CASA

Commercial Agriculture for Smallholders and Agribusiness

Tipping the climate finance balance – investing in climate adaptation to prevent food insecurity

CASA

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UKaid
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CASA aims to drive global investment for inclusive climate-resilient agri-food systems that increase smallholder incomes.

The programme makes the case for increased agribusiness investment by demonstrating the commercial and development potential of sourcing models involving empowered smallholder producers and by tackling the information and evidence gaps holding back investment.

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Background

CASA aims to drive global investment for inclusive climate-resilient agri-food systems that increase smallholder incomes. The programme makes the case for increased agribusiness investment by demonstrating the commercial and development potential of sourcing models involving empowered smallholder producers and by tackling the information and evidence gaps holding back investment.

As part its effort to promote resilience in agri-food systems and as a result of the renewed commitments of the UK government towards tackling climate change, CASA is putting finance mobilisation for agriculture climate adaptation at the heart of its work. This has informed the research and investor engagement of the programme for the last 12 months, resulting in the identification of areas that require additional investment and research to start tipping the climate finance balance towards adaptation.

The current state of the agriculture climate finance sector[1]

Small and medium-sized enterprises (SMEs) play a vital role in agricultural and food systems in developing countries. The landscape of agri-SME finance in sub-Saharan Africa and Southeast Asia is increasingly pluralistic. However, these enterprises are largely underserved by formal finance.

In sub-Saharan Africa and Southeast Asia, there is an estimated USD 160 billion demand for financing by around 220,000 agri-SMEs. Only USD 54 billion (around 34%) is currently being met through formal finance channels, leaving an annual financing gap of USD 106 billion.

Sub-Saharan Africa: The annual financing gap is estimated at USD 74 billion for around 130,000 agri-SMEs with 84% of financing demand unmet.

South Asia: The annual financing gap is estimated at USD 31 billion for around 90,000 agri-SMEs with 45% of demand unmet.

It is hard to provide investment finance to agri-SMEs in developing markets. This is because of the high costs to serve the loans, small ticket sizes, high risk in agricultural markets, low returns relative to other sectors and low levels of investment readiness among potential borrowers.

There is an assumption that agri-SMEs graduate from informal finance, using scarce subsidies in the sub-commercial market, to grow into more commercially viable prospects. In reality, few agri-SMEs are able to make a complete graduation to fully commercial capital.

At the “top of the market,” a small set of high-growth and/or high-margin agri-SMEs, such as agtechs, attract USD ~1-2 billion per year in higher-risk venture debt and equity financing from private equity and venture capital funds to support aggressive expansion.

In the “middle of the market,” a larger set of relatively mature, moderate growth agri-SMEs are served primarily by commercial banks (USD ~40 billion), non-bank financial institutions (USD ~6 billion), and impact funds (USD ~1-3 billion) with debt finance to support their ongoing operations and gradual growth.

At the “bottom of the market” a range of lower-growth, less mature, and less profitable agri-SMEs are being served primarily by public development banks (USD ~4 billion) and social lenders (USD ~4 billion) primarily with short-term trade finance and working capital loans.

[1] CASA State Of The Agri-SME Sector – Bridging The Finance Gap (2021)

The role of climate finance

Agri-SMEs operating in Africa and South Asia will be significantly affected by climate change in the immediate future. These regions are not large contributors to climate change but will be both the first to be impacted by it and the least equipped to adapt to its effects. More importantly, they will need to invest heavily to promote the resilience of food systems and protect the livelihoods of the significant proportion of their populations who rely on agriculture for subsistence and incomes.

Despite the climate change urgency, climate finance for agri-SMEs is yet to emerge as a strong channel of funding with appropriate products and services, particularly those focused on agri-SME adaptation. According to a 2020 analysis conducted by the Climate Policy Initiative, global climate financing amounted to USD 580 billion, of which over 90% is dedicated to mitigation across sectors. USD 20 billion is dedicated to the agriculture, forestry, and land-use sectors. However, only USD 700 million is invested in value chain actors in non-OECD countries, despite the fact that they are the most affected by the impacts of climate change.

