Incorporating Biodiversity and Nature into Sustainable International Food System Investments

27 June 2025

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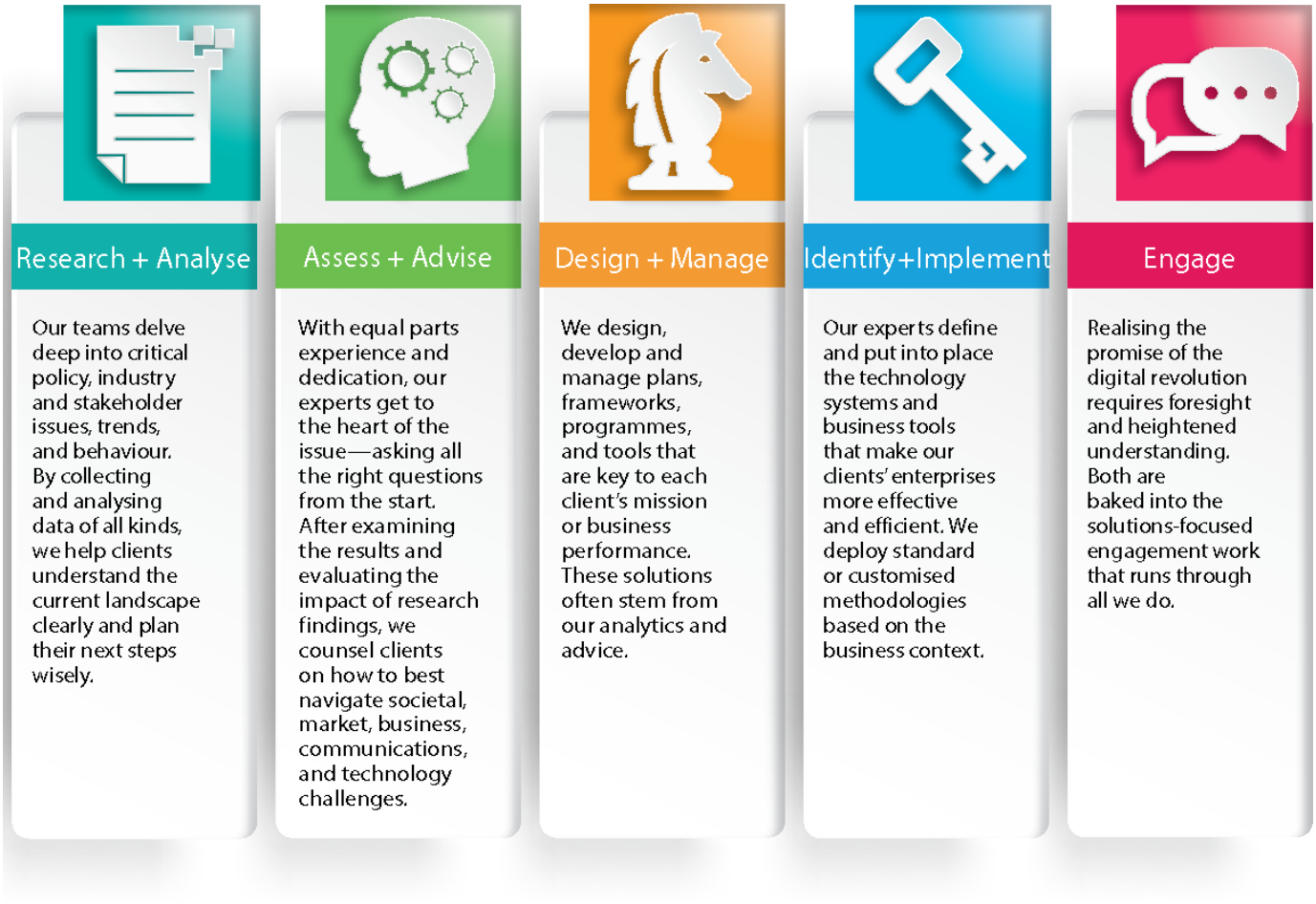

Incorporating Biodiversity and Nature into Sustainable International Food System Investments

A report submitted by ICF Consulting Services Limited

Date: 13 June 2025

Job Number 30303589

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Document Control

Document Title	Incorporating Biodiversity and Nature into Sustainable International Food System Investments
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Date	27 June 2025

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Glossary

Term	Definition	Source
Adaptation finance	Finance to adjust to the already apparent or expected consequences of climate change, such as sea-level rise, more frequent and extreme weather events, and changing crop growing seasons	Sial, F. (2025). Blended Finance for Climate Action: Good Value for Money. Eurodad.
Additionality	Results are additional if they are beyond the results that would have occurred in the absence of the project. That is, results are additional if they go beyond what would have been expected under a Business As Usual (BAU) counterfactual.	HM Government. (2023) Supplementary Guidance to International Climate Finance Results Methodology Notes: Additionality and Attribution. Department for Energy Security & Net Zero (formerly BEIS), London.
Agroforestry	Agroforestry is a collective term for land management systems where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately integrated with agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence. In agroforestry systems there are both ecological and socio-economic interactions between the different components.	Food and Agriculture Organization of the United Nations (FAO). (2025). About agroforestry: Overview. From https://www.fao.org/agroforestry/about-agroforestry/overview/en
Biodiversity conservation	The management of human interactions with genes, species, and ecosystems so as to provide the maximum benefit to the present generation while maintaining their potential to meet the needs and aspirations of future generations; encompasses elements of saving, studying, and using biodiversity.	IPBES Secretariat. (n.d.) "Biological conservation." In IPBES Glossary. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. From https://www.ipbes.net/glossary-tag/biodiversity-conservation#:~:text=The%20management%20of%20human%20interactions,%2C%20studying%2C%20and%20using%20biodiversity
Blended finance	The strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries, with 'additional finance' referring primarily to commercial finance.	OECD. (2017) OECD DAC Blended Finance Principles for Unlocking Commercial Finance for the SDGs. Paris: OECD Publishing.
Climate adaptation	Adaptation refers to adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change.	UNFCCC Least Developed Countries Expert Group. (2011) Glossary of Key Terms (Adaptation pages). United Nations Framework Convention on Climate Change, Bonn.
Concessional finance	Concessional finance refers to funding provided on significantly more favourable terms than market-based loans, and it can take the form of either debt or equity. While many blended finance transactions include a concessional element—leading to the terms sometimes being used interchangeably—concessional finance is simply one of several mechanisms used within blended finance structures.	World Bank. (2021) What you need to know about concessional finance for climate action. From Climate Explainer: Concessional Finance

Term	Definition	Source
Concessional loans	These are loans that are extended on terms substantially more generous than market loans. This is achieved either through interest rates below those available on the market or by grace periods, or a combination of these. Concessional loans typically have long grace periods.	United Nations Statistics Division. (2021) BPM6/2008 SNA Update Guidance Note F.15: Debt Concessionality. New York: UN Statistics Division.
Conservation agriculture	Conservation Agriculture is a farming system that promotes minimum soil disturbance (i.e. no tillage), maintenance of a permanent soil cover, and diversification of plant species. It enhances biodiversity and natural biological processes above and below the ground surface, which contribute to increased water and nutrient use efficiency and to improved and sustained crop production.	Food and Agriculture Organization of the United Nations. (2025) Conservation Agriculture – Overview. Rome: FAO.
Cost-Benefit Assessment/ Analysis	Cost benefit analysis (CBA) is one economic evaluation tool to compare the costs and effects of alternative interventions. CBA measures both costs and effects of interventions in monetary terms. This usually involves placing a monetary value on health benefits.	Office for Health Improvement and Disparities (OHID). (2020, November 9). Cost benefit analysis: health economic studies. GOV.UK. From https://www.gov.uk/guidance/cost-benefit-analysis-health-economic-studies GOV.UK
Equity investments	Equity financing refers to the sale of company shares in order to raise capital. Investors who purchase the shares are also purchasing ownership rights to the company. Equity financing can refer to the sale of all equity instruments, such as common stock, preferred shares, share warrants, etc.	Corporate Finance Institute. (n.d.) Equity Financing – Definition, How it Works, Pros & Cons. From https://corporatefinanceinstitute.com/resources/valuation/equity-financing/
Financial capital	Monetary assets required for the business to provide goods and services.	Generally accepted term
Financial instrument	A legal agreement involving the trade or exchange of financial assets. These can be debt-based e.g. loans or bonds, or equity-based e.g. shares.	Generally accepted term
Financing	Money provided to meet the needs of a business or project, often involving debt or equity instruments (see “financial instrument”). This provides the “financial capital” required for the business to provide goods and services.	Generally accepted term
Financing mechanism	Methods and approaches for raising finance for a business or projects. This term is conceptual and acts as a “catch-all” to cover categories of mechanism including financial instruments (see “financial instrument”) and other approaches.	Generally accepted term
Funding	Money provided for a specific purpose e.g. grants, donations.	Generally accepted term
Hybrid climate finance	Cross-cutting transactions aimed at producing both climate mitigation and adaptation outcomes. Hybrid transactions could also relate to sectors that address both mitigation and adaptation, such as forest restoration work. Forest restoration work has the potential	Sial, F. (2025). Blended Finance for Climate Action: Good Value for Money. Eurodad. Accessed at https://www.eurodad.org/blended_finance_for_climate_action_good_value_for_money

Term	Definition	Source
	to provide benefits for climate change mitigation through carbon sequestration and adaptation benefits through biodiversity preservation	
Impact investment funds	Funds taking part in impact investments, which are investments made with the intention to generate positive, measurable social or environmental impact alongside a financial return.	Global Impact Investing Network. (2025) What You Need to Know About Impact Investing. New York: GIIN, 24 Jan 2025.
Investment project	The recipients of financing in order to achieve impact objectives. These might take the form of an incorporated business or other structure.	HM Government. (2023) Supplementary Guidance to International Climate Finance Results Methodology Notes: Additionality and Attribution. Department for Energy Security & Net Zero (formerly BEIS), London.
Kunming-Montreal Global Biodiversity Framework	The Kunming-Montreal Global Biodiversity Framework (the Framework), which aims to halt and reverse biodiversity loss by 2030, was adopted in December 2022 at the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity. It features 23 targets to be met by 2030 and four global goals to preserve biodiversity for current and future generations. Although not binding, the landmark agreement is anticipated to have a significant impact on nations as they work to achieve their goals by creating new plans and regulations to combat climate change through tackling biodiversity loss.	United Nations Conference on Trade and Development. (2023) Kunming-Montreal Global Biodiversity Framework (web resource). From https://unctad.org/fr/isar/topic/trade-and-environment/biotrade/kunming-montreal-global-biodiversity-framework
Mezzanine instrument	Mezzanine finance is a type of finance that ranks behind senior debt but before common equity in repayment priority. It carries higher risk than traditional loans but offers higher rates of return.	Stork, N. (2024) A guide to Mezzanine Finance (web resource) From https://developmentbank.wales/resources/learning-hub/funding/mezzanine-finance-guide
Mitigation finance	Efforts aimed at limiting the effects of climate change by reducing the emissions of CO2 and other greenhouse gases (GHGs) from human-made sources into the atmosphere or enhancing the removal of GHGs from the atmosphere through carbon ‘sinks’.	Sial, F. (2025). Blended Finance for Climate Action: Good Value for Money. Eurodad.
ODA Programming	The design of Official Development Assistance programmes in order to achieve specific objectives	HM Government. (2023) Supplementary Guidance to International Climate Finance Results Methodology Notes: Additionality and Attribution. Department for Energy Security & Net Zero (formerly BEIS), London.
Official Development Assistance	Official development assistance (ODA) is government aid that promotes and specifically targets the economic development and welfare of developing countries. ODA has been the main source of financing for development aid since it was adopted by the OECD’s Development Assistance Committee (DAC) as the “gold standard” of foreign aid in 1969. The	OECD. (n.d.) Official Development Assistance (ODA). Paris: OECD Publishing. From https://www.oecd.org/en/topics/policy-issues/official-development-assistance-oda.html.

Term	Definition	Source
	OECD is the only official source of reliable, comparable, and complete statistics on ODA.	
Patient capital	Investments with a focus on long-term financial returns and sustainable growth.	Generally accepted term
Public-private partnerships (PPPs)	A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.	World Bank. (2024) What is a PPP: Defining "Public-Private Partnership". Public-Private Partnership Legal Resource Center, Washington DC
Sustainable agriculture	To be sustainable, agriculture must meet the needs of present and future generations, while ensuring profitability, environmental health, and social and economic equity. Sustainable food and agriculture (SFA) contributes to all four pillars of food security – availability, access, utilization and stability – and the dimensions of sustainability (environmental, social and economic).	Food and Agriculture Organization of the United Nations. (2021) Sustainable Food and Agriculture. Rome: FAO. From https://www.fao.org/family-farming/detail/en/c/1412481/
Sustainable Development Goals (SDGs)	The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.	United Nations Development Programme. (2015) Sustainable Development Goals – Background & Overview. New York: UNDP.

Acronyms

Acronyms	Meaning
Defra	Department for Environment, Food and Rural Affairs
DFIs	Development Finance Institutions
ESAPs	Environmental and Social Action Plans
Eurodad	European Network on Debt and Development
ICF	International Climate Finance
KPI	Key Performance Indicator
LIC	Low-income country
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
PPP	Public-Private Partnership
REA	Rapid Evidence Assessment
SDG	Sustainable Development Goal
SME	Small and Medium-Sized Entity
TA	Technical Assistance
UNEP	United Nations Environment Programme
WUR	Wageningen University & Research
LAC	Latin America & the Caribbean
SSA	Sub-Saharan Africa

Executive summary

Sustainable agriculture is a cornerstone of sustainable development, yet it remains critically underfunded in many developing countries. The sector faces a persistent investment gap, estimated at $350 billion (bn) annually by 2030, that hinders progress towards food security, climate resilience, and biodiversity protection. Smallholder farmers and agri-SMEs, particularly in ODA-eligible countries, often struggle to access capital due to high perceived risks, limited credit histories, lack of financial literacy, and inadequate enabling environments. In response, blended finance (defined here as the use of concessional public or philanthropic capital to mobilise private investment) has emerged as a promising strategy to overcome these barriers and scale investment into sustainable agriculture.

To inform the design and implementation of effective interventions, Defra commissioned this study to explore how its ODA programming could better leverage blended finance for sustainable agriculture. The study addresses three core research objectives: (A) Identifying effective blended finance mechanisms for channelling private investment to sustainable agriculture; (B) Understanding and striving to address the barriers that might impede their uptake; and (C) Highlighting strategies for maximising environmental and social impact through tailored financial interventions.

The research approach combined a Rapid Evidence Assessment (REA) of 42 high-quality sources, selected through a structured screening process, with five case studies (based on desk research and interviews), and five scoping expert interviews. The findings were structured around thematic research questions and grounded in practical examples from blended finance initiatives across Sub-Saharan Africa, Latin America, and other UK-ODA-eligible regions.

Effectiveness of blended finance mechanisms at channelling private investment in sustainable agriculture

The evidence shows that a range of blended finance instruments have the potential to effectively reduce investment risk and mobilise private sector investments for sustainable agriculture:

- **Equity** and **debt instruments**, which play a crucial role in providing ‘patient capital’ to de-risk sustainable agriculture investments;
- **Green bonds** and **sustainability-linked loans**, effective in scaling projects;
- **First-loss capital**, which can play a significant role in facilitating finance for SME’s involved in sustainable agriculture;
- **Guarantees** and **insurance**, which are particularly suitable for mitigating financial risks for investors in volatile agricultural markets.

These solutions appear most impactful when paired with technical assistance. Blended financing mechanisms can also benefit from being combined with other financing mechanisms for diversification of project revenue streams.

However, and despite this potential, blended finance has demonstrated limited success to date in mobilising new private investment and supporting the transition to more sustainable practices. To date, only 16% of the $140 bn in capital for sustainable development mobilised through blended finance was allocated to agriculture. Moreover, mobilisation of truly additional private capital (i.e., private capital that is not merely a reallocation of existing funds) appears limited. It is important to note however that the lack of comprehensive data on long-term impact of current blended finance investments in sustainable agriculture and food systems brings uncertainty in evaluating their effectiveness.

Other financing mechanisms, combined with blended financing mechanisms, have the potential to diversify project revenue streams (e.g. collective investment vehicles, structured funds). ODA in particular can effectively unlock private investment, though current funding levels are insufficient to drive systemic change alone. At current levels however, ODA alone is insufficient to drive systemic change. The UK Government's £14.3 bn ODA budget for 2025 must therefore be allocated strategically, focusing on the most impactful geographies and mechanisms. PPPs are also effective in addressing high risks and catalysing private investment, but they require strong government backing.

Identifying and addressing barriers to blended finance investments in sustainable agriculture

Several challenges to the use of blended finance in sustainable agriculture stem from the risks and long investment horizons associated with the sector. Additionally, high transaction costs and legal fees directly related to blended finance transactions contribute to these challenges. As such, mobilisation and leverage ratios for private investments have remained modest. This underscores the importance of strategic targeting and clear financial additionality (i.e. ensuring that blended finance catalyses investment that would not otherwise have occurred).

Key barriers to blended finance can be categorised as:

- **Contextual factors**, which are external to projects and stem from broader political, economic, social, technological and legal challenges (e.g. weak legal frameworks, political instability, low credit ratings); and,
- **Implementation gaps**, which are project specific and encompass operational challenges and weakness (e.g. lack of technical expertise, high transaction costs).

These barriers can be addressed through robust due diligence, targeted technical assistance, and flexible fund structures that enable local tailoring. In addition, aligning financial incentives with sustainability metrics and establishing robust monitoring systems is critical for ensuring long-term impact.

Solutions to maximise environmental and social impact through investment in sustainable agriculture

Despite the challenges, the use of blended finance solutions in the sustainable agriculture sector remains an attractive solution that can bring a range of benefits for ecosystems, communities and economies. The research identifies five key recurring principles that have proven effective in maximizing the success of sustainable agriculture investments:

- **Aligning financial incentives with sustainability goals** – Successful projects should ensure that environmental and social benefits are directly tied to business profitability.
- **Embracing long-term investment horizons** – Patient capital models and a long-term perspective are essential to drive sustainable agricultural outcomes (i.e. building long-term ecosystems and community resilience).
- **Leveraging public-private and multi-stakeholder partnerships** – Infrastructure investment from the public sector, coupled with technology transfer and price guarantees from private sector partners, can lower costs, reduce risks, and improve efficiency, which ultimately increases smallholder yields and incomes.
- **Combining finance with technical assistance** – Technical assistance helps reduce (perceived) risks for investors by providing advisory services, agronomic training, and risk mitigation strategies.
- **Establishing robust and credible impact measurement** – Rigorous, well-defined impact metrics are particularly important to build investor confidence.

Defra's programming should prioritise regions where the potential for biodiversity, climate and social impact is high, but where access to finance remains constrained (i.e. Sub-Saharan Africa, Latin America and the Caribbean).

A key insight emerging from this study is the need to tailor financial instruments in response to the specific barriers that hinder investment viability (e.g. risk perception, capital requirements, investment scale, transaction costs, etc).In this context, technical assistance should not be treated as an add-on, but as a strategic component integrated into financial instruments to build investee capacity, improve risk profiles, and enable long-term resilience. The success of blended finance initiatives also relies on the broader systems in which they operate. Early investment in enabling environments (i.e. robust monitoring frameworks, standardised impact metrics, and capacity-building for local actors) will ensure long-term effectiveness and accountability. Strengthening these foundations is particularly important in contexts where technical expertise or reliable data are limited.

ODA funding should therefore be geographically targeted toward high-biodiversity, underfunded regions with strong potential for impact. Priority should go to investments that build climate resilience and support social development, including agroforestry and sustainable livestock systems, while aligning with national and global sustainability frameworks. Financial instruments should be tailored and aligned with local barriers, with early investments focused on strengthening enabling systems (e.g. robust monitoring frameworks, standardised impact metrics, capacity-building for local actors).

Overall, while current blended finance approaches in sustainable agriculture are directionally sound, they remain insufficient. The evidence supports a hybrid model: existing structures are useful but need more targeted design and integration with complementary funding. Scaling will likely require "stacking" with other funding sources, such as philanthropic capital, carbon markets, or public subsidies, to overcome persistent barriers and attract greater private sector participation.

Insights from case studies

The case studies highlighted several enabling practices that contributed to the success of blended finance initiatives:

- The **IDH Farmfit Fund** targets the "missing middle", i.e. farmers and businesses too large for microfinance but too small or risky for commercial banks. Key lessons include the importance of positioning commercial brands as strategic partners rather than core fund participants, due to the potential constraints their business interests might impose. The value of technical assistance in building early-stage business models is also emphasized. The fund's experience highlights the limited catalytic effect of second-loss guarantees and underscores the high demand for patient equity capital.(*See Case study 1 – IDH Farmfit Fund*).
- The **Amazon Biodiversity Fund** (ABF) adopts a flexible governance model, enabling the tailoring of risk and impact procedures to diverse investees while maintaining standardised oversight. This fund integrates impact KPIs into due diligence and monitoring processes, showing how iterative learning and investor communication can enhance accountability and confidence. (*See Case study 2 – Amazon Biodiversity Fund (ABF)*).
- In West Africa, the **COFINA Green African Agri Value Chain** project mobilised €26 million (m) (~$29.4m) to support agri-SMEs through a mesofinance model (i.e. financing meant specifically for small- and medium-sized enterprises), incorporating technical assistance for women-led businesses and aligning with both EU and OECD impact

standards. Though still early in implementation, it is designed to deliver significant climate and gender outcomes. (*See Case study 3 – COFINA – Green Agrican Agri Value Chain*).

- The **Green Agribusiness Receivables Certificates** (Green CRA) in Brazil uses a layered capital approach combining philanthropic and commercial investment to de-risk investment in agroforestry ventures, prioritising Indigenous- and smallholder-communities. It demonstrates strong financial and environmental additionality and offers a replicable model for similar ecosystems. (See Case study 4 – Green Agribusiness Receivables Certificates (Green CRA)).
- Finally, **Regenera Ventures** in Mexico contextualised its investment thesis around social, environmental, and economic goals. Its flexible financing model and low-ticket investments encourage local participation in regenerative agriculture, supported by tailored technical assistance that addresses widespread capacity gaps. (*See Case study 5 – Regenera Ventures Fund*).

Across all examples, the integration of technical assistance, flexibility in design, and commitment to impact measurement were consistent drivers of success.

1 Introduction

1.1 Background

The agriculture sector, particularly in developing countries, is underfunded due to high perceived risks, low financial returns, lack of investment-ready projects, and weak enabling environments. Smallholder farmers and agricultural small- and medium-sized enterprises (agri-SMEs) struggle to attract commercial investors due to a lack of collateral, credit histories, financial capacity, and financial literacy. Limited data, fragmented value chains, and difficulties in quantifying non-financial returns like climate and social impact also deter investment. Consequently, agriculture receives minimal funding despite its importance for food security, livelihoods, and climate resilience. By 2030, there is an estimated annual funding gap of up to $350 bn to transform food systems and achieve climate and Sustainable Development Goals (SDGs) targets.

Public financial resources, including multilateral development assistance, are insufficient to address this gap. Consequently, private sector investment is imperative to bridge the funding shortfall. Blended finance is an approach for funding sustainable development and other public interest initiatives by integrating public, philanthropic, and private capital. The objective is to utilise concessional funding (finance offered at below-market rates) from public or philanthropic sources to mitigate risks and attract investments from private sector entities that might otherwise consider these opportunities too risky or unprofitable.

Public-Private Partnerships (PPPs) are closely related to blended finance. A PPP is a long-term collaboration between public and private entities to deliver infrastructure or services. In the context of blended finance, PPPs can act as the vehicle through which blended finance is implemented. In summary, while PPPs represent a collaboration structure, blended finance is a broader financial strategy, with PPPs often functioning as a key mechanism for executing that strategy.

