



# The Climate Finance Gap for Small-Scale Agrifood Systems

A growing challenge

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## ABOUT CLIMATE POLICY INITIATIVE

CPI is an analysis and advisory organization with deep expertise in finance and policy. Our mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has six offices around the world in Brazil, India, Indonesia, the United Kingdom, and the United States.

## ABOUT THE CLIMATESHOT INVESTOR COALITION

The ClimateShot Investor Coalition (CLIC) is an action-oriented group of investors working in agriculture and food systems. CLIC aims to rapidly scale up the finance necessary to shift towards low-carbon and climate-resilient agriculture and food systems globally.

This research on agrifood systems climate finance flows supports the delivery of the Breakthrough Agenda on Agriculture.



## DESCRIPTORS

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### REGION

Global

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### RELATED CPI WORK

[Landscape of Climate Finance for Agrifood Systems](#)

[Landscape of Climate Finance for Agriculture, Forestry, Other Land Uses, and Fisheries](#)

[Examining the Climate Finance Gap for Small-Scale Agriculture](#)

[Global Landscape of Climate Finance: A Decade of Data](#)

[The Landscape of Methane Abatement Finance](#)

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## EXECUTIVE SUMMARY

**Small-scale farmers and related supply chain actors contribute a significant share of global food production**, particularly in East Asia and the Pacific, South Asia, and sub-Saharan Africa. Small farms (those with less than two hectares [ha] of land) contribute 35% of the world's food and manage 12% of total agricultural land (Lowder et al., 2021). In South Asia and sub-Saharan Africa, micro-, small-, and medium-sized enterprises (MSMEs) dominate agrifood supply chains, channeling 65% of food (Reardon et al., 2021, 2019; Daly et al., 2023).

**Small-scale producers and the agri-MSMEs serving them are expected to face the most severe impacts of climate change and have limited capacity to manage them.** Meanwhile, small-scale agriculture and land-use change due to agriculture accounts for an estimated 5% of global greenhouse gas (GHG) emissions<sup>1</sup> (CGIAR, 2017). Despite their critical position in food production, emissions, and climate vulnerability, small-scale farmers and agri-MSMEs receive a meager share of climate finance.

This report complements our recent Landscape of Climate Finance for Agrifood Systems publication (CPI, 2023) by examining the climate finance going specifically to small-scale agrifood systems, with the aim of identifying gaps and opportunities for action in this crucial but under-researched sector.

### Box ES1: Definition

**Small-scale agrifood systems** comprise a complex ecosystem of actors including small-scale producers (typically managing less than 2ha) and other value chain actors (e.g., cooperatives, farmers' associations, and agri-MSMEs with no more than 250 employees and USD 5 million in annual turnover) that provide agricultural inputs, services, product aggregation and market linkages in upstream or downstream industries (CPI, 2020, 2023). See Section 1 for more information.

**Agrifood systems are defined in the** Agrifoods Landscape report (CPI, 2023).

**Data limitations:** Despite efforts to improve the coverage of data collected, significant gaps persist for public domestic climate finance flows as well as domestic and international flows from private actors. This is largely due to a lack of transparency and standardized disclosure practices. The findings presented should be interpreted with these data constraints in mind. More detail on data limitations can be found in Section 2.3 of the Agrifoods Landscape report (CPI, 2023).

<sup>1</sup> Current GHG emissions data on land use and agriculture are not disaggregated by farm or business size. The 5% estimate is from a 2017 CGIAR study, using 2010 FAOSTAT data. The CGIAR authors note that this figure constitutes a rough estimate and more detailed analysis would be necessary for a more accurate calculation. While we acknowledge these limitations, we use this figure to show the magnitude of the climate finance gap and related opportunities.

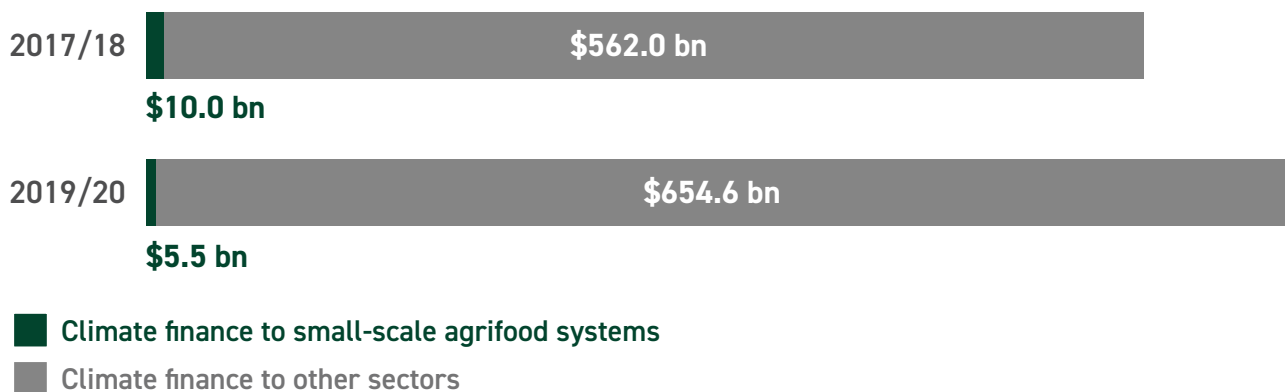
## KEY FINDINGS

**Climate finance to small-scale agrifood systems was strikingly low in 2019/20, at just USD 5.53 billion**, far below the needs of producers and supply chain actors. This represents just 0.8% of total climate finance tracked across all sectors (USD 660.2 billion), and 19% of climate flows to agrifood systems as a whole (USD 28.5 billion).

In the absence of an estimate for the climate finance required by small-scale agrifood systems, proxy data points can highlight the potential magnitude of the gap. At USD 28.5 billion, the total climate finance for agrifood systems as a whole is at least seven times lower than the most conservative estimated needs (CPI, 2023). Similarly, the unmet general financing needs of smallholder farmers are estimated at USD 170 billion annually, and USD 106 billion for agri-SMEs (ISF Advisors, 2022).

**Climate finance for small-scale agrifood systems experienced a 44% drop in 2019/20, compared with the previous tracking period (2017/18).** This reflects the 20% decline in climate finance to agriculture, forestry, other land uses and fisheries (AFOLU) in the same period (Figure ES1) yet contrasts with a significant increase in overall climate finance across sectors.

Figure ES1. Climate finance to small-scale agrifood systems, 2017/18 and 2019/20



Sources: 2017/18 figures on other sectors (CPI, 2022); 2017/18 figures on small-scale agrifood systems (CPI, 2020); 2019/20 figures from CPI analysis.

Even as global climate finance is on an upward trajectory overall, the funding tracked for small-scale agrifood systems falls short no matter the metric these flows are considered against – be it share of farmland managed, contribution to food supply and domestic economies, vulnerability to climate change or contribution to GHG emissions.

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**Despite an overall drop in flows in 2019/20, the finance sources, financial instruments used, climate objectives and geographic distribution of flows all remained broadly similar to the 2017/18 period.**

**Finance sources:** Public entities remain the main source of climate finance for small-scale agrifood systems in 2019/20, providing approximately USD 5.3 billion (96%). International finance represented approximately 81% (USD 4.3 billion) of the total public finance tracked for small-scale agrifood systems.

**Financial instruments:** Small-scale agrifood systems received nearly half of climate finance in the form of grants, totaling USD 2.7 billion, and 39% (USD 2.2 billion) as concessional debt. This is similar to the 2017/18 period when grants made up 47% and concessional debt 31% of flows. Equity made up just USD 0.03 billion (0.6%) of total climate flows to these systems yet represented 3% of flows to agrifood systems as a whole (CPI, 2023). Given their potential for risk sharing and fostering long-term commitments, there is an opportunity for increased equity finance in small-scale agrifood systems.

**Climate objectives:** In 2019/20, the distribution of finance between climate objectives remained similar to 2017/18; 50% of finance went to adaptation, 33% to dual climate objectives, and 17% to mitigation. Significantly, 98% of tracked adaptation finance went to projects in non-OECD countries, in line with the climate vulnerabilities faced by small-scale producers in low- and lower-middle-income countries.

**Dual-objective climate finance for small-scale agrifood systems amounted to USD 1.8 billion or a third of the total.** The vast majority of this (96%) came from the public sector, notably governments, which provided USD 1.3 billion, mainly through grant funding. However, much of this is attributed to China's Conversion of Cropland to Forest Program (CCFP) (USD 1 billion). Excluding these flows, dual objective funding would amount to USD 0.8 billion or 18% of the total, making it the least financed climate objective. While agrifood systems are uniquely positioned to deliver triple wins in terms of (1) productivity and incomes, (2) climate adaptation and resilience, and (3) GHG emissions reduction through the use of climate-smart agriculture integrative approaches (FAO, 2013), this opportunity remains insufficiently explored. Increased focus on investments with both climate mitigation and adaptation benefits should feature high on public and private funders' agendas (CPI, 2022).

**Mitigation finance for small-scale agrifood systems reached USD 1 billion, or 17% of the total in 2019/20. This is equivalent to 0.2% of global climate mitigation finance across all sectors.** Such statistics underline the magnitude of the finance gap and indicate opportunities to enhance mitigation and dual climate benefits efforts, given that small-scale agriculture and land-use change from developing countries are roughly estimated to contribute approximately 5% of global GHG emissions (CGIAR, 2017).<sup>2</sup> Nonetheless, small-scale actors' high climate vulnerability makes it vital for mitigation interventions to integrate adaptation and resilience measures, in line with just transition principles.

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<sup>2</sup> Including emissions from crop and livestock production as well as deforestation/land use change; excluding emissions from processing, transport, or the production of fertilizer or feed as well as carbon sequestration due to the planting of trees, pasture, or organic matter input to the soil.

**Geographic distribution:** The geographic distribution of climate finance for small-scale agrifood systems in 2019/20 remains consistent with the previous two-year period. Sub-Saharan Africa, East Asia and the Pacific, and South Asia – together home to approximately 95% of the world's small-scale farms – received 73% of total climate finance for small-scale agrifood systems in 2019/20 (see Table 1).

Sub-Saharan Africa received the largest share (34%, or USD 1.86 billion), which aligns with the fact that a substantial proportion of the region's farms are small in scale. Nevertheless, urgent additional funds are required as its agriculture and food sectors have the highest climate vulnerability globally.

East Asia and the Pacific received the second-largest share (approximately 28%). However, discounting funds from China's CCFP would make the region the fourth-largest recipient, despite having the greatest share of land under small-scale management and recording the highest regional agrifood GHG emissions.

South Asia also appears considerably underserved, receiving only 11% of total small-scale agrifood climate funds, despite having the second-most climate-vulnerable food and agriculture systems globally.

The Middle East and North Africa received only 1.5% of climate finance for small-scale agrifood systems, despite having a significant concentration of small-scale producers, and notable climate vulnerability.

**Sub-sectoral distribution:** In 2019/20, climate finance for small-scale agrifood systems was largely directed to the agriculture sector, which received 57% of the total. This was followed by forestry, representing 29%. The fisheries sector was notably underserved, receiving only 0.5%, as was food loss and waste with less than 0.1%.

## RECOMMENDATIONS

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Current climate finance going to small-scale agrifood systems is far below the needs of the producers and supply chain actors serving them. All stakeholders must combine efforts to increase climate funding for these systems. To guide their actions, existing just transition frameworks and principles need to be further developed and operationalized according to national-, subnational- and commodity-specific contexts.

We present the following recommendations for public and private stakeholders to change course and urgently move towards the levels of climate finance needed.

Actors	Recommendations
<b>Policymakers and regulators</b>	Position a just transition for agrifood systems as a top priority on national and international climate agendas, including reflecting related finance needs in Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) to help raise international finance.
	Ensure that just financing mechanisms are at the core of the climate transition and bundle them with safety nets, reskilling training for small-scale actors, investments in adequate rural infrastructure and legislative frameworks.
	Repurpose agricultural subsidies for climate-relevant interventions in an equitable manner, ensuring access to finance and insurance for small-scale producers and agribusinesses.
<b>Development finance institutions (DFIs) and climate funds</b>	Consistently and progressively increase levels of climate finance for small-scale agrifood systems to enable long-term planning of resources.
	Use capital effectively by increasing the provision of concessional finance to catalyze private investment. This can ensure capital for small-scale farmers transitioning from conventional agriculture to regenerative practices as well as adequate technical assistance.
	Deploy a greater level of equity to help agribusinesses absorb risks and navigate volatile periods.
<b>DFIs, climate funds and private financial institutions</b>	Invest in value-adding local agribusinesses that create diversified livelihoods and fair additional/alternative income streams for small-scale producers and micro-entrepreneurs. This can enable producers to work in higher-value and more formal jobs, and generate additional income, ultimately alleviating poverty and improving access to nutritious and sustainable food.
<b>Multinational agrifood corporations (MNCs)</b>	Increase action and climate investments in small-scale actors along supply chains to deliver on their climate-related disclosures and subsequent commitments to reduce Scope 3 emissions.
	Develop and implement action plans on the transition of supply chains to net-zero, resilient and nature-positive pathways in a just manner, including meaningful mechanisms to ensure that farmers are fairly compensated for their sustainable produce.
	Invest in Scope 3 emissions reductions and regenerative agriculture in an inclusive and fair manner, with equitable allocation of funding and by ensuring training along entire supply chains, down to small-scale primary producers and offtakers.
<b>DFIs, climate funds, private financial institutions and MNCs</b>	Strive for greater transparency in the disclosure of climate finance flows across sectors, including granular information on beneficiaries and project scope. This allows for a more accurate assessment of the progress in filling the climate finance gap for small-scale agrifood systems.
<b>Research institutions and NGOs</b>	Work with policymakers and private actors to implement existing frameworks and principles for a just transition in agrifood systems at the national and subnational levels. This should be tailored to the specific needs of small-scale agrifood actors, include specific goals and funding sources, and build on learnings and evidence from the energy sector.
	Document success cases of innovative and effective governance structures providing farmers and entrepreneurs working in informal markets with social protection and safety nets.
	Design methodologies and collect granular data to estimate the climate finance needs for small-scale agrifood systems allowing to measure progress globally.



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# INTRODUCTION

**Small-scale farmers and supply chain actors handle a significant share of global food production, supporting food security, nutrition, livelihoods, and economies (FAO, 2022a).**

Small farms (those with less than two hectares [ha] of land) contribute 35% of the world's food and manage 12% of total agricultural land (Lowder et al., 2021).

**Small-scale production and micro-, small- and medium-sized agribusinesses play a particularly essential role in low- and lower-middle-income countries in East Asia and the Pacific, South Asia, and sub-Saharan Africa** (see Table 1). On average, 80% of farms in these regions are small-scale, managing 30-40% of agricultural land (Lowder et al., 2021). Additionally, in South Asia and sub-Saharan Africa, 65% of food goes through supply chains dominated by agri-MSMEs (Reardon et al., 2021, 2019; Daly et al., 2023).

**Small-scale producers are expected to face the most severe impacts of climate change, particularly in sub-Saharan Africa, Asia, Small Island States, and Central and South America (FAO & UNDP, 2022).** The growing frequency and intensity of climate-related extremes (e.g., droughts, floods, and heatwaves) will further diminish crop and livestock production and threaten the food security, nutrition, and livelihoods of rural communities (FAO & UNDP, 2022).

**The high interdependency of supply chain actors means that any disruption in one segment reverberates across others (FAO, 2021a).** In addition, agri-MSMEs have limited capacity to manage the effects of changing weather patterns and extreme heat on product perishability and seasonality (FAO, 2021a). Reinforcing the climate resilience of small-scale producers is increasingly critical, as they are projected to surpass 500 million globally by 2030 (Steiner et al., 2020).

**In addition, agrifood systems are a major contributor to greenhouse gas (GHG) emissions, but any mitigation actions must be aligned with the principles of a just transition.** It is roughly estimated that small-scale agriculture and land-use change due to agriculture account for approximately 5% of global emissions (CGIAR, 2017).<sup>3,4</sup> This presents opportunities to mitigate climate change by transitioning small-scale agrifood systems to low-emissions pathways. Importantly, agrifood systems are uniquely positioned to deliver double wins, both in terms of climate adaptation and resilience, and GHG emissions reduction and these options remain insufficiently explored.

However, such actions must be aligned with the principles of a just transition. Small-scale agrifood actors are among the poorest in the world (75% of the world's poorest live in rural areas) (Fanzo, 2018; HLPE, 2019; Barrett et al., 2022; Gomez Y Paloma et al., 2020, Daly et al., 2023). Often fully dependent on agriculture for their livelihoods, they also face inequality

<sup>3</sup> This includes roughly estimated emissions from crop and livestock production, as well as deforestation/land use change in developing countries, excluding emissions from processing, transport, or the production of fertilizer or feed as well as carbon sequestration due to the planting of trees, pasture, or organic matter inputs to soil (CGIAR, 2017).

<sup>4</sup> Current GHG emissions data on land use and agriculture are not disaggregated by farm or business size. The 5% estimate is from a 2017 CGIAR study, using 2010 FAOSTAT data. The CGIAR authors note that this figure constitutes a rough estimate and more detailed analysis would be necessary for a more accurate calculation. While we acknowledge these limitations, we use this figure to show the magnitude of the climate finance gap and related opportunities.

and have low bargaining power in relation to larger supply chain actors, therefore receiving low economic returns for their outputs. Most small-scale agrifood actors operate in informal markets and end up having to do the heavy lifting and self-financing in the transition to carbon-neutral production and adapting to the effects of climate change. This can entail retraining as well as adopting new business models and agricultural practices (Axworthy, 2019; IIED, 2023). Estimates based on surveys of smallholders across 13 countries<sup>5</sup> indicate that on average these farmers invest 20-40% of their annual income in climate adaptation practices, equivalent to approximately USD 368 billion annually (IIED, 2023).

This research brief complements our recent publication the [Landscape of Climate Finance for Agrifood Systems \(2023\)](#) (the Agrifoods Landscape), by diving into climate finance flows to small-scale agrifood systems in order to identify gaps and opportunities for action. Our analysis also builds on the framework and methodological tools used in CPI's 2020 publication [Examining the Climate Finance Gap for Small-Scale Agriculture](#) (the Small-Scale Agriculture report). It captures climate finance flows to small-scale agrifood systems averaged across the years 2019 and 2020 and compares these with the average for the previous two years. These flows are then unpacked according to source, financial instrument, climate objective, sectoral distribution, and geographic destination.

Despite the persistence of data gaps, this study aims to inform policymakers, funders, investors, and companies and enable them to scale up the equitable allocation of climate finance across small-scale agrifood systems.

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5 Bolivia, China, Ecuador, Ghana, Kenya, Liberia, Madagascar, Mexico, Nepal, Tanzania, Togo, Vietnam and Zambia

# 1. SCOPE, METHODOLOGY AND DATA

This research explores climate finance to small-scale agrifood systems from 2019-2020. It complements the extensive analysis of the 2023 Agrifoods Landscape report by diving into the subset of small-scale agrifood systems, while also building on the analysis presented in the 2020 Small-Scale Agriculture report. We define key concepts used in this report below.

## Box 1. Definitions used in this report

**Small-scale agrifood systems** comprise a complex ecosystem of actors including small-scale producers, as well as other value chain actors (e.g., cooperatives, farmers' associations, agri-MSMEs) that provide agricultural production inputs, services, product aggregation, processing and market linkages, as part of upstream or downstream industries (Adapted from CPI, 2020).

**Agrifood systems** are defined as the processes and actors that convert natural resources and the environment into benefits and costs for humankind through agricultural production and agro-industries (Campanhola and Pandey, 2019), in line with the Agrifoods Landscape report.

**Small-scale farming** has different definitions, and their scope varies by region. The most commonly used criterion is land size, classifying farms of under 2 ha as small-scale (Lowder et al., 2021; FAO, 2022a; CPI, 2020). This is mostly applicable in Asia and Africa, while in Latin America, farms of up to 5 ha and beyond may still display small-scale characteristics, such as reliance on family labor, remote location with poor transport infrastructure, limited access to markets and services, low capital investments and mechanization, labor-intensive production (FAO, 2015).

**Other small-scale value chain actors encompass agri-MSMEs**, as defined by the SAFIN/ISF taxonomy (SAFIN & ISF Advisors, 2021).

Micro enterprises are typically informal, focused on income-generating activities, employ up to five workers and have less than USD 100,000 in annual turnover.

Small and medium enterprises are profit-oriented enterprises involved in agrifood value chains either directly or by providing enabling services to other actors. They have between 5 and 250 employees and an annual turnover of USD 100,000 to USD 5 million.<sup>6</sup>

Our financial data analysis relies on the approach adopted by the various reporting institutions recorded in our dataset (i.e., their own project definition of smallholder farmer, small-scale producer, family farming, MSMEs etc.). We use the land-size criterion for small-scale producers only to determine the applicability of certain regional statistics defined on this basis (e.g. percentage of land under small-scale farm management).

<sup>6</sup> We note that SAFIN/ISF definitions include subsistence farmers as well as individual farm laborers as micro enterprises and medium farms as MSMEs. Our study considers the producers as a distinct category to emphasize their specific characteristics, challenges, and needs.

This analysis is based on the sectoral framework and dataset used in the recent Agrifood Landscape report (CPI, 2023). To ensure consistency and comparability of findings, we used the same methodology as the 2020 CPI Small-Scale Agriculture report to isolate the subset of data relevant to small-scale agrifood systems. This entails a semi-automated approach that combines keywords used by reporting organizations and funders when describing projects targeting small-scale agrifood systems with manual checks.

**Data limitations:** Despite efforts to improve the coverage of data collected, significant gaps persist for private finance and public domestic financial flows, largely due to a lack of transparency and standardization of disclosure practices. Our findings should be interpreted with these constraints in mind.

For more detail on our methodology, see Annex 1.

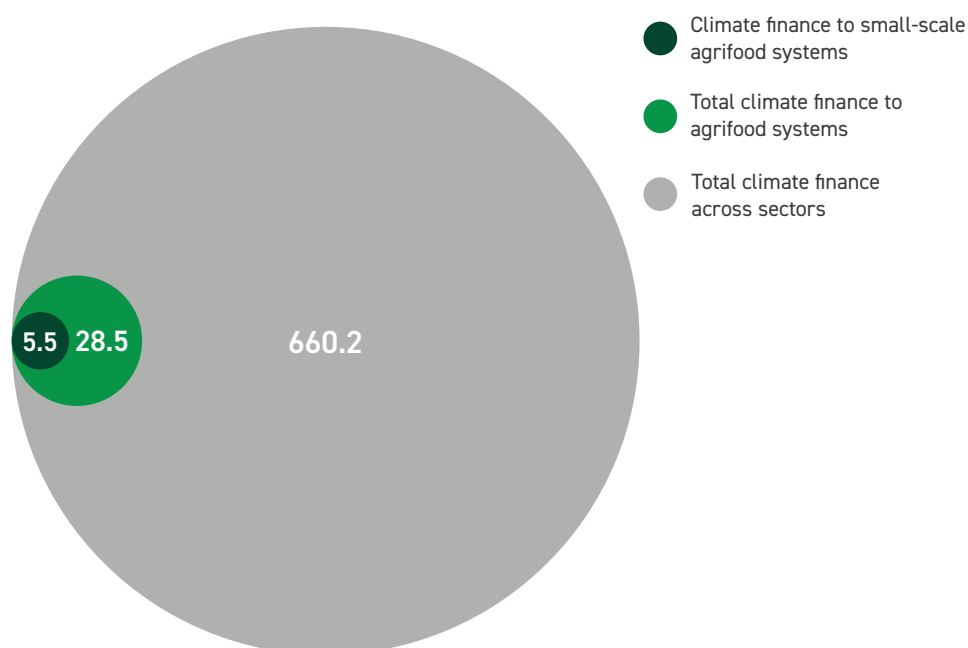


## 2. THE BIG PICTURE IS...TOO SMALL

**In 2019/20, climate finance for small-scale agrifood systems was strikingly low, at USD 5.53 billion. This represents just 0.8% of total climate finance tracked across all sectors<sup>7</sup> and 19% of the total for agrifood systems in the same period.** For perspective, the overall funding for agrifood systems in 2019/20 amounted to USD 28.5 billion (CPI, 2023). However, even this is inadequate, falling short by a factor of seven against the most conservative estimated annual needs (CPI, 2023).

**Small-scale producers and agri-businesses are notably underserved, despite their pivotal roles in food production and economies.** Five in six of the world's farms are small-scale, collectively operating on 12% of total agricultural land and producing 35% of the global food supply (Lowder et al., 2021; FAO, 2021b). In low- and middle-income countries, small-scale production contributes 40 to 50% of the food supply, (FAO, 2023a).

**Figure 1.** Climate finance to small-scale agrifood systems, agrifood systems and all sectors in 2019/20 (USD billions)



**Given their essential contributions to food security, nutrition, and livelihoods, and in light of their vulnerability to adverse climate impacts, there is a pressing need for increased and equitable climate investment in small-scale agrifood systems.** Small-scale producers and agri-MSMEs are deeply rooted in rural communities, where they tailor their services to meet the distinct local needs of rural areas (FAO, 2023a; FAO, 2021a). Despite their importance, small-scale producers have significant unmet financing needs that stretch beyond climate finance to include working capital, trade and asset finance, and mezzanine finance, as well as

<sup>7</sup> Percentage calculated based on data from CPI's Global Landscape of Climate Finance: A Decade of Data (CPI, 2022): total project-level climate finance tracked globally across sectors for 2019/20 is USD 652.6 billion + USD 7.5 billion (new/additional 2019/20 data collected for CPI, 2023)

to bridge gaps between harvests. For example, smallholder farmers in Latin America, sub-Saharan Africa and South and Southeast Asia require an estimated USD 170 billion annually, while agri-MSMEs in sub-Saharan Africa and Southeast Asia require USD 106 billion (ISF Advisors, 2022).

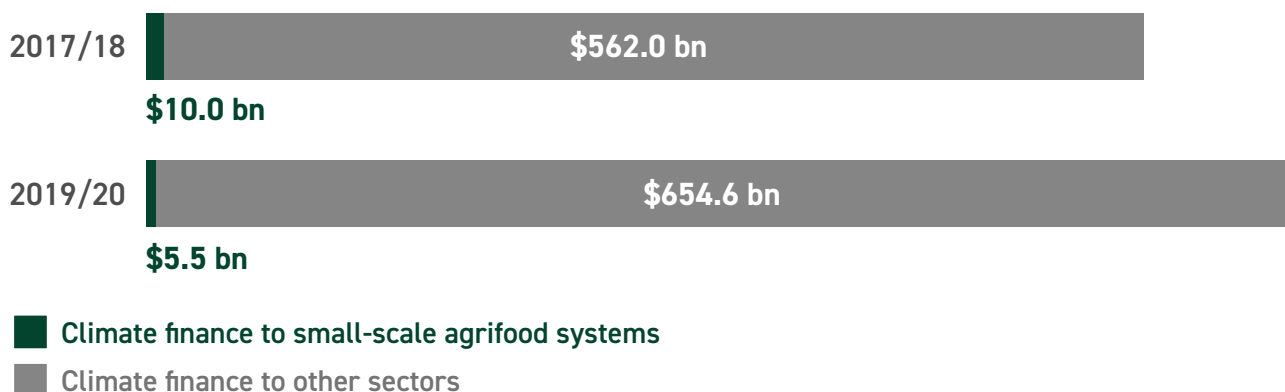
**Public agricultural support policies are currently misaligned with a healthy, sustainable, equitable and efficient food systems transformation.** A significant proportion of the vast subsidies to agriculture and fisheries are distortive. These subsidies total over USD 670 billion annually – equivalent to 0.9% of global GDP (World Bank, 2023). Approximately 61% of this support influences farmers' planning, harvesting, and input decisions in ways that can be detrimental to the environment and economy. For instance, evidence suggests that agricultural subsidies are responsible for the loss of 2.2 million ha of forest cover per year, equating to approximately 14% of annual global deforestation (World Bank, 2023).

**While phasing out environmentally and socially harmful public support is essential, it is also crucial to do so with consideration for small-scale producers.** Current subsidies predominantly benefit large landowners and corporations, leaving behind rural communities that face the effects of environmental degradation and bear the costs of ecosystem restoration (WRI, 2021; FAO, 2021c). These small-scale producers are vital to the agriculture sector and often have more immediate needs for incentives than large-scale farmers (WRI, 2021). To ensure an equitable distribution of resources, governments should unlink farmer payment programs from production volumes and specific commodities (FAO, 2021c). Additional enabling measures include the recognition of land rights for small-scale producers, granting them legal titles over ancestral lands. The absence of these titles often renders them ineligible for subsidies, even as they contribute significantly to restoring and preserving the ecosystem (WRI, 2019).

**In 2019/20<sup>8</sup>, climate finance to small-scale agrifood systems saw a stark 44% decline on 2017/18, even as overall climate finance rose across sectors. This is due to a shift in financial commitments of key public funders – namely governments, bilateral, and multilateral development finance institutions (DFIs).** This parallels the 20% decrease in climate finance for the agriculture, forestry, other land use and fisheries (AFOLU) sector in the same period. Historically, these entities have been key contributors to AFOLU climate finance, providing 96% of flows in 2013/14, 83% in 2015/16, and 93% in 2017/18. However, their commitments were scaled back in 2019/20, with bilateral DFIs reducing their total AFOLU funding by 38%, multilateral DFIs by 24%, and governments by 17%. As a consequence, for small-scale agrifood systems, bilateral DFIs cut commitments by 89% (USD 1.7 billion to USD 0.2 billion), governments by 45% (USD 3.8 billion to USD 2.1 billion), and multilateral DFIs by 24% (USD 3.2 billion to USD 2.4 billion) between the two periods.

<sup>8</sup> The 44% decline is calculated on absolute numbers. As a share of total climate finance across sectors, small-scale agrifood systems received 1.7% in 2017/18 in contrast with only 0.8% in 2019/20.

Figure 2. Climate finance to small-scale agrifood systems, 2017/18 and 2019/20



Sources: 2017/18 climate finance to other sectors (CPI, 2022);<sup>9</sup> 2017/18 climate finance to small-scale agrifood systems (CPI, 2020); All 2019/20 figures: current CPI analysis.

**The joint multilateral development banks (MDB) annual reporting<sup>10</sup> confirms our analysis, as it also displays a 22% fall in the group’s climate finance contribution to AFOLU:** from USD 4.7 billion on an annual average in 2017/18 to USD 3.7 billion in 2019/20 (MDBs, 2017, 2018, 2019, 2020). The largest drop (35%) appears in MDBs’ adaptation finance for crop and food production in low- and lower-middle income countries, where generally there is a high prevalence of small-scale producers (see Table 1). Concurrently, with the decrease in funding for small-scale agrifood systems and AFOLU, our analysis shows significant increases in financial commitments from these entities to other sectors. Between 2017/18 and 2019/20, governments increased their financial contributions to the Buildings and Infrastructure sector by nearly 20-fold, while multilateral DFIs increased contributions by nearly four-fold. In the Transport sector, contributions from both bilateral and multilateral DFIs rose by 32% and 35%, respectively. We also note increased investments from governments in Water and Wastewater and from multilateral DFIs in both Water and Wastewater and the Industry sector, though these increases were smaller in absolute terms compared to those for transport and infrastructure.

Our research did not identify any external factors that could have contributed to this downward trend. The distribution of financial commitments between 2019 and 2020 is fairly balanced with approximately USD 0.5 bn more in 2020. The decline therefore cannot be explained as the effect of the COVID-19 pandemic<sup>11</sup>.

<sup>9</sup> Total climate finance for 2017/18 is sourced from CPI publication the Global Landscape of Climate Finance: A Decade of Data (CPI, 2022). This provides the most recent data subsequent to the OECD-DAC release and presents an accurate picture of climate finance for 2017/18. See Annex 1 of the CPI, 2022 publication for more details.

<sup>10</sup> The group of the following multilateral development banks (MDBs) publish annual joint reports on their climate finance commitments: the African Development Bank (AfDB), the Asian Development Bank (ADB), the Asian Infrastructure Investment Bank (AIIB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IDBG), the Islamic Development Bank (IsDB) and the World Bank Group (WBG).

<sup>11</sup> Declared in early 2020.

### 3. FINANCE SOURCES

**Public entities remained the main source of climate finance for small-scale agrifood systems in 2019/20, providing about USD 5.3 billion (96%). International contributions accounted for about 81% (USD 4.3 billion) of the total public finance tracked.** Multilateral DFIs, which previously accounted for USD 3.2 billion, or 34% of public funds (CPI, 2020), in 2019/20 became the leading contributors of public climate finance to small-scale agrifood systems, but at the considerably lower amount of USD 2.4 billion. Most funds provided by multilateral DFIs (73%) came as concessional debt, primarily going to agriculture-focused adaptation projects in sub-Saharan Africa. These aimed to strengthen resilience in pastoral communities by promoting effective irrigation, improving rural infrastructure for better market access, offering advisory services on sustainable land management, and enhancing access to climate information services, among others.

**Governments provided the second-largest share in 2019/20, at USD 2.1 billion. This marked a significant drop from being the largest public finance contributor with USD 3.9 billion in 2017/18 (CPI, 2020).** Government funding in 2019/20 was primarily in the form of grants (97%), with over half going to East Asia and the Pacific, specifically China, with the rest flowing largely to agricultural adaptation in sub-Saharan Africa. Most funding to China went to the country's Conversion of Cropland to Forest Program (CCFP), one of the world's largest national Payment for Ecosystem Services (PES) programs. The CCFP incentivizes farmers to plant trees on degraded or agricultural land, primarily for environmental restoration, flood prevention, and poverty alleviation purposes (Zhang et al., 2017; Wang et al., 2021).

**Private finance for small-scale agrifood systems amounted to USD 0.14 billion in 2019/20, accounting for about 3% of the total. Of this, 91% (around USD 0.13 billion) came from philanthropies, primarily as grants (99%).** These mainly went to adaptation projects in sub-Saharan Africa, with a focus on regenerative agriculture, soil health, and digital farming solutions (e.g., productivity tracking).

**Corporations contributed just USD 8 million, or roughly 0.14% of total climate finance for small-scale agrifood systems,** mainly to projects supporting biodiversity, rehabilitation of degraded savanna, and integration of renewable energy into farming processes and equipment. Such contributions resonate with broader themes of environmental stewardship and corporate sustainability goals, emphasizing the strategic business rationale behind these investments. This presents an opportunity for multinational corporations (MNCs) to amplify their pledges. Investing in efforts to curb deforestation, and promote regenerative agriculture in supply chains can help to reduce Scope 3 emissions, enrich biodiversity, and improve soil health. The recent EU regulation on deforestation-free products (EUDR), mandates related due diligence by MNCs (Forest500, 2023). This aims to reduce the consumption of products linked with deforestation and forest degradation, and could spur more MNC investment in this domain.

## 4. FINANCIAL INSTRUMENTS

**Grants made up approximately USD 2.7 billion (nearly 50%) of climate finance to small-scale agrifood systems in 2019/20, while concessional debt accounted for USD 2.2 billion or 39%. This is similar to grant and concessional debt shares in 2017/18, at 47% and 31%, respectively.**

Addressing the financing gaps for smallholders and agri-MSMEs, estimated at a collective USD 276 billion (ISF Advisors, 2022), requires not only increased funds, but also an understanding of the challenges associated with these sectors. Smallholders and agri-MSME investments are often viewed as high-risk, based on factors including unpredictable weather conditions, market volatility, and the limited collateral that farmers can offer (CPI, 2020; ISF Advisors, 2022, 2018). Grants and concessional capital are powerful tools in this context, as they can offset real and perceived risks and promote the growth of an inclusive smallholder finance market (ISF Advisors, 2018).

**Equity investment is notably lacking, capturing only 0.6% of small-scale agrifood climate finance (USD 0.03 billion), in contrast to the 3% dedicated to broader agrifood systems (CPI, 2023).** Equity allows agri-MSMEs to benefit from risk sharing and long-term commitments from investors, while avoiding the danger of debt traps, especially in case of crop failure. It also fosters shared goals and responsibility between investors and farmers, making equity investors more inclined to support climate-smart practices that help increase businesses' climate resilience, and to provide mentorship and technical expertise (SEI, 2023). On top of investment, technical assistance is essential to enhance the commercial viability and environmental impact of enterprises, especially in nascent and fragmented markets (CASA, 2019; Convergence, 2019).



## **Box 2: Acumen Resilient Agriculture Fund**

The Acumen Resilient Agriculture Fund (ARAF) is the first-ever climate adaptation-focused agribusiness equity fund, which aims to strengthen the climate resilience of small-scale producers in Africa. The pioneering impact fund has committed to deploy USD 58 million over the 12 years up to 2030, sponsored by Acumen and anchored by partners including the Green Climate Fund (GCF) and the FMO (Acumen, 2021a, 2021b).

Since starting operations in 2020, ARAF has provided at least five innovative agri-MSMEs across Ghana, Kenya, Nigeria, and Uganda with equity and quasi-equity capital in their critical growth stages (Blended Finance Taskforce, n.d.; AgFunder, 2021). It has also supported farmers to adopt sustainable agricultural practices, climate-smart inputs and technologies (AgFunder, 2021).

ARAF envisions shifting smallholder farmers from being low-productivity price-takers to empowered players in the agriculture sector (Acumen, 2021a). Its strategy includes supporting aggregators that offer bundled climate solutions, agritech businesses with digital platforms, and financial service providers that diversify income streams for farmers (Blended Finance Taskforce, n.d.).

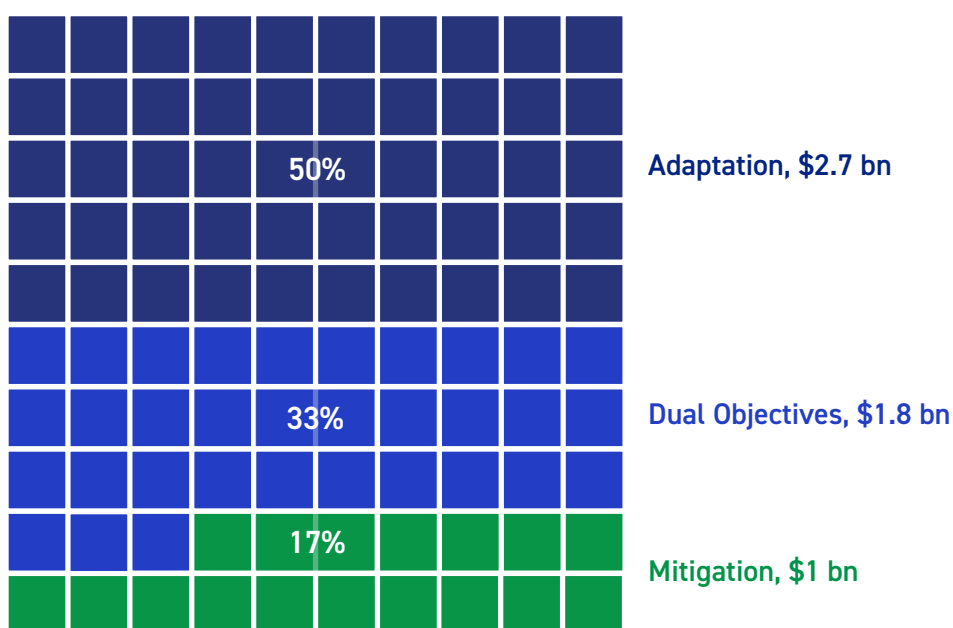
Two unique traits of ARAF include: a USD 23 million first-loss pool of capital, which gives the fund the risk tolerance to back early-stage agri-MSMEs; and a USD 5 million grant-funded technical assistance facility to help portfolio companies prove their commercial viability and achieve scale (Acumen, 2021a; AgFunder, 2021; Blended Finance Taskforce, n.d.).

Examples of ARAF-investee companies in Kenya include SunCulture, which provides affordable solar irrigation systems on a pay-as-you-go basis to smallholder farmers, and FarmWorks, which connects smallholders to agronomy training, quality inputs, and markets. Such companies benefit from ARAF's support in areas including farmer training on climate-smart technologies, business development, and impact measurement (Acumen, 2021b; AgFunder, 2021).

## 5. CLIMATE OBJECTIVES

In 2019/20, the distribution of finance between climate objectives remained closely aligned with 2017/18, with 50% going to adaptation, 33% to dual climate objectives, and 17% to mitigation efforts.

Figure 3. Breakdown of small-scale agrifood investment by climate objectives in 2019/20



**Projects outside the OECD received 98% of tracked adaptation finance, which aligns with the vulnerabilities faced by small-scale producers in low- and lower-middle-income countries.** The effects of climate change on agricultural productivity are especially pronounced for small-scale producers in sub-Saharan Africa and South Asia (IPCC, 2019). Recent assessments indicate that increased temperatures and erratic rainfall patterns in these regions are likely to result in dramatic yield decreases, undermining food security. When combined with socioeconomic, demographic and policy challenges – including limited access to technical and financial resources to invest in climate-resilient tools, fluctuating commodity prices, and poor land tenure regulation – small-scale producers are placed on the front line in the fight against climate change (Harvey et al., 2018; CPI, 2020). Recent survey data from smallholders across 13 countries indicate that, on average, these farmers invest 20-40% of their annual income in climate adaptation practices, which amounts to approximately USD 368 billion annually (IIED, 2023). Tracked adaptation projects focus on areas including the dissemination of climate and weather information to aid strategic agricultural decision-making, provision of extension services to encourage the adoption of climate-smart agricultural practices, irrigation technologies and facilitating market access.

Finance for such interventions needs to be urgently scaled up to help ensure climate adaptation and resilience in small-scale agrifood systems.

**Dual objective climate finance for small-scale agrifood systems amounted to USD 1.8 billion or a third of the total.** The vast majority of this (96%) came from the public sector, notably governments, which provided USD 1.3 billion, mainly through grant funding. However, much of this is attributed to China's CCFP (USD 1 billion). Excluding these flows, dual objective funding would amount to USD 0.8 billion or 18% of the total, making it the least financed climate objective. While agrifood systems are uniquely positioned to deliver triple wins in terms of (1) productivity and incomes, (2) climate adaptation and resilience, and (3) GHG emissions reduction through the use of climate-smart agriculture integrative approaches (FAO, 2013), this opportunity remains insufficiently explored. Increased focus on investments with both climate mitigation and adaptation benefits should feature high on public and private funders' agendas. Outside of the CCFP, projects are largely concentrated in sub-Saharan Africa (USD 0.24 billion) and Latin America and the Caribbean (USD 0.14 billion). These include activities such as farmer training in low-emissions and climate-resilient agricultural practices, increasing access to water for agricultural production through solar irrigation, and facilitating access to markets, high-quality seeds, and other inputs.

**Mitigation finance for small-scale agrifood systems reached USD 1 billion, or 17% of the total in 2019/20. This is equivalent to 0.2% of global climate mitigation finance across all sectors.** Such statistics underline the magnitude of the finance gap and indicate opportunities to enhance mitigation and dual climate benefits efforts, given that small-scale agriculture and land-use change from developing countries are roughly estimated to contribute approximately 5% of global GHG emissions (CGIAR, 2017).<sup>12</sup> Nonetheless, small-scale actors' high climate vulnerability makes it vital for mitigation interventions to integrate adaptation and resilience measures, in line with just transition principles.

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<sup>12</sup> Including emissions from crop and livestock production as well as deforestation/land use change; excluding emissions from processing, transport, or the production of fertilizer or feed as well as carbon sequestration due to the planting of trees, pasture, or organic matter input to the soil.

### Box 3. A just transition for agrifood systems

A just transition seeks to ensure that the benefits and costs of moving to a low-carbon or green economy are equitably and inclusively distributed, and that support is provided to those who may face economic losses during this shift (EBRD, n.d.; ILO, n.d.). Wider definitions comprise any structural transitions (not just climate-related) with the idea of tackling social, economic, and environmental issues holistically and in a concerted manner (Just Rural Transition, 2023) by ensuring:

- **Procedural justice:** Providing broad and meaningful stakeholder involvement in decision-making regarding the transition.
- **Distributional justice:** Distributing the costs and benefits of the transition fairly and widely.
- **Restorative justice:** Tackling existing inequalities and injustice that are embedded in social norms, laws, or markets.

The concept has gained visibility in recent years, mostly in relation to the climate transition in the energy sector. However, several characteristics of small-scale agrifood systems also require tailored solutions:

**Small-scale actors operate in highly informal markets, meaning that they rarely enter into formal contracting and have little social protection.** In geographies with the highest prevalence of small-scale producers, over 75% of workers are in informal employment, with the agriculture sector having the largest share (ILO, 2018). This poses financial and administrative challenges to ensuring social protection, safety nets and reskilling.

**Low returns and high transaction costs due to the geographic dispersion of small-scale producers and MSMEs deter private financial providers from serving them.** These factors are compounded by such customers' lack of collateral and limited land tenure rights (CPI, 2020). Ensuring distributional justice, through access to finance to cover the costs of new low-carbon practices and technologies or access to crop insurance in case of weather events is challenging. In addition, restorative justice mechanisms related to land tenure would require ample legislative reforms, while geographic isolation necessitates extensive transport infrastructure, both under the purview of national governments.

**Shifting to more sustainable production systems could make food more expensive for consumers, at least at first** (Just Rural Transition, 2023). This is desirable for farmers who aim to achieve premium prices for their produce by adopting sustainable practices. However, as consumers, small-scale agrifood actors are among the poorest in the world (Gomez Y Paloma et al., 2020; Daly et al., 2023) and increased food prices can jeopardize food security and access to healthy, affordable, and sustainable diets. This conundrum requires careful assessment of local contexts when designing funding mechanisms for low-carbon and resilient agrifood systems, to ensure distributional justice.

## 6. GEOGRAPHIC DESTINATION

**Sub-Saharan Africa, East Asia and the Pacific, and South Asia, together accounting for around 95% of the world's small-scale farms, received just under three-quarters of total climate finance for small-scale agrifood systems in 2019/20.** This geographic distribution of climate finance to small-scale agrifood systems in 2019/20 remained consistent with 2017/18.

**Table 1.** Global distribution of small-scale agrifood systems investment, share of farms under small-scale management,<sup>13</sup> agrifood GHG emissions<sup>14</sup> and ND-GAIN Food and Agriculture climate vulnerability index<sup>15</sup>

Region of destination	% investments in small-scale agrifood systems	% of farms under small-scale management	% of GHG emissions from global agrifood systems	Average food and agriculture vulnerability index (ND-GAIN)
Sub-Saharan Africa	33.6%	74%	14%	0.60
East Asia and Pacific	28.3%	93%	37%	0.47
South Asia	10.8%	86%	10%	0.57
Latin America & Caribbean <sup>16</sup>	8.4%	63%	16%	0.46
Central Asia and Eastern Europe	7.1%	60%	7%	0.38
Middle East and North Africa (MENA)	1.5%	66%	3%	0.43
Western Europe	0.01%	34%	6%	0.23
US & Canada	0.0%	3%	7%	0.30
Other Oceania	0.0%	3%	1%	0.28

Sources: Investment data is from CPI. Numbers on the global distribution of small-scale farms were retrieved from supplementary country-level data provided by Lowder et al. (2021). Transregional financial flows have been omitted due to the lack of equivalent regional statistics on the distribution of small-scale farms and vulnerability ranking.

The geographic distribution of climate finance for small-scale agrifood systems generally mirrors the regional concentrations of small-scale farming shown in Table 1.

<sup>13</sup> Defined on the basis of land size being less than 2 ha. While land size alone may not define all small-scale farms, it enables an approximation of their global distribution.

<sup>14</sup> GHG emission data was retrieved from the FAOSTAT web portal (FAO, 2023c).

<sup>15</sup> The Notre Dame Global Adaptation Initiative (ND-GAIN) index measures a country's vulnerability to climate change and its readiness to adapt. The values shown in the right-hand column are aggregated country-level climate vulnerability scores (relating to exposure, sensitivity, and adaptive capacity) in the food and agriculture sectors (0 indicates lowest vulnerability to climate change, and 1 indicates extreme vulnerability) (ND-GAIN, 2023).

<sup>16</sup> In Latin America, farms up to 5ha, and sometimes beyond, can display characteristics typical of small-scale operations. Therefore, the figure presented under "% of farms under small-scale management" covers farms up to 5ha (CPI, 2020; FAO, 2023a).



**Sub-Saharan Africa received the largest share of climate finance for small-scale agrifood systems (34% or USD 1.86 billion).** While this aligns with the region's substantial proportion of farms under small-scale farm management, urgent additional funding is required for its highly vulnerable agriculture and food sectors.

**East Asia and the Pacific received the second-largest share (approximately 28%). However, after discounting funding for China's CCFP, the region ranks fourth, despite having the largest concentration of farms under small-scale management and recording the highest agrifood GHG emissions.** China's CCFP accounts for nearly 70% of this investment, indicating a lack of flows to other countries in the region. Southeast Asia has an estimated 100 million smallholders, producing commodities including palm oil, rubber, cocoa, and coffee, as well as crops such as rice, wheat, and maize (WWF, 2021). These farmers contribute significantly to the agricultural GDP of their countries, most notably in Cambodia, Viet Nam, and Indonesia.

**South Asia is also underserved, receiving only 11% of total small-scale climate funds, despite being the second-most climate-vulnerable region with respect to food and agriculture.** This was highlighted by the devastating floods in Pakistan in 2022, where approximately 2.8 million ha of cropland were inundated. Heavy rainfall and flash floods paired with inadequate management systems resulted in estimated production losses of 88% for cotton, 80% for rice, and 61% for sugarcane, respectively (Qamer et al., 2023). At the same time, South Asia also faces risks of water shortages, with estimates that 1.5 billion people will be affected by 2050 (World Bank, 2023). Tracked projects promote crop diversification, farm water efficiency, and infrastructure development. However, the region has a pressing need for increased and more targeted interventions to strengthen resilience.

**The MENA region received only 1.5% of climate finance for small-scale agrifood systems, despite its significant concentration of small-scale producers and notable climate vulnerability ranking.** Small-scale producers are critical to food security across the region, supplying significant portions of staple crops. However, they face challenges including escalating conflict, rising temperatures, reduced precipitation, pests, and diseases (AgribusinesGlobal, 2022). Due to their small size, many farms are ineligible for public support or bank loans. Modernization policies in the region have neglected such producers' technological and financial needs and reduced their ability to respond to climate challenges (OECD & FAO, 2018).

## 7. SUB-SECTORAL DISTRIBUTION

In 2019/20, climate finance for small-scale agrifood systems largely went to the agriculture sector, accounting for 57% of the total. This was followed by investments in forestry (29%). The fisheries sector was notably underserved, receiving just 0.5%, as were the food loss/waste and low-carbon diet sectors with less than 0.1%.

Most funding for agricultural production (71%) went to adaptation, reflecting the high risks climate change poses to food security and the livelihoods of small-scale agricultural producers and agri-MSMEs. Significant portions of adaptation finance for agriculture were directed to sub-Saharan Africa (44%), followed by East Asia and the Pacific (14%), reflecting that small-scale producers in these regions are particularly vulnerable to climate impacts (IPCC, 2022). Funded projects in these regions included promoting sustainable land management, enhancing irrigation access, diversifying agricultural production, and facilitating market integration through infrastructure development.

Figure 4. Breakdown of small-scale agrifood investments by sub-sector



**Forestry received 28% of total climate finance for small-scale agrifood systems in 2019/20.**

Approximately 70% of this was for China's CCFP, which provides dual climate benefits. The remaining 30% of funding was concentrated in sub-Saharan Africa, supporting the promotion of sustainable forest and land management, enhanced monitoring and oversight to prevent illegal logging, and encouraging the use of energy-efficient technologies.

**Only 14% of finance targeting small-scale forestry was aimed at mitigation. This figure is low considering that smaller farms are associated with higher rates of forest loss per ha of agricultural land than larger farms (Cohn et al., 2017).** Agriculture is the largest driver of global forest loss, contributing to 70-80% of net deforestation emissions worldwide (CGIAR, 2017). Commodity agriculture – notably beef, soybeans, palm oil, and wood products – accounts for roughly 40% of global deforestation. Smallholders play a significant role in such value chains, including Indonesian palm oil, West African cocoa, and Brazilian cattle farming (Cohn et al., 2017). For perspective, a study by CGIAR (2017) found that smallholders were responsible for approximately 30% of global GHG emissions associated with agriculture-driven net forest cover change.<sup>17</sup> Despite the links between small-scale agriculture and deforestation emissions, financial support for climate mitigation projects in this space is lacking. In 2019/20, mitigation finance allocated to small-scale forestry in developing countries with the highest net deforestation emissions amounted to only USD 50 million,<sup>18</sup> just 0.9% of total climate finance for small-scale agrifood systems. That said, it is worth noting that current analyses indicate a decreasing trend in the role of smallholders in net global deforestation (CGIAR, 2017).

**Small-scale fisheries, despite their economic and environmental importance, received only 0.5% of total climate finance to small-scale agrifood systems in 2019/20.** These fisheries are responsible for at least 40% of the global fish catch and sustain the livelihoods of approximately 492 million people (FAO, 2022b). They also represent roughly 66% of the total fish catch in Africa, and 47% in Asia (FAO, 2022b). Notably, in many African and Asian countries, aquatic foods account for 50% of animal protein intake (FAO, 2022b). Although Africa and Asia were the main recipients of small-scale fisheries finance, receiving 58% and 32% respectively, these flows are starkly inadequate considering the pressing environmental challenges faced by fisheries in these regions.

According to the IPCC (2022), variations in sea temperatures have had significant impacts on the maximum sustainable yield of various marine species. The effects of climate change on oceanic environments continue to profoundly affect fish stocks and aquaculture production, and by extension the livelihoods of small-scale fishing communities. Total fish catch in tropical marine ecosystems is projected to decrease by 5-10% by 2050, due to environmental changes (Steiner et al., 2020).

Increased investment in small-scale fisheries is therefore needed to bolster economic productivity and to fortify the climate resilience of the millions of people whose livelihoods depend on them. It is also crucial to promote sustainable management and conservation of marine ecosystems, as resilient fisheries are more likely to recover from climate-related shocks.

<sup>17</sup> The study examined 20 developing countries with the highest net deforestation emissions due to small-scale agriculture and found smallholders to be responsible for approximately 42% of these emissions.

<sup>18</sup> These countries were Brazil, Indonesia, Congo DRC, Cameroon, Venezuela, Tanzania, Myanmar, Argentina, Bolivia, Ecuador, Paraguay, Malaysia, Peru, Nigeria, Madagascar, Zimbabwe, Mozambique, Angola, Papua New Guinea, and Zambia.

**The food loss/waste and low-carbon diets sectors received negligible funding in 2019/20.**

Given that 14% of global food production is lost between harvest and market, this sector is critically underserved (GOGLA et al., 2023), despite being in clear need of adaptation finance. In sub-Saharan Africa, these losses rise to a staggering 37%. The lack of cold chain infrastructure, especially in Africa and South Asia, intensifies the loss of perishable foods (FAO, 2022c; Efficiency for Access, 2023), especially as global average temperatures are expected to rise. Solar-powered cold storage units, while still in the early development stages, offer a potential solution. For example, Cold Hubs, a Nigerian-based company, provides both farm-gate storage and refrigerated transportation to regional centres as a comprehensive means of minimizing food loss across the value chain (GOGLA et al., 2023). Innovative business models consisting of servitisation of cooling services, like Cooling-as-a-Service (CaaS) and 'Your Virtual Cold Chain Assistant' can give smallholders cold storage access without upfront costs, and offer user-friendly information, informing their produce and farm management (The Lab, 2021). Leveraging these models can help reduce GHG emissions, and increase the climate resilience of small-scale agrifood actors through improved incomes and food security.

## CONCLUSIONS AND RECOMMENDATIONS

**Current climate finance going to small-scale agrifood systems is far below the needs of the producers and supply chain actors serving them.** In the absence of a unique estimate for the climate finance required for small-scale agrifood systems, proxy comparisons can highlight the magnitude of the gap. The USD 5.53 billion tracked annual average climate finance for small-scale agrifood systems in 2019/20 represents 19% of the total USD 28.5 billion climate finance targeting agrifood systems as a whole. Even this level of finance for all agrifood systems is at least seven times lower than the most conservative estimated needs (CPI, 2023). Similarly, USD 5.53 billion represents just a fraction of the general financing needs of smallholder farmers, at USD 170 billion and agri-SMEs at USD 106 billion annually (ISF Advisors, 2022). The level of funding tracked for small-scale agrifood systems falls short no matter what other metrics these flows are considered against – be it share of farmland managed, contribution to food supply and domestic economies, vulnerability to climate change or contribution to GHG emissions. As global climate finance is on an upward trajectory overall, annual average flows to small-scale agrifood systems dropped by a concerning 44% in 2019/20 compared with the previous two years.

**All stakeholders must combine efforts to increase climate funding to small-scale agrifood systems for both adaptation and mitigation. To guide their actions, existing just transition frameworks and principles for agrifood systems need to be further developed and operationalized according to national-, subnational- and commodity-specific contexts** (see Box 3). We present the following recommendations for public and private stakeholders to change course and urgently move towards the levels of climate finance needed.

### ACTIONS FOR PUBLIC ACTORS

- Public sector UNFCCC Parties should position the just transition for small-scale agrifood systems as a top priority on national and international climate agendas at global fora, such as the climate change and biodiversity COPs and related initiatives. Increased awareness of negotiating Parties on the climate challenges faced by small-scale producers and agribusinesses, their specific needs and the magnitude of the climate finance gap they face is essential for decision-making and international funds allocation.
- In such fora, governments of developing nations with a high prevalence of smallholders in sub-Saharan Africa, East Asia and Pacific, South Asia, and MENA must accurately reflect the financial needs of their small-scale agrifood systems in their Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs). This can be expressed in relation to the sector's GHG emissions, climate change vulnerability and socioeconomic contributions (e.g., contribution to GDP, employment). NDCs and NAPs are essential tools that can help to raise international climate finance flows that match country needs and priorities. Incorporating clear targets and indicators for the expected benefits is also crucial in attracting international finance.



- Proactive government intervention is essential to ensure that just financing mechanisms are at the core of the climate transition and that they are coupled with safety nets, reskilling training, investments in adequate rural infrastructure and legislative frameworks (e.g., guarantee of land tenure rights and stronger labor laws). This comprehensive approach can deliver climate, as well as socioeconomic development benefits at the same time.
- Policymakers can repurpose agricultural subsidies towards climate-relevant interventions in a way that ensures equitable access to finance (e.g., dedicated credit lines) and insurance (e.g., crop insurance price subsidies) for small-scale producers and agribusinesses. To ensure an equitable distribution of resources, governments should unlink farmer payment programs from production volumes and specific commodities (FAO, 2021c), which place small-scale actors at a disadvantage. Additional enabling measures include the recognition of land rights for small-scale producers, granting them legal titles over ancestral lands (WRI, 2019). The absence of these titles often renders them ineligible for subsidies.
- DFIs and climate funds should consistently and progressively increase levels of climate finance for small-scale agrifood systems to enable long-term planning of resource use. Fluctuations such as the dramatic drop in public climate finance between 2017/18 and 2019/20 create uncertainty and dissuade private sector investment.
- In particular, DFIs and climate funds should aim to use their capital as effectively as possible, by increasing the provision of concessional finance through risk-sharing mechanisms to catalyze private investment. Such blended finance instruments can serve the needs of small-scale agrifood actors, particularly to ensure capital for small-scale farmers transitioning from conventional agriculture to regenerative practices or agroforestry, bundled with adequate technical assistance and climate insurance.
- DFIs and climate funds can also make sure their investments result in deployment of a greater level of equity to help agribusinesses absorb risks and navigate volatile periods. Initiatives such as the Green Climate Fund's first-loss tranche to the Acumen Resilient Agriculture Fund (ARAF) could be expanded (see Box 2).

## ACTIONS FOR PRIVATE ACTORS

- With an increasing number of jurisdictions requiring climate-related disclosures aligned with the Task Force on Climate-related Financial Disclosures framework, MNC reporting and commitments on reducing Scope 3 emissions are also on the rise. This presents opportunities to increase action and climate investments in small-scale actors along their supply chains.
- MNCs can develop and implement action plans to transition their supply chains to net-zero, resilient and nature-positive pathways in a just manner. These plans can build on the preliminary insights for a Just Transition in Agriculture put forward by the WBCSD (2023) and can propose innovative ways to enable or provide access to finance for their supply chains' small-scale farmers and MSMEs to incentivize their shift towards climate-

positive practices, e.g., regenerative agriculture and technologies. Furthermore, these plans should include meaningful mechanisms to ensure that farmers are fairly rewarded for their produce.

- Increasing investment in Scope 3 emissions reduction should be implemented in an inclusive and fair manner with equitable allocation of funding and training along entire supply chains, down to small-scale primary producers and offtakers. For example, MNCs can make patient capital available to supply chain actors for particularly needed investment to shift to regenerative agriculture for improved biodiversity and carbon sequestration.

## **ACTIONS FOR PUBLIC AND PRIVATE ACTORS**

- DFIs, climate funds, asset managers, and private financial institutions should invest in agribusinesses that are able to create diversified livelihoods and fair additional/ alternative income streams for small-scale producers and micro-entrepreneurs. For example, investing in local value-addition enterprises (e.g., for food packaging, processing, and distribution) can unlock higher-value and more formal jobs, generating additional income. This can ultimately alleviate poverty and improve access to more nutritious and sustainable food (ILO, 2022). It is paramount that such investments are conditioned by the provision of fair wages to employees.
- All actors should strive for greater transparency in the disclosure of climate finance flows across sectors, including granular information on beneficiaries and project scope. DFIs have the opportunity to show leadership by making climate finance data and methodologies accessible, thus enabling a more accurate assessment of the progress in filling the climate finance gap for small-scale agrifood systems.

## **ACTIONS FOR RESEARCH INSTITUTIONS AND NGOS**

- Work with policymakers and private actors to implement existing frameworks and principles for just transition in agrifood systems (e.g., ActionAid, 2019; ILO, 2022; Just Rural Transition, 2023; WBCSD, 2023) at national and subnational levels. This should be tailored to the specific needs of small-scale agrifood actors, include specific goals and funding sources and build on learnings and evidence from the energy sector.
- Explore or document success stories of innovative and effective governance structures to provide farmers and entrepreneurs working in informal markets with social protection and safety nets (e.g., farmers suffering temporary yield and income losses due to climate events or transition to new practices) (ActionAid, 2019). These could entail public-private partnerships for both financing and implementation.
- Design methodologies and collect granular data to estimate the climate finance needs for small-scale agrifood systems allowing to measure progress globally.

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# ANNEX I: APPROACH TO DETERMINING CLIMATE FINANCE TO SMALL-SCALE AGRIFOOD SYSTEMS

This report complements the Landscape of Climate Finance for Agrifood Systems (CPI, 2023) by analysing the sub-set of climate finance directed towards small-scale agrifood systems in 2019/20. It also builds on other previous CPI research, Examining the Climate Finance Gap for Small-Scale Agriculture (CPI, 2020), which covers the same flows for the 2017/18 period.

To extract key insights on small-scale agrifood systems, we use a methodology based on keyword searches to screen for relevant financial flows at the project-level data. We used a semi-automated approach to identify small-scale agrifood-relevant projects. To do so, we established a list of keywords that reporting organizations and funders typically use when describing projects targeting smallholders, communities, or other actors in the supply chains. Our custom search allowed for the use of various combinations of keywords and a set of exclusion rules to maximize the chances of capturing relevant projects while avoiding false positive matches. The keywords used are shown in Table A.1. In addition to keywords explicitly referring to small-scale agrifood systems actors (e.g., smallholder farmer, small agri-business, family farm) those referring to the wider ecosystem were used to signal projects targeting small-scale agrifood systems (e.g., rural communities, rural poor populations, rural vulnerable populations). These projects are relevant as they target communities that typically rely heavily on small-scale agrifood systems. We then conducted manual reviews covering at least 80% of financial flows captured through the automated keyword search to confirm the relevance of marked projects.

**Table A.1** Keywords used to find investment supporting small-scale agrifood systems

Keyword used	Data scope
medium/small/small-scale/family/family-owned/smallholder/small-holder + farmer/agriculture/farm/cooperative/agro-enterprise/agroenterprise/agri-enterprise/agrienterprise/agri-business/agribusiness	Outside AFOLU data
small scale + farmer/agriculture/farm/cooperative/agro-enterprise/agroenterprise/agri-enterprise/agrienterprise/agri-business/agribusiness/community	
smallholder/small-holder	
rural/agri/agriculture/agricultural/farm/farming/forestry/forest/timber/crop/fish/fishery/fisherman/fisher/fishing/aquaculture/pastoralism/pastoralist/herder + medium/small/small-scale/family/family-owned/smallholder/small-holder	
rural/agri/agriculture/agricultural/farm/farming/forestry/forest/timber/crop/fish/fishery/fisherman/fisher/fishing/aquaculture/pastoralism/pastoralist/herder + small scale	
community/subsistence + rural/agri/agriculture/agricultural/farm/farming/forestry/forest/timber/crop/fish/fishery/fisherman/fisher/fishing/aquaculture/pastoralism/pastoralist/herder	
poor/poverty + rural	
medium/small/small-scale/family/family-owned/smallholder/small-holder/community/association	Within AFOLU data
small scale	
sme/microenterprise/micro-enterprise	
small and/or medium enterprise	

*To make keyword listing more compact and efficient, we use a simple syntax in this table. A "/" means that the words on both sides of the separator were used interchangeably. A "+" means that the two words, or combination of words had to be found in the same text for the tagging to operate. Finally, a simple space (" ") means the two terms had to be next to each other in order to be picked up. The plural form of each word was systematically used interchangeably.*

**Limitations of data analysis methodologies used (i.e., keyword search).** We were only able to capture financial flows that explicitly state the objective to target certain beneficiaries (e.g., smallholder farmers, MSMEs, vulnerable communities etc) and report them as such. However, for some reporting institutions, project descriptions do not always state objectives and targeted beneficiaries, nor do they reflect the full scope of project impacts. Subsequently, there is a risk of underestimating or overestimating climate finance flows to small-scale agrifood systems.

## ANNEX II: OVERVIEW OF TRACKED DATA

**Table A.2.** Breakdown of 2019/20 project-level investments to AFOLU sub-sectors and activities

AFOLU sub-sector	Activities	2019/20 average (USD bn)	%
Agriculture	Sustainable crops, agro-forestry, livestock production	1.88	42%
	Supply chain management (commercialization, primary processing & storage)	0.22	5%
	Financial services for sustainable production, commercialization, storage, and processing	0.13	3%
	Unspecified	0.19	4%
Forestry	Afforestation, Reforestation, Forest Conservation, sustainable management of existing forest, including extraction of non- timber products	1.47	33%
	Supply chain management (commercialization, primary processing & storage)	<0.01	<1%
	Unspecified	0.01	<1%
Fisheries	Sustainable fish production	0.01	<1%
	Supply chain management (commercialization, primary processing & storage)	<0.01	<1%
	Unspecified	0.01	<1%
Food loss/waste & diets	Food waste and low-carbon diets	<0.01	<1%
Policy & National Budget Support & Capacity Building	Unspecified	0.34	8%
Unspecified/Multiple	Unspecified	0.27	6%
<b>Total</b>	-	<b>4.53</b>	<b>100%</b>

**Table A.3.** Breakdown of 2019/20 project-level investments to non-AFOLU sectors

non-AFOLU sector	Relevance for AFOLU sector	2019/20 average (USD bn)	%
Water & Wastewater	Agriculture	0.11	11%
	Policy & National Budget Support & Capacity Building	<0.01	<1%
Energy Systems	Agriculture	0.05	5%
Transport	Agriculture	0.03	3%
	Policy & National Budget Support & Capacity Building	<0.01	<1%
Industry	Agriculture	<0.01	<1%
Information and Communications Technology	Agriculture	0.02	2%
	Policy & National Budget Support & Capacity Building	<0.01	<1%
Unspecified / Multiple	Unspecified	0.82	80%
<b>Total</b>	-	<b>1.03</b>	<b>100%</b>

**Table A.4.** Breakdown of 2019/20 project-level investments, by climate objectives and sub-sectors

<b>AFOLU sector</b>	<b>2019/20 average (USD bn)</b>	<b>%</b>
<b>Adaptation</b>	<b>2.75</b>	<b>100%</b>
Agriculture	2.24	82%
Policy & National Budget Support & Capacity Building	0.25	9%
Forestry	0.05	2%
Fisheries	0.02	1%
Food Loss/Waste & Diets	<0.01	<1%
Unspecified/Multiple	0.19	7%
<b>Dual climate objectives</b>	<b>1.83</b>	<b>100%</b>
Agriculture	0.33	18%
Forestry	1.31	71%
Policy & National Budget Support & Capacity Building	0.01	1%
Fisheries	<0.01	<1%
Food Loss/Waste & Diets	<0.01	<1%
Unspecified/Multiple	0.18	10%
<b>Mitigation</b>	<b>0.95</b>	<b>100%</b>
Agriculture	0.58	61%
Policy & National Budget Support & Capacity Building	0.23	24%
Forestry	0.10	11%
Fisheries	0.04	1%
Unspecified/Multiple	0.01	4%
<b>Total</b>	<b>5.53</b>	<b>-</b>

**Table A.5.** Breakdown of 2019/20 project-level investments, by public and private actors

Institution	2019/20 average (USD bn)	%
<b>Public</b>	<b>5.32</b>	<b>100%</b>
Multilateral DFI	2.40	46%
Government	2.08	39%
Multilateral Climate Funds	0.59	11%
Bilateral DFI	0.18	3%
Public Fund	0.03	1%
State-owned FI	0.01	<1%
SOE	<0.01	<1%
<b>Private</b>	<b>0.14</b>	<b>100%</b>
Institutional Investors	0.13	92%
Corporation	<0.01	5%
Commercial FI	<0.01	3%
Unknown	<0.01	<1%
<b>Unknown</b>	<b>0.07</b>	<b>100%</b>
Unknown	0.07	100%
<b>Total</b>	<b>5.53</b>	<b>-</b>

**Table A.6.** Breakdown of 2019/20 project-level investments, by instruments

Instrument	2019/20 average (USD bn)	%
Grant	2.71	49%
Low-cost project debt	2.15	39%
Project-level market rate debt	0.59	11%
Project-level equity	0.03	1%
Balance sheet financing (debt portion)	0.01	<1%
Balance sheet financing (equity portion)	<0.01	<1%
Unknown	0.03	1%
<b>Total</b>	<b>5.53</b>	<b>100%</b>



**Table A.7.** Breakdown of 2019/20 project-level investments, by region of destination and recipient OECD membership

OECD membership / Region of destination	2019/20 average (USD bn)	%
<b>Non-OECD</b>	<b>4.92</b>	<b>100%</b>
Sub-Saharan Africa	1.86	38%
East Asia and Pacific	1.57	32%
South Asia	0.60	12%
Latin America and Caribbean	0.41	8%
Central Asia and Eastern Europe	0.39	8%
Middle East and North Africa	0.09	2%
<b>OECD</b>	<b>0.05</b>	<b>100%</b>
Latin America & Caribbean	0.05	96%
US & Canada	<0.01	3%
Western Europe	<0.01	1%
<b>Transregional/Unknown</b>	<b>0.56</b>	<b>100%</b>
US & Canada	0.56	100%
<b>Total</b>	<b>5.53</b>	<b>-</b>

**Table A.8.** Breakdown of 2019/20 international and domestic project-level investments, by recipient OECD membership

International or domestic / OECD membership	2019/20 average (USD bn)	%
<b>International</b>	<b>4.43</b>	<b>100%</b>
non-OECD	4.38	99%
OECD	0.05	1%
<b>Domestic</b>	<b>1.06</b>	<b>100%</b>
non-OECD	1.06	100%
OECD	<0.01	0%
<b>Transregional/Unknown</b>	<b>0.04</b>	<b>100%</b>
Transregional / Unknown	0.04	100%
<b>Total</b>	<b>5.53</b>	<b>-</b>

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