Alongside increased supply of finance for climate investments in sub-Saharan Africa, new investment models and approaches are needed to highlight investment opportunities in mitigation, adaptation and nature-positive solutions. New financing infrastructure is also required to effectively channel climate adaptation funding to smallholder farmers and agri-SMEs for climate-related investments. This includes: establishing a taxonomy (classification system) setting out what constitutes environmentally sustainable economic investments in agriculture, developing a pipeline of agri-business deals for investment, and integrating climate expertise into all channels of agri-SME finance.

Getting smarter about subsidy in the sub-commercial market is also an imperative. Blended finance is a significant part of the sub-commercial tier of agri-SME finance, from commercial banks to state banks and social lenders. The spectrum of subsidy ranges from the small amounts provided by development finance institutions (DFIs) to increase the risk appetite of local commercial banks to the large amounts of subsidy used by impact funds or state banks that often provide support beyond concessional finance.

Building the infrastructure around climate finance

The year 2021 marked a noticeable shift in the dialogue and impetus around climate change. COP26 sparked new commitments and an increasing awareness about the severity of climate impacts on rural populations in the global south. As the climate adaptation challenge for smallholder farmers and agri-SMEs comes into greater focus and funding is mobilised, there has been a concurrent realisation that the infrastructure to effectively channel this finance where it needs to go does not exist. Capital providers do not have clarity on whether and how their investments will lead to the climate impacts desired. This leads to greenwashing that further erodes confidence in the use of the private sector to address the climate challenge. Whilst new strategies are being developed, new models and approaches are needed to generate common understanding on how different investments impact on mitigation, adaptation, and nature-positive solutions. It is imperative for agri-SME financing that:

- **New models and taxonomies are quickly developed and used** for investment strategies and reporting. Work has already started on this front, with the EU taxonomy for sustainable activities, the Association of Southeast Asian Nations ASEAN taxonomy for sustainable finance, and the OECD's ESG investing and climate transition, about how to report investments. These international models and standards should be research-led and used as a foundation for the agri-SME finance community to establish commonly agreed approaches to achieving climate mitigation, adaptation, and nature-based solution goals. International donors and DFIs need to step up alongside governments to help develop these standards and sponsor the

complex technical work of applying them to specific agendas, such as agri-SME climate finance.

- **Large donor investments create a viable pipeline at scale:** Almost all donors and international finance institutions are struggling to work out where to invest in climate-related interventions. One challenge is the lack of clearly understood options within agreed taxonomies. There is also a need for more agri-SME product/service solutions within viable business models. Some agri-SMEs will be at the forefront of innovating, but many others will be slower adopters of solutions (such as new irrigation, storage, and transport technologies). Donors will have a significant role to play in investing in both the early-stage development and commercialisation of these climate solutions, as well as the expensive new intermediation that will be needed to channel these agri-SMEs into the portfolios of funders.
- **Climate expertise is integrated into all channels of agri-SME finance:** All agri-SME finance channels have an important role to play in supporting climate mitigation, adaptation, and nature-positive responses. Yet few have the expertise to understand specific climate-related agri-SME needs, design appropriate products, and channel the large volume of climate capital into viable financial offerings. Bridges must quickly be built between traditionally siloed communities of investment practitioners and climate specialists to introduce this climate lens. While some specialised funds, such as the Tropical Landscapes Finance Facility, are starting to bring this climate expertise into the agricultural sector, donors, DFIs, and regional development banks can drive convergence of both thinking and technical expertise through commercial banks, state banks, non-banking financial institutions, and impact-oriented funds.

The landscape of climate finance mobilisation initiatives[2]

There has been an emergence of a vast and diverse array of initiatives trying to mobilise climate finance in recent years, which has been given addition impetus by COP26. CASA has recently mapped a total of 51 initiatives across the world aiming to mobilise climate finance for low- and middle-income countries (LMICs). A third of all initiatives solely focus on agriculture, with the remainder covering multiple sectors where agriculture is increasingly a priority. These initiatives range from networks to development programmes and can be categorised based on their primary strategic approach: investment mobilisation; policy influencing; knowledge generation; climate action; and enabling environment. The majority are global in scope with only four having a regional focus and of the 109 organisations involved in three or more initiatives, just ten are based in LMICs.

Pathways to stronger outcomes for the private sector

Most initiatives rely on their members to drive action, share data, insights and examples of good practice as well as governance of the initiative. This might act as a deterrent to companies and commercial investors where participation does not lead to new business opportunities. Only three initiatives directly engage with SMEs, showing that much of the work of initiatives is about agri-SMEs but little is done with them. Often the language used in discussing climate action in agriculture does not align with the language used by the private sector. In order to get more from these initiatives specifically for driving the private sector engagement in climate adaptation it is essential to:

- **Focus on engagement with companies and investors** as core stakeholders to scale out and implement climate action, who are also vulnerable to the impact of climate change on their business operations, but are under-represented across the initiatives identified.
- **Link members to technical assistance** to build the pipeline of investable climate smart businesses.

[2] Climate Finance Mobilisation Initiatives; Promoting Climate Adaptation in Agriculture (*2022 Upcoming)*

- **Focus on the commercial viability of investment initiatives** complemented by efforts to highlight opportunities that offer both mitigation and adaptation benefits as well as satisfying business needs.
- **Take a more localised, regional approach to initiative building** with potentially a deeper and more nuanced understanding of local contexts and help engage locally based large companies and investors.
- **Coordinate efforts on metrics** to create a common framework for monitoring, evaluating and reporting on the natural capital on which the sector depends.
- **Create new initiatives targeted to specific niches of mobilising climate finance for adaptation in agriculture in lower- and middle-income countries**, otherwise other more attractive areas for climate aligned investment will take precedence.
- **Track the impact of initiatives** to determine which have value. Only one out of 51 systematically tracks impact and only one quantifies the volume of additional finance mobilised through its activities.

Gaps in knowledge that are limiting engagement of the private sector in meeting climate outcomes

There are knowledge gaps that should be a focus of future efforts for knowledge sharing initiatives to reduce barriers to private sector investment in adaptation in agriculture in lower- and middle- income countries. These include:

- **Examples of good practice** of innovative financial mechanisms and partnerships to demonstrate the viability and impact of such investments.
- **The development of common adaptation metrics, methods, and monitoring, reporting, and verification approaches** for outcomes arising from adaptation, resilience, and regenerative agriculture practices.
- **Investment data on climate-smart agri-businesses** in lower- and middle-income countries are important for investment decision-making. Gathering and synthesising this data was identified as a key knowledge need, with the aim that this data could be used to identify target businesses for investment by initiative members impact data and financial data on climate-smart agricultural technologies.
- **Understanding regenerative agriculture** Need for agreed definitions and parameters of regenerative agriculture and for scientific consensus on the long-term carbon sequestration potential of these approaches in agricultural contexts, and opportunities for monetising this.
- **Examples of effective policies for stimulating investment in adaptation in agriculture in lower- and middle-income countries.** Need for a common 'roadmap' for the agriculture sector to transform in the context of meeting the 1.5°C maximum global warming target and sufficiently addressing resilience and adaptation needs for agricultural producers and value-chain businesses in LMICs.

Knowledge opportunities to unlock private sector investment for climate adaptation and resilience in the agriculture sector in lower- and middle-income countries

- Work with high-potential agri-SMEs, public climate finance providers and commercial investors to analyse bottlenecks and barriers, as well as develop **innovative finance models to support agri-SMEs in LMICs to access public and private climate finance for adaptation and resilience.**
- Work with a small number of small and large agri-businesses and smallholder cooperatives interested in regenerative agriculture to analyse likely benefits for each stakeholder, as well as potential means of enhancing benefits and minimising trade-

offs **to understand the adaptation co-benefits of regenerative agriculture from a business perspective.**

- **Understanding the economic benefits and trade-offs of in-situ adaptation and resilience measures in existing supply chains.** Achieved through economic analysis with a multi-national business to examine the short- and long-term costs, loss avoidance, profits, and supply chain resilience, including consolidation effects, versus shifting suppliers and locations under near-term and medium-term climate impact scenarios of production.
- Work with blended finance specialists and initiatives to **understand motivations and incentives for private sector and investor engagement in blended finance opportunities for adaptation and resilience in agriculture in LMICs.**
- **Country and commodity specific roadmaps for transformative change towards climate resilient production and value chains** which align with both achieving the 1.5°C maximum global warming scenario and developing sufficient adaptive capacity of producers and value chain actors to expected climate shocks and slow-onset hazards to production and supply.

Private sector perception of climate adaptation[3]

Investors and multinational food companies are increasingly considering climate change as a core issue for both their corporate social responsibility and increasingly also as part of their core business activities. However, where they do consider climate change, their activities and investments disproportionally focus on mitigation rather than adaptation.

Reasons tipping the balance of private investment towards climate mitigation

Knowledge gaps

- **Climate mitigation is perceived** by investors and multinationals **as easier to understand and evaluate than climate adaptation.**
- **Impact investors/ investment support stakeholders** are playing a catalytic role in both adaptation and nature-based solutions, but need assurance on the impact they are having.
- **Commercial investors have limited understanding of what nature-based solutions are,** the benefits of investing in them or how to evaluate the impact of these investments.

Lack of investable opportunities

- **There is a limited pipeline of investable opportunities in adaptation and nature-based solutions**, even for impact investors.

Lack of a business case

- **It can be difficult to find a short-term business case for investment in climate adaptation**, as the results are usually only seen over a long timeframe and frequently do not accrue to the investor.
- **Commercial investors see agricultural adaptation and nature-based solutions as high-risk areas outside their scope**. Very limited commercial capital is flowing to smallholder farming for domestic consumption, ignoring the potential wider financial and economic risks associated with climate-related failure of these activities.

[3] Mobilising Climate Finance Towards Agricultural Adaptation and Nature-Based Solutions Opportunities, Challenges and Evidence Needs (*2022 Upcoming)*

Fungibility

- **Multinational food and beverage companies do not often respond to the risks that climate change poses to their supply chains, as they can simply shift their sourcing across geographies** to cope with climate-related risks.

Redressing the private climate finance imbalance

Food and beverage multinationals need evidence that adaptation is about improving the resilience of their supply chain, and not just about creating a public good. They also need a **macroeconomic view of how food systems will have to evolve, and companies adapt, as climate change increases its effects**. This requires a geospatial view, overlaid with an assessment of vulnerability and trade.

Commercial investors need a clearer definition of adaptation, highlighting that much of the investment in adaptation is necessary **for loss avoidance and loss minimisation, rather than seeking returns**. The impact of climate on agriculture production and on the broader economy is making the case for banks to get involved in the agriculture sector as a way to protect the rest of their investment portfolio (including government bonds).

Impact investors need to see how patient capital can enable farmers to shift to small-scale agroforestry, or adopt other adaptation measures with a long timeframe for payback**.** They also need **examples of nature-based solutions delivering material change for smallholders**, or where forestry carbon credits can deliver adaptation co-benefits for vulnerable communities.

The role of the enabling environment for tipping the balance

Vulnerability to climate shocks and stresses is correlated with poor governance in many countries. The quality of governance further affects a country's level of response or readiness, compounding the risk for investors. However, a country's **national action plan on climate adaptation has limited direct influence on investors, unlike a national action plan on climate mitigation**.

Availability of adaptation finance varies according to the nature of the supply chain:

- Some export-led **multinational companies** have implemented adaptation measures for smallholder farmers, **combining corporate social responsibility and partly improving supply chain resilience.**
- **Domestic companies** that have implemented adaptation measures for smallholder farmers are often **driven by funding from Multilateral Development Banks (MDBs) and/or DFIs.**
- **Private finance** for adaptation is **largely unavailable** for farms and farmers selling their product to local markets.

Opportunities for climate finance vary according to the structure of the financial market:

- **Impact investors** are **playing an important role** in supporting climate-smart agriculture, but commercial investors are not yet engaging.
- **Green bonds** can **potentially play a role in raising finance for adaptation** but the overwhelming focus for bond issuers and buyers is on climate mitigation.
- Where **microfinance institutions** are supported by appropriate regulation (for example, relating to ownership and loan sizes), **they are enabling smallholder farmers to access finance that increases their resilience.**
- **Commercial banks** currently **play no active role in financing smallholder agriculture**, even when mandated to extend agriculture finance.

Investable climate adaptation technologies[4]

Investors tend to approach **climate challenges from the perspective of environmental, social, and corporate governance** (ESG). They look first at risk and build from a 'do no harm' perspective, rather than seeking to identify solution-oriented technology investments.

Less than 1% of private climate finance is currently directed towards climate-smart agriculture, with enterprises struggling to find affordable investment capital. Increasing private financial flows to emerging and developing economies needs to be supported by proactively connecting available capital with investable opportunities and encouraging new market structures and business models.

Technologies and business models demonstrating commercial investment potential

CASA has identified eight technologies with growth potential, investment viability, and relevance for smallholders and agribusinesses in emerging markets in Africa and Asia.

Information services

Digital platforms that bundle together climate-smart advisory services with access to stress-tolerant inputs and financial products and services, which can provide a more integrated service to farmers. Successful platforms build on existing, trusted relationships. The bundling of sub-services also helps minimize transaction and marketing costs for the platform provider and increase the willingness to pay from clients.

Irrigation technologies deploying pay-as-you-go models to help to overcome the up-front capital expenditure costs. Smart irrigation involves the coupling of sensors, control instruments and irrigation machinery with computer models and meteorological information for real-time farm management. Business models that reduce the investment risks to end-users are demonstrating commercial viability when targeting horticulture.

Solar-powered micro drip irrigation systems help farmers in arid and drought-affected, areas to sustainably increase yields and crop resilience with minimal water-use and no ongoing energy costs.

Biocontrol products and precision applicators enable farmers to minimize the inputs they use for crop protection in their responses to increasing plant health threats driven by climate change. As market and consumer demand for more environmentally-friendly food increases, **investors have identified biocontrol products and precision applicators as key technologies in the transition to nature-positive agricultural production**.

Fresh food preservation under climate-related stresses

Solar-powered cold storage solutions to reduce food wastage and allow more produce to be sold at an optimal time and in prime condition. This maximizes income for farmers and returns for investors. Innovative business models in this area leverage stored produce as collateral for affordable credit for farmers.

Bio-coatings are organic, natural coating for fruits and vegetables, that lengthen their shelf-life. Companies with operations in Africa and Asia have shown interest in working with exporters to use these products in their supply chains. This reflects the influence of both regulations and changing consumer preferences.

[4] Private finance investment opportunities in climate-smart agriculture technologies (2021)

Post-harvest processing

Solar-powered processing equipment enables perishable products to be stored and eaten out of season. This reducing the need to import products, and maximizing the value of the goods by making it possible to sell them when there is a supply shortage. Solar drying can enhance the value of lower-grade produce that cannot be sold fresh.

Biodigesters utilize crop and livestock waste to produce biogas and rich organic inputs for crop farming. Emerging business models enable farmers to purchase equipment on long-term low-cost credit, allowing them to generate additional income from the biogas and biomass outputs.

Roadmap for promoting investments in climate smart agriculture technologies

Finance

- There is a real **need for more early-stage venture capital** and angel investing which can be achieved by bringing together pioneer entrepreneurs, impact investors and climate experts to share examples of how funds can pivot to include climate.
- Investors **need reliable data systems** from national governments and benchmarks on low likelihood, high impact events to lower the costs to impact-focused funds on understanding nature- and climate-positive business outcomes
- The **public good nature of climate smart agriculture technologies should be recognized** with public finance funders shouldering more risk in investing directly in early-stage climate smart agricultural technology innovators. This means lower ticket sizes, greater risk and more management costs in specialized climate smart agricultural technology funds.

Challenges

- A need for **growth-stage technical assistance from public, private and philanthropic providers for climate smart agricultural technology businesses** and a move away from innovation and start-ups to provide an investable pipeline.
- A **lack of affordable finance serving the needs of smallholders** and agri-businesses.
- A **lack of clarity on the climate benefits** that can be generated and a low level of understanding by financiers of the availability of technologies. This can be addressed by information on value propositions, business resilience and profitability, commercial opportunities for investment and the development of monitoring systems.

Business models

- **Bundling complementary products and services** while addressing demand-side constraints for farmers is performing particularly well.
- Focusing on **innovative models to enhance access to appropriate consumer credit (such as pay-as-you-go)** and information services will likely have a greater effect on private finance investments in climate smart agricultural technologies than any supply-side intervention
- **Pivoting from retailing hardware to service provision** in low-income settings.
- Building business models around trusted relationships and transparent trade-off considerations with farmers by integrating climate smart agriculture technologies into – or in partnership with – enterprises that already have established relationships with farmers, such as off-takers.

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