Official Development Assistance (ODA) refers to government spending on aid designed to promote the economic development and welfare of developing countries. Defra's ODA programmes target ODA eligible countries and aim to address SDGs by combatting poverty, climate change, and nature loss while promoting gender equality (Defra, 2025).

Addressing the significant funding gap in sustainable agriculture requires mobilising private capital at scale, as public and philanthropic resources alone are insufficient. Blended finance offers a strategic solution by using concessional funding to reduce investment risks and incentivise private sector participation. This report explores how blended finance can play a pivotal role in unlocking the capital needed to transform food systems, enhance resilience, and achieve climate and development goals by 2030.

1.2 Objectives of the study

Defra have commissioned ICF to complete this research project to understand and inform how Defra can maximise the efficiency of its ODA programming via blended finance approaches for financing sustainable agriculture.

The United Kingdom (UK) government has a 2025 ODA budget of £14.3bn. In a geopolitical environment which is increasingly challenging for international development (ICAI, 2025), it is ever-more important to ensure that resources are allocated to the most impactful projects in the most efficient manner. Blended finance aims to achieve economic efficiency by combining public and private sector investments to leverage additional resources and expertise to finance projects which meet their impact objectives. Various approaches can be

classed as blended finance, and this report explores which of these approaches are best suited for delivering impact for sustainable agriculture.

Initiatives like the Eco.Business Fund and Land Degradation Neutrality Fund exemplify how Defra are already using blended finance to optimise the use of ODA for greater impact. Whilst this report considers the success and challenges faced by these initiatives, it focuses on recommendations for alternative and innovative mechanisms.

1.3 Scope of the study

The focus of this study is on the effective deployment of financial capital for sustainable agriculture projects using blended financing mechanisms and related approaches to create positive biodiversity and social impact. The principal research topics explored in this assessment are:

1. Understanding which blended financing mechanisms are most effective in channelling private investment in sustainable agriculture.
2. Identifying and addressing barriers to blended finance investments in sustainable agriculture.
3. Identifying effective strategies and resource allocation to maximise environmental and social impact through investment in sustainable agriculture.

As part of this study, the ICF team aimed to develop a comprehensive understanding of the current blended finance landscape and existing facilities, focusing on the effectiveness and potential of current financing mechanisms in attracting new private investments in sustainable agriculture, identifying barriers to such investments, and highlighting successful use cases and best practices (common principles, tools and approaches) from existing blended finance projects that drive positive impacts.

Note that while there are many associated instruments which are relevant to financing sustainable agriculture, the scope of this study was limited to assessing the effectiveness of blended financing mechanisms and of Public Private Partnerships. An assessment of the geographical focus of relevant literature was conducted to ensure the study focused on ODA eligible countries, and based on a steer from Defra, a particular focus was given to findings from sub-Saharan Africa.

2 Methodology

The ICF team has developed a mixed-methods approach that features:

- a **Rapid Evidence Assessment (REA)** to provide an understanding of the existing blended finance 'landscape' and existing blended financing facilities
- a **mapping exercise** to provide contextual information on the use of different facilities and identify commonalities and success factors; and,
- the development of **case studies** to explore real life examples of investments targeting sustainable agriculture outcomes.

In addition, the team engaged with **stakeholders** during different stages of the project to solicit and capture information from experts and practitioners.

2.1 Rapid Evidence Assessment

2.1.1 Initial search and screening

Prior to the initial screening process for relevant literature, the research questions proposed by Defra were grouped into **three principal research topics** (outlined in Table 1).

Table 1: Focus area based on research questions

Principal research topics	Sub-questions
Understanding **which blended financing mechanisms are most effective** in channelling private investment into sustainable agriculture	■ What blended finance mechanisms or approaches are best suited to maximise private investment in sustainable agriculture? ■ To what extent are existing finance mechanisms bringing in new and additional private finance? Are these finance mechanisms resulting in lasting change in investment patterns and outcomes? ■ What is the role of public-private partnerships and ODA in addressing the funding gap into sustainable agriculture?
Identifying and addressing **barriers to blended finance** investments in sustainable agriculture	■ What barriers exist that impede blended finance investment in sustainable agriculture? ■ How have these barriers been overcome previously in these contexts, or in other sectors?
Identifying effective strategies and resource allocation to **maximise environmental and social impact** through investment in sustainable agriculture	■ Amongst successful use cases, what common principles, tools and approaches exist that drive positive impacts with regard to sustainable agriculture? ■ How and where can Defra's resources be most effectively used to leverage or scale up investment into sustainable agriculture to deliver long-term transformational change?[1]

The search strategy and the **inclusion and exclusion criteria** were developed based on this grouping of research questions. Table 2 outlines the criteria used to select literature. The criteria ensured only the most appropriate literature was selected for review.

[1] ICF acknowledges that this is influenced by Defra's priorities and while ICF can provide information to help make decisions, the final decision on how and where Defra aims to utilise its resources remains with Defra.

Table 2: Inclusion and exclusion criteria

Area of inclusion / exclusion	Justification
Temporal: Post 2015	Blended finance was first identified as a solution for the gap in private funding in July 2015[2], and the bulk of transactions and literature was produced subsequent to this. In addition, given the dynamic nature of this field, most studies that have been incorporated were published post-2015. However, seminal work published before this period was considered for inclusion on a case-by-case basis in consultation with our experts.
Type of report: Academic and grey literature, non-peer reviewed literature ensuring approx. 2/3 grey literature	Peer-reviewed academic literature such as journal articles, conference papers and abstracts were included. Non-peer reviewed literature (i.e. publications without ISBN/ISSN) such as case studies, corporate publications and articles which were deemed relevant were also included, mainly sourced through a Google search.
Geographic: Global, ensuring coverage from Africa	Blended finance approaches used in all regions were considered relevant. A geographic assessment of relevant literature was also conducted to ensure that findings from Africa were included, however, only 7 of the initial 60 sources represented this region.
Key terms: blended finance, blended finance funds, sustainable agriculture, sustainable livelihood, nature positive, social impact	Studies associated to sustainable agriculture and allied sectors. Blended finance mechanisms that lead to biodiversity/nature-positive sustainable agriculture investments will be the focus of the research, as well as projects highlighting environmental and social impact.
Language: Literature available in English.	The study team's search for relevant published literature was restricted to those published in the English language.

Using these search criteria, **60 sources were identified for initial screening**. The literature was identified through the following methods:

- Recommended literature by Defra;
- Recommended literature by experts in interviews;
- Google search conducted by the University of Birmingham - HSMC Knowledge and Evidence Services (KES);
- ICF search in the ProQuest Agricultural & Environmental Science Collection, ProQuest ABI Inform, OVID CAB Abstracts and Elsevier Scopus databases conducted by the University of Birmingham - HSMC Knowledge and Evidence Services (KES);
- Sources of literature were also identified through a snowballing approach, incorporating articles referenced in the literature reviewed.

[2] Blended finance was identified as a solution needed to achieve the United Nations Sustainable Development Goals at the Third International Conference on Financing for Development in Addia Ababa in 2015.

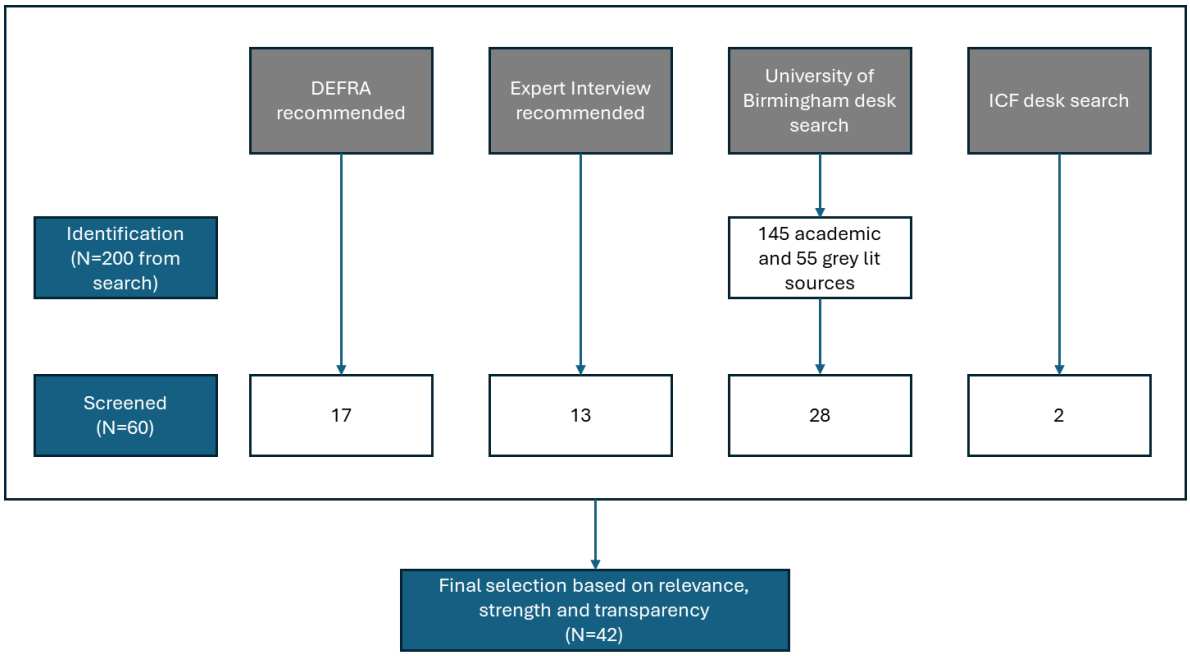

Figure 1: Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) flow diagram for literature search and screening process

The **screening of the literature** was conducted in MS Excel and **general information** about each source was captured including the title of the paper, source link, date of publishing, geographic focus, and focus areas and research questions covered. To assist with **prioritisation of literature** and to understand their relevance, we developed a **weighted scoring system** by which we assessed each literature, using the following criteria:

- **Relevance:** Financial mechanisms covered (blended finance, other financial mechanisms), sector of focus (sustainable agriculture, other sustainable livelihood), impact (nature positive impact, social impact)
- **Strength and transparency:** Whether the paper was from a reputable source and employed a clearly defined methodology.

The **initial screening exercise** assessed the relevance, strength and transparency of the source, essential to assess the empirical validity of theoretical claims and more generally the extent to which the team may rely on the findings. Based on these metrics, an overall score (0-100) was calculated, and a rank was assigned to each source (between 1 for the highest score and 60 for the lowest score). A **second informal assessment** was then conducted by the ICF team based on their type (i.e. grey literature, academic), geography and origin, to secure a balanced and unbiased sample of sources. By employing this approach, **42 sources were shortlisted for detailed data extraction**.

2.1.2 Data extraction and analysis

The team conducted a **data extraction** from the literature in a systematic and consistent manner, following a structured approach to ensure accuracy and reliability. An MS Excel template was created to extract study information from each literature source. The data extraction captured the following information:

- **Reference:** Publication name, date of publication, authors, link to article;
- **Content:** Summary of publication;
- **Findings by research questions for each focus area:** To extract the main findings and evidence for each of the relevant **questions**;

- **Researcher comments:** Additional notes, comments or reflections on the article;
- **Relevance for Task 2 and Task 3**: Does the literature mention (i) blended finance mechanisms for mapping (Task 2); or, (ii) identify projects which have benefitted from blended finance approaches for case studies (Task 3).

The project team **analysed** the shortlisted literature to provide a summary of the key findings against each of the research questions. Following extraction of data from the articles, a final **quality assurance** was conducted by the project team.

2.1.3 Expert scoping interviews

Expert (scoping) interviews were conducted in order to fill knowledge gaps identified by the ICF team, suggest additional literature to review, and test key aspects emerging from the REA. To ensure that experts insights were within the scope of the study, a stakeholder log was created including key experts from the fields of blended finance, sustainable agriculture, biodiversity protection, and international development. This log was developed from the recommended literature provided by Defra and authors of relevant publications found through secondary research. Each stakeholder's expertise was evaluated and scored based on relevance to the study. Defra also provided recommendations regarding suitable interviewees, helping to ensure a diverse and informed range of perspectives.

Following this selection process, the project team conducted **5 expert interviews** with representatives from the Skills, Systems & Synergies for Sustainable Development (4SD) Foundation, the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), the European Network on Debt and Development (Eurodad), and Wageningen University & Research (WUR) (two were conducted with WUR representatives).

To structure the interviews, a topic guide was developed, in line with our research questions (see *Annex 2 Stakeholder Topic Guide*). It covered the following topics:

- Expert roles and their relation to sustainable agriculture and blended finance;
- Key blended financing instruments and mechanisms;
- Challenges and opportunities in financing sustainable agriculture;
- Effectiveness and leverage effects of blended finance;
- Country-specific considerations – Low-Income Countries (LICs), Lower-Middle-Income Countries (LMICs), Small Island Developing States (SIDS);
- Financing bottlenecks and recent trends;
- Recommended cases studies and additional literature (articles and reports), following the “snowballing” technique;
- Additional contacts for insights.

Each interview was **documented**, and responses were **analysed** using an MS Excel-based tool that categorised key insights per research question. This method enabled easy **cross-referencing** of expert opinions and **identification of common themes and gaps** for further validation.

A number of themes emerged, which were validated and sense-checked further throughout this study. First, a recurring concern was ensuring financial additionality: that is, that blended finance mobilises new private capital that would not have been invested otherwise. This entails avoiding the scenarios where public or concessional funds replace or subsidise private investments that would have occurred under normal market conditions. Second, safeguards ought to be implemented to ensure (public) concessional funding supports livelihoods and broader sustainability goals. Third, long-term impact measurement should be

improved, to ensure that biodiversity and sustainability can more accurately be tracked over time. This is especially true in the case of indirect financing mechanisms (e.g. guarantees to financial institutions that on-lend to final recipients), where impact measurement is somewhat removed from the donor's sphere of influence. Fourth, providing technical assistance to strengthen businesses in their financial management, governance and business models was identified as crucial to make them more investment-ready; this support is seen as important in improving the effectiveness of blended finance interventions in recipient countries.

2.2 Mapping exercise

Through the REA, **37 case studies** of blended finance mechanisms were identified. The objective of the mapping exercise was to provide a systematic approach to selecting 5 case studies for further investigation (see *2.3 Case studies*).

In agreement with Defra, the project team developed a **mapping framework** providing **general information** on the case study (i.e. Project/Fund name, Year of establishment & conclusion, Geographical focus, Theme, Expected impact(s), Relevant Stakeholders/Organisations, Summary). The case studies were then mapped against k**ey characteristics of the blended finance mechanism** to capture the approach used (i.e. Equity, Debt, First loss capital, Guarantees & insurances, Grants, Collective investment vehicle, Public-private partnership, Technical assistance).

In a second time, the project team conducted a **binary assessment** (Yes/No) of case studies based on the following criteria:

- **Geographical scope**: ODA eligible countries & balance in regions / countries with high threats/pressures to biodiversity;
- **Thematic scope**: Sustainable agriculture / Food systems on land;
- **Impact scope**: Biodiversity impact & social impact (i.e. evidence of investments that demonstrate lasting environmental and social impacts with a focus on biodiversity);
- **Mechanism scope**: Blended finance fund / project / programme / facility.

The case studies were then categorised with a **qualitative assessment** based on their relevance for developing further detailed case studies across the four yes/no criteria. The case studies were categorised as follows:

- **High relevance**: sources which met all four criteria, i.e. were relevant across all categories;
- **Medium relevance:** all sources met the evidence of impact criteria, and generally at least one other criterion;
- **Low relevance / excluded:** sources that were not thematically relevant, or where information was unclear or not deemed to be reliable or high quality.

The assessment led to the pre-selection of 9 case studies which met the "High relevance" criteria, followed by the final **selection of 5 case studies for further investigation** after consultation of the Defra team and experts for validation.

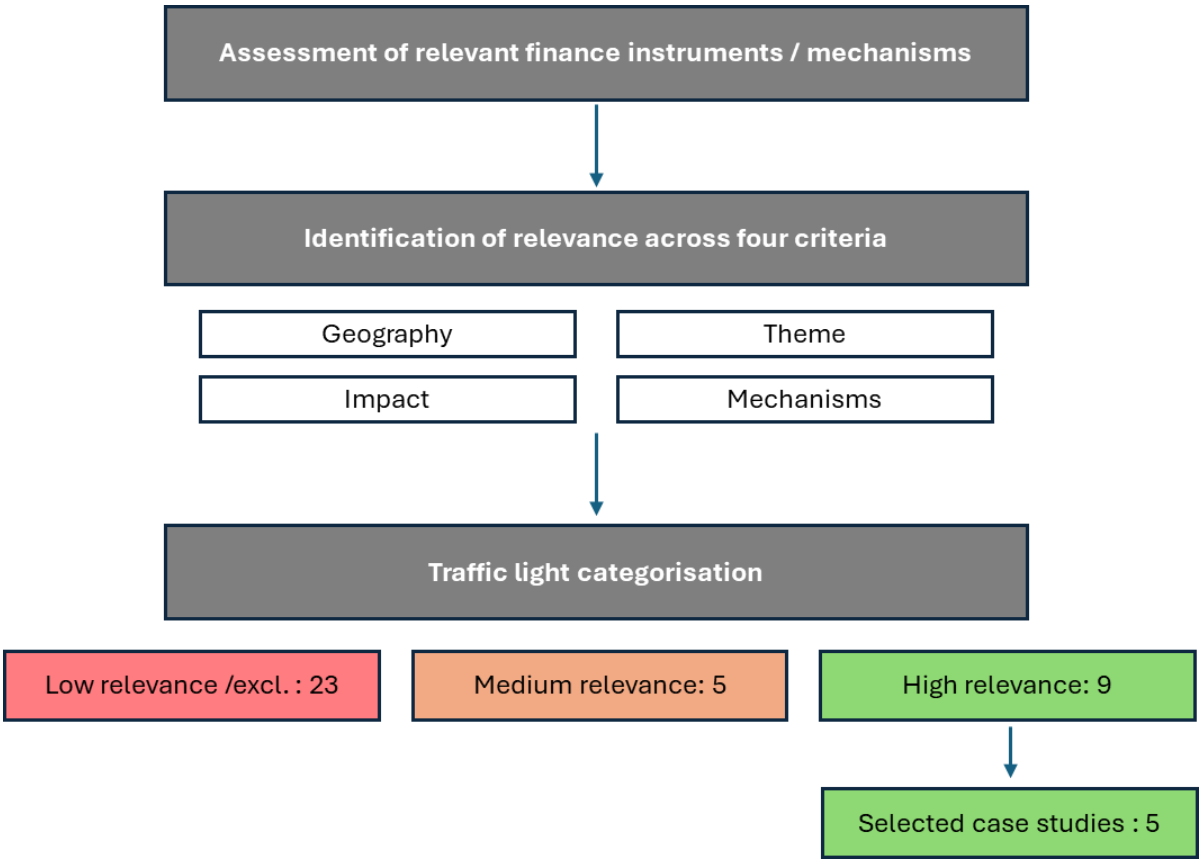

Figure 2: Mapping exercise and case study selection diagram

2.3 Case studies

The project team developed a **case study template** to capture the information laid out in Table 3 below:

Table 3: Case study structure

Section	Content
Overview	
Description of the Project/ Fund/ Facility	*Concise summary of the project's purpose, scope, and key features.*
Context & background	*Historical, social, and economic context that necessitates the project.*
Structure	
Aims and objectives	*Description of the primary goals and intended outcomes of the project.*
Financial structure	*Description of funding sources, financial instruments, financial flows and the investment strategies.*
Challenges & solutions	*Existing & potential challenges that could impact the project's success and solutions to mitigate*

Section	Content
Outcomes	
Impact(s) – Biodiversity & climate impact(s)	*Expected / observed benefits to climate, the environment and biodiversity.*
Impact(s) – Social impact(s)	*Expected / observed improvements in social well-being, community development, livelihoods and co-creation aspects (i.e. collaboration with local stakeholders).*
Impact(s) – Additionality	*Overview of expected / observed contributions of the project that would not occur without this specific intervention.*
Lessons learned	*Summary of insights and experiences gained during the project's implementation.*

5 detailed case studies were completed through **desk research** (i.e. materials produced by the project / funds, external literature, articles) and completed with **interview** inputs. Stakeholders interviewed included project / fund managers, partners, beneficiaries, and wider stakeholders. A total of **5 interviews** were conducted across all 5 case studies. Interviews were semi-structured and conducted using a broad discussion guide.

2.4 Synthesis across evidence

Results of the analysis and the expert interviews are synthesised in this Report. During this phase, the team critically reviewed the extracted data, identifying the need to re-evaluate certain sources to clarify how they support or contradict other findings. The synthesis process carefully considered the varying strengths of evidence.

2.5 Methodological limitations

The project team encountered **methodological limitations** in the development of the study.

During the REA, the main limitation was related to **reviewer bias**. To minimise reviewer bias a set of clear guidelines for the screening and data extraction process was developed in the form of a search protocol. Internal discussions and meetings were also conducted to ensure that the research team understood the protocol and were aligned on the search methodology. A pilot screening was conducted by the research team, following which a debrief was organised to agree on any research challenges and to ensure any inclusion/exclusion decisions were collectively taken. In addition, reviewer comments were noted and discussed during both the screening and data extraction steps of the assessments, to ensure transparency in the process.

The development of case studies also highlighted methodological limitations linked to the difficulty to **secure interviews with relevant stakeholders**. Given the geographical scope of these case studies (i.e. non-European) and the type of stakeholders involved (i.e. local stakeholders, international organisations), the project team had limited capacity to establish contact. Consequently, the process of securing interviews was particularly time-intensive, involving prolonged searches for suitable contacts, outreach to previously unknown stakeholders, and a strong reliance on professional networks to facilitate access. In addition, the **timing of the case studies** presented another barrier, as many of the projects and funding mechanisms analysed are still ongoing—limiting access to publicly available information, data and reports, and the ability to properly assess their impact and effectiveness.

To best address limitations in **consistency and methodological robustness** through the study, quality assurance and oversight from the Project Manager and Project Director were provided throughout the research process on a weekly basis through online project meetings. The Project Team also employed the expertise of a panel of subject matter experts to provide additional insight and quality assurance to the project's output. Defra was actively consulted, with weekly meetings held to ensure their continuous involvement. They also played a crucial role in reviewing both the Search Protocol and the Screening Tool.

3 Results of the study

3.1 A. Understanding which blended financing mechanisms are most effective in channelling private investment into sustainable agriculture

3.1.1 A1. Understanding which financing mechanisms are most effective in channelling private investment in sustainable agriculture

The REA outlined the effectiveness of blended financing mechanisms for de-risking potential investments in sustainable agriculture in order to leverage financing from private investors. The results below are set out as follows.

- Broad categories of blended finance mechanism are defined, mostly using research done by the OECD (Habbel et al., 2021). Each blended finance mechanism can be designed in multiple ways and using different approaches, some of which are covered by the REA results.
- This is followed by an overview of each mechanism considering (i) its effectiveness at reducing risk; and, where available in the literature, (ii) its effectiveness at achieving impact objectives[3]; (iii) its applicability for sustainable agriculture; and (iv) its applicability in ODA eligible countries.

Table 4 summarises the results across the criteria outlined above. Each mechanism has been assessed in relation to the criteria as follows:

- High – Evidence indicates high effectiveness/ applicability in relation to this criterion
- Some – Evidence indicates some effectiveness/ applicability in relation to this criterion. Evidence may relate only to specific examples.
- For those with no assessment, there was no supporting evidence identified through the REA in relation to this criterion.

[3] For the purposes of this REA, impact objectives are categorised as those which contribute towards the ODA impact measurement KPIs, with further detail provided where relevant to sustainable agriculture.

Table 4: Summary of mechanism effectiveness

Mechanism	Effectiveness at reducing risk	Effectiveness at achieving impact objectives	Applicability for sustainable agriculture	Applicability to ODA eligible countries
Equity instruments	High	-	High	-
Debt instruments	High	Some	High	-
First Loss Capital	High	-	High	-
Guarantees and insurance	High	High	High	Some
Grants and performance-based grants	High	-	High	Some
Collective investment vehicles and structured funds	High	-	High (most effective when combined with technical assistance and guarantees	-
Technical assistance	High	-	High (most effective when combined with equity investments	High

Note that although the REA results indicate that these mechanisms are generally effective at reducing investment risk, this does not mean they are effective at securing financial investment or financial additionality (see *A2. To what extent are existing finance mechanisms bringing in new and additional private finance? Are these finance mechanisms resulting in lasting change in investment patterns and outcomes?*).

3.1.1.1 Equity instruments

The OECD defines an equity instrument as an "investor's share in the ownership of a corporation that gives the owner claims on the residual value of the corporation after creditors' claims have been met". Equity investments in a blended finance context are where "public or philanthropic institutions make direct or indirect equity investments to help reduce risk and stabilise returns for commercial investors with the aim of crowding in additional private capital" (Habbel et al., 2021).

In blended finance transactions, equity is often provided on "concessional" terms. Concessional equity is offered on below-market terms to lower the borrower's overall capital cost and provide extra downside protection (Convergence Blended Finance, 2024a).

The results of the REA indicate that:

- **Equity plays a crucial role in providing "patient capital"** to de-risk sustainable agriculture investments by providing long-term equity investments (often below market-rate) to improve project viability and consequently shareholder and stakeholder confidence (OECD, 2021).
- **Concessional equity is effective in addressing the high actual and perceived risks associated with the agriculture sector by providing capital at a lower cost in the early stages of a project**. Concessional equity means it is supplied below market-rate and this can help address the high transaction

costs associated with the transition to sustainable practices, including the need for new technologies through increasing capital for research and technology to increases crop yields (Convergence Blended Finance, 2024a).

- **Concessional equity is the most commonly used mechanism in the global agriculture blended finance market (along with concessional debt)** (Convergence Blended Finance, 2024a) and can be used in sustainable agriculture to help de-risk transactions throughout the food value chain (Convergence Blended Finance, 2022).

3.1.1.2 Debt instruments

A debt instrument is a contractual agreement in which the lender makes “loans to businesses, directly or indirectly through financial institutions, obliging the borrower to repay the principal plus agreed upon interest, at either a fixed or variable rate” (Habbel et al., 2021). There are various debt instruments which can be employed including Loans and Bonds. Bonds are a type of debt instrument with a fixed income paid over an agreed timeframe and issued by governments, public utilities, banks or companies (Habbel et al., 2021).

Similar to equity, in blended finance transactions debt is often provided on “concessional” terms. Concessional debt is offered on below-market terms to lower the borrower's overall capital cost and provide extra downside protection (Convergence Blended Finance, 2024a).

The results of the REA indicate that:

- **Debt instruments can reduce risk by providing “patient capital”** in order to increase projects’ viability and decrease risk for private sector investment (OECD, 2021). Debt instruments are the most commonly used instrument in development finance and impact investing, and concessional debt, supplied at below-market rates, is one of the most frequently used instruments in the sustainable agriculture sector (Convergence Blended Finance, 2024a).
- **Loans are effective for addressing high risks and supporting transitions to sustainable practices in the sustainable agriculture sector** (Gredley, 2024). By providing liquid capital they can reduce risk and mobilise financial institutions to on-lend to agri-SMEs (OECD, 2021; Rankin et al., 2016).
- **Investing in Green Bonds and Sustainability-Linked Loans can be effective in scaling a project**. Although both of these debt-based instruments function differently (Green Bonds are linked to clearly define activities through earmarked use of proceeds while Sustainability-Linked Loans are linked to the overall sustainability performance of the borrower), they can both attract private investors through linking repayments to spending on projects with measurable impact objectives (Denke et al., 2023), or by tying returns to measurable sustainability outcomes (Earth Security, 2021). Note that the feasibility of these instruments depends on the country context as they typically depend on intermediary financial institutions and robust capital markets.

3.1.1.3 First Loss Capital

First loss capital is a mezzanine instrument which acts like a guarantee by combining debt and equity instruments so that the investor or grant-maker can convert debt into equity if a company defaults. It can be provided through: equity in which the provider takes the most

junior position[4]; grants which may be converted into debt or equity; guarantees to cover a specified amount of losses; and subordinated debt where the provider takes the most junior position (Habbel et al., 2021).[5]

The results of the REA indicate that:

- First-loss capital and junior equity are types of concessional capital that are particularly effective in reducing perceived risks for private investors (Earth Security, 2021) by absorbing initial losses (Blended Finance Taskforce, 2020) and can enhance returns for private investors (Earth Security, 2021).
- First-loss capital is underutilised and could play a more significant role in facilitating finance for SMEs involved in sustainable agriculture (Lankes, 2021) according to some sources.

3.1.1.4 Guarantees and Risk Insurance

A guarantee involves the guarantor agreeing to pay part of a loan, equity, or other financing instrument in the event of default (Habbel et al., 2021).

The results of the REA indicated that:

- **Guarantees and insurance are particularly suitable for mitigating financial risks for investors in volatile agricultural markets** (Blended Finance Taskforce, 2020) and work in a similar way to first-loss capital in reducing perceived risks for private investors (Wattel et al., 2024).
- **Guarantees can produce significant impact while creditor default and losses to issuers remain manageable** through careful front-end design and due diligence, and sometimes syndication (Habbel et al., 2021).
- **Guarantees can be effective at nurturing inclusive agri-market ecosystems** through de-risking investments for financial institutions, increasing their willingness to lend to agri-SMEs. The REA produced evidence of a case in which credit guarantees have been provided in Tanzania to successfully incentivise commercial banks and Development Finance Institutions (DFIs) to provide credit. Guarantees and Risk Insurance are less widely used in the agriculture sector compared with other sectors such as finance (Convergence Blended Finance, 2024a).
- **Guarantees become more effective when paired with technical assistance** capacity enhancement initiatives, as evidenced by the PROject on Agriculture and Food Systems (PROAF) initiative which addressed the lack of access to finance for family farms by enhancing the capacity of cooperatives to handle credit risk (OECD, 2021).

3.1.1.5 Grants and Performance-Based Grants

Performance-based grants (also known as outcome-based funding) are increasingly utilised for funding projects aligned with Sustainable Development Goals (SDG). Under this framework, funders make payments conditional on the achievement of predefined outcomes. Full payment is contingent upon the attainment of these agreed-upon outcomes, which

[4] This is low-ranking capital and means its owners are the last in line to receive certain payouts, such as dividends or reimbursements in cases of bankruptcy.

[5] Similarly to junior equity, this is lower ranking debt which is lower ranking for repayment in case of default.

comprise measurable and independently verifiable social or environmental impacts (Habbel et al., 2021).

The results of the REA indicate that:

- **Grants can be essential for projects with untested business models and to develop a project pipeline for investment, particularly in less mature sectors and riskier geographies** (Habbel et al., 2021; OECD, 2021). They can be used to reduce risk on both the supply and demand sides of agricultural finance either separately or in combination (OECD, 2021). For example, performance-based grants have also been used on the project demand side to incentivise financial institutions to develop tailor-made loan products for agri-SMEs (OECD, 2021).
- **The private sector can be effectively mobilised using convertible grants, which can be converted into market-based financing such as debt or equity instruments** (Blended Finance Taskforce, 2020). Grants can be effective for developing the market (OECD, 2021) and mechanisms can be designed so initial grants can be converted into market-based financing which has proven effective in mobilising private sector involvement (Convergence Blended Finance, 2024b).

3.1.1.6 Collective Investment Vehicles and Structured Funds

Collective Investment Vehicles gather money from various investors to invest in financial and nonfinancial assets. They have a specific legal status and are categorised as either funds or facilities (Habbel et al., 2021).

Structured funds are an example of a collective investment vehicle. They combine different asset classes with varying risk and return profiles (Habbel et al., 2021).

The results of the REA indicated that:

- **Structured funds and Collective Investment Vehicles can effectively reduce risk and catalyse private investment by combining different asset classes with varying risk and return profiles.** (Defra, 2021) Aggregating lots of smaller projects into larger funds, as opposed to mid-sized projects, can also attract larger institutional investors (Convergence Blended Finance, 2024a).
- **Structured funds can help scale sustainable agriculture by combining concessional capital with private investment to provide low-interest rate financing for farmers** (Wattel et al., 2024); (The Rockerfeller Foundation, 2024). The Responsible Commodity Facility (RCF) blends concessional impact capital from UK retailers, mezzanine capital from impact investors, and commercial capital from banks to finance deforestation-free soy production (The Rockerfeller Foundation, 2024).
- **Structured funds can be most effective when combined with other approaches including technical assistance and guarantees**. Guarantee mechanisms can be layered on top of blended finance to further distribute risk. For instance, a lending facility providing finance to smallholders with a combination of commercial capital, concessional capital, and a 50/50 guarantee mechanism to reduce credit risk for commercial investors (The Rockerfeller Foundation, 2024).
- **Using an outcome-based payment approach combined with structured funds can catalyse private finance** by linking financial returns to quantifiable

biodiversity impact such as soil health, biodiversity conservation, and water quality (The Rockerfeller Foundation, 2024).

3.1.1.7 Technical Assistance

Technical assistance for blended finance includes advisory services, assistance, or training provided to the investee business or other value chain and ecosystem actors either before or after investment (Duursma et al., 2017).

The results of the REA indicated that:

- **Technical assistance reduces risk by supporting knowledge and capacity building,** enhancing the investment readiness and sustainability of early-stage projects (Convergence Blended Finance, 2022). Technical assistance funds can help build the capacity of smallholder farmers and agribusinesses, which can improve the commercial viability of investments (Attridge and Engen, 2019).
- **Technical assistance can help stimulate the creation of new markets and value chains around agri-SMEs** (OECD, 2021). It can be successfully paired with equity investments in building the capacity of agri-SMEs to implement sustainable practices (Defra, 2021).
- **Technical assistance is particularly important for catalysing transformation to sustainable agriculture in sub-Saharan Africa**, according to evidence reviewed. However, there is a need to be more focused on pre-investment stage whilst providing more specialised, flexible, demand-driven, cost shared and on-the-ground support for agri-businesses, financial institutions and farmer organisations, along with overall better coordination through a recognised organisation (Duursma et al., 2017).

3.1.1.8 Other approaches and considerations

The REA suggested that the following approaches and combinations of blended financing techniques are also relevant:

- **Whichever approach is taken, impact additionality should be a key focus** (Attridge and Engen, 2019)**.** The impact is additional if it is beyond the results that would have occurred in the absence of the project. Impact and direction, meaning the change it is driving toward, matter more than scale alone and the quality of finance over its quantity is critical (Mazzucato, 2025) (Gerasimcikova et al., 2024).
- **Financing mechanisms should prioritise public institutions, cooperatives, and other actors with a proven capacity to support sustainable agriculture and agroecology.** The evidence indicates that this can be achieved by employing knowledgeable staff or establishing a task force for a sustainable agri-food system and agroecology. Funding should be highly concessional to prevent increasing the debt burden on vulnerable states and communities (Gerasimcikova et al., 2024).
- **Blended financing mechanisms benefit from being combined with other financing mechanisms for diversification of project revenue streams**. Blended financing mechanisms can be combined with other mechanisms and instruments such as debt-for-nature Swaps or voluntary carbon markets. Voluntary carbon markets can ensure long-term investment flows into sustainable land use for sustainable agricultural investments (Denke et al., 2023), and smallholder farmers can sell carbon off-sets from the planting of trees

on their land for an additional source of income, while increasing investor appetite to provide funding to the high-risk smallholder segment (Bosma and Hein, 2023). (*See Limitations and future research*Discussion).

- **A good understanding of contextual barriers and opportunities is important** for designing successful blended financing mechanisms (Lankes, 2021). (*See B. Identifying and addressing barriers to blended finance investments in sustainable agriculture*).

3.1.2 A2. To what extent are existing finance mechanisms bringing in new and additional private finance? Are these finance mechanisms resulting in lasting change in investment patterns and outcomes?

This section of the REA aims to understand whether blended finance mechanisms have led to a lasting reallocation of public and private investment towards sustainable food systems. The results below are set out as follows.

- An overview of the private finance investments mobilised, targeted projects supporting sustainable food systems, and understanding of the limits of this analysis.
- An understanding of the limits of concessional finance in attracting private sector capital for sustainable agriculture, highlighting the need for a more integrated, de-risked investment approach.
- An assessment of the need to achieve large-scale and long-term private capital mobilisation, highlighting challenges that hinder investment shifts.

3.1.2.1 Limited and uncertain mobilisation of blended finance for sustainable food systems

Blended finance mechanisms have demonstrated limited success in mobilising private sector investment, primarily through concessional capital. By 2021, only 16% of the $140 bn in capital for sustainable development in developing economies mobilised through blended finance was allocated to agriculture – including smallholder farmers support, climate adaptation and mitigation efforts, and agricultural technology (Loboguerrero Rodriguez et al., 2021). This amount remains far below the estimated annual funding gap of up to $350 bn to transform food systems and achieve climate and SDGs targets by 2030. This financial mechanism only plays a marginal role within the broader investment needs.

The majority of blended finance transactions targeting sustainable food systems are concentrated in solutions related to the growing crops and those targeting storage and transport (Convergence Blended Finance, 2022). However, a major challenge remains that the private investment mobilized through blended finance continues to be heavily focused on capital-intensive sectors, such as infrastructure, while sustainable agriculture and food systems receive disproportionately less funding (Attridge and Engen, 2019).

Although the REA indicated that blended finance approaches can be highly effective at reducing risk, its effectiveness in truly mobilising new and additional private capital—rather than reallocating existing funds—remains uncertain (UNEP-WCMC, 2025). This uncertainty is compounded by the lack of comprehensive data on the long-term impacts of these investments, which makes it difficult to evaluate the true effectiveness of blended finance investments in sustainable food systems (Defra, 2021). Indeed, a theme which emerged through the stakeholder interviews was a recurring concern about financial additionality. Stakeholders reported that it is important to ensure that blended finance does not merely

shift existing private investments away from other impact projects or provide concessional funding to projects with which would have achieved the same funding from private investors.

3.1.2.2 Limited effectiveness of concessional finance in catalysing private sector capital

While the REA suggests that the use of blended concessional finance is a key tool in advancing progress on the Sustainable Development Goals, which includes the transformation of agriculture and food systems, evidence indicates that public-led blended financing mechanisms for development have had limited success in attracting additional private capital, particularly in low-income countries, and that its actual deployment remains low. Only 2% of the $11 bn of ODA to agriculture sector in developing countries globally is allocated to blended finance activities annually, highlighting the relatively small role it plays in the broader development finance landscape. Similarly, multilateral development banks (MDB) and development finance institutions (DFI) only have 5 to 10% of their financing transactions in the agricultural sector (Apampa et al., 2021). This underscores a persistent gap in the effectiveness to catalyse private sector capital.

A key challenge in blended finance initiatives for sustainable agriculture lies in the inherent risks and long investment horizons associated with the sector. With investors remaining particularly hesitant, the majority of projects in the sector still rely predominantly on concessional finance to remain viable. Nevertheless, there are promising examples, such as investment funds targeting agroforestry which have demonstrated the potential for profitability while also generating long-term environmental and social benefits (Blended Finance Taskforce, 2020). Ultimately, achieving meaningful private sector engagement in blended finance requires a shift in approach—from viewing concessional finance as a standalone solution, to integrating it into broader efforts and de-risk investments (Apampa et al., 2021).

3.1.2.3 Current models have yet to achieve large-scale and long-term private capital engagement

With leveraging ratios ranging from $0.8 to $4 of private finance per $1 of public finance (Mutambatsere and Schellekens, 2020), current blended finance mechanisms have not yet achieved large-scale and long-term private sector engagement. By contrast, a leverage ratio of 9:1 would be necessary to attract large-scale and sustained private sector investments. This limited capacity to attract substantial private investment highlights the ongoing challenges in transitioning from public-led to market-driven financing structures.

One of the primary barriers is the high cost and inefficiency associated with blended finance transactions, due to high transaction costs, legal fees on the private sector end, in comparison with lower costs associated to concessional finance from which governments and public authorities benefit (Kedward et al., 2023). Another key challenge is the timing of private capital involvement for nature. Private capital tends to be mobilised to join projects at later, de-risked stages of investment, preventing lasting shifts in investment patterns (Denke et al., 2023).

Several structural limitations further constrain the effectiveness of blended finance mechanisms in mobilising substantial private capital. A lack of transparency in reporting and the absence of reliable universal metrics for assessing nature-related investments make it difficult to track financial additionality and long-term impact (Convergence Blended Finance, 2024a) reflected in the lack of data on impact. The lack of comprehensive data also amplifies risk perception and limits the scalability of existing models (Earth Security, 2021). Furthermore, the continued reliance of many projects on public sector subsidies and donor-driven finance raises further concerns about their long-term viability (Wattel et al., 2024).

Consequently, these challenges discourage shifts in investment patterns, limiting the potential of blended finance to drive systemic change.

3.1.3 A3. What is the role of public-private partnerships and ODA in addressing the funding gap into sustainable agriculture?

Public-Private Partnerships (PPPs) are an agreement between the government and one or more private partners (which may include the operators and the financers), where private partners deliver the service to align government objectives with the profit objectives of the private sector. Effectiveness of this alignment depends on a sufficient transfer of risk to private partners. (OECD, 2008). Similar to blended finance mechanisms, the intention of PPPs is a risk-sharing mechanism between public and private actors, but a key difference is the focus on providing services and infrastructure, rather than just the provision of concessional funding. PPP's are arrangements which can support the effectiveness of blended finance mechanisms.

Blended finance approaches play a crucial role in the early stages of market development by leveraging the risk tolerance of concessional and impact capital to attract private investment. In the agricultural sector, while the use of blended finance has grown, the amount of finance remains far below the estimated annual funding gap of up to $350 bn to transform food systems and achieve climate and SDGs targets by 2030. Public-private partnerships (PPPs) and official development assistance (ODA) can play a catalytic role in bridging this financing gap for sustainable agriculture by de-risking private investment and funding critical infrastructure. To maximise their impact, there is a pressing need to scale and replicate successful PPP models and integrate ODA more strategically with private sector financing (Blended Finance Taskforce, 2020).

This section explores how PPPs and ODA can be harnessed to close the funding gap in sustainable agriculture. It outlines the benefits and key features of each mechanism, evaluates their effectiveness in advancing sustainable agriculture outcomes, and highlights key considerations for successful implementation.

3.1.3.1 Role of public-private partnerships

Public-private partnerships are essential in overcoming market barriers and failures. These partnerships leverage concessional loans, guarantees, and technical assistance to maximise private investment.

PPPs address high risks associated with sustainable agriculture and provide numerous benefits to smallholder farmers, processors and marketers

PPPs play an important role in agriculture activities and are found to reduce the commercial risk for the private sector by offering fiscal incentives and institutional measures to reduce transaction costs, such as by organising farmers into groups and offering exclusive purchase rights for raw materials. For instance, in a rubber plantation, Agri-PPP in Ghana, as part of the purchase agreement with smallholder rubber producers, subsidised insurance was made available for wind and fire outbreaks, and an income protection fund was set up in case of low market prices for rubber (Obayelu, 2018).

This risk management function of PPPs is particularly attractive to the agriculture sector in **developing countries**, where making agricultural production sustainable in the face of climate change is one of the most pressing challenges (Rankin et al., 2016). Due to high risks and limited governmental financial resources in these countries, the PPP model provides an important mechanism to harness technology, resources, skills, expertise and market access to improve the livelihoods of resource-poor smallholders (Obayelu, 2018) and

modernise the agri-business sector (Rankin et al., 2016). It has also been effective in financing rural infrastructure, including irrigation, logistics, and storage, which are essential for sustainable agricultural supply chains (Blended Finance Taskforce, 2020).

PPPs are effective when there is strong government support and alignment of interests with private investors

While PPPs help create financing structures that encourage private sector engagement in sustainable agriculture, many PPPs in agriculture remain underdeveloped (Wattel et al., 2024). Often, PPPs prioritise large-scale projects by foreign companies, which can be detrimental to smallholder farmers (Gerasimcikova et al., 2024). In addition, they can be complex to manage due to the need for coordination amongst many stakeholders, and difficulties in balancing public and private sector goals (Earth Security, 2021). To ensure the effectiveness of this model, a balance needs to be reached between lowering the barriers to entry for private agribusiness investors and ensuring that some of the risk is transferred away from smallholders and shared fairly between the public and the lead private partners (Attridge and Engen, 2019).

3.1.3.2 Role of ODA

ODA is instrumental in providing grants, guaranteeing loans, providing first-loss capital, and leveraging philanthropic contributions to mobilise commercial investment (Blended Finance Taskforce, 2020). It is also used to fund technical assistance, project preparation, and early-stage investment, making projects more attractive for private capital (Blended Finance Taskforce, 2020).

Defra's ODA is provided using bilateral, multilateral, and mixed mechanisms, with multilateral programs through institutions like the World Bank, UNEP, and UNDP. It targets ODA eligible countries,[6] focusing on Sub-Saharan Africa, South/Southeast Asia, and Latin America and the Caribbean.

In January 2025, Defra established a set of International KPIs to assess the impact of ODA across key themes – biodiversity, climate, poverty, finance and technical assistance (*see Defra's ODA Results Framework*). This highlights Defra's focus on targeting areas with high potential for poverty reduction, biodiversity preservation, and climate impact while monitoring its financial outflows and provision of technical assistance. Using these KPIs, Defra estimates that between 2020-2023, it has achieved 392,007ha under sustainable management practices, supported 6,492 ha through restoration practices and benefited 306,205 people through strengthened or new livelihoods (Defra, 2025).

[6] Albania, Angola, Argentina, Armenia, Bangladesh, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Burundi, Cape Verde, Cambodia, Cameroon, Chad, China, Colombia, Comoros, Republic of the Congo, Costa Rica, Ivory Coast, Democratic Republic of the Congo, Dominica, Ecuador, Egypt, El Salvador, Eswatini, Ethiopia, Fiji, Gabon, The Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Maldives, Mali, Mauritania, Mauritius, Mexico, Federated States of Micronesia, Moldova, Mongolia, Montserrat, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Nicaragua, Niger, Nigeria, North Macedonia, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Rwanda, Saint Helena, Ascension and Tristan da Cunha, Saint Lucia, Saint Vincent and the Grenadines, Samoa, São Tomé and Príncipe, Senegal, Serbia, Sierra Leone, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, Sudan, Suriname, Tajikistan, Tanzania, Thailand, East Timor, Togo, Tonga, Tunisia, Turkey, Tuvalu, Uganda, Ukraine, Uzbekistan, Vanuatu, Vietnam, Palestinian Authority, Yemen, Zambia, Zimbabwe

The current level of ODA funding alone is insufficient to drive systemic change

Concessional funding from the public sector to blended finance has been stagnant since 2018, with overall Official Development Assistance (ODA) in blended finance dropping 45% from 2021 to 2023. This is in part due to the global response to Russia's invasion of Ukraine—Ukraine was the primary recipient of ODA, with more than 90% directed to the public sector (Convergence Blended Finance, 2024a).

In the context of agriculture, EU institutions dedicated 5.5% of ODA, amounting to $1.5 bn to agriculture in 2021 (compared to the $350 bn funding gap to 2030). However, this share is decreasing, with the decrease being sharper when it comes to supporting sustainable agriculture. A recent external evaluation of the Commission's support to sustainable agriculture and food systems reports a substantial reduction between the previous budget cycle (2014-2020) and the current one (2021-2027), shrinking from €1.25 bn to €350 m over 7 years (Gerasimcikova et al., 2024). Therefore, there is a need for ODA to focus more on supporting sustainable agriculture and agroecology (a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems (FAO, n.d.)) through highly concessional finance, ensuring that investments benefit local communities and contribute to food security and sovereignty (Gerasimcikova et al., 2024). In fact, increased ODA funding in sustainable agriculture from the United Kingdom can ensure the financial additionality of investments, given the current finding gap highlighted above and limited ODA in sustainable agriculture from other donor countries.

ODA can unlock significant private investment and foster sustainable agricultural practices through strategic allocation and regulatory engagement

ODA has the potential to unlock more private finance compared to current levels by de-risking investments, crowding in more private investment and fostering the development of monitoring and investment mechanisms (Gammage et al., 2023). In fact, if donors "commit to allocate 10-20% of their agriculture ODA funding to private investment mobilisation," and MDBs and DFIs were to double their mobilisation efforts, double the amount of additional private investment could be unlocked (relative to the initial amount of private investment)(Apampa et al., 2021). Whilst the current context and decrease in ODA funding suggests these figures may now be ambitious, it still underlines a strong argument for the effectiveness of using ODA to unlock private capital.

Initiatives such as the EU due diligence in supply chains, or the UK consultation on deforestation and conversion free value chains, will also generate a demand for more sustainable and regenerative agricultural products. Indeed, the draft EU legislation also provides for engagement with producer countries and opens the door for more ODA and financing to support the implementation of the regulation. (Gammage et al., 2023).

3.2 B. Identifying and addressing barriers to blended finance investments in sustainable agriculture

Results of the REA help identify the types of barriers to blended finance mechanisms in sustainable agriculture and how they have been addressed. For the purpose of this study, the barriers identified can be split into two broad categories:

- **Contextual barriers** are external to projects and stem from broader political, economic, social, technological, environmental, and legal challenges (Gordon et al., 2025);
- **Implementation gaps** are project-specific and encompass operational challenges and weaknesses (Siebrecht, 2020).

3.2.1 B1. What barriers exist that impede blended finance investment in sustainable agriculture?

3.2.1.1 Most barriers to blended finance in sustainable agriculture identified in the REA were Contextual barriers

Lack of political will is a global barrier to investment in sustainable agriculture

Political will is a barrier that encompasses political leaders' lack of drive to change the structure of policy and resource allocation to support new, sustainable management. This encourages business as usual (not implementing changes to prevent environmental damage) and discourages financing aimed at new, and new and sustainable market opportunities.

The public sector lacks momentum and fiscal support to limit activities detrimental to nature (Blended Finance Taskforce, 2020; Denke et al., 2023). Harmful subsidies favour management strategies such as monocropping, and synthetic fertilisers and pesticides-use as they result in short-term financial gains from high yield (The Rockerfeller Foundation, 2024). The hidden, long-term costs of this land management, which are often not considered within the investment decision framework, include soil degradation, water pollution, and high greenhouse gas emissions. Sustainable management requires financial investment to account for and mitigate these impacts, making it seem less economically attractive upfront in comparison to conventional agriculture. Therefore, investment in sustainable agriculture is impeded.

Lack of a supportive and enabling environment commonly stems from conflicts and instability in the focal country

Policy and regulatory framework barriers pertain to sector / country-specific policies and regulation that discourages private sector investment. Common examples include frequent changes in ruling parties, absence of clear guidelines on rights, and inconsistent enforcement of policies.

Geopolitical conflicts deter investment due to increasing uncertainty regarding the future of the recipient country, thereby heightening the risk that returns on investment may not be realised (Defra, 2021; Earth Security, 2021). The global response to Russia's invasion of Ukraine in part caused a 45% drop in ODA concessional funding to the public sector (Convergence Blended Finance, 2024a) Geopolitical conflicts cause economic uncertainty, reallocation of resources, sanctions and economic measures, and increased defence spending, which puts investment in sustainability lower down on the agenda.

Weak legal frameworks, especially around land tenure, is a significant barrier to long-term sustainable finance in agriculture (Blended Finance Taskforce, 2020). Unclear guidance leads to uncertainty regarding future land rights, which is important for investments reliant on long-term access to, and management of, such land (Convergence Blended Finance, 2024b). On top of land rights, weak frameworks around what can be done on that land (e.g., lack of biodiversity legislation) further increases risk and deters private sector investment (UNEP-WCMC, 2025).

Developing countries often face lower sovereign credit ratings than developed countries, which has an impact on the cost and accessibility of borrowing, reducing the amount of foreign direct investment. This has been partly attributed to inherent bias in credit ratings processes, although this is difficult to prove in practice. The impact for developing countries with low credit scores is to deter investment as the risk is deemed too high (UNCTAD, 2025), despite likelihood that their population and wildlife would benefit most from investment (Defra, 2021; Earth Security, 2021). For example, it has been estimated that 96.3% of private finance mobilised via blended mechanisms flows to countries already with good credit ratings, which most developing countries do not have (Attridge and Engen, 2019). Without investment in developing countries, their growth potential may be limited, and they might struggle to gain sufficient credit to meet lenders' confidence in returns, thereby perpetuating a viscous cycle. Unfortunately, economic barriers also cascade down from the country-level to individual farmers as well.

Obstacles specific to agriculture also come under policy and regulatory framework barriers

There can be significant upfront financial and bureaucratic hurdles for farmers to transition away from conventional and towards sustainable management (Havemann et al., 2020; The Rockerfeller Foundation, 2024). For example, a transition from conventional to regenerative agriculture may require the purchase of new machinery such as tills and investing in equipment to monitor soil health (Blended Finance Taskforce, 2020). These high upfront costs can deter investment, and this issue is magnified for small-scale farmers who often face greater challenges in absorbing these initial costs, resulting in disparity and inequality in the recipients supported by investment (specifically dominance of agribusiness) (Blended Finance Taskforce, 2020).

The agricultural value chains are complex and the sector is highly susceptible to global market disruptions due to its dependence on imports like seeds, fertilisers, and pesticides, and its emphasis on exporting commodities (Convergence Blended Finance, 2024a; Pollination and TIFS, 2024). Volatility in output and input prices, changing exchange rates across borders and inflation are also ever-changing factors that affect returns but can be hard to assess upfront and contribute to increased perceived risk (Rankin et al., 2016). Additional barriers in the form of quotas and taxes represent protectionism and further exacerbate these issues by entrenching bias towards conventional agriculture.

Lack of data and poor data quality is inhibiting the ability of firms to make informed decisions in sustainable agricultural investments (Havemann et al., 2020). For instance, there is a lack of precedents to use as benchmarking, lack of long term economic and environmental benefit data, and lack of primary data for accurately assessing risk and allocating capital effectively (Apampa et al., 2021; The Rockerfeller Foundation, 2024). More than half (55%) of blended finance transactions examined in Defra’s recent report did not publicly report data and/or had an unknown reporting status (Defra, 2021). This causes insufficient information on the success of existing investments, which could otherwise facilitate the replication of similar structures in applicable environments for scaling up (Defra, 2021).

3.2.1.2 Implementation gaps represent a barrier to investment, but were less frequently reported in the literature

Lack of technical expertise leads to untailored management and solutions and increases failure

Difficulty in sourcing reliable, local, **technical expertise** leads to flawed project design and delays progress, as challenges are not addressed considering local factors (Defra, 2021). Financial products and services must be tailored to individual farms, but this is often too complex and resource-intensive for financial institutions to take on (The Rockerfeller Foundation, 2024). This results in funding of Financial Intermediaries, who volunteer to take on the burden of project organisation, but in reality, can have weak local connections and fail to translate funding into impact (Gerasimcikova et al., 2024).

High effort is needed to set up and manage projects due to many difficult-to-quantify uncertainties

Developing robust risk and impact frameworks requires substantial effort, which when lacking, can lead to inadequate contingency plans that prove ineffective when triggered (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2024). There are many factors that influence financial success of an investment that are difficult to quantify and account for upfront (e.g. extreme weather, pests, and disease), notwithstanding what to do if any of these events occur.

Lack of resource necessary to implement proper coordination of projects with many investors and investees can lead to problems (Defra, 2021; Earth Security, 2021). Coordination issues occur when projects lack rigorous management and oversight, causing communication barriers and conflicting goals (Defra, 2021; Earth Security, 2021). For example, projects broadly require an organisational framework that includes human resources, project coordinators, and a governing body to ensure effective collaboration and minimise delays and inefficiencies (Rankin et al., 2016). When this structure is absent from a project, the design becomes flawed, communication breaks down, and inefficiencies arise. This leads to significant rise in manpower for renegotiations or even cancellations (Obayelu, 2018).

3.2.2 B2. How have these barriers been overcome previously in these contexts, or in other sectors?

3.2.2.1 Contextual barriers are overcome by controlling for their impact, as they often cannot be directly influenced

Most contextual barriers are overcome by proper due diligence

The first barriers discussed (political will and policy and regulatory frameworks), are difficult for projects to directly control, and therefore must be understood at the earliest stage in order to be mitigated for (Denke et al., 2023). For example, Renova Pasto is a financial product that supports mid- to large-scale cattle farmers to restore degraded pasturelands in Brazil (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2025). Rabobank, an initial partner, established pre-agreed conditions to catalyse discussion with eligible investees. They checked criteria such as size of company, historic deforestation profile, and financials. This early-stage scoping of prospective investees reduced risk of compliance issues and relationship breakdown in the future.

Obstacles specific to the agricultural sector have been overcome by strategically setting up funds, and taking system-level approach to funds

Certain approaches can be taken to eliminate barriers of high upfront costs, productivity loses and low rate of returns on investment in sustainable agriculture (Earth Security, 2021). For example, diversifying revenue streams by integrating carbon credit revenues into financing structures has provided alternative income streams for farmers to offset transition costs (Convergence Blended Finance, 2024b). Another risk sharing strategy is insurance provided by the public sector to mitigate agricultural productivity risk which is usually borne by farmers and deters engagement in sustainability due to upfront losses (Rankin et al., 2016).

Similarly, barriers in generating attractive short term cash flows can be overcome by securing pre-committed payments (Earth Security, 2021). For example, the Amazon Biodiversity Fund (ABF) has a short time frame to deliver outcomes, and so used revenue-based loans to implement afforestation and reforestation projects, while leveraging proceeds from carbon credit forward sales to accelerate repayment (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2024) (*see Case study 2 – Amazon Biodiversity Fund (ABF)).* This solution meant that despite returns in carbon sequestration not manifesting during the project timeframe, investees such as ReforesTerra and Amazonia Agroflorestal in the ABF still got returns on their investment.

To avoid exacerbating barriers faced by smallholder farmers in accessing funds by continued funding of large agribusiness with creditworthiness, favour can be given to aggregated finance vehicles (Defra, 2021; Earth Security, 2021), although recognising the complexity of managing these due to the need for coordination amongst stakeholders (*see A3. What is the role of public-private partnerships and ODA in addressing the funding gap into sustainable agriculture?*). Examples of these include farmer cooperatives and supply chain partnerships that bundle smallholders into larger more attractive financial structures (Blended Finance Taskforce, 2020; Obayelu, 2018). This means that risk is reduced as it is shared over many projects, and the fund is more resilient. These structures are also often more scalable as they link many farms under the same management structure (Convergence Blended Finance, 2024a). Connecting various actors in the sector also overcomes further barriers pertaining to the supply chain.

Blended finance funds can take a systems level approach by investing in regional value chains (Convergence Blended Finance, 2022; Marion et al., 2024). For example, the Ghana Commodity Exchange is a market platform connecting stakeholders across the value chain (from regional buyers to producers), which has enhanced coordination and efficiency, securing competitive prices for its commodities (Convergence Blended Finance, 2022).

Challenges with missing or poor-quality data for decision making is a barrier difficult to overcome, but certain case studies are making progress in reporting lessons learned (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2025). Renova Pasto, for example, is using experienced partner organisations to specialise in various workstreams related to data gathering. Rabobank is responsible for collecting data from clients, and no-deforestation claims are validated by them using satellite imagery. Also, AGRI3 is working with the service provider Produzindo Certo to further strengthen on-farm impact measurement for reporting to investors (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2025).

3.2.2.2 Implementation gaps can be directly addressed since they relate to inefficiencies in project coordination

Lack of technical expertise can be overcome with Technical Assistance (TA) in the form of grants and training

Providing advisory services, assistance, or training to investees or other business actors builds technical capacity and improves financial management and business models (Duursma et al., 2017; Earth Security, 2021). Indeed, capacity building was highlighted by experts interviewed as part of the scoping stage of this study as a crucial activity to enhance the effectiveness of blended finance interventions in recipient countries. For example, Renova Pasto provides tailored TA as part of the standardised loan programme to clients to increase confidence that impact goals can be met. Additionally, clients had the option to opt for additional voluntary TA to help renovate crop and pastureland (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2025). This significantly reduced time and resource overheads on a deal-by-deal basis (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2025). TA is also a valuable tool in leveraging economies of scale and maximising access to vulnerable, impoverished groups (e.g. women and youth) (Loboguerrero Rodriguez et al., 2021).

Barriers caused through uncertainties and high effort required in fund design and operation are overcome through partial outsourcing, flexible design, and regular communication

Involving many partners, who specialise in various aspects of establishing and managing funds increases efficiency and saves core team effort (Convergence Blended Finance, 2024b). For example, the ABF partnered with Impact Earth who specifically oversee internal risk and impact processes and used an external consultant to refine their monitoring framework. Having this outsourced network of specialists to advise on sensitive topics allows the fund to access vital expertise without compromising the workload of the core internal team (*see Case study 2 – Amazon Biodiversity Fund (ABF)).*

Striking a balance between implementing standardised management processes, and some subsequent flexibility to allow tailoring to an investee's needs, is a good solution to ensure scalability at the same time as making projects work according to local contexts (Convergence Blended Finance, 2024b). For example, projects in the ABF and Renova Pasto all have broadly standardised Environmental and Social Action Plans (ESAPs) that state actions investees must implement on their farms to address common gaps in compliance, but each investee can tailor its required actions so complex topics can be handled as they arise (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2025, 2024; World Bank, n.d.). Robust environmental and social safeguards for investments is also crucial to avoid unintended negative consequences and ensure quality of finance.

Measures to increase transparency are also vital in overcoming common issues from lack of communication between partners in funds. For example, the ABF has the authority to sit in on investees board meetings and has veto rights if evolving decisions threaten the standards they require from them. This was necessary in blocking an anonymous investee from setting new conditions around land clearance that defied the fund's standards (UN Environment Programme and UN Environment Programme World Conservation Monitoring Centre, 2024). This setup allows for transparency between the fund, investees and investors, so that issues are dealt with timely and appropriately, avoiding conflicts and project failure down the line.

3.3 C. Identifying effective resource allocation strategies to maximise environmental and social impact through investment in sustainable agriculture

3.3.1 C1. Amongst successful use cases, what common principles, tools and approaches exist that drive positive impacts in sustainable agriculture?

The REA helped identify several key recurring principles that have proven effective in maximising the effectiveness of sustainable agriculture investments. In general, what seems to underpin success is aligning financial incentives with sustainability goals, while ensuring longer-term viability and scalability. This section synthesises the key principles, taken from the literature and drawing from an array of case studies, including funds and investment projects. Further insights regarding this research question have been gathered from the case studies.

In this study, impact is understood through a multidimensional lens, whereby interventions lead to lasting, measurable benefits for ecosystems, communities and economies. For the purpose of this REA, impact is based on impact objectives used in the Defra ODA results framework, including:

- **Environmental sustainability** (e.g. area under sustainable management practices, ecosystem loss avoided, GHG emissions reduced);
- **Social resilience and sustainable livelihoods** (e.g. number of sustainable livelihoods created or protected, people with improved income);
- **Financial and policy transformation** (e.g., private finance leveraged, number of countries supported with TA).

3.3.1.1 Aligning financial incentives with sustainability goals

A first core principle identified is the integration of financial incentives with sustainability metrics and goals. Several reports and papers (Blended Finance Taskforce, 2020; Earth Security, 2021) explain that successful projects (i.e., achieving relatively high scores in terms of key sustainability metrics) ensure that environmental and social benefits are directly tied to business profitability. For example, stakeholders interviewed as part of the project impressed that safeguards ought to be implemented to ensure (public) concessional funding supports smallholder farmers and broader sustainability goals.

Integrating financial incentives with sustainability metrics: case examples

Two examples demonstrate how blended finance mechanisms can align commercial investment incentives with environmental outcomes, fostering both financial viability and sustainability impact:

1. Pay-for-success reforestation in Latin America (Defra, 2021)
A partnership between the Global Innovation Lab for Climate Finance, FMO, GEF, and Conservation International brings hydropower companies into reforestation efforts to secure upstream water resources. Hydropower plants pay for measurable ecosystem services (such as reduced sedimentation, improved water regulation, and increased flow) generated by reforestation of cloud forests within their catchment areas. By linking payments to clearly quantified environmental benefits, this model enhances both water and energy security while fostering long-term investment sustainability (and profitability).

2. Sustainable cattle farming in the Brazilian Cerrado and Amazon (Prasad et al., 2023)
Through a partnership between the AGRI3 Fund, Rabobank, and IDH, longer-term loans (10 years,

Integrating financial incentives with sustainability metrics: case examples

with a 3-year grace period) are offered to cattle farmers to finance pasture restoration. The AGRI3 Fund provides guarantees, while Rabobank incorporates environmental sustainability conditions (which include no-deforestation commitments and restoration targets) into the loan agreements. This long loan tenure makes sustainability investments attractive for farmers, and the risk-sharing guarantees reduces perceived risks for the bank, successfully attracting actors with different investment profiles and combining commercial incentives with environmental impact.

3.3.1.2 Embracing long-term investment horizons

The REA results suggest that patient capital models and a long-term perspective are essential to drive sustainable agricultural outcomes. Bosma and Hein 2023) argue that climate adaptation and biodiversity conservation require extended timeframes for investment and policy responses. However, conventional investment timelines often do not align with the necessary timelines for building long-term ecosystem and community resilience.

For example, forestry projects require years of growth before they generate significant revenue, and short investment tenures can lead to negative cost–benefit assessments that fail to account for future (positive) income. Extending investment horizons allows for better cost–benefit ratios and improved outcomes.

3.3.1.3 Leveraging Public-Private and multi-stakeholder partnerships

PPPs and multi-stakeholder partnerships are often considered key in driving impact and scalability. The REA suggests that infrastructure investment from the public sector, coupled with technology transfer and price guarantees from private sector partners, can lower costs, reduce risk, and improve efficiency, which ultimately increases smallholder yields and incomes.

Scaling impact through Public-Private Partnerships: The READ Programme in Indonesia

A strong example of a public-private blended finance initiative is the Rural Empowerment and Agricultural Development (READ) Programme in Indonesia. The partnership brings together the Indonesian government, Mars Inc., and the International Fund for Agricultural Development (IFAD) to jointly support sustainable agriculture and smallholder resilience:

- The **Indonesian government** invested in critical rural infrastructure to improve accessibility and productivity
- **Mars** provided technical assistance and market guarantees, ensuring long-term purchasing arrangements and reducing price risk for farmers
- **IFAD** contributed approximately $30-40 million in concessional loans to finance training programmes and the replanting of aging tree crops

This integrated approach de-risked investments for smallholders, facilitated knowledge transfer, and created stable market conditions. As a result, participating farmers saw yield increases of nearly 150% and substantial improvements in income levels. Due to its success, the Indonesian government is now scaling the programme further. This highlights the potential of well-aligned partnerships to drive systemic transformation in sustainable agriculture.

3.3.1.4 Combining finance with technical assistance

Combining finance with technical assistance activities also appears important in driving sustainable impact. Echoing insights from the expert interviews, (Apampa et al., 2021) explains that private investors often find sustainable agriculture too high-risk due to untested business models, climate vulnerabilities, and financial uncertainty. In this context, technical

assistance helps reduce perceived risks for investors (and thereby improves bankability[7]) by providing advisory services, agronomic training, and risk mitigation strategies. The paper stresses the role multilateral partnerships can play in this, in parallel to the point made in the previous paragraph. An oft-cited example is the AGRI3 Fund which, in addition to mobilising private financing for sustainable agriculture, provides technical assistance to help farmers transition to sustainable agricultural practices.

3.3.1.5 Establishing robust and credible impact measurement

Lastly, the literature (and interviewees) stress the importance of rigorous, well-defined impact metrics. Unlike sectors such as energy or infrastructure, where revenue streams and impact measurement are straightforward, nature's ecosystem services (e.g., carbon sequestration, water quality improvement, biodiversity restoration) are not yet consistently accounted for in the economy (Earth Security, 2021). This lack of standardised valuation makes credible impact measurement particularly important to build investor confidence.

However, in many developing countries, local capacity for monitoring is often insufficient, creating a gap between the need for robust metrics and the ability to generate reliable data. To address this, early-stage funding can be used to design a robust monitoring and evaluation framework, strengthen local capacity and ensure that projects meet results-based financing criteria. This approach was applied successfully in the partnership between the Global Innovation Lab for Climate Finance, FMO, GEF, and Conservation International, where grants were employed to establish a strong impact measurement system, aligning financial incentives with measurable environmental outcomes.

This was reflected in outputs gathered from the expert interviews, which stressed the importance of standardised reporting and measurement indicators. On the one hand, interviewees argued that, unlike carbon credits, biodiversity finance lacks standardised tradeable impact metrics which renders measurement more challenging. Moreover, conservation benefits are difficult to monetise, as much of their value is public rather than private in nature (e.g. ecosystem services, biodiversity preservation). On the other hand, many private investors lack the expertise to assess biodiversity and social impact, highlighting the need for technical assistance programs alongside blended finance investments. In addition, pre-investment support for smallholder farmers and sustainable agribusinesses can ensure they meet environmental and social performance standards.

Expert stakeholders interviewed for the study also emphasised that long-term impact measurement should be improved, to ensure that biodiversity and sustainability can more accurately be tracked over time. This is especially true in the case of indirect arms-length financing (e.g. guarantees to financial institutions that on-lend to final recipients), where impact measurement is somewhat removed from the donor's sphere of influence.

3.3.2 C2. How and where can Defra's resources be most effectively used to leverage or scale up

This section aims to identify priority regions, financial instruments and financial mechanisms where Defra can best leverage funding to achieve ODA impact objectives. The REA suggests that high-impact activities include targeting areas of high biodiversity value that are considered important for the conservation and protection of various species of plants, animals, and micro-organisms[8] (referred to as biodiversity-sensitive areas) with the most

[7] In this context, bankability refers to the likelihood that a project or investment will be considered financially viable and attractive to lenders or investors. A bankable project is one that meets the risk and return criteria of financial institutions or investors, making it easier to secure financing. See: Cities Climate Finance Leadership Alliance

[8] FINGREEN AI - Biodiversity sensitive areas

agricultural potential, scaling interventions using aggregated finance models (usually in the form of a collective structured fund), and catalysing private sector funds by ensuring policy alignment with national, regional and international sustainability frameworks, as well as regulatory standards and development priorities.

3.3.2.1 Strategic geographical focus

Using a Multi-Criteria Decision Analysis (MCDA) based on the potential value of nature finance mobilisations, biodiversity protection and poverty reduction, Defra (Gredley, 2024) produced a strategic global ranking of countries. The Democratic Republic of Congo, Guinea, South Sudan, Sierra Leone, Liberia and Chad were all top-ranked for their potential to mobilise private and public financial flows into nature-positive activities for all sectors (e.g. a high score would entail that the country already has green finance taxonomies or sustainability-linked policies in place). Moreover, scoring was based on whether countries possess significant biodiversity assets that require protection, weak conservation measures are in place, or high rates of biodiversity loss. Based on the same analysis, other promising countries include Ethiopia, Malawi, Mozambique, Central African Republic, Benin, and Guinea-Bissau.

While sustainable agriculture can offer environmental benefits, it generally offers less benefits than strict conservation measures. These refer to targeted preservation approaches, such as legally protected areas, no-take zones, or land set-asides, designed to minimise or entirely exclude extractive uses. In this context, the highest-impact opportunities may exist where conversion from conventional to sustainable agriculture can mitigate existing pressures and generate net biodiversity gains. This is particularly true in countries with weak current practices and high biodiversity value. Based on this rationale, other promising countries identified by the same analysis include Ethiopia, Malawi, Mozambique, Central African Republic, Benin, and Guinea-Bissau.

In another report, Defra recommended channelling investments into Latin America & Caribbean (LAC), as it presents opportunities for advanced agricultural practices, such as precision farming, smart irrigation systems, and supply chain improvements to drive biodiversity-positive and climate-smart farming – especially given its lower share of blended finance operations (13%) compared to Sub-Saharan Africa (SSA) (71%) (Defra, 2021).

SSA is a global hub for blended finance operations but still suffers from fundamental issues and gaps in financial accessibility, which could be addressed with innovative financial instruments. From 2021-2023, 71% of blended finance transactions in agriculture focused on the region, particularly West Africa (led by USAID WATIH investments), up from 49% in 2018-2020 (Convergence, 2024a). Despite the strong growth of blended finance in this region, there remain gaps in financial accessibility for smallholder farmers, high transaction costs, and currency risks. In this sense, Defra's ODA programming could be designed to effectively to address these fundamental weaknesses, including by de-risking early-stage interventions that show promise (Denke et al., 2023).

Beyond biodiversity protection, Defra should prioritise areas where sustainable agriculture enhances climate resilience and social development. Several such areas were identified in the literature. Agroforestry and land restoration initiatives, for instance, (Blended Finance Taskforce, 2020) can help integrate carbon sequestration and ecosystem preservation with sustainable farming, thus avoiding compromising livelihoods. In Central Africa, peatland and forest conservation can help preserve some of the world's most important carbon sinks (Bosma and Hein, 2023). Furthermore, supporting sustainable livestock and crop diversification programs is thought to contribute to environmental and economic resilience.

3.3.2.2 Financial approaches and instruments for nature finance

The selection of financing mechanisms should prioritise those most likely to catalyse private sector investment whilst ensuring the efficient use of ODA resources (*see A1. Understanding which financing mechanisms are most effective in channelling private investment in sustainable agriculture*). Mechanisms must be carefully targeted to avoid displacing private capital: concessional finance should only be deployed where private investment alone is unlikely to materialise, such as for projects with long-term environmental benefits, smallholder participation, or ecosystems that are particularly vulnerable to human activity- or climate change-induced degradation or loss (Mutambaterse & Schellekens, 2020). The primary goal should remain to de-risk investments that would otherwise be perceived as too uncertain or low-return for private investors. Mechanisms such as guarantees, first-loss capital, and concessional capital can help overcome these barriers by shifting commercial investors' risk perceptions and improving the financial viability of sustainable agriculture projects.

In addition, aggregated finance models are thought to be effective in diversifying risks and achieving market scale. For instance, multi-project investment platforms pool risks by aggregating multiple (individual) initiatives, which both reduces individual projects risks and facilitates synergies across sectors (Blended Finance Taskforce, 2020). As such, blended finance structures that aggregate smallholder projects into investable asset pools help to attract institutional investors, while lowering transaction costs. Moreover, instruments such as structured funds and green bonds can be used to integrate sustainable agriculture with biodiversity financing (Apampa et al., 2021; Denke et al., 2023). This can help create a viable model for long-term environmental investment.

Moreover, financing mechanisms ought to be adapted to the specific challenges affecting a project or region (*see B2. How have these barriers been overcome previously in these contexts, or in other sectors?*). Evidence suggests that ODA should be utilised primarily as a risk mitigator, and blended finance should enhance investment viability for the private sector. At the project level, smallholder farmers may require technical assistance, concessional loans or pay-for-success financing models to start adopting sustainable agriculture practices. Regarding the broader enabling environment, in countries with weaker regulatory frameworks or financial infrastructure, results-linked incentives (e.g., sustainability-linked loans) can help improve market confidence.

In this sense, Defra can deploy (concessional) ODA and blended financing for projects that have clear development benefits (e.g., enhancing food security, promoting regenerative agriculture, or restoring ecosystems) (Mutambatsere and Schellekens, 2020), but it needs to ensure that it is only employed where and when needed, to avoid market distortions that might crowd out private investment and waste limited ODA resources.

According to the literature, ODA and blended finance should support projects where private sector investment alone is insufficient, such as those involving smallholder farmers or fragile ecosystems (Apampa et al., 2021). In this sense, concessional funding should only either be used to catalyse private funding by addressing risks or low returns, or encourage behaviour change by providing incentives (e.g. pay-for-success model rewarding sustainable farming).

Further, the choice of financial instrument is thought to depend on the actual barriers preventing private investment in a given context. For instance, guarantees and first-loss capital might be preferred for climate-resilient farming projects in the highest-risk regions, while blended financing with return-enhancing mechanisms (for commercial partners) could be tailored to attract impact investors in the context of biodiversity-focused agroforestry. Generally, it is recommended that instruments including de-risking mechanisms (such as guarantees, first-loss provisions, and subordinated financing) and return enhancement tools

(like interest rate buydowns), be applied according to the particular market distortions impacting a project (Mutambatsere and Schellekens, 2020).

Finally, Defra's resources should be geographically prioritised based on both investment need and impact potential (*see C1. Amongst successful use cases, what common principles, tools and approaches exist that drive positive impacts in sustainable agriculture?*). The largest opportunities lay in countries with endangered biodiversity but that remain underfunded. In such contexts, investments in sustainable agriculture must be accompanied by robust safeguards to ensure that biodiversity is not further endangered as a result of land-use change or unintended ecological impacts. In high-biodiversity but high-risk markets (e.g. Amazonian regions, Indonesia), de-risking mechanisms are required, such as concessional finance and first-loss guarantees. Conversely, in regions with more established enabling environments but still-limited investments in nature-based solutions (e.g. Latin America), blended finance with commercial incentives can be used effectively to attract private investors. Lastly, in areas with numerous smallholders (e.g. SSA), aggregated finance models can help pool risks and improve investment viability.

3.4 Summary of the case studies

This section presents a summary of key themes across the 5 case studies developed through this research, and evidence of impact and additionality. The case studies provide practical examples illustrating the many of findings from the REA and scoping interviews. They cover a range of the blended finance mechanisms supporting investments in sustainable agriculture and sustainable food systems and aiming to achieve and demonstrate biodiversity and social impacts. Table 5 below provides an overview of the case studies developed as part of the study.

Table 5: Case study summary

Project / Fund	Geography	Finance mechanism	Fund size
IDH Farmfit Fund	Sub-Saharan Africa, Asia, Latin America	First loss capital, second-loss guarantee, Subordinated (junior) loans, equity, mezzanine financing, and guarantees	€100 m (~$113 m)
Amazon Biodiversity Fund (ABF)	The Legal Amazon (Brazil)	Debt (convertible notes, carbon backed notes, revenue-based loans and mezzanine debt) and Equity.	R$250 m, ~$44 m
COFINA – Green African Agri Value Chain	Côte d'Ivoire, Senegal	Public capital use for de-risked investment, Private sector investment mobilisation, Technical assistance	€26 m (~$29.4 m)
Green Agribusiness Receivables Certificates (Green CRA)	Brazil	Green Agribusiness Receivables Certificates	R$21.5 m (~$3.8 m)
Regenera Ventures Fund	Mexico	Long-term sustainability financing, equity, redeemable equity, mezzanine debt financing	$20-30 m

The 5 case studies are available in Annex to this report (*see Case Studies*).

3.4.1.1 Key themes across case studies

There are significant perceived risks in smallholder agriculture

The perceived risks of smallholder agriculture were identified as key reasons for the need for blended finance. In general terms, this is because factors like production variability, market informality, currency fluctuation, and political and institutional instability, provide uncertainty and introduce barriers to finance.

These risks can also be specific to local contexts which will have their own social, political and financial dynamics. For example, the Brazilian government reduced sustainable finance subsidies in 2022, creating greater need for support – a gap which the Green CRA project aimed to address.

There is significant demand for blended finance instruments, particularly among the 'missing middle'

The notion of a 'missing middle' – the idea that SMEs can access neither microfinance nor larger scale commercial lending – emerges across most case studies. The financing gap facing agri-SMEs and smallholder farmers on the African continent alone is estimated to be $117 bn[9]. In order to navigate the complexities of investing individual farmers, the IDH Farmfit Fund invests in intermediaries that service or on-lend to smallholders to improve it's reach, rather than reaching out to smallholders directly.

Sustainability and resilience measures are long-term investments

The risks to agricultural productivity and resilience require long-term investments, including infrastructure such as irrigation systems, mechanisation and storage. These investments are needed to derisk the sector so that it is attractive to future investment – but require financing themselves. By providing long-term maturity credit lines, the EIB through COFINA Group enables long-term and derisked financing of sustainable agriculture activities in Côte d'Ivoire and Senegal.

Climate change impacts are difficult to account and control for

Whilst climate change impacts may be well understood in general terms, localised impacts may be difficult to understand and predict. Furthermore, even more resilient approaches can be affected by longer term impacts of climate change and extreme weather events. The Amazon ABF uses extensive due diligence and scientific knowledge to inform investment decisions so that an accurate risk assessment can be undertaken and mitigating solutions can be pursued.

Investor governance can be complex

Whilst on-boarding corporate investors provides benefits to funds through raising additional finance and improving leverage ratios, there can be resulting structural complexities. The IDH Farmfit Fund included contributions from large multinational food brands – this created difficulties given that the investors wanted to influence which parts of the programme and which commodities they would be funding. Meeting these requests hampered the overall flexibility of the funds and made day-to-day management more complex.

Technical Assistance can be crucial to improving finance options

Across the case studies, TA was used for a variety of different purposes. In some cases, it was used to better prepare farmers for the use and management of financial instruments. The Green CRA case study involved a proactive approach including guidance before disbursement, ongoing support during the loan period, and early intervention if repayment issues arose. This helped to instil investor confidence around eligibility.

The COFINA case study demonstrates that TA can also be used for supporting farmers to meet standards demanded by export markets, in this case environmental and social

[9] Scaling Up Farmer Financing Through Agtechs In Sub Saharan Africa IFC 2024

standards required for cocoa exports to the European Union. This should improve access to export markets whilst also promoting social and environmental outcomes.

Impact monitoring on the ground

The Green CRA case study demonstrated a bespoke approach to defining and monitoring impact. For example, the fund excluded certain products such as soy and cattle, even when they were labelled sustainable, because they didn't adhere to a strict no-deforestation principles. Furthermore, cooperatives receiving funding underwent stringent environmental impact assessment and were monitored on-site to ensure compliance with the standards identified. These measures are designed to given investors confidence in the integrity of the system.

3.4.1.2 Evidence of impact and additionality

Many of the case studies are relatively new, and therefore evidence of impact and financial additionality is limited, and it is not possible to draw out key themes across all case studies. However, there are some indicative examples:

- **IDH Farmfit Fund**: The fund's recent $6.5 m (~£4.82 m) subordinated loan (junior capital) to 'Just Know Your Coffee Cup' (JKCC), a Ugandan coffee processor, in 2025, done in collaboration with lenders such as the Africa Agriculture and Trade Investment Fund. The lender was able to provide working capital and capital expenditure (capex) financing to JKCC, with the package designed to reach 20,000 small farmers and increase their incomes by at least 50% over seven years. In so doing, this model is projected to raise those farmers' incomes substantially over several years.
- **Amazon Biodiversity Fund**: There is evidence of social impact as a result of the fund. Overall, 336 beneficiaries local to the municipality where projects are implemented are formally participating in projects funded by the ABF, and 135 jobs had been created or directly supported by the end of 2023. Of these, 74.5% were local to the municipality and 30% held by women. Finally, 12 community organisations were engaged in funded projects, which includes six new enterprises which were created or supported.

Further evidence can be found in the case study documentation.

4 Discussion

4.1 Summary and recommendations

In an increasingly challenging context for international development, it is evermore important that the UK Government's ODA budget, estimated at £14.3 bn in 2025, is used effectively. Sustainable agriculture offers strategic opportunities to maximise ODA impact by advancing objectives across the thematic areas of biodiversity conservation, climate mitigation and adaptation, and poverty reduction.

Blended finance mechanisms, particularly through the use of equity and debt instruments, has the potential to play a key role in mobilizing "patient capital" for sustainable agriculture. Concessional debt and equity, provided below market rates, are seen as particularly effective in this sector, for addressing the high transaction costs associated with transitioning to sustainable practices.

Financial institutions' reluctance to provide loans for sustainable agriculture can be mitigated with blended finance through the use of risk mitigation instruments, such as guarantees, insurance, and first-loss capital, which are essential tools in this high-volatility sector. Additionally, collective investment vehicles and structured funds help diversify risk and attract private capital. This research has also found that ODA can effectively unlock private investment, though current funding levels are insufficient to drive systemic change alone. PPPs are also effective in addressing high risks and catalysing private investment, but they require strong government backing.

However, and despite its potential, only a small share of blended finance transactions has been allocated to sustainable agriculture to date. The study indicates uncertainty around the sector's ability to leverage private capital, largely due to limited data availability. Transparency issues and the lack of standardised metrics for nature-related investments further hinder the ability to assess financial additionality and long-term impact. Nonetheless, some data points show promising trends, but referred to a lack of large-scale investments or long-term certainty in the effectiveness of the transaction.

In addition, the research identified key barriers to successful investment, which include contextual barriers (i.e. lack of political will and weak regulatory frameworks), as well as implementation gaps (i.e. limited technical capacity and high costs). These should be addressed through thorough due diligence, system-level investment strategies across value chains, use of other financing mechanisms to diversify revenue streams, and flexible project design supported by technical assistance.

Despite the challenges, the use of blended finance in the sustainable agriculture sector remains an attractive solution and can bring a range of benefits for ecosystems, communities and economies. For these mechanisms to succeed, it is essential to have a strong understanding of the local context and opportunities, as well as to engage financing actors with a proven track record in supporting sustainable agriculture. Key to the effectiveness of blended finance solutions is the combination of multiple financing approaches, such as concessional capital, guarantees, and structured funds, alongside technical assistance to address implementation gaps. In addition, combining blended finance and other financing mechanisms can further de-risk a project by diversifying revenue streams, making them more attractive for private investors.

This study concludes that ODA funding should be geographically targeted based on investment need and impact potential, particularly in high-biodiversity, underfunded regions. Priority should be given to investments in areas that enhance climate resilience and social development, such as agroforestry and sustainable livestock systems. To attract private

sector participation, these efforts must align with national and international sustainability frameworks. Finally, the study recommends tailoring financial instruments to address specific contextual barriers that hinder investment viability, while laying strong foundations through early investments in enabling environments (e.g. robust monitoring frameworks, standardised impact metrics, capacity-building for local actors).

In reflecting on the overall state of blended finance in sustainable agriculture, the findings suggest that while current approaches are directionally sound, they are not yet sufficient. The evidence points to a hybrid scenario: existing blended finance models are useful but require more targeted programme design and integration with complementary funding streams. Scaling up blended finance for sustainable agriculture will likely require "stacking" with other funding sources—such as philanthropic capital, carbon markets, or public subsidies—to overcome persistent barriers and unlock greater private sector participation.

4.2 Limitations and future research

Limitations

While this Rapid Evidence Assessment (REA) provides valuable insights into blended finance mechanisms in the context of sustainable agriculture, several limitations should be acknowledged. These limitations primarily stem from the availability and scope of data during the evidence-gathering process.

Of the 42 sources selected for detailed data extraction, 31 were directly relevant to the blended finance approaches targeted in this REA. The remaining sources addressed broader financial mechanisms—such as green finance and climate finance—or provided general insights into agricultural finance flows. Similarly, 30 of the 42 articles focused specifically on sustainable agriculture, while the rest offered broader perspectives on blended finance or related themes, including the Sustainable Development Goals (SDGs).

To answer the research questions, the REA prioritized evidence on blended finance mechanisms that aim to maximise private investment. Where possible, the analysis emphasised applications within sustainable agriculture, though in some cases, general blended finance evidence was used due to limited sector-specific data.

In terms of methodological rigor, all selected articles were assessed for risk of bias. Thirty were categorised as low risk, while the remaining twelve were considered medium risk. The latter group included sources from grey literature or those authored by stakeholders with potential conflicts of interest, even when supported by data. These sources, while credible, may not meet the standards of peer-reviewed academic publications, particularly in the case of qualitative reports.

Regarding Official Development Assistance (ODA)-eligible countries, the REA produced sufficient evidence to evaluate the general effectiveness of blended finance mechanisms, with contextual insights applied where relevant.

Finally, the availability of data on specific financial instruments was uneven. For example, there was a notable lack of detailed information on syndicated loans—a mechanism involving multiple lenders pooling resources to fund a single borrower, thereby spreading risk and encouraging private sector participation (Marion et al., 2024).

Reflections on future research

While this study offers valuable insights into the role of blended finance in sustainable agriculture, it also highlights several evidence gaps that present opportunities for further research and development.

The five case studies examined are relatively recent and, as such, do not yet provide sufficient data to draw robust conclusions regarding their long-term impact or financial and developmental additionality. Future research should consider expanding the scope of analysis to include a wider range of geographies and blended finance instruments beyond agriculture-specific funds. This broader approach would help build a more comprehensive evidence base and support the design of more effective and scalable blended finance programmes.

Given the importance of enabling environments, as emphasized throughout the research, we also recommend conducting structured follow-up assessments in each case study country. These assessments should examine key contextual factors such as policy and regulatory frameworks, institutional capacity, market maturity, and data infrastructure. A deeper understanding of these elements would help explain the successes and challenges of different blended finance approaches. Moreover, it would inform more targeted programme design by identifying where foundational investments—such as technical assistance or policy reform—are needed to enable scalable and impactful financing.

A recurring theme across both the REA and the case studies was the need for stronger monitoring and evaluation frameworks. We recommend that Defra play a proactive role in supporting the development and adoption of robust monitoring systems and standardized impact metrics for blended finance initiatives in sustainable agriculture. Doing so would enhance transparency, facilitate the tracking of financial and impact additionality, and ultimately strengthen the evidence base for future investment decisions.

Finally, the integration of voluntary carbon markets with blended finance mechanisms presents a promising avenue for amplifying both climate and biodiversity outcomes. Further research is needed to explore how these mechanisms can be effectively combined—such as through carbon credits, biodiversity offsets, or results-based payments—to diversify revenue streams, reduce investment risk, and increase the overall impact and attractiveness of sustainable agriculture projects.

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Annex 1 Defra's ODA Results Framework

Table 6: Complete Defra ODA Results Framework

Theme	KPI	Unit
Biodiversity	Area under Sustainable Management Practices	ha
	Area under Ecological Restoration	ha
	Extent of Protected Areas	ha
	Species threat reduction	#
	Solid Waste and Pollution Avoided	Ton
	Ecosystem Loss Avoided	Ha
	Value of Ecosystem Services Generated or Protected	£
Climate	People Supported to cope with effects of Climate Change	#
	People with Improved Resilience	#
	GHG Emissions Reduced or Avoided	CO ton
Poverty	Number of Sustainable Livelihoods created or protected	#
	People with Improved Tenure or Access Rights (Land and Sea)	#
	People with Improved Income	#
	People with Improved Food Security	#
Finance	Private Financed Leveraged	£
	Public Finance Leveraged	£
	Evidence of Transformative Change	Score
Technical Assistance	Number of countries supported with TA	#
	Number of beneficiaries (individuals) supported	#
	Number of beneficiaries (organisations) supported	#
	Number of climate or nature policies informed	#
	Improved climate or nature policy development or implementation	#

Annex 2 Stakeholder Topic Guide

ICF have been commissioned by Defra to inform on how they can maximise investment into sustainable agriculture through its ODA programming, via blended finance approaches.

The purpose of stakeholder interviews is to address knowledge gaps identified by the team, suggest additional literature to review, and, to some extent, test key aspects emerging from the REA and help the team identify the blended finance mechanisms to be assessed during the mapping exercise.

Stakeholder groups:

- Academic experts
- Practitioners

A1.1 Introductions

- Brief introduction to interviewer
- Interview will last 30-45 minutes, confidentiality, request permission to record, turn on recording, introduce self and study
- Explain the purpose of the research project e.g. Maximise size and effectiveness of ODA investments in agri-food sector / sustainable agriculture via blended finance mechanisms (and potentially other financial instruments)
- Explain the purpose of the interview, e.g. to better scope the REA by identifying key knowledge gaps and concerns in the blended finance literature and real-world practice
- Invite interviewee to introduce themselves and their areas of work/ field of study

A1.2 Questions for academics

Note: Engagement strategy is that academics be interviewed earlier in the project to help shape the REA

- Tell us about your role and how it might relate to the research as described in the introduction
    - Does your work also relate to sustainable agriculture, biodiversity-enhancement (if yes, please explain further) or does it relate to blended finance more generally?
    - Does your work focus on a particular region (if yes, please clarify)?
    - Do you study particular blended financing instruments (e.g. guarantees, equity, debt, risk-sharing agreement) or financial mechanisms/set-ups (e.g. public-private partnerships, Equity Investments with Technical Assistance, Impact Investment Funds) and if so which?
- Are there particular approaches we haven't mentioned which you think would be particularly relevant to our research into blended finance for sustainable agriculture?
- Can you say a bit about key challenges or opportunities for blended finance or for the specific approaches which you study?
- Are there challenges which specifically relate to investments into sustainable agriculture / biodiversity-enhancing interventions?

- What should we focus on / take into account when assessing financing bottlenecks in sustainable agriculture?
- Are there any recent developments or key trends which you think we should be aware of or explore further for this study?
- Are there key resources which you use to stay up-to-date with blended finance topics?
- Do you have any frustrations or feelings about blended financing approaches, particularly in relation to sustainable agriculture?
- Are there further resources or sources relating to blended financing approaches and sustainable agriculture which you could recommend (perhaps send these via email as a follow-up)?
- Do you have any peers who you believe could provide additional insight into this topic?
- Would you be happy for us to get in touch via email with any clarifications?
- We are considering a 90 minute workshop to validate the findings of our study – would you be willing to participate in this and if so what is your availability for end of March?
- Anything else relevant that hasn't been covered or would like to share?
- Check OK to contact participant again to clarify facts or ask for documents?

A1.3 Questions for practitioners

Note: Engagement strategy is that practitioners be interviewed as a second phase to elaborate on initial findings of REA – note opinions will be used in validation phase (e.g. through a workshop)

- Which countries or regions do you work in?
- Do you also work in relation to sustainable agriculture?
- What sort of blended financing approaches do you employ or work with e.g. debt financing with guarantees, public-private partnerships, Equity Investments with Technical Assistance, Impact Investment Funds
- Could you say something about the practical challenges you face in applying blended financing approaches in the context within which you work?
- Could you also talk about any challenges you face in relation to securing private investment into the projects in which you invest
- Any challenges in relation to sustainable agriculture specifically?

Annex 3 Case Studies

5.1 Case study 1 – IDH Farmfit Fund

Main findings
■ By targeting the 'missing middle' of smallholder agriculture, the Fund supports farmers and agri-SMEs that are typically excluded from both microfinance and commercial lending. ■ Corporate investors in fund structures may create competing mandates: future blended finance vehicles may benefit from keeping commercial brands as strategic partners outside the core fund. ■ A complementary technical assistance facility supports business model development, pipeline readiness, and investment performance, particularly for early-stage or high-risk ventures. ■ Second-loss guarantees, such as that from the U.S Development Finance Corporation (DFC), may be less catalytic when structured indirectly or activated only after significant loss, offering limited risk mitigation to senior investors. ■ Investments like Koa and Just Know Your Coffee Cup (JKCC) show strong additionality, as their innovative or untested business models were unlikely to attract commercial finance without the Fund's junior capital and TA. ■ High demand for equity among agri-SMEs highlights the need for more patient, risk-tolerant capital to support innovation and long-term growth in rural markets.

Overview

Description of the Fund

Table 7: Key Features of the IDH Farmfit fund

Fund mandate	To make smallholder agriculture finance an investable asset class by de-risking investments and mobilising private capital, thereby improving smallholder incomes and promoting sustainable agriculture
Fund start date	Launched in 2018, with the first closing in November 2019
Fund size	€100 m (~$113 m)
Fund term	Investment tenors of up to 10 years, to accommodate the longer time horizons required for agricultural investments
Involved institutions and partners	**Public Sector:** Dutch Ministry of Foreign Affairs (first-loss capital), FMO (Dutch development bank), U.S. Development Finance Corporation (second-loss guarantee via USAID) **Private Sector**: Unilever, Mondelez International, JDE Peet's, Rabobank
Type(s) of blended mechanism (or capital structure or portfolio assets)	**First-loss Capital:** Provided by public and philanthropic sources to absorb initial losses **Second-loss Guarantee**: Up to $250 m guarantee from USAID/DFC, covering approximately 40-50% of senior loan losses **Instruments used**: Subordinated (junior) loans, equity, mezzanine financing, and guarantees
Target investments	Investments in intermediaries and inclusive businesses that serve and/or on-lend to smallholders, including agricultural SMEs, cooperatives, microfinance institutions, agritech or fintech companies, and supply chain off-takers or traders.

	Key requirement: investments must have an "attributable benefit to smallholder farmers."
Target region	Sub-Saharan Africa, Asia, Latin America
Target Sustainable Development Goals	**SDG 1:** No poverty **SDG 2:** Zero hunger **SDG 5:** Gender equality **SDG 8:** Decent work and economic growth **SDG 13:** Climate action **SDG 15:** Life on land

Context & background

Smallholders form the backbone of global commodity supply chains, as they produce the majority of the world's coffee, cocoa, tea, cotton, etc., yet an estimated annual financing gap of $170 bn (~£127 bn) leaves their potential untapped. In many emerging markets, especially across Sub-Saharan Africa (SSA), local farmers and agri-SMEs have difficulties accessing credit due to perceived high risks (from weather shocks to price volatility) and high transaction costs for lenders. This contributes to persistent rural poverty and environmental degradation, as farmers lack the financial means to invest in sustainable agricultural practices.

The IDH Farmfit Fund was launched by IDH/The Sustainable Trade Initiative, a Netherlands-based public-private partnership (PPP) organisation, in 2018 (with the first close in 2019). The fund provides blended finance to bridge the financing gap in smallholder agriculture by providing affordable capital for smallholder farmers in developing countries. The fund's core objectives are twofold: to (i) increase smallholder income and lift millions of farmers out of poverty while (ii) promoting sustainable agriculture. According to a fund manager, while the fund remains on track to reach its goal of improving the livelihoods of 3 to 5 million farmers, the target of increasing smallholder incomes by 50% is more difficult to verify in practice.

Structure of the Fund

Aims and objectives

The Farmfit Fund was established to address the 'missing middle' in Sub-Saharan Africa, where small and medium-sized farms qualify for neither microfinance nor larger commercial loans. Commercial investors view this sector as high-risk due to factors such as climate shocks, lack of collateral or credit history, small and dispersed transactions, currency and political risks, and market informality.

As a result, the risk-adjusted return is perceived as lower than in other sectors, meaning that commercial investors are often reluctant to lend to smallholder farmers. The financing gap facing agri-SMEs and smallholder farmers on the African continent alone is estimated to be $117 bn (~£87 bn). The fund was created to help address this systemic market failure by "making smallholder finance an asset class"[10]. It initially aimed to reach 3-5 million farmers and increase their incomes by 50%.

By 2020, IDH and a coalition of partners including the Dutch Ministry of Foreign Affairs and the US Agency for International Development (USAID) unveiled the fund at the World Economic Forum as "the world's biggest ever impact fund for smallholder farmers," starting with approximately €100 m (~£84 m) in commitments and with an ambition to catalyse up to

[10] Five years of the IDH Farmfit Fund

€1bn (~£0.84B bn) in commercial investments into smallholder value chains and improve the livelihoods of 5 million farmers by 2025.

Mandated to invest in ODA-eligible countries, the fund focuses strongly on Sub-Saharan Africa and targets a wide range of agricultural value chains, including both staple and cash crops such as coffee, cocoa, tea, cotton, palm oil, rice, soy, cassava, and aquaculture. Typical investment tenors reach up to 10 years, reflecting the long-time horizons needed for returns in agriculture. Its core strategy involves taking a first-loss position in joint investments, supported by a second-loss guarantee from USAID/DFC. This allows commercial investors to participate more confidently.

Rather than lending directly to individual farmers, the fund typically invests in intermediaries and inclusive businesses that serve and/or on-lend to smallholders. This includes agricultural SMEs (e.g. crop aggregators, processors, input providers), cooperatives, microfinance institutions, agritech or fintech companies, as well as, in some cases, supply chain off-takers or traders. The key requirement used for screening is an "attributable benefit to smallholder farmers"[11].

IDH also established the Farmfit Business Support Facility, funded by the UK's DFID (now FCDO) and the Gates Foundation with $30 m (~£22 m), to provide technical assistance (TA) and business development support to prospective investees. This includes funding feasibility studies, training, and digital platforms. The TA facility works alongside the fund to strengthen smallholder engagement models and feeds into the IDH Farmfit Intelligence programme, which shares market insights widely.

While the fund maintains a primary focus on social outcomes—particularly improving farmer livelihoods—it integrates environmental safeguards through a strong ESG framework aligned with IFC Performance Standards. Environmental criteria include both exclusions (e.g. deforestation) and positive incentives (e.g. agroforestry). Investment screening focuses on whether business models deliver attributable benefits to smallholders, including fair supply chain relationships, better prices, and expanded market access.

Financial structure

The fund is structured as a public-private blended fund, pooling money from government, philanthropic, and corporate investors in a risk-sharing arrangement. Principal founding investors included the Dutch Ministry of Foreign Affairs (acting as a public/first-loss investor) and multinational agri-food companies such as Unilever[12], Mondelez International, JDE Peet's (Jacobs Douwe Egberts), and Rabobank (a financial institution). Together, they brought the fund's working capital to €100 m (~£82 m). In 2021, development bank FMO and Rabobank each added €10 m (~£8 m). IDH acts as the fund sponsor/manager through its investment management arm.

Additionally, USAID, now through the U.S. Development Finance Corporation (DFC)[13], provides a guarantee facility (of up to $250m (£185m)) to backstop the fund's senior investments. However, this guarantee has not been used to date. According to a fund representative, the guarantee's structural setup, delivered via a special purpose vehicle

[11] Farmfit Fund - IDH - the Sustainable Trade Initiative

[12] According to a fund manager interviewed, Unilever opted out of the fund in January 2025. This was apparently due to the restrictive nature of the conditions applied by the firm to the Fund's investment portfolio (see section 1.3 for more on this issue).

[13] Since the dissolution of USAID, the guarantee is provided by the US DFC. As such, this dissolution had no tangible impact on the Fund. Moreover, as this guarantee has never been used (see lessons learned), due to its low likelihood of activation—it is therefore unlikely that its disappearance would have had a major impact on the Fund.

(SPV), has proven unattractive to partner banks, which prefer more direct arrangements. Additionally, its status as a second-loss mechanism limits its practical de-risking effect: the guarantee is activated only after first-tranche losses are fully wiped out, which commercial investors deem too removed from their own exposure.

The fund employs a range of financial instruments to achieve its de-risking mandate. It can provide subordinated (junior) loans, guarantees, and equity or mezzanine financing to projects and intermediaries in smallholder value chains. By design, the IDH Farmfit Fund "takes the highest risk positions in farmer-related transactions" by, for example, taking a junior tranche in a loan or an equity stake. This is done so that more risk-averse co-investors (such as banks or impact investors) can come in at a senior level, while a first-loss layer, in majority funded by public and philanthropic money, is meant to absorb initial losses if a project underperforms.

Challenges & Solutions

The fund encountered several challenges over its first five years, which are outlined here[14].

Challenge 1: High perceived risks in smallholder agriculture

Firstly, smallholder agriculture is often viewed as high-risk by commercial investors due to factors such as production variability, market informality, climate change vulnerability, currency fluctuations, institutional weaknesses and political instability, as already explained above. These perceived risks deter financial institutions from investing as the risk-adjusted returns on such investments are too low, leading to underfunding in the sector.

Solution: To address this, the Farmfit Fund employs a unique blended finance model, taking high risk positions in all its investments and investing with a long-term horizon. By taking the highest risk positions in transactions, the Fund aims to attract co-investors by improving the risk-return profile of investments in smallholder agriculture, as explained above. An interviewed stakeholder expressed the fund's value-added as follows: "there are quite some investments where our participation was crucial… sometimes because we take a subordinated position, or because we're the only investor willing to participate". As a result, the fund is able to effectively mobilise additional investments from commercial and development partners[15] for each transaction it is a part of. However, it has had more difficulties attracting institutional investors, ostensibly because of their low-risk appetite.

Challenge 2: Complexity of target segments

The fund's target investees, which are often agri-SMEs servicing smallholders, typically have complex business models, limited data availability, and little experience in obtaining formal investment.

Solution: To address this, the fund offers a wide range of investment sizes, to address the diverse capital needs of agri-SMEs. Additionally, it provides TA to build the capacity of investees, helping them develop investment-ready business models.

Challenge 3: External shocks and macro instability

Events such as the COVID-19 pandemic, high inflation, rising interest rates, and geopolitical conflicts have disrupted operating models, increased costs, and affected the availability of inputs like fertiliser and energy.

[14] These are based on the following blog post: Five years of the IDH Farmfit Fund as well as a stakeholder interview with a fund manager.

[15] That is, a set of co-investors going beyond the Fund's core members outlined in section 1.2.2.

Solution: To mitigate this, the fund will have to remain flexible in its investment approach by adjusting its strategy depending on the circumstances. It will have to continue to identify and support innovative enterprises that can adapt and mitigate such shocks.

Challenge 4: Limited opportunities in the cocoa sector

In sectors like cocoa, the fund has faced issues such as climate-related events, price volatility, and crop diseases. Those have negatively affected yields, making it harder to find suitable investment opportunities.

Solution: The fund has strived to counter this by diversifying its portfolio into innovative cocoa companies such as Koa, a company that converts cocoa byproducts into other products, helping farmers earn more from their harvest. Similarly, with its investment in a microfinance institution, Advans, the fund has helped enable farmers to diversify their income away from cocoa and into revenues from other crops.

Challenge 5: Complexity and inefficiency of deal structuring

The fund's catalytic model relies on limiting its financial participation to 30% in each deal, which maximises leverage but reduces efficiency. Stakeholders noted that deals are often complex, involving immature businesses, significant due diligence, and long structuring timelines. Nonetheless, the fund captures only a minority share of returns (30%), whilst carrying a heavy risk burden (its portfolio being comprised only of relatively risky positions as explained above).

Challenge 6: Structuring constraints from corporate investors

The fund includes contributions from large multinational food brands. However, this created difficulties when those investors expected allocations to specific commodities, which conflicted with the broader, more flexible investment mandate of the fund. This led to a partner (Unilever) opting out in January 2025. A stakeholder indicated that future blended funds might do better to engage corporates inside arrangements rather than embedding them directly into the fund structure (as they explained: better to partner with large food companies "outside the fund, not in the fund" – as this can otherwise prove quite complex to manage).

Challenge 7: Lack of equity financing

Many agri-SMEs require equity rather than debt to grow, particularly those in the innovation or tech space. As a fund manager explained, "there's actually quite a lot of demand for equity; (…) that's an important lesson learned". On the supply side, equity financing remains scarce in smallholder agriculture finance. The fund's flexible structuring allows it to respond to this demand, but the overall market gap persists.

Outcomes

Table 8: Full list of IDH Farmfit Fund KPIs

KPIs		
Social Impact		
Number of smallholder farmers reached	Increase in farmer incomes	Gender-inclusiveness of smallholder supply chains – in line with IFC Performance standards
ESG		

KPIs		
ESG metrics – in line with Article 9 of the EU Sustainable Finance Disclosure Regulation		
Financial Performance and Mobilisation		
Private capital mobilised	Financial performance of investments	
Strategic value		
Additionality	SDG contributions	

The fund's flagship KPI is the number of smallholder farmers ultimately benefiting from its investments. The fund's long-term goal, stated in 2019, was initially to reach 3-5 million farmers. As of January 2025, the fund's 15 contracted investments with 13 companies are expected to reach about 4 million farmers through provision of services, credit, or offtake markets, with another 1.6 million expected to be reached by deals in the pipeline.

The quality of impact is measured by the rise in incomes resulting from the investment. The fund set a target of to increase smallholder incomes by 50% on average for farmers reached (through, for instance, higher crop yields, better prices, or cost savings). Rather than rigorous baseline tracking, the fund monitors self-reported income changes through survey tools such as 60 Decibels[16]. A midterm evaluation of the fund is ongoing as of 2025, though it is expected to focus more on implementation progress than on long-term impact.

In terms of private capital mobilisation, Farmfit's goal was to catalyse up to €1 bn (~£0.84 bn) in commercial investment into the smallholder sector. This effectively entails a 10:1 leverage ratio of its €100 m (~£84 m) fund. The actual ratio is currently estimated at around 5:1 to 6:1 by a stakeholder interviewed. This reflects the ratio of private to public capital mobilised alongside fund investments. For example, a $10m transaction might involve $1.5 m from the public first-loss tranche, enabling $8.5 m in additional capital to be mobilised. This is arguably a strong performance, given the risk environment in smallholder agriculture.

Impact

Biodiversity and climate impact

The fund is required to report on impact indicators and Principal Adverse Impact (PAI) related to ESG under the EU Sustainable Finance Disclosure Regulation (SFDR). While it did not initially (as of September 2019) set specific environmental impact targets (unlike some purely climate-focused funds), it now integrates environmental impact monitoring. This is because it now classifies as an "Article 9" fund under the EU Sustainable Finance Disclosure Regulation (which passed in November 2019). As such, the fund's sustainability reports track environmental metrics such as greenhouse gas (GHG) emissions, or the share of non-renewable energy within its portfolio[17]. This also includes checking that investments uphold no-deforestation policies and contribute positively to climate resilience. The fund also tracks social metrics such as the gender of smallholders reached (which aligns with IDH's gender equality agenda) using a gender tool developed in-house, aligned with the IFC Performance Standards.

[16] Interview with a fund manager.

[17] Statement on principal adverse impacts of investment decisions on sustainability factors

While the fund is not exclusively a climate fund, its activities have important climate co-benefits. It provides farmers with credit and resources, enabling them to invest in adaptation measures such as irrigation systems, drought-resistant crop varieties and improved soil management. Joost Oorthuizen, IDH's Executive Director in 2020, explained that "the Fund will dramatically improve [farmers'] ability to cope with the impacts of climate change and their possibility to earn a decent income", through the adoption of sustainable agricultural practices. In addition, the fund's Environmental and Social Management System (ESMS) emphasises the importance of environmental considerations in its investment decisions[18].

Many of the fund's investments promote climate-smart agriculture such as supporting agroforestry models (where shade trees in coffee or cocoa farms sequester carbon). For instance, it provided, together with Oikocredit, a $3.5m (~£2.6m) loan to Aldea Global, a microfinance institution in Nicaragua, to expand its coffee and agroforestry loan portfolio. This investment, done in 2024, aims to support approximately 9,000 coffee farmers by 2028 (with at least 30 percent being women borrowers), enhancing their resilience against climate change through agroforestry practices. Another example includes the fund's investment into a microfinance institution, Advans, to provide loans allowing cocoa farmers to diversify into other crops, reducing their income volatility and pressure on the environment. The fund provided, together with Unilever, JDE and Mondelez, a subordinated loan of €2.3m (~$2.6m) to Advans Côte d'Ivoire, contributing to its target of reaching up to 500,000 smallholders in the country.

Social impact

As discussed, the core aim of the Fund is a social one, and early indications from investments are positive in that regard. An example is the Fund's recent $6.5 m (~£4.82 m) subordinated loan (junior capital) to 'Just Know Your Coffee Cup' (JKCC), a Ugandan coffee processor, in 2025, done in collaboration with senior lenders (such as the Africa Agriculture and Trade Investment Fund). Thanks to the fund's subordinated loan and some TA, the senior lender was able to provide working capital and capital expenditure (capex) financing to JKCC, with the package designed to reach 20,000 small farmers and increase their incomes by at least 50% over seven years. In so doing, this model is projected to raise those farmers' incomes substantially over several years.

Similarly, in India's dairy value chains, the fund has invested in Stellaps, a tech company, to improve efficiency and transparency. The company provides an Internet of Things platform aimed to improve traceability in the value chain, which is intended to help dairy smallholders earn more and reduce losses. These interventions also enhance food security locally, as farmers can produce more food and have more stable income to purchase food, addressing hunger in their communities[19].

Additionality

In terms of financial additionality, as discussed, the fund can enable deals that were previously not happening (e.g. a bank now lending to farmers because the fund takes first loss). With its patient and risk-tolerant capital, the fund supports these recipients in expanding lending to farmers, rolling out new services or entering new regions previously considered too risky. For instance, an early transaction was a first-loss guarantee provided to Neumann Kaffee Gruppe (NKG), a global coffee trader. NKG subsequently was able to launch a $25 m (~£19 m) blended finance credit facility to invest in fertilisers, seeds and equipment, cash advances in tandem with coaching and access to market for smallholders in

[18] idh_farmfit_fund_esms.pdf

[19] IDH_Stellapps_Press-Release-Final.pdf

NKG's supply chain. The fund thus incurred the initial, highest risk (through its guarantee), so that NKG could more confidently provide credit to smallholders usually lacking collateral. This illustrates how the fund's architecture can unlock agri financing that would arguably not occur otherwise[20]. Another instance of this is the fund's provision of junior capital and TA to JKCC : a deal such as this one, which benefits smallholders with premium prices and offtake guarantees, would likely have been too risky for the senior lenders alone.

The fund actively seeks out innovative models that create new forms of impact. For example, in the cocoa sector, rather than financing conventional trade (where plenty of financiers already exist and farmers often remain impoverished due to low sales prices at farmgate for their produce), the fund invested in a company called Koa which buys cocoa fruit by-products from farmers to make new products. Together with the Landscape Resilience Fund, Farmfit provided it with a 5-year loan totalling $3.5 m (~£2.6 m) in 2022. The loan helped establish Koa's second processing plant and "generate additional income opportunities for up to 10,000 cocoa farmers", by extending its cocoa fruit sourcing to them (of which 40% targeted are women and 20% youth).

This investment is considered strongly additional: Koa's business model was both innovative and unproven at scale, with limited precedent in the region. Given the novelty of monetising cocoa pulp at the farm level and the infrastructure requirements involved, the company was unlikely to have attracted commercial finance under standard terms. In this light, the fund's concessionary financing and patient capital is deemed to have played a catalytic role in de-risking the venture, enabling an income opportunity for smallholders that (arguably) would not have materialised through market mechanisms alone.

Additionality is assessed for the fund's projects at multiple levels:

- **Financial additionality**: assessing whether the borrower could have obtained finance on similar terms from other sources.
- **Product-level additionality**: prioritising longer-term or equity-like instruments that are scarce in the market.
- **Impact additionality**: offering TA and strategic guidance that improves business models and farmer outcomes.

According to an interviewee, the fund's ability to structure innovative transactions and build investee capacity through its TA facility also enhances its additionality. They described this dual-track support as essential for helping early-stage businesses reach investment-readiness.

Lessons learned

Summary of insights and experiences gained during the project's implementation.

- **Blended finance can catalyse private capital, but structure matters**:
  The fund's public-private structure, with a public first-loss layer (from the Dutch government), successfully mobilised private investment.
- **Second-loss guarantees offer limited catalytic value**:
  The U.S. DFC's second-loss guarantee has never been used, largely due to its indirect

[20] Assessing additionality (i.e. whether an investment would have occurred in the absence of concessional finance) is inherently challenging. While qualitative evidence (such as investor reluctance, lack of alternative financing, or unique structuring features) can support claims of additionality, definitive proof is rarely possible. In this context, examples like the JKCC transaction are considered additional based on the (perceived) absence of comparable offers from senior lenders and the catalytic role of the Fund's junior capital and technical assistance.

structure (via an SPV) and low likelihood of activation. This highlights that guarantees must be accessible and close to investor risk to be effective.

- **Efficiency trade-offs exist in catalytic fund design**:
  By limiting its participation to ~30% per deal to crowd in co-investors (which is somewhat in line with the norm for comparable layered funds), the fund fosters private leverage, but this also means high transaction costs despite thinner revenue per deal. There is a trade-off between catalytic intent and operational efficiency in such structures.
- **Equity is in high demand but remains underprovided**:
  Many agri-SMEs need equity to scale or absorb early-stage losses, but most blended funds, including Farmfit, still lean toward debt products. Future funds may need to increase their capacity to provide longer-term, risk-tolerant equity finance.
- **Corporate investor involvement can complicate governance**:
  Early involvement of food brands introduced competing investment mandates (e.g. commodity-specific preferences) that reduced the fund's flexibility. Corporate participation may be better structured as side partnerships, not core fund investors.
- **Investment readiness is critical for success**:
  Many pipeline companies require TA before they are financeable. The fund's integrated TA facility has been essential in building investees' capacity. In this light, grant-funded business development support may be fundamental to unlock deals among as-yet 'immature' businesses.
- **Impact monitoring in agriculture is complex but essential**:
  While the fund tracks self-reported income gains via surveys, exact measurement of the 50% income increase target remains difficult. This underscores the importance of realistic, cost-effective impact measurement systems.

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5.2 Case study 2 – Amazon Biodiversity Fund (ABF)

Main findings
■ By using standardised procedures for governance of risk and impact, whilst leaving complex topics to board feedback, a fund can enable flexibility in tailoring the needs of a diverse group of investees. ■ Impact KPIs are customisable, integrated in the screening and due diligence approach for each potential investment, and monitored annually. This approach can be helpful to funds that have a broad impact scope. ■ Adopting an iterative approach to risk and impact management, ensuring resources are sufficient prior to implementation, and communicating openly with investors is key to success. ■ Impact Earth, the investment advisor for the ABF, are currently developing new funds that will incorporate blended finance to reduce risks, which will open to investors soon. So, they may be open for UK Government investment.

Overview

Description of the Fund

Table 9: Key features of the Amazon Biodiversity Fund

Fund mandate	Provide venture finance for early-stage, yet scalable, sustainable enterprises and projects with a positive impact on local biodiversity and communities in the Legal Amazon.
Fund start date	Launched in 2019, and investing in the Amazon since 2020.
Fund size	R$250 m, ~$44 m
Fund term	10 years (ending in 2030), with two-year optional extension.
Involved institutions and partners	**Administrator:** Vox Capital. **Investment advisor**: Impact Earth. **Catalytic capital**: United States Agency for International Development (USAID) and Alliance Biodiversity & International Centre for Tropical Agriculture (Alliance Biodiversity & CIAT). **Additional capital providers (including private finance)**: ASN Impact Investors, L'Oréal Fund for Nature Regeneration, and the Restoration Seed Capital Facility (RSCF), Soros Economic Development Fund (SEDF) and the Brazilian Development Bank (BNDES). **Implementing partners and portfolio companies**: Amazônia Agroflorestal, Amazon International Cooperation Agency, Belterra, Cacau Amazônia, Horta de Terra, Idesam, Inocas Amazônia, Manioca, Nossa! Fruits, Reforest'Action, Rioterra.
Type(s) of blended mechanism (or capital structure or portfolio assets)	**Type of deal**: Venture and Project Finance, depending on the investor. **Investment Structure**: Debt (convertible notes, carbon backed notes, revenue-based loans and mezzanine debt) and Equity.
Target investments	Early stage yet scalable ventures and projects
Target region	The Legal Amazon, which is an area of over five million sq km comprising the Brazilian states of Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins, Mato Grosso and part of Maranhão.
Target Sustainable Development Goals	**SDG 15**: Life on land **SDG 13**: Climate action **SDG 10**: Reduced inequalities **SDG 8**: Decent work and economic growth

SDG 1: End poverty
SDG 12: Responsible consumption and production.

Context & background

The Amazon Biodiversity Fund (ABF) was established by the United States Agency for International Development (USAID)[21] and the Alliance of Biodiversity International and the International Centre for Tropical Agriculture (hereafter referred to as CIAT for consistency with other primary sources) in 2019, after being brought together by their coordinative role in the Partnership Platform for the Amazon (PPA), which champions sustainable development and biodiversity conservation in the Amazon. USAID issued a call for proposals in response to CIAT's interest in expanding its scope and exploring projects beyond climate-related initiatives. The ABF's purpose is to address the funding gap faced by sustainable initiatives in the Amazon and provide scalable projects with long-term capital.

Investments started in 2021, with funds provided to 3 businesses: 1) Manioca, which aims to promote and sell food products based on ingredients from the Amazon; 2) Horta de Terra, which cultivates Non-Conventional Food Plants (PANCs) from the Amazon; 3) Inocas Amazonia, which promotes a Brazilian palm tree as an alternative source of vegetable oil. In 2022, two more investees received funding, these being the company Amazônia Agroflorestal, and the project ReforesTerra ARR.

In September 2022, Impact Earth, a London-based consultancy, was onboarded to be an investment advisor to the ABF. Later that year, Impact Earth partnered with the Restoration Seed Capital Facility (RSCF) to help develop the investment pipeline of the ABF (RSCF, 2025).

Several more businesses and projects were approved in 2023 as part of the ABF. These included Cacau Amazônia+, Belterra, and Amazon Indigenous REDD+ (AIR+). Fundraising was completed in early 2024, after the target of ~$44 m was reached by the investors, which originally included ASN Impact Investors, L'Oréal Fund for Nature Regeneration, and then expanded to Soros Economic Development Fund (SEDF) and the Brazilian Development Bank (BNDES).

The most recently publicised investee in the ABF is a start-up company in the açaí supply chain, Nossa! Fruits, bringing the total number of investee companies and projects to nine as of April 2025 (Impac+ Earth, 2025). By the end of 2025, the Fund aims to have invested in 15 companies, but further details on progress to this target is not public (UP Comunicação Inteligente, 2024).

The fund is now closed to new subscriptions as the fund size goal of ~$44 m was reached (Impac+ Earth, 2025).

Structure of the Fund

Aims and objectives

The ABF's primary aim is to "conserve biodiversity, address deforestation and climate risks, and create positive socioeconomic and well-being outcomes for local communities in the Legal Amazon". To ensure the fund is allocated to all aspects of sustainable development,

[21] The desk research and interviews did not provide additional information on the impact of USAID cuts on the ABF. It is unlikely that this change had an impact on the Fund, as USAID provided a derisking loan guarantee at the fund start date, and the fund management was passed onto a separate organisation in 2022 (Impact Earth).

financed projects and companies must be scalable and align with one of the four sustainability pillars in Figure 3.

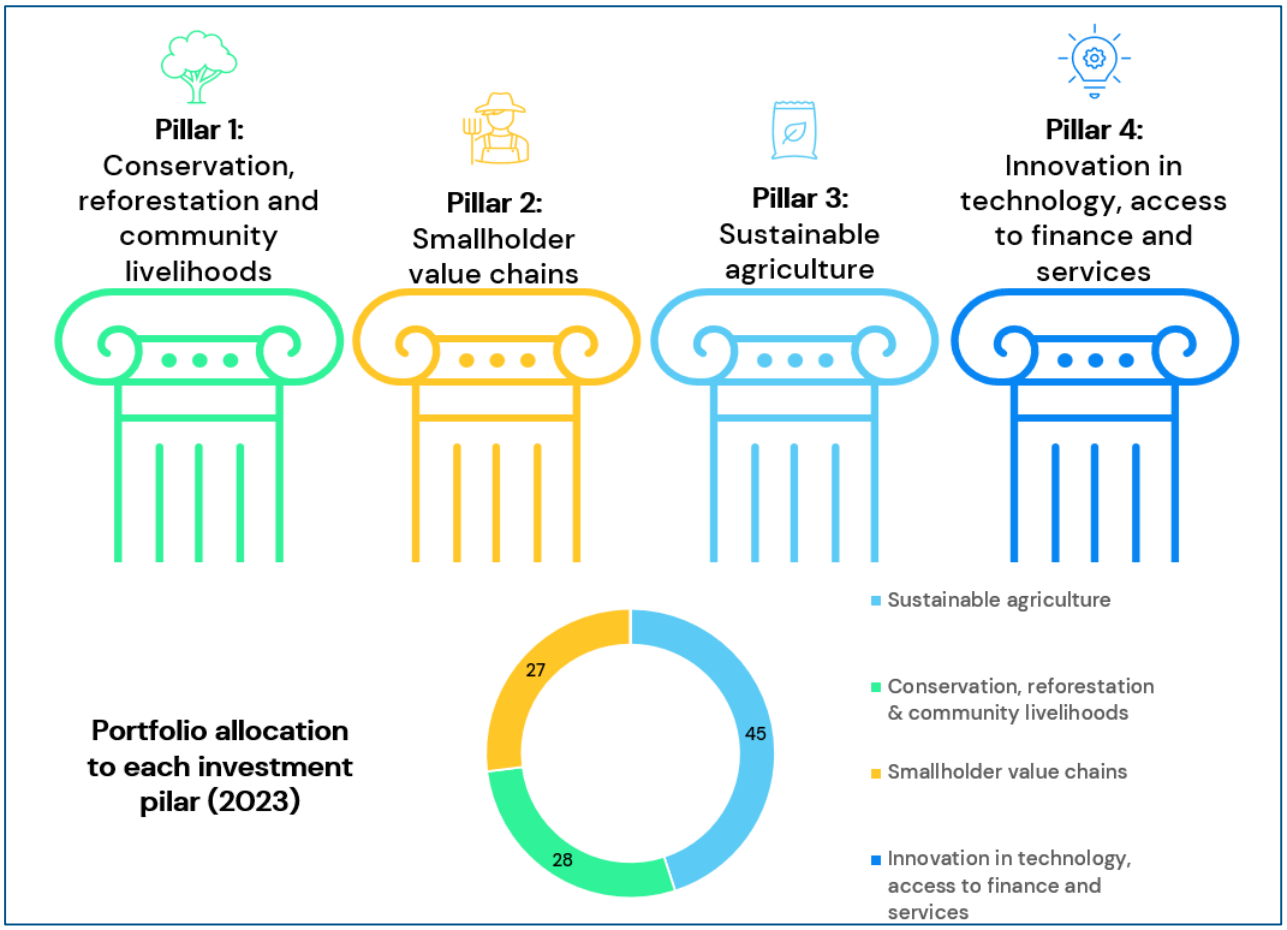

Figure 3: Investment pillars of the Amazon Biodiversity Fund and Portfolio Allocation as of 2023[22]

To date, portfolio allocation is not equally distributed across the pillars, with no investments yet addressing Pillar 4. However, the fund has not yet publicised the final list of investees.

Financial structure

As the investment advisor, Impact Earth manages the financial flows of the fund and makes investment decisions using its partnership with RSCF. Originally, CIAT provided ~$2.7 m in anchor investment and USAID used its Development Credit Authority (DCA) to back the fund with a derisking 50% loan guarantee (UNEP, 2024). Then, senior investors joined. SEDF and BNDES jointly invested ~$26.6 m and the specific values committed by other funders (ASN Impact Investors and L'Oréal Fund for Nature Regeneration) to make up a total of ~$44 m is not public.

The ABF offers customised financial instruments to each investee, all of which fall under the umbrella of blended finance because there is no one-size-fits-all across different ventures and projects. These instruments include mezzanine debt, revenue-based loans, equity, and

[22] Figure constructed by ICF, based on information gathered from Impact Earth

carbon-backed notes[23]. Many are subsequently restructured into a convertible note[24]. However, equity can be problematic as it requires an exit strategy and can lead to dilution[25] and other negative effects if revenue isn't seen in the short term. Mezzanine debt has been especially successful when implemented as it avoids dilution and offers a repayment structure tailored to the business model. For example, they might use revenue-based finance for companies that can generate revenue within 5 to 10 years or a bridge loan for projects that generate carbon credits over 20 to 40 years as assets would need to be transferred.

ReforesTerra ARR is the only investee under project finance with a publicised financial instrument, that being a carbon backed note. The instruments for the other projects, Belterra and AIR+ are not public. For the remaining investees, all of which are companies that come under Venture types of deals, instruments include convertible notes, revenue-based loan, preferred equity, revenue-based debt and also carbon backed notes (Impac+ Earth, 2024).

Ticket sizes range from ~$1.8 m to ~$3.5 m, and Vincent Gradt, co-founder and managing director of Impact Earth, has stated for the press that the ABF intends to commit the resources by the end of 2025, where the fund will hopefully have secured approximately a dozen investees. Table 10 summarises the most up-to date published information about investees and funds/instruments committed to them.

N.B. Impact Earth and Vox Capital published information based on 'present' circumstances and may undergo subsequent modifications in the future. Furthermore, information regarding 'amount invested' per project/venture was quoted from interviews and is not formally published and validated by investees.

Table 10: Table summarising the investees in the ABF, committed funds, and financial instrument used

Investee (Project/ Venture)	Description	Amount invested (in BRL and USD)	Instrument
Manioca	Food company that promotes Amazonian ingredients and flavours.	Unknown	Convertible note
Horta de Terra	Company that produces non-conventional food plants from the Amazon using sustainable management practices (e.g. jambu, taioba and cariru).	R$11 m (~$1.9 m) distributed as of 2024	Revenue based loan
Inocas Amazônia	Company that plants macaúba in agroforestry and agrosilvopastoral systems, as an alternative source of vegetable oil.	R$16 m (~$2.8 m) distributed as of 2024 (2030 target R$25M)	Preferred Equity & Revenue Based Debt
Amazônia Agroflorestal	Company that is facilitating large-scale restoration through agroforestry in Brazil, working with small and medium-sized producers.	R$20 m (~$3.5 m) distributed as of 2024	Carbon backed note
ReforesTerra ARR Project	Project that aims to recover 2,000 ha of degraded land in the	R$15 m (~$2.7 m) distributed as of 2023	Carbon backed note

[23] Carbon-backed notes are a unique terminology used by Impact Earth but refers to purchasing of carbon credits in advance of carbon sequestration by an asset such as a tree, solidifying returns despite a long payback period

[24] This terminology was taken from an interview and refers to a type of short-term debt that converts into equity, typically in conjunction with a future financing round

[25] Decrease in ownership percentage for existing shareholders when a company issues new shares

	Baixo Rio Jamari Watershed in the State of Rondônia.		
Cacau Amazônia+	Company that grows the chain of small cocoa producers in Rondônia, through agroforestry systems and ecological restoration.	R$18 m (~$3.2 m) distributed as of 2024	Unknown
Belterra	Project that aims to restore degraded pasture lands via the development of cacao-based agroforestry systems and the sale of fermented cacao and other short-term crops, such as banana and cassava.	Unknown	Unknown
AIR+	Conservation project covering three Indigenous Territories in Rondônia State and Mato Grosso, over 680,000 hectares.	Unknown	Payment for Ecosystem Services revenues
Nossa ! Fruits	Company employing organic agroforestry smallholders to produce acai berries in the Amazon.	Unknown	Unknown

Challenges & Solutions

The first three challenges were identified by ICF through interviews. The final three challenges and associated solutions were identified by UNEP previously in their separate case study.

Challenge 1 (ICF): Lack of bankable projects and ventures under Pillar 4, Innovation in Technology

Solution: Leverage technological innovation in other investees

Impact Earth analysed opportunities in Brazil under Pillar 4 but struggled to find investees that satisfied all criteria required, especially that of being based in the Amazon, and focussed on climate and biodiversity. Therefore, they utilise and incorporate technology to enhance their operations and achieve goals for other investees. For example, the integration of TerraBio, which uses satellite imagery and eDNA sampling to validate biodiversity outcomes. To address the challenge, Impact Earth will be more focussed on Pillar 4 in subsequent funds that are in development currently.

Challenge 2 (ICF): Tailor-made solutions for each investee can be time consuming

Solution: Partner with specialists and increase resources available prior to investing

Expertise from the RSCF, who specialised in providing Technical Assistance in developing the pipeline, ensured time was spent efficiently. Whilst identifying investment opportunities was relatively straightforward, conducting in-depth analysis and tailoring the financial instruments to each investee would have required significantly more time without the RSCF.

Challenge 3 (ICF): The impacts of climate change are difficult to account and control for in investment decisions

Solution: Due diligence and state of the art scientific knowledge

This challenge has been identified by Impact Earth in ABF and new funds being established. Despite the land management practices of investees (e.g., agroforestry) being more resilient to severe climate events than conventional management, they still may be thwarted by

weather events, and climate change over time. Impact Earth accepted this was difficult to control and persevered with due diligence and using up-to-date scientific knowledge to inform investment decisions and decrease risk.

Challenge 4 (UNEP): Achieving impact at scale in a short timeframe, given impacts of this nature can take a while to materialise

Solution A: Optimise time and resources with a specialised team and expert advice

Impact Earth internally oversee risk and impact processes, ensuring they are integrated into investment decisions. They engage with specialists on sensitive topics (such as pesticide management), which balances the workload of the internal team.

Solution B: Innovative investment solutions

Personalising financial instruments per investee and tailoring to individual circumstances ensures effective use of funds. For example, Carbon credit forward sales are integrated with revenue-based loans to ensure investors receive returns on their investments before carbon sequestration is delivered in reality. Specifically, ReforesTerra and Amazônia Agroflorestal's afforestation activities have benefitted from this innovation.

Challenge 5 (UNEP): The risk and impact framework must be robust and impact indicators for monitoring consistent whilst not imposing a heavy burden on investees

Solution A: **Broad standard management but continuous engagement**

Environmental and Social Action Plans (ESAPs) guide continuous engagement with investees and define tailored actions investees must do to maintain compliance with sustainability goals. The ABF team also has the authority to sit in on the boards of investees and veto decisions that may compromise the funds' values, which has been triggered in setting conditions around land clearance for agricultural activities.

Solution B: Standardised Impact Thematic Areas and optional Indicators

Investees must select at least one KPI per Impact Thematic area and comply by the monitoring methodology defined by the fund to measure progress. This includes collecting baseline data, annual reporting on KPI progress, and setting 2030 targets. There are seven Thematic Areas that cover a broad range of positive impacts (climate, ecosystems, species, livelihoods, sustainable enterprises, wellbeing & inclusion, and investment returns to local stakeholders). The full list of 20 KPIs to select are listed in **Error! Reference source not found.**, and include CO2e reduction in tons avoided or sequestered, and habitat protection in ha, for example.

For example, under the Ecosystems Impact Thematic Area, the investee company Inocas Amazônia has a 2030 target of 5,000 ha with improved biophysical conditions, and as of 2023, 88 ha was reported as under restoration. This is a good example of a quantitative 2030 target; however, some 2030 targets are qualitative. KPIs to measure progress are still quantitative. For example, Manioca's 2030 target under the Livelihoods Impact Thematic Area is 'Jobs created or supported', and in 2023, they measured 16 jobs directly created by the business.

Solution C: Monitoring is iterative

Despite the mentioned methodology for measuring progress towards impact, the culture of the fund is still open to future modifications. For instance, the ABF required the assistance of a consultant and approximately three years of engagement with its investees to successfully establish its monitoring methodologies for agroforestry systems and pesticide usage. The ABF communicated these realities transparently with investors, which helps build trust despite progress from investees occasionally being sparser than annual.

Challenge 6 (UNEP): Harmonising the risk and impact management framework with an increasing number of investors over time

Solution: **Adopt a flexible approach and integrate investors' demands**

Investors have the option to fund monitoring technologies and pilot studies that work towards indicators they would like addressed. This has been actioned in at least three cases. For example, BNDES requested ABF to implement Free, Prior, and Informed Consent (FPIC) and gender policies. USAID recommended that ABF utilise the TerraBio tool for conducting eDNA analysis through soil sampling. Additionally, RSCF is funding bespoke studies with project beneficiaries to evaluate social impact using Social Progress Index surveys.

Outcomes

Table 11: Full list of the Amazon Biodiversity Fund's KPIs per Impact Thematic Area

KPIs			
Climate: net positive impact on climate change			
KPI-1: CO2e reduction. Measured in tons or equivalent avoided or sequestered			
Ecosystems: restoring degraded land, protecting and enhancing ecosystems			
KPI-2: Improved biophysical conditions, measured as number of hectares reforested, restored, where sustainable agroforestry I implemented on degraded land etc…	KPI-3: Landscape conservation, defined as the estimated number of hectares of land with high biodiversity value directly conserved due to project activities		
Species: Improve the presence of native species and the conservation status of threatened and endangered species			
KPI-4: Improved species presence, defined as the percentage change in number and (relative) abundance of priority species selected for monitoring	KPI-5: Habitat protection, defined by the number of hectares conserved, directly or indirectly, within which IUCN red list or other priority species are located	KPI-6: Conservation of important species, defined by performance percentage against a plan to contribute to species conservation in the landscape(s) in which the business operates	
Livelihoods: create jobs, support livelihoods, ad provide sustained family income			
KPI-7: Job creation, measured in number of jobs created or supported through ABF's investment in the company	KPI-8: Livelihoods supported, meaning the number of smallholders, farmers, or others directly benefiting from participation in the project through formal agreements	KPI-9: Economic empowerment. measured by the number of households benefiting from an income and/or reporting an increase in household income over time as a result of participation in the project	

KPIs			
Sustainable Enterprises: build capacity of enterprises and organisations towards environmental, social and economic sustainability			
KPI-10: Enterprise creation or support, defined as the number of new enterprises created or existing ones supported by the project	KPI-11: Progress towards enterprise viability, meaning the percentage of enterprises within the project making progress towards commercial viability	KPI-12: Community organisations, defined as the number of community organisations such as cooperatives and associations that are created, engaged, and/or supported by the projects in order to meet their goals	KPI-13: Sustainable value chains, defined as the number of products of amazonian origin, or sustainable produced in the legal amazon, for which a market has been created or supported and for which value chain has been enhanced
Wellbeing and inclusion: support improvement in overall community wellbeing and inclusion			
KPI-14, 15 & 16: Diversity and inclusion, defined as the number and percentage of jobs, leadership positions, and livelihoods created and beneficiaries that are held by women, black, Indigenous and Quilombola peoples (IQPs), or other traditional peoples and groups, and people from the project municipalities	KPI-17: Community wellbeing, defined as the perceived change in wellbeing of communities affected by the project	KPI-18: Inclusion via forest code compliance, measure as the number of smallholders supported to increase/strengthen compliance with the Brazil Forest Code through engagement with the project, resulting in greater access to basic state services, funding and inclusion	
Investment returns to local stakeholders			
KPI-19: Value from environmental assets, meaning the monetary value of percentage share of revenue received from the sale of carbon credits, results-based payments, and/or other payments for ecosystem services, by local stakeholders	KPI-20: Value from physical assets, meaning the monetary value of revenue received by project target groups/communities from the sale of other goods and services by local stakeholders		

Impact

Due to the early nature of the fund, observed impact is based on current circumstances, which may change up until the end of the investment period. Two impact reports have been published (2022 and 2023), and results have only been tracked in some impact Thematic Areas. Therefore, some impacts, particularly under Climate, Species, and Wellbeing and inclusion can only be observed over a longer time period. The 2024 impact report is scheduled for publication in the coming weeks following the submission of this case study and therefore could not be included.

Biodiversity and climate impact

According to the 2023 impact report, an estimated 264k tons of CO2e has been avoided or sequestered across the fund's investees since investment began (KPI-1). However, this estimate came from a single investee company (Amazônia Agroflorestal) and has not been validated.

For biodiversity, only indirect impacts (area of land as opposed to number of species or abundance) have been recorded, owing to the early nature of the fund and the ongoing integration of their tool for validation. Nonetheless, approximately 284 ha of land is being directly managed by investees to improve biophysical conditions and 7.8 ha of land with high biodiversity value has been directly conserved due to project activities (KPI-2 and KPI-3). These results have come from investees such as Inocas Amazônia, Amazônia Agroflorestal, and ReforesTerra.

Social impact

Possibly due to the tallying nature of many KPI methodologies, social impact is currently better documented than climate and biodiversity. In the 2023 impact report, 17 of the 25 milestones reported across investees were related to social impact.

Overall, 336 beneficiaries local to the municipality where projects are implemented are formally participating in projects funded by the ABF (KPI-8). Also, 135 jobs had been created or directly supported by the end of 2023, of which 74.5% are local to the municipality and 30% held by women (KPI-14, 15 & 16). Finally, 12 community organisations were engaged in funded projects, which includes six new enterprises which were created or supported (KPI-12 & 10).

Additionality

Additionality is central to the fund's mandate. Firstly, when developing the pipeline of investees, Impact Earth rigorously assessed if financial additionality would be achieved in each case. This involved assessing the funding landscape available to prospective investees and assessing of the ABF was best suited to an investee's needs. However, there is no data on financial additionality. Once onboarded, actions defined in investee's ESAP and Impact Management Plan (IMP) have impact additionality integrated into their design and revisions. It was too difficult to prove additionality for biodiversity impacts, so the ABF instead focusses on measuring and validating biodiversity changes using TerraBio regularly to swiftly act on problems.

ESAPs and IMPs for each investee are continuously managed and iterated in the investment cycle the fund lifecycle. At each periodic review, the bar is raised, bringing investees to higher standards. For example, Inocas Amazônia's ESAP was fully revamped in 2023 to better focus on day-to-day actions. Overall, as of 2023, 28 ESAP actions had been completed, 5 were in progress, 7 were delayed due to delays in business plans or impact measurement plans, and 6 were new.

Validating changes in biodiversity using TerraBio is the fund's method to demonstrating impact. TerraBio is a tool specific to the ABF that uses satellite data on land-cover and eDNA sampling of arthropod species to compare biodiversity impacts of an intervention compared to Business as Usual (BAU). The intervention area is compared to a baseline (farm before intervention by the project), counterfactual (what would have happened in the absence of intervention), and a reference area (natural land cover system) over time to causally assign change to the independent variable/ intervention. A Principal Component Analysis (PCA) is also run on the eDNA sample across sites to compare how species composition differs relatively over time, which also informs biodiversity improvement.

Baseline eDNA sampling took place on land managed by ReforesTerra and Inocas Amazônia in 2023. Satellite imagery has also been used to monitor changes in canopy cover in Inocas Amazônia. This demonstrates progress towards validating biodiversity outcomes for some investees; however, there have been no reports on TerraBio's implementation in the actions of other investees.

Lessons learned

- As the list of investees matures and it becomes evident that a predefined goal was unrealistic (e.g., Pillar 4, technical innovation), this can be overcome by leveraging that impact goal elsewhere.
- There is no one-size-fits-all and investment structures should be tailored to each investee, with potential for them to change over time.
- Climate change is notoriously difficult to account and control for. This should be accepted and due diligence used insofar as possible to mitigate impact.
- Biodiversity impact additionality is difficult to address, therefore measuring changes in biodiversity regularly to detect unprecedented change requiring attention can overcome this.
- During the fund design stage, aim to utilise and develop existing partnerships, as the idea for the ABF stemmed from a regional partnership focused on promoting sustainable development in the Brazilian Amazon.
- Consider optimising internal capacity through partial outsourcing. ABF uses consultants with topic-specific expertise to inform aspects of its IMPs, and partners with specialist organisations to develop the pipeline and save time.
- An iterative approach to defining the fund's position on complex topics allows ABF to gain insights through their investments. The fund has a standard list of actions to include in ESAPs, but also reserves the right to refer more complex topics for discussion during board meetings.
- Ensure consistent communication with investors, enabling their engagement in the impact monitoring process, awareness of realistic timelines for impact outcomes, and assistance with the fund's data requirements.

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5.3 Case study 3 – COFINA – Green Agrican Agri Value Chain

Main findings:
■ The project mobilised €26M (~$29.4M) in blended finance to support SMEs and mid-caps in Côte d'Ivoire and Senegal, with a focus on sustainable agriculture, climate action, and gender equality through COFINA's mesofinance model. ■ Technical assistance was integrated to support women-led businesses and help cocoa cooperatives meet EU environmental and social standards, aligning with the 2X Challenge and OECD gender criteria. ■ Though still early in implementation, the project aims to create 6,000 jobs, strengthen food security, and ensure at least 30% of funding supports climate adaptation and mitigation, while excluding projects with negative biodiversity impacts.

Overview

Description of the Project

Table 12. Key features of the Green Agri Value Chain

Fund mandate	Provide financing to a number of financial intermediaries for on-lending to eligible small and medium-sized enterprises (SMEs) and mid-caps active in agriculture value chains, with a focus on promoting climate action and gender equality
Fund start date	2023
Fund size	€26 m (~$29.4 m)
Fund term	n.a.
Involved institutions and partners	European Investment Bank, COFINA Group
Type(s) of blended mechanism (or capital structure or portfolio assets)	Public capital use for de-risked investment, Private sector investment mobilisation, Technical assistance
Target investments	Financial intermediaries
Target region	Côte d'Ivoire, Senegal
Target Sustainable Development Goals	**SDG 5**: Gender equality **SDG 8**: Decent work and economic growth **SDG 12**: Responsible consumption and production **SDG 13**: Climate action **SDG 15**: Life on land

Context & background

The European Investment Bank (EIB) and the COFINA Group have signed a €26 m (~$29.4 m) agreement to strengthen the development of sustainable agriculture, enhance access to finance and support economic development in Côte d'Ivoire and Senegal through the COFINA – Green African Agri Value Chain project.

The initiative supports financial intermediaries in Côte d'Ivoire and Senegal, facilitating on-lending to eligible small and medium-sized enterprises (SMEs) and mid-cap companies active in agricultural value chains, with a focus on gender equality and projects addressing climate change. More than 20 cooperatives active in the sustainable cacao value chain have

already been financed through this loan, and around 6,000 jobs in small and medium-sized enterprises (SMEs) and mid-caps will be supported with funding from COFINA Group.

In early 2023, the European Commission and the European Investment Bank (EIB) introduced a new financing initiative for the private sector in Africa, the Caribbean, and the Pacific, covering the period from 2023 to 2027[26]. This partnership aims to mobilise €4 bn (~$4.5 bn) in support of the EU's Global Gateway strategy, which promotes intelligent and sustainable investments in partner regions[27].

One of the first projects launched under this framework is the COFINA – Green African Agri Value Chain initiative. COFINA Group, an African financial institution operating in eight countries, is partnering with the EIB for the first time through this venture. It is the first African financial institution dedicated to mesofinance, the "missing middle" between microfinance and traditional banking that offers SMEs easy access to credit.

This initial flagship project aligns with the EIB's wider mission to foster sustainable development, drive economic progress and strengthen the private sector in sub-Saharan Africa by enhancing financial access, particularly in critical sectors like agriculture. It also contributes to the African Union's Agenda 2063[28].

Structure of the Project

Aims and objectives

Agriculture systems' productivity and resilience in the face of climate challenges requires long-term infrastructure investments for irrigation systems, mechanisation, and storage facilities. By providing long-term maturity credit lines, the EIB through COFINA Group enables long-term and derisked financing of sustainable agriculture activities in Côte d'Ivoire and Senegal, including environmentally responsible farming, the adoption of modern technologies, and job creation in rural communities. In addition, these investments enhance food sovereignty and reduce dependency on imports, while also strengthening economic stability in both countries.

In addition to financial support, the COFINA – Green African Agri Value Chain project includes targeted technical assistance designed to better meet the needs of female customers. Through this collaboration, COFINA Group will be able to expand its financing for businesses that empower women and support their economic inclusion. This effort aligns with the goals of the "2X Challenge"[29], an international initiative promoting women's economic empowerment, and follows the gender-focused criteria established by the OECD[30].

Furthermore, technical assistance will also support COFINA and its clients — especially cocoa cooperatives — in preparing for evolving environmental and social standards required for cocoa exports to the European Union. COFINA-CI will receive guidance to develop and manage financing tailored to the cocoa value chain, with a focus on supporting SMEs and cooperatives. This will enhance COFINA's capacity to serve key actors in the cocoa sector,

[26] Global Gateway: EIB and European Commission sign agreement to boost private sector investments in African, Caribbean and Pacific countries

[27] Global Gateway - European Commission

[28] Agenda 2063: The Africa We Want. | African Union

[29] https://www.2xchallenge.org/

[30] https://www.oecd.org/en/about/programmes/social-institutions-and-gender-index-sigi.html

avoid further deforestation and ensure decent working conditions, while aligning its operations with the EIB's sustainability standards[31].

Financial structure

The EIB and COFINA Group established a financial partnership, backed by the European Fund for Sustainable Development Plus (EFSD+) to de-risk investments, in order to support the private sector and agricultural value chains in Côte d'Ivoire and Senegal. This partnership includes the deployment of €16 m and €10 m in long-term financing by COFINA Côte d'Ivoire and COFINA Senegal, respectively (~$18 m and ~$11 m).

This funding is channelled through COFINA's subsidiaries in Côté d'Ivoire and Senegal, which secure the provision of finance to SMEs and mid-caps in the agricultural sector, including producers of cocoa, cashews, cereals, and horticulturalists. The initiative emphasises climate action, environmental sustainability, and financial inclusion, particularly for women entrepreneurs.

In May 2024, 24 loans had already been granted by COFINA-CI to EIB-eligible agricultural cooperatives, including 22 in the cocoa sector. Loans currently total €2.1 m (~$2.4 m).

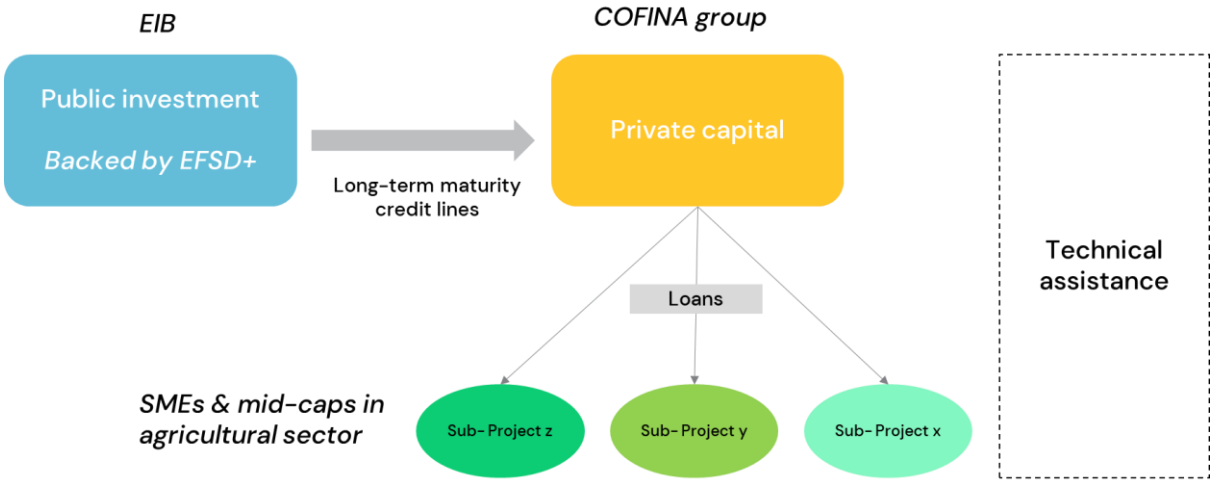

Figure 4 :Financial structure of the COFINA – Green African Agri Value Chain project[32]

Challenges & Solutions

N.B. This section is currently empty due to the unavailability of interview input at the time of submission. As the project only launched in 2023, publicly available information remains limited, and interviewee insights are essential to identify challenges encountered and solutions developed to date.

Outcomes

N.B. Details of COFINA's KPIs are not publicly available.

Impact

The project has only been active since 2023, and evidence of impact so far is limited, as no impact report has been published to date. This section therefore focuses on the intended

[31] Environmental and Social Data Sheet

[32] *Source: ICF, 2025*

project impacts. The project is expected to generate significant socio-economic impacts, including the creation of approximately 6,000 jobs within small and medium-sized enterprises (SMEs) and intermediate-sized enterprises (ISEs). It will also support the development of key agricultural value chains—such as cocoa, cashew nuts, and food crops in Côte d'Ivoire, and cereals and horticulture in Senegal—by improving productivity and market access. In addition, the project aims to promote gender-inclusive economic growth by enhancing women's participation and opportunities across the targeted sectors.

The project aims to strengthen food security through the development of sustainable, high-performance value chains such as cocoa, cashew nuts, and food crops in Côte d'Ivoire, and cereals and horticulture in Senegal.

As part of the partnership, COFINA should take all required measures to ensure that all procurement procedures carried out by the final beneficiaries for the financed sub-projects comply with national legislation and the EIB's Environmental and Social Standards[33], as well as international treaties and conventions signed and ratified by or otherwise applicable and binding in the country, including:

- Ensuring the COFINA's Environmental and Social Impact Assessment (ESIA) is conducted at a level that is in line with EU/international standards, and published on the EIB website;
- Conducting an adequate Environmental and Social Management Systems (ESMS) in place to address environmental and social risks that are typical for MSME and MidCap investments in the sector.

Biodiversity and climate impact

The project is expected to have a positive impact on biodiversity and climate, by:

- Excluding sub-projects with significant negative environmental impacts, among others on areas with high biodiversity value, nature conservation areas, including bird migration routes.
- Committing to have at least 30% of total allocations to sub-projects tacking adaptation and mitigation, qualifying as such when compliant with agreed pre-defined criteria.

Social impact

The project is expected to have a positive impact on gender equality and women's economic empowerment, by:

- Contributing towards addressing the market failure of imperfect information and the ensuing obstacles to access to finance that SMEs face when applying for funding
- Aligning with the priorities expressed under the NDICI-Global Europe and the African Union's Agenda 2063.
- Contributing to the achievement of Sustainable Development Goals 5 - gender equality; 8 - decent work and economic growth; 10 - reduce inequality; 11 - Sustainable Cities and Communities; 13 - climate action and 17 - partnerships for the goals.

Additionality

The project has only been active since 2023, and evidence of additionality so far is limited.

[33] Environmental and Social Data Sheet

Access to finance is a large market constraint in Côte d'Ivoire and Senegal, in particular for long-term financing for SMEs, and even more so in the agriculture sector. The proposed operation aims at on-lending to private businesses, contributing to private sector inclusive growth and job creation, while targeting agricultural value chains, climate action & sustainable environment, and businesses owned, run, employing, or primarily serving women, in line with the 2X Challenge criteria.

The availability of longer-term funds in Euros is expected to enable the borrowers to diversify their funding sources, extend the tenors of their underlying loans, and continue deepening local financial markets. It is foreseen that technical assistance will be provided through the African Women Rising Initiative.

Lessons Learned

N.B. Thise section is currently empty due to the unavailability of interview input at the time of submission. As the project only launched in 2023, publicly available information remains limited, and interviewee insights are essential to identify meaningful lessons learned to date.

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5.4 Case study 4 – Green Agribusiness Receivables Certificates (Green CRA)

Main findings
■ The Green CRA used a layered capital approach combining philanthropic and commercial investments to de-risk financing and enable access for smallholder farmers and cooperatives. ■ It supported over 30 forest-based products through agroforestry in the Amazon, excluding monocultures, and prioritised small-farmers, Indigenous, traditional and local communities. ■ The vehicle demonstrated robust financial and environmental additionality, highlighting potential and opportunities for being replicated.

Overview

Description of the vehicle

Table 13: Key Features of the Green CRA

Fund mandate	Enable beneficiaries to access cheaper capital to implement agroforestry systems and improve their production practices across a variety of non-timber forest products
Fund start date	2023
Fund size	R$21.5 m (~$3.8 m)
Fund term	3 years (ends 2025)
Involved institutions and partners	Conexsus, Belterra, Grupo Gaia, Santander, Fundo Vale, Good Energies Foundation
Type(s) of blended mechanism (or capital structure or portfolio assets)	Green Agribusiness Receivables Certificates
Target investments	Eligible producers, small-farmers and cooperatives
Target region	Brazil (Amazon)
Target Sustainable Development Goals	**SDG 8**: Decent work and economic growth **SDG 12**: Responsible consumption and production **SDG 13**: Climate action **SDG 15**: Life on land

Context & background

The Green Agribusiness Receivables Certificates (Green CRA) were developed jointly by Conexsus, Belterra, Grupo Gaia and Santander in 2023. With a three-year term, the Green CRA raised R$21.5 m (~$3.8 m). The financial vehicle brings together investors and business to accelerate investment in sustainable agriculture in the Brazilian biomes, mostly in the Amazon[34] [35].

The Green CRA aims to expand the supply of financing and encourage sustainable agriculture (i.e. agroforestry) and the maintenance of the standing forest, providing capital to

[34] Green CRA Case Study

[35] Home | IFACC – Innovative Finance for the Amazon, Cerrado and Chaco

22 community businesses (cooperatives), of crops such as cocoa, nuts and açaí, and small and medium-sized impact companies.

The Green CRA was developed in response to the financing challenges faced by smallholder farmers and cooperatives engaged in agroforestry-based production (e.g., açaí, nuts, cacao) in the in the North and Northeast regions of Brazil (i.e. Amazon), as producers often lack access to credit and markets.

Stakeholders involved in the development of the vehicle included:

- Conexcus, supporting environmental impact and community-based businesses to conserve threatened ecosystems and maintain forest areas;
- Belterra, supporting small and medium-sized farmers to create and restore productive forests in degraded areas;
- Fundo Vale, aiming to positive social and environmental impacts through investment;
- Good Energy Foundation, a Swiss foundation funding initiatives that work to reverse the impact of climate change in the access to clean energy and the protection of tropical forests;
- Grupo Gai, specialised in structuring impact investments;
- Santander, a commercial bank facilitating private financing mobilisation.

Discussions on the development of a financial instrument supporting sustainable agriculture and the socio-bioeconomy in Brazil initiated in 2018 between Conexcus and Fundo Vale, followed by a process of identification and engagement of stakeholders.

In this context, it was decided to issue an Agribusiness Receivables Certificates (CRA), a widely used vehicle to invest in agriculture in Brazil[36]. This sector, which is not usually considered financially viable for investments, often lacks access to credit for small farmers and producers. In response, the CRA raises financing for agricultural activities by selling future income from their products to investors, who then receive returns after harvest whilst benefitting from tax advantages. The aim is to reduce financial risk to farmers, as they can hedge their debts in future markets.

Designed to specifically support investments in sustainable agriculture, this dedicated **Green CRA** jointly facilitates financial returns for small producers and investors, while advancing conservation and restoration measures. The vehicle is aligned with the Innovative Finance for the Amazon, Cerrado and Chaco (IFACC) initiative[37].

Structure of the vehicle

Aims and objectives

The Green CRA aims to support ecological and agroforestry production in Brazil, focusing on biodiversity products like açaí, nuts, and cacao. It promotes the bioeconomy in five Brazilian biomes by encouraging agroforestry, restoring degraded areas, and supporting cooperatives

[36] CRA_Verde_08Dez2017_MIOLO_GRAüFICA_ingles.indd

[37] Home | IFACC – Innovative Finance for the Amazon, Cerrado and Chaco

that utilise natural resources sustainably. Although returns on investment for such projects can take up to five years, the Green CRA was specifically structured to align investment and repayment timelines with the distinct needs of each of the producers and investors involved.

In addition, the vehicle enables the inclusion and access to funding for minorities such as cooperatives, small-scale farmers and producers, and Indigenous communities, who are traditional practitioners and stewards of sustainable forestry practices.

The vehicle is also designed to help partners achieve positive impact aligned with their missions. Conexsus supports community enterprises with social and environmental impact, which complements Belterra's focus on agroforestry systems and Grupo Gaia and Santander's investment goals.

Financial structure

The Green CRA is structured around several tranches of investments attached to different types of interest rates and repayment conditions to cater to varying risk profiles:

- Subordinated tranche & Mezzanine tranche: $1.2 m provided by Fundo Vale and Good Energies Foundation, which both benefited from a 1% monthly interest rate, aligned with the organisations' interest rate thresholds. This philanthropic capital then functioned as catalytic capital to absorb risks (i.e. in case on non-payment), decrease costs, and attract additional investors.
- Senior tranche: $1.8 m provided by Santander, together with Grupo Gaia. The bank benefitted from a variable interest rate based on the Brazilian Interbank Deposit Rate (Certificado de Depósito Interbancário - CDI) plus additional spread.

Capital was allocated to Belterra for expanding their agroforestry activities (60%), as well as for community cooperatives and businesses connected to Conexsus (40%). Grupo Gaia participated as the securitisation company and Santander as the lead coordinator and private sector investor.

The Green CRA was initially capitalised with $3 m in 2023, which was used to issue loans to eligible producers, small-farmers and cooperatives. The design of the vehicle included a revolving mechanism, allowing funds to be re-lent once repaid. This process was implemented only in 2023, resulting in an additional ~$800 k being circulated, bringing the total disbursed under the Green CRA to ~ $3.8 m. However, the revolving feature was not activated again in 2024. Managing the timing of disbursements and repayments proved complex, as it required aligning the seasonal cash flow needs of producers with investor expectations.

In the event of default, losses were first absorbed by first-loss capital, shielding commercial investors like Santander from financial risk. This layered structure made the blended finance model both inclusive and resilient.

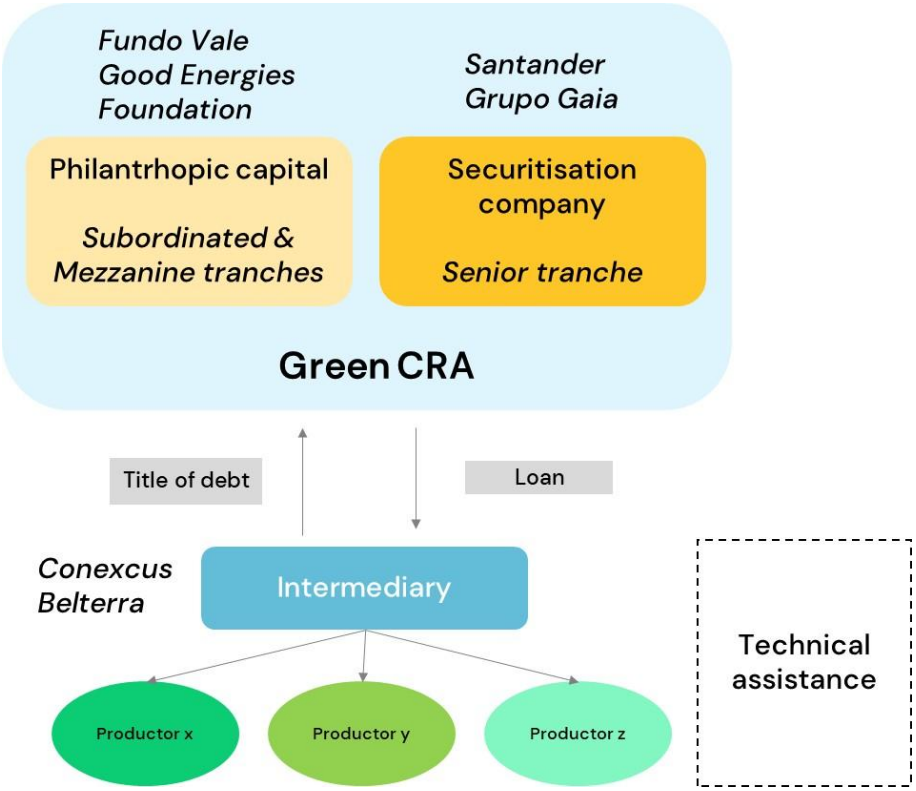

Figure 5: Financial structure of the Green CRA[38]

Technical assistance

Given the agricultural nature and sustainability component of the Green CRA, risks associated to the sector and the timeframe for investment returns were a central concern. The vehicle primarily extended credit to small organisations with whom Conexcus and Belterra had long-standing relationships and a strong repayment history. These groups were carefully selected based on rigorous credit analysis, resulting in a default rate of less than 2%.

A second, more vulnerable and marginalised groups of small farmers—typically excluded by conventional banks—also received support, but only after receiving technical assistance and close monitoring. Listening to farmers' and businesses' needs and specific challenges during on-the-ground visits assured them that recipients were eligible and helped the project direct helpful technical assistance. This proactive approach included guidance before disbursement, ongoing support during the loan period, and early intervention if repayment issues arose.

Challenges & Solutions

Possible challenges and solutions related to the Green CRA have been identified below:

Challenge 1: Limited credit access for small producers in the agroforestry sector

Solution: **Use intermediaries to structure and mobilise derisked and pooled investments from different sources and help producers access finance**

[38] Source: ICF, 2025

The deployment of financial intermediaries – Conexus and Belterra – structures and mobilised derisked, pooled capital from a mix of public, private, and philanthropic sources. They aggregated small-farmers and cooperative needs, reduced transaction costs, and provided tailored financial products. Their involvement also facilitated credit guarantees and technical assistance, expanding their access to finance.

Challenge 2: Diverse range of risk profiles and financing constraints across the partners (i.e. limited level of revenues from interests to be considered as a commercial opportunity)

Solution: **Develop a blended finance structure which aligns financial terms and benefits for involved partners**

The blended finance structure involved several tranches (Subordinated, Mezzanine and Senior), aligning incentives and returns across investors based on their capacity and willingness to absorb risks.

Challenge 3: Sector-specific and seasonal complexities in agroforestry (i.e. seasonal harvests and price volatility)

Solution: Tailored support and risk mitigation

Financial and technical evaluations of each beneficiary ensured tailored support and risk mitigation in order to ensure traceability and predictable returns.

Challenge 4: Difficulty in measuring environmental and social impacts across diverse biomes and commodities

Solution: Develop flexible frameworks

Agroforestry initiatives span a range of ecological zones and value chains, making it challenging to apply standardised metrics and methodologies for impact measurement. Developing flexible frameworks, with adaptable methods to capture measurable outcomes across varied ecosystems and sectors, enhances robustness and comparability of results.

Challenge 5: High complexity and time intensity of structuring the vehicle, requiring strong coordination among stakeholders

Solution: **Long-term strategic planning and negotiation**

4-year negotiations were undertaken to develop a strategic investment in process, accepted as necessary to ensure long-term viability and replicability of the model for the bioeconomy.

Outcomes

Impact

Robust data collection and analysis are essential for effective impact reporting, especially in innovative financial instruments such as the Green CRA. To ensure transparency and accountability, the Green CRA partners established a data-driven approach to track environmental and social outcomes.

Belterra and Conexsus collect data across organisations benefitting from loans under the Green CRA, while Grupo Gaia consolidates and processes this information to produce monthly reports for investors.

Each partners' selected key performance indicators (KPIs) aligned with their strategic goal. For example, Conexsus monitors metrics such as the number of farmers and cooperatives receiving technical assistance and the volume and type of certified products traded; Belterra draws on the IRIS+ catalogue[39] to track ecological outcomes like land restoration and protection.

Although the initiative launched only in 2023 and significant long-term impacts are not yet observable, early progress data has been shared through public impact reports based on internally synthesised partner updates.

Biodiversity and climate impact

The Green CRA was designed to support ecological farming practices that prioritise biodiversity and forest conservation. It financed over 30 different forest-based products—including açaí, nuts, and cacao—produced through agroforestry and organic systems, particularly in the Amazon region. Unlike conventional CRAs that often fund monocultures like soy or cattle, this vehicle explicitly excluded such investments, even when labