore food.”**

Prasad Gopalan, former global sector manager, agribusiness and forestry, for the International Finance Corporation

former global sector manager, agribusiness and forestry, for the International Finance Corporation. However, he adds, “there is still a huge gap in the amount of financing that is needed”. In spite of the successes of the Green Revolution, investment in agri-food systems dropped significantly following its conclusion in the late 1980s.<sup>9</sup> Investment in agricultural research and development (R&D) has particularly declined, in spite of its potential to yield significant social, economic, and environmental returns.<sup>10</sup>

An uplift in funding for agri-food systems is vital to surmounting one of humanity’s greatest challenges: ending world hunger. Hunger is on the rise, with 150m more people affected by hunger in 2021 than in 2019.<sup>11</sup> In fact, current projections estimate that nearly 670m people will still face hunger in 2030.<sup>12</sup> Should these projections come to pass, it would represent an overwhelming failure of the UN Sustainable Development Goals—the second of which (SDG2) commits to ending hunger worldwide by 2030.<sup>13</sup>

<sup>5</sup> Pingali PL. Green revolution: impacts, limits, and the path ahead. *Proc Natl Acad Sci U S A*. 2012 Jul 31;109(31):12302-8.

<sup>6</sup> <https://www.fao.org/news/story/en/item/460267/icode/>

<sup>7</sup> <https://www.fao.org/emergencies/our-focus/climate/2/en>

<sup>8</sup> OECD (2014) *The Policy Framework for Investment in Agriculture*

<sup>9</sup> Herdt R. In: *Handbook of Agricultural Economics*. Pingali P, Evenson R, editors. Amsterdam: Elsevier; 2010. pp. 3253–3304.

<sup>10</sup> <https://issues.org/rekindling-magic-agricultural-research-development-alston-pardey-rao/>

<sup>11</sup> FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO.

<sup>12</sup> *ibid.*

<sup>13</sup> [https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement\\_Eng.pdf](https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202022%20refinement_Eng.pdf)

These gloomy statistics are the product of manifold disruptions in recent years—including the covid-19 pandemic, war in Ukraine, biodiversity loss and climate-related shocks.<sup>14,15,16</sup> As reflected in recent editions of the Global Food Security Index, these threats have coalesced to reverse gains in food security and create what Rasmus Egendal, deputy director of the World Food Programme’s Government Partnership Division, labels “a global food crisis of unprecedented proportions”.<sup>17</sup> Looking to the future, global demand for food is projected to grow, placing further strain on struggling agri-food systems.

This gloomy outlook should not dissuade the international community from action.<sup>18</sup> “Ending hunger isn’t unattainable; it is actually quite an affordable goal,” emphasises Carin Smaller, executive director of the Shamba Centre for Food and Climate. However, it is clear that a significant uplift in financing for agri-food systems is required. To this end, this briefing paper explores key trends in funding for agri-food systems, outlining a set of strategies to increase the volume and impact of financing. Urgent and coordinated action in line with these strategies will be crucial to accelerating progress towards the eradication of hunger worldwide.



<sup>14</sup> Schmidhuber, J., Pound, J., & Qiao, B. (2020). COVID-19: Channels of transmission to food and agriculture. FAO. <https://doi.org/10.4060/ca8430en>.

<sup>15</sup> <https://news.un.org/en/story/2022/04/1115852>

<sup>16</sup> ZEF and FAO (2020) Investment Costs and Policy Action Opportunities for Reaching a World without Hunger (SDG 2), Bonn and Rome, Oct 2020

<sup>17</sup> Economist Impact. (2022). Global Food Security Index 2022. The Economist Group.

<sup>18</sup> *ibid.*

# Section 1: The role of agri-food financing in reducing hunger

Increased financing in agri-food systems is vital to reducing the prevalence of world hunger. Specifically, argues Carin Smaller, “the majority of money still needs to be spent on the farm”. Amongst other mechanisms, funding for agri-food systems can reduce hunger by supporting improvements in agricultural productivity and resilience.

Financing is key to improving agricultural productivity; for example, through supporting agricultural innovation or enabling farmers to purchase key inputs.<sup>19</sup> Increased productivity can contribute to reducing the prevalence of hunger by bolstering the global supply of food, thereby increasing food’s accessibility

and affordability.<sup>20</sup> Perhaps more importantly, increased agricultural productivity also boosts the incomes and purchasing power of the rural poor.<sup>21</sup> “Investment in agriculture can be an engine for economic growth [by] alleviating poverty and giving people the ability to purchase the food they need,” says Dr Saharah Moon Chapotin, executive director of the Foundation for Food & Agriculture Research. In Nigeria, for example, an increase in the annual growth rate of the agricultural sector of 1 percentage point has been found to result in 6m people being lifted out of poverty.<sup>22</sup> Given their particular vulnerability to undernourishment, increasing the incomes of the rural poor is critical to reducing the prevalence of both poverty and hunger.<sup>23</sup>

**“Investment in agriculture can be an engine for economic growth [by] alleviating poverty and giving people the ability to purchase the food they need.”**

Saharah Moon Chapotin, executive director of the Foundation for Food & Agriculture Research

Investment is also critical to enhancing agricultural resilience. This is particularly crucial given the threats posed by biodiversity loss, pollution and the escalating climate crisis. Investment in agricultural R&D is particularly important—both via “traditional” avenues of research, such as the development of heat-tolerant crops, as well as novel digital tools and services, such as climate information services.

<sup>19</sup> <https://blogs.worldbank.org/allaboutfinance/how-can-finance-influence-productivity-agricultural-firms>

<sup>20</sup> ZEF and FAO (2020) Investment Costs and Policy Action Opportunities for Reaching a World without Hunger (SDG 2), Bonn and Rome, Oct 2020

<sup>21</sup> Majid, N. (2004). Reaching Millennium Goals : how well does agricultural productivity growth reduce poverty?

<sup>22</sup> <https://www.gatesfoundation.org/our-work/programs/global-growth-and-opportunity/agricultural-development>

<sup>23</sup> Webb, P. and Block, S. (2012) Support for Agriculture during Economic Transformation: Impacts on Poverty and Undernutrition. Proceedings of the National Academy of Sciences of the United States of America, 109, 12309-12314.

The GSMA Agritech Programme, for instance, utilises rainfall data collected by mobile networks to provide smallholder farmers with detailed rainfall observations in near real-time.<sup>24</sup> By providing access to data which is frequently unavailable, such innovations have the potential to help farmers more effectively prepare for increased climate variability, as well as extreme weather events. This, in turn, has significant ramifications for agricultural resilience and food security.

Beyond the farm, financing is also vital to resolving one of the root causes of hunger today: food loss and waste.<sup>25,26</sup> Across the globe,

roughly 14% of food is lost between harvest and retail, and a further 17% is then wasted across the retail sector, food services and household food use.<sup>27</sup> According to estimates by the UN Food and Agriculture Organisation (FAO), this lost and wasted food could feed 1.26bn people every year—substantially more than the 828m affected by hunger in 2021.<sup>28</sup> Investment in infrastructure—both physical and digital—is central to remedying this problem. For example, research indicates that providing small-scale farmers with modern storage equipment such as silos and air-tight bags can reduce their post-harvest losses by as much as 40%.<sup>29</sup>

## The impact of agri-food investment in China

China's achievements in reducing hunger over the past four decades are unprecedented. While as many as one in three people in the country were undernourished in 1980, this figure had been brought down to just one in ten by 2011.<sup>30</sup> Furthermore, China accounted for two-thirds of the total reduction in undernourished people in Asia between 2010 and 2017.<sup>31</sup>

Substantial government investment in agri-food systems has played a leading role in China's success.<sup>32,33</sup> Public investment in productivity-enhancing interventions—such as R&D, irrigation and rural infrastructure—drove an average annual growth rate of the agricultural sector of 3-4% between 1974 and 2006.<sup>34</sup> In combination with a reduction in rural poverty, accelerated agricultural production has been critical to improving the accessibility and affordability of food.<sup>35</sup>

Chinese government expenditure has been accompanied by policies promoting private-sector investment.<sup>36</sup> In particular, private investment in agricultural R&D played an instrumental role in enabling the discovery and commercialisation of higher-yielding varieties of hybrid rice.<sup>37</sup> This has been critical in enhancing the nation's food security: Li, Xin, and Yuan (2009) estimate that, between 1976 and 2008, the adoption of hybrid rice in China resulted in an additional 60m people being fed per year.<sup>38</sup>

<sup>24</sup> [https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/Digital\\_Innovation\\_for\\_Climate\\_Resilient\\_Agriculture.pdf](https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/Digital_Innovation_for_Climate_Resilient_Agriculture.pdf)

<sup>25</sup> <https://impact.economist.com/projects/foodsustainability/interactive-world-map/>

<sup>26</sup> <https://www.wfpusa.org/articles/how-food-waste-affects-world-hunger/>

<sup>27</sup> <https://www.un.org/en/observances/end-food-waste-day>

<sup>28</sup> <https://www.fao.org/newsroom/detail/FAO-UNEP-agriculture-environment-food-loss-waste-day-2022/en#:~:text=According%20to%20FAO%20estimates%2C%20the%20food%20that%20is,extreme%20weather%20events%20such%20as%20droughts%20and%20flooding.>

<sup>29</sup> <https://www.wfpusa.org/articles/how-food-waste-affects-world-hunger/>

<sup>30</sup> [https://actionaid.org/sites/default/files/country\\_successes\\_in\\_reducing\\_hunger\\_mark\\_curtis\\_nov\\_2011\\_0.pdf](https://actionaid.org/sites/default/files/country_successes_in_reducing_hunger_mark_curtis_nov_2011_0.pdf)

<sup>31</sup> <https://chinapower.csis.org/china-food-security/>

<sup>32</sup> [https://actionaid.org/sites/default/files/country\\_successes\\_in\\_reducing\\_hunger\\_mark\\_curtis\\_nov\\_2011\\_0.pdf](https://actionaid.org/sites/default/files/country_successes_in_reducing_hunger_mark_curtis_nov_2011_0.pdf)

<sup>33</sup> Shenggen Fan et al, 'Growth, Inequality and Poverty in Rural China: The Role of Public Investments', Research Report 125, IFPRI, 2002

<sup>34</sup> FAO, Rapid Growth of Selected Asian Economies: Lessons and Implications for Agriculture and Food Security, Synthesis Report, 2006, p.3

<sup>35</sup> [https://actionaid.org/sites/default/files/country\\_successes\\_in\\_reducing\\_hunger\\_mark\\_curtis\\_nov\\_2011\\_0.pdf](https://actionaid.org/sites/default/files/country_successes_in_reducing_hunger_mark_curtis_nov_2011_0.pdf)

<sup>36</sup> Li, Jiming; Xin, Yeyun; Yuan, Longping. 2009. Pushing the yield frontier: Hybrid rice in China. In Millions Fed: Proven successes in agricultural development. Spielman, David J.; Pandya-Lorch, Rajul (Eds.). Chapter 11 Pp. 77-82. Washington, D.C.: International Food Policy Research Institute (IFPRI).

<sup>37</sup> *ibid.*

<sup>38</sup> *ibid.*

## Section 2: Trends in funding for agri-food systems

Given the significance of agri-food systems in eliminating hunger, it is essential to understand the trends that underpin how they are funded. Using a combination of secondary literature and multiple data sources, we identify four such trends.

### **Development funding, while increasing, is currently insufficient to eliminate hunger**

Although hunger has by no means been eradicated in high-income countries (HICs), it is still significantly more prevalent in low- and middle-income countries (LMICs).<sup>39</sup> The FAO estimates that while close to a third of the population in Eastern Africa is undernourished, this figure is less than 2.5% in North America and Europe.<sup>40</sup> Unfortunately, LMICs are also more poorly equipped to finance the interventions necessary to reduce the prevalence of hunger. As such, development funding—involving the transfer of funds from international donors, including HIC governments and international organisations—is indispensable to the fight against hunger.

Figure 1 illustrates how development funding has evolved over the past two decades across ten LMICs.<sup>41</sup> It compares trends in funding with changes in the prevalence of hunger, measured as undernourishment ('the proportion of the population that is lacking enough dietary energy for a healthy, active life').<sup>42</sup> It indicates that, while an increase in funding may have contributed to bringing down the prevalence of undernourishment up until 2015, a combination of "last mile" costs, long-standing structural vulnerabilities, emerging challenges to global food security and a lack of incentives for private-sector investment mean that funding remains insufficient for the elimination of hunger.<sup>43</sup> For example, while development flows to agri-food systems in Kenya increased by more than US\$400m between 2018 and 2020 (reaching a total of US\$677m), the prevalence of undernourishment actually grew over this period, from 24.7% to 26.9%.<sup>44</sup>

Previous studies have sought to quantify this funding gap, arriving at estimates ranging from US\$33bn to US\$50bn of additional funding

<sup>39</sup> <https://www.who.int/news/item/15-07-2019-world-hunger-is-still-not-going-down-after-three-years-and-obesity-is-still-growing-un-report>

<sup>40</sup> FAO, IFAD, UNICEF, WFP and WHO. 2019. The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns. Rome, FAO

<sup>41</sup> China (mainland); Colombia; Côte d'Ivoire; Ethiopia; India; Kenya; Nigeria; Peru; the Philippines; Ukraine. These countries were selected, in consultation with CGIAR, given their geographic spread, status as LMICs, and receipt of large volumes of development funding (to ensure the significance of across-year trends).

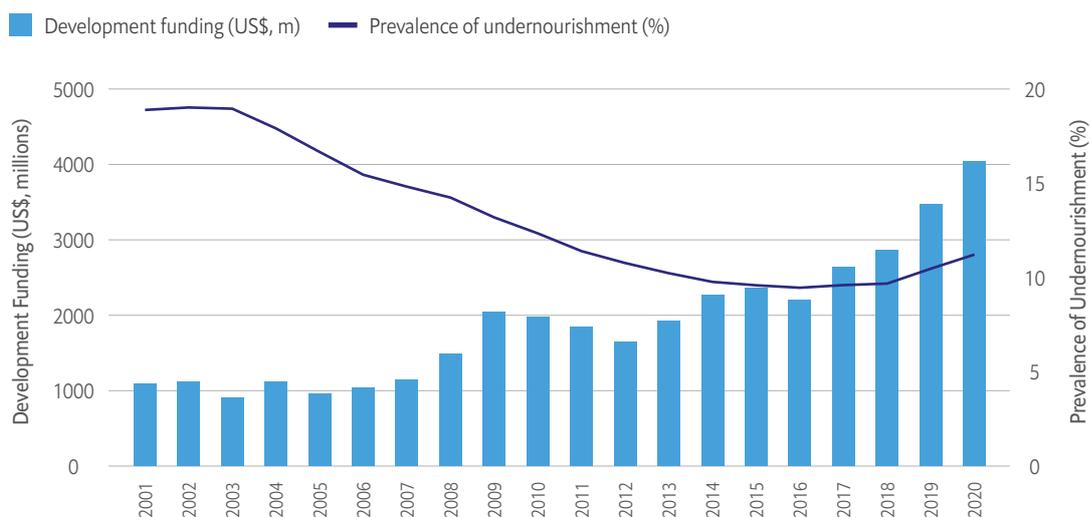
<sup>42</sup> ZEF and FAO (2020) Investment Costs and Policy Action Opportunities for Reaching a World without Hunger (SDG 2), Bonn and Rome, Oct 2020

<sup>43</sup> Economist Impact. (2022). Global Food Security Index 2022. The Economist Group.

<sup>44</sup> FAOSTAT, Economist Impact calculations.

### Figure 1. Development funding and undernourishment

Development funding to agri-food systems (excl. food aid) is correlated with a decline in undernourishment between 2001 and 2015; however, increasing funding has been insufficient to mitigate an uptick in undernourishment over recent years.



Source: FAOSTAT, Economist Impact calculations.

needed annually from 2020 onwards to end hunger by 2030.<sup>45,46</sup> The former estimate, published by Ceres2030, a partnership between academia, civil society and other global partners, calculated that of this additional funding, US\$14bn would need to be provided by international donors through official development assistance (ODA).

#### Inequitable distribution of funding, both between and within countries, may impede progress towards zero hunger

Although the total volume of development funding for agri-food systems has increased in recent years, funds are not necessarily equitably distributed. Countries in need of development funding differ both in the amount of additional investment that their agri-food systems require

and their degree of dependency on international assistance to raise such funds. Taking these two parameters into account, Ceres2030 (2020) identified a list of 15 “high priority” countries for development funding towards ending hunger.<sup>47,48</sup> Thirteen of these countries are in Sub-Saharan Africa; the other two are Haiti and Yemen.

According to our analysis of FAO data (as illustrated in Figure 2), these 15 “high priority” countries received just 5.6% of the total development funding made available for agri-food systems in 2020. By comparison, Kenya (identified as “medium priority”) received 4.6% of the total, while the Philippines (“low priority”) received 4.4%. This suggests that many of those countries most in need of development funds are far from receiving their fair share. Although this by no means implies that

<sup>45</sup> Laborde, D., M. Parent, and C. Smaller. 2020. Ending Hunger, Increasing Incomes, and Protecting the Climate: What Would it Cost Donors? Ceres2030: Sustainable Solutions to End Hunger.

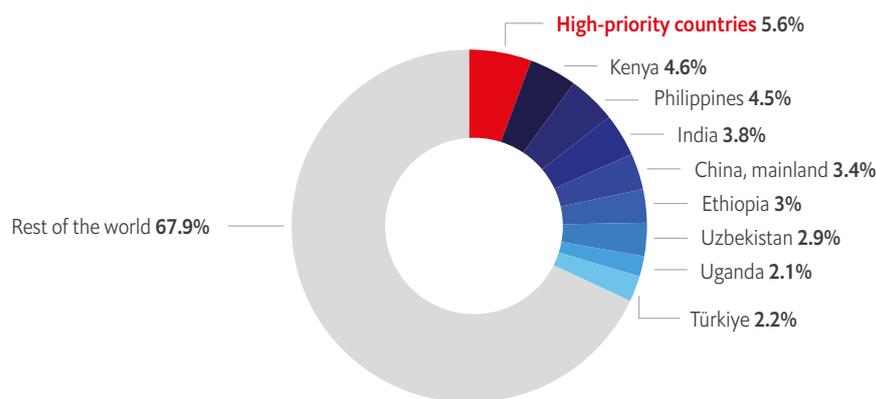
<sup>46</sup> ZEF and FAO (2020) Investment Costs and Policy Action Opportunities for Reaching a World without Hunger (SDG 2), Bonn and Rome, Oct 2020

<sup>47</sup> Burundi, Central African Republic, Chad, Democratic Republic of Congo, Guinea-Bissau, Haiti, Liberia, Lesotho, Madagascar, Mozambique, Somalia, South Sudan, Yemen, Zambia, Zimbabwe

<sup>48</sup> Laborde, D., M. Parent, and C. Smaller. 2020. Ending Hunger, Increasing Incomes, and Protecting the Climate: What Would it Cost Donors? Ceres2030: Sustainable Solutions to End Hunger.

**Figure 2. Recipients of development funding for agri-food systems, 2020**

Those countries named as 'high priorities' for agri-food development funding receive a relatively small portion of the global total



Sources: UN Food and Agriculture Organisation, Ceres2030.

development funding to Kenya or Philippines should be reduced, increasing assistance to those countries most in need will be crucial to remedying inequities and accelerating the eradication of hunger worldwide.

Furthermore, remarks Sara Mbago-Bhunu, director of the East and Southern Africa Division of the International Fund for Agricultural Development (IFAD), such inequities do not only exist between countries. "Even within countries," she says, "there are particular regions suffering from historic underinvestment".<sup>49</sup> Small-scale farms (defined as farms of less than 5 ha of land) are particularly neglected—despite their significant contribution to global food production, as well as their particular vulnerability to the escalating climate crisis.<sup>50,51,52</sup> In fact, just 1.7% of the total climate finance provided in 2020 (US\$10bn) was targeted at small-scale farmers.<sup>53</sup> According to Carin Smaller, this figure needs to increase - particularly in

Africa. "Given African governments are trying to allocate 10% of their budgets to agriculture, climate funds should also target agriculture at the same level: 10%".

### **Constrained public budgets mean that other sources of financing are crucial to bridging the funding gap**

Development funding is far from the only source of financing for agri-food systems. Even in LMICs, development funding is dwarfed by government expenditure on agriculture—as demonstrated by Figure 3. Although public budgets are relatively more constrained in lower-income countries, increased government expenditure will still be instrumental to accelerating progress towards SDG2. In fact, Ceres2030 estimates that US\$19bn of the additional US\$33bn required annually to end hunger by 2030 must be raised by developing country governments themselves.<sup>54</sup> Furthermore, as detailed in the next section of this paper, repurposing existing

<sup>49</sup> <https://reliefweb.int/report/world/hunger-hotspots-fao-wfp-early-warnings-acute-food-insecurity-october-2022-january-2023-outlook>

<sup>50</sup> IFAD. (2020). Examining the climate finance gap for small-scale agriculture.

<sup>51</sup> *ibid.*

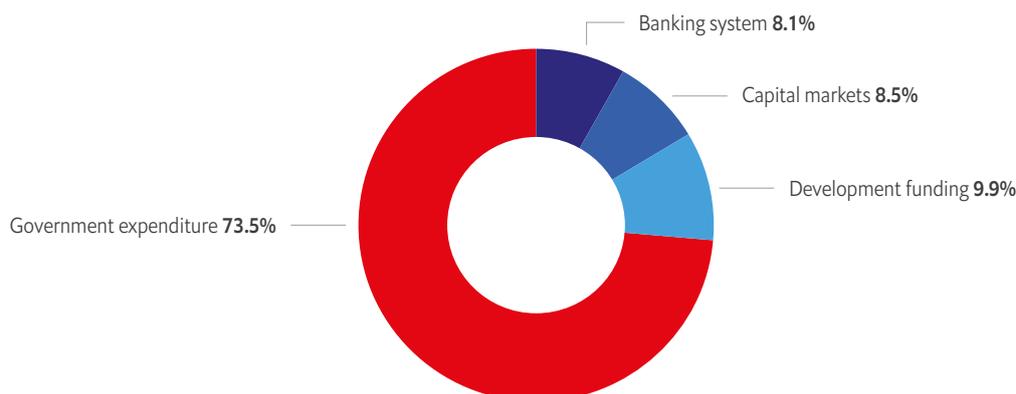
<sup>52</sup> <https://www.globalcitizen.org/en/content/why-smallholder-farmers-need-funding/>

<sup>53</sup> IFAD. (2020). Examining the climate finance gap for small-scale agriculture.

<sup>54</sup> Laborde, D., M. Parent, and C. Smaller. 2020. Ending Hunger, Increasing Incomes, and Protecting the Climate: What Would it Cost Donors? Ceres2030: Sustainable Solutions to End Hunger.

**Figure 3. Sources of funding for agri-food systems in developing countries (excluding China)**

While development flows are important, they are by no means the only source of funding for agri-food systems in developing countries



Note. China has been excluded in order to prevent its large figures—particularly for government expenditure—from skewing the totals.  
Source: Díaz-Bonilla, E. (2023).<sup>55</sup>

government expenditure—for example, through policies that promote greater private-sector investment—will be vital to catalysing progress towards zero hunger.

The private sector (including capital markets and the banking system) has the potential to play a more significant role in supporting and transforming agri-food systems in developing countries.<sup>56</sup> Yet there is significant reluctance. There is “not a lot of traction globally behind private investment in agri-food”, says Hedwig Siewertsen, head of inclusive finance at AGRA. “The issue for financial institutions is that it

is more expensive to lend to agriculture, and it is more risky.” Amongst other factors, the agricultural sector’s vulnerability to adverse weather conditions—as well as high volatility in prices—amplify the costs of providing credit to agriculture relative to other sectors. Addressing the costs and risks of investment—as discussed in the next section—will therefore be crucial to making the value proposition of agri-food systems more attractive to private-sector investors.

**A significant portion of funding is allocated to crisis response, yet financing longer-term interventions is more sustainable**

Amid the emergence of manifold humanitarian crises in recent years, ODA for food aid has surged (see Figure 4). “Almost all of the increase in ODA is going to emergency food assistance, which has almost doubled in the past 7 years... while funding to solve structural, long-term problems is basically stagnating,” says Carin Smaller. As illustrated by Figure 5,

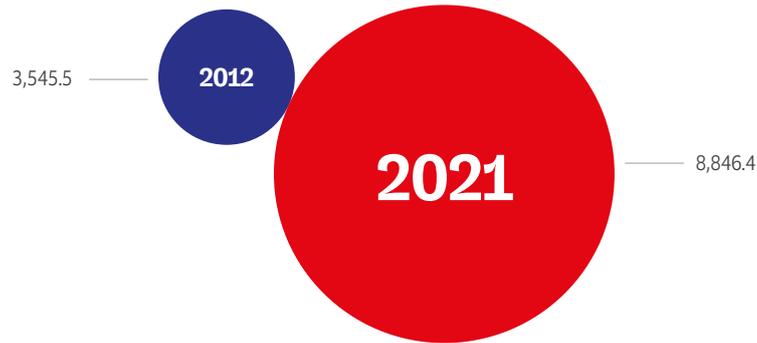
**“The issue for financial institutions is that it is more expensive to lend to agriculture, and it is more risky.”**

Hedwig Siewertsen, head of inclusive finance at AGRA

<sup>55</sup> Díaz-Bonilla, E. (2023). Financing SDG2 and Ending Hunger. In: von Braun, J., Afsana, K., Fresco, L.O., Hassan, M.H.A. (eds) Science and Innovations for Food Systems Transformation. Springer, Cham. [https://doi.org/10.1007/978-3-031-15703-5\\_35](https://doi.org/10.1007/978-3-031-15703-5_35)

<sup>56</sup> <https://www.cgiar.org/blog/role-of-financial-services-in-reducing-hunger>

**Figure 4. Total food aid from Development Assistance Committee donor countries (USD, millions)**



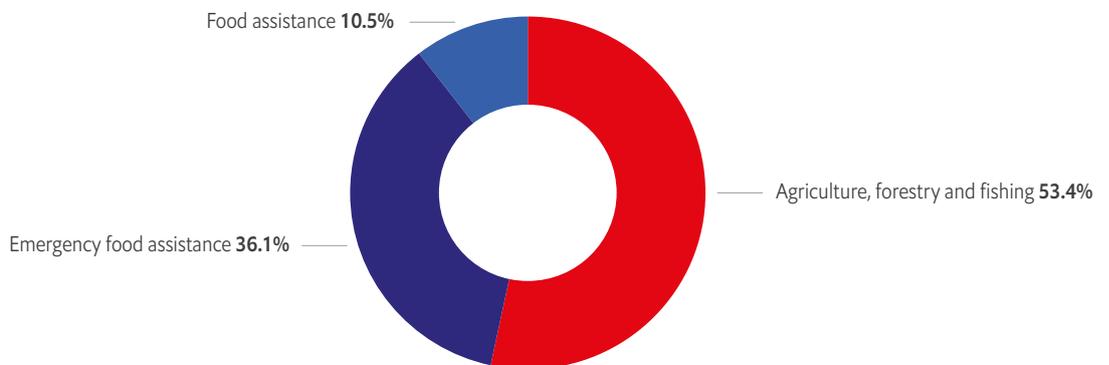
Source: OECD, Economist Impact calculations.

the total volume of ODA allocated to food aid (composed of food assistance and emergency food assistance) almost matched that invested in developing agri-food systems themselves in 2021. In Nigeria, for instance, US\$45m more of ODA was spent on food aid than on agri-food system development in 2021.<sup>57</sup>

Although food aid is indeed hugely important, the levels of funding that it receives relative to

agri-food systems indicate a persistent failure to tackle the root causes of hunger. “We are not seeing a commensurate increase in investment in longer-term food security,” says Rasmus Egender. “This only adds pressure on humanitarian needs.” Only by increasing funding to agri-food systems, thereby strengthening their capacity to pre-empt, respond to and mitigate crises, will donors be able to suppress demand for food aid in the future.<sup>58</sup>

**Figure 5. Total gross disbursements of ODA by sector, 2021**



Source: OECD, Economist Impact calculations.

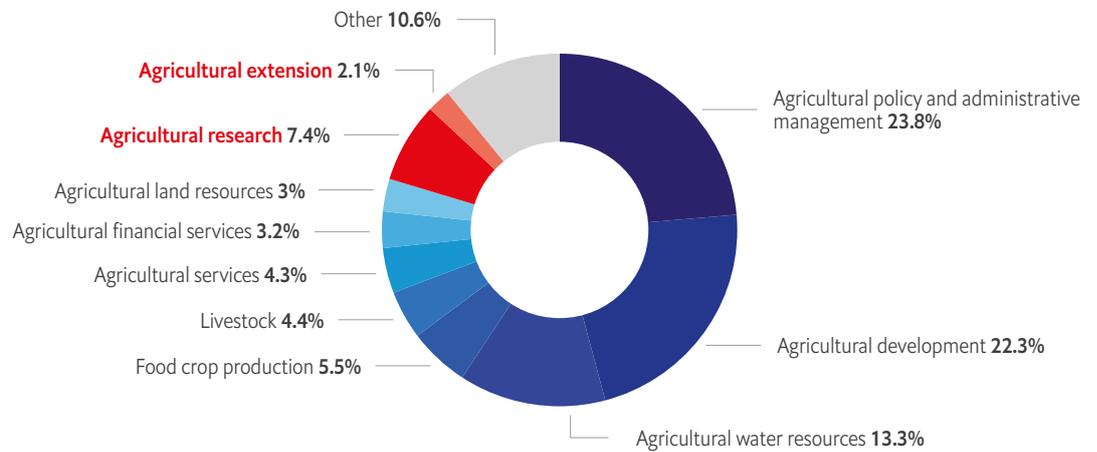
<sup>57</sup> OECD Data, Economist Impact calculations.

<sup>58</sup> Laborde, D., M. Parent, and C. Smaller. 2020. Ending Hunger, Increasing Incomes, and Protecting the Climate: What Would it Cost Donors? Ceres2030: Sustainable Solutions to End Hunger.

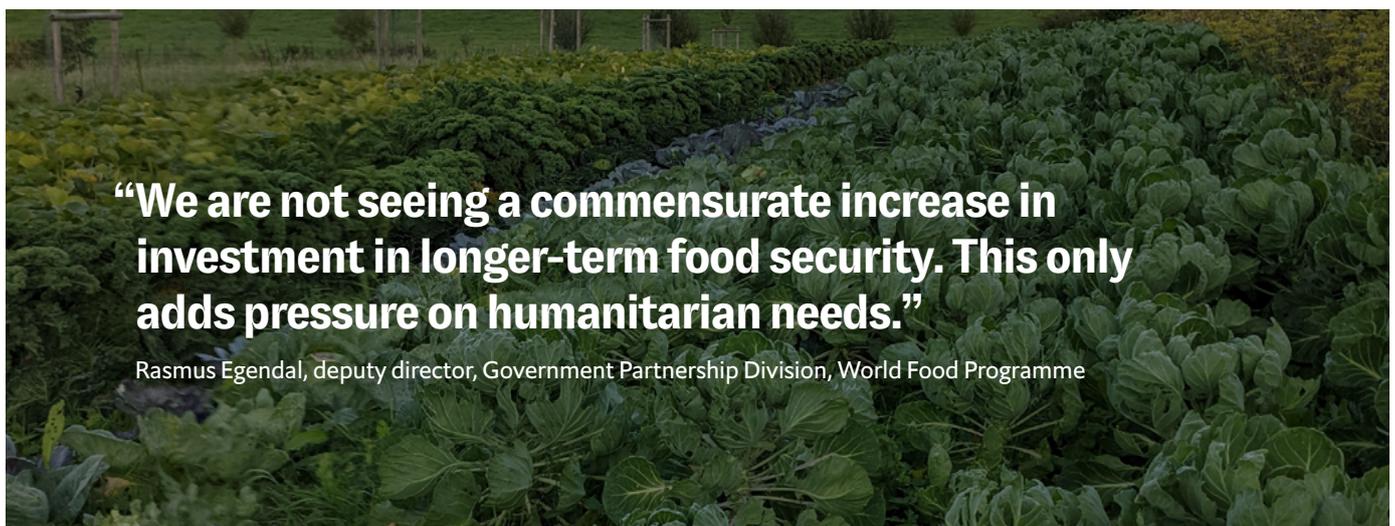
Similarly, the allocation of ODA within the agricultural sector suggests a shortfall in funding for longer-term interventions. As illustrated in Figure 6, just 7.4% of total ODA disbursements to agriculture in 2021 were directed to agricultural research. Although

investment in R&D takes time to bear fruit, it eventually yields high returns.<sup>59</sup> Moreover, extension services received just 2.1% of ODA in 2021, despite their critical role in ensuring the adoption and scaling of agricultural innovations on the ground.<sup>60</sup>

**Figure 6. Total gross disbursements of ODA by agricultural sub-sector, 2021**



Source: OECD, Economist Impact calculations.



<sup>59</sup> Laborde, D., M. Parent, and C. Smaller. 2020. Ending Hunger, Increasing Incomes, and Protecting the Climate: What Would it Cost Donors? Ceres2030: Sustainable Solutions to End Hunger.

<sup>60</sup> *ibid.*

## Section 3: Strategies to catalyse financing for agri-food systems

Given the trends identified in Section 2, we identify three broad strategies to increase the volume and impact of funding to agri-food systems. In combination with an enabling policy environment that ensures the effective utilisation of investment, these strategies have the potential to accelerate progress towards zero hunger.

### Scaling-up targeted development funding in the short term

Given constraints on public budgets in many LMICs, development funding remains essential to closing the funding gap for agri-food. According to Carin Smaller, one avenue for increasing the volume of development funding available is through leveraging ODA earmarked for other aims. Food aid, which is a rapidly growing recipient of ODA, could be ‘linked more effectively with the long-term agenda’, for example by making sure that ‘where you are responding to emergencies, you are also financing longer term resilience’, she says. The logic for this is clear—only providing

humanitarian assistance will ensure that donors are required to provide it time and time again, while investing in resilience will eventually diminish demand for food aid. Similarly, by redirecting ODA to finance interventions at the intersection of multiple development objectives, a greater pool of money could be made available to end hunger. This is a question of designing interventions that “create multiple benefits for issues such as climate change, biodiversity and agriculture—moving across and leveraging the bigger bucket of aid”, remarks Carin Smaller.

A second avenue is through reform of international financing institutions (IFIs). “IFIs could do more to provide support,” says Rasmus Egdal. “There is definitely progress, but not at the pace that we need to see it”. Numerous interventions could catalyse this process. For example, reallocating wealthy nations’ unused Special Drawing Rights<sup>61</sup> to lower-income countries could theoretically generate many billions of dollars in new development funding.<sup>62,63,64</sup> Furthermore, reassessing the prudential requirements applied to multilateral

<sup>61</sup> A global reserve asset issued by the IMF that can be exchanged for hard currency—for example, to pay for imports or supplement government budgets. SDRs are currently allocated between countries according to an IMF quota system that disproportionately benefits wealthy nations. As larger, more prosperous economies tend to already have sufficient reserves of foreign currency, their SDRs are largely going unused; on the other hand, SDRs have proven useful in low-income countries. This underscores the argument for re-allocating SDRs from high-income to low-income countries.

<sup>62</sup> Vos, Rob. 2017. From billions to trillions: Towards reform of development finance and the global reserve system. In Sustainable Development Goals and inequality, eds. Peter A.G. van Bergeijk and Rolph van der Hoeven. Chapter 4, pp. 51-73.

<sup>63</sup> <https://www.carbonbrief.org/explainer-how-can-climate-finance-be-increased-from-billions-to-trillions/>

<sup>64</sup> <https://assets.nationbuilder.com/eurodad/pages/2897/attachments/original/1649658655/sdr-briefing-apr10-final.pdf?1649658655>

**“Envisaging an increase in ODA that solves all the issues is fanciful. You need to work with governments to leverage domestic resources and incentivise the private sector to come on board.”**

Rasmus Egendal, deputy director, Government Partnership Division, World Food Programme



development banks (for example, by relaxing excessively restrictive capital adequacy policies)—which are currently aligned with those of commercial banks—has the potential to free up significant volumes of additional finance for development.<sup>65</sup>

#### **Realising the potential of the private sector**

An increase in development funding cannot be the only solution. “Envisaging an increase in ODA that solves all the issues is fanciful,” remarks Rasmus Egendal. “You need to work with governments to leverage domestic resources and incentivise the private sector to come on board.” In particular, realising the immense potential of the private sector—including farmers, small and medium-sized enterprises, and financial institutions—will be critical. Dr Saharah Moon Chapotin agrees, emphasising the “real, critical role for the private sector”, including in agricultural R&D, where “private companies are already making significant research investments that do benefit global food security”.

An enabling policy environment has the potential to unleash untapped domestic

resources. For example, public-private solutions are a promising avenue to mobilising private-sector investment. Similarly, blended finance uses public or philanthropic funds to reduce the risk (or boost the return) of investment opportunities. This is crucial to “improving the value proposition of investing in agriculture” for private investors, says Hedwig Siewertsen. For example, in Ghana, a blended financing programme funded by the US government succeeded in unlocking US\$260m of private sector investment for agribusiness enterprises over five years. This resulted in an increase in smallholder farmers’ average annual profits of 74%.<sup>66</sup> Sara Mbago-Bhunu also highlights an innovative e-voucher scheme in Kenya (under KCEP-CRAL<sup>67</sup>), which blends financing from IFAD, the EU, private banks and agri-businesses in order to distribute e-vouchers to farmers for the purchase of agricultural inputs.<sup>68,69</sup>

Digitisation can also play an enabling role in increasing the last-mile provision of finance by rural financial institutions. Digital platforms, for instance, can play a role in mitigating crucial information asymmetries and deficiencies that hinder farmers’ access to finance; for

<sup>65</sup> Making the global financial system work for all: Report of the G20 Eminent Persons Group on Global Financial Governance (EPG), October 2018

<sup>66</sup> [https://www.safinetwork.org/\\_files/ugd/f6ddfc\\_8802e17a260a4836a9f33acc8c201bb6.pdf](https://www.safinetwork.org/_files/ugd/f6ddfc_8802e17a260a4836a9f33acc8c201bb6.pdf)

<sup>67</sup> The Kenya Cereal Enhancement Programme–Climate Resilient Agriculture Livelihoods Window

<sup>68</sup> <https://www.ifad.org/en/web/latest/-/video/from-low-to-high-increasing-productivity-and-purchasing-power-in-kenya>

<sup>69</sup> <https://www.ifad.org/en/web/latest/-/story/before-and-during-covid-19-an-e-voucher-initiative-makes-a-difference-for-kenyan-farmers>

## “Robust investment is needed in extension - alongside research - in order to ensure the dissemination and adoption of technologies by farmers.”

Saharah Moon Chapotin, executive director of the Foundation for Food & Agriculture Research

example, by facilitating the provision of the information needed by financial institutions for credit analysis and loan appraisal.<sup>70</sup> As noted by Hedwig Siewertsen, digitisation can take multiple forms, including “automation of rural financial institutions ... agency banking ... and digital mechanisation solutions, such as “Uber for tractors”. Furthermore, Prasad Gopalan notes the benefits that digitisation can bring in terms of reducing the transaction costs of providing finance to agri-businesses. “The traditional brick and mortar approach is a high-cost way of reaching smallholder farmers,” he says. “Fintech technologies could be a huge game-changer in how you finance these smallholders.”

### Maximising the impact of existing investment

Governments already spend a great deal on agri-food systems. However, much of this expenditure is dedicated to policies which do little to end hunger, such as fiscal subsidies to agri-businesses linked to the production of specific commodities.<sup>71</sup> While assessing the reasonableness of this expenditure is outside the scope of this research, it is clear that, for hunger to be eliminated, the impact of existing funding must be maximised. This will necessitate the repurposing of existing agricultural support measures—such as those based on subsidies and trade barriers—many of which have been

found to undermine nutritional outcomes and exacerbate greenhouse gas emissions.<sup>72</sup>

To this end, the Switzerland-based Center for Development Research and the FAO identify a number of high-impact interventions that have the potential to reduce hunger at a lower cost.<sup>73</sup> These include agricultural R&D, digital information systems and small-scale irrigation expansion. Crucially, they highlight the need for increased funding for extension services—a consistent theme across our interviews with experts. “Robust investment is needed in extension - alongside research - in order to ensure the dissemination and adoption of technologies by farmers”, says Dr Saharah Moon Chapotin. In particular, notes Sara Mbago-Bhunu, there is a need for more “extension services related to business skills and agri-entrepreneurship”, in order to promote the professionalisation of farmers and their agri-businesses.<sup>74</sup>

Furthermore, more must be done to remedy the inequitable distribution of funding for agri-food systems both within and between countries. This includes directing more development funding to those countries most reliant on external assistance for tackling hunger—such as Haiti and Madagascar—as well as raising more money for under-resourced communities within countries, such as small-scale farmers. To this end, it is crucial that, when considering how to allocate funding, governments and international donors carry out thorough and collaborative analysis to identify the most financially challenged countries (those where external financing is most necessary) and the most marginalised or excluded communities within those countries (considering factors of socioeconomic, political and environmental inequality at the local level).<sup>75</sup>

<sup>70</sup> [https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/FTI\\_Nov2021.pdf](https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/FTI_Nov2021.pdf)

<sup>71</sup> FAO, UNDP and UNEP. 2021. A multi-billion-dollar opportunity – Repurposing agricultural support to transform food systems. Rome, FAO.

<sup>72</sup> Vos, Rob; Martin, Will; and Resnick, Danielle. 2022. The political economy of reforming agricultural support policies. IFPRI Discussion Paper 2163. Washington, D.C.: International Food Policy Research Institute (IFPRI).

<sup>73</sup> ZEF and FAO (2020) Investment Costs and Policy Action Opportunities for Reaching a World without Hunger (SDG 2), Bonn and Rome, Oct 2020

<sup>74</sup> IFAD, for instance, is supporting entrepreneurship through projects such as FORMAPROD in Madagascar. <https://www.ifad.org/en/web/operations/-/project/1100001516>

<sup>75</sup> [https://concordeurope.org/wp-content/uploads/2019/11/CONCORD\\_AidWatch\\_Report\\_2019\\_web.pdf](https://concordeurope.org/wp-content/uploads/2019/11/CONCORD_AidWatch_Report_2019_web.pdf)

# Conclusion

Ending world hunger is an enormous task—but by no means an impossible one. It will, however, require a substantial uplift in financing for agri-food systems worldwide. Three strategies have the potential to catalyse progress: scaling-up development funding in the short term, realising the potential of the private sector and maximising the impact of existing investment. Crucially, any delay in actioning these strategies will not only risk humanitarian tragedy today, but will also increase the overall socioeconomic costs of ending hunger in the long term. There is no time to lose.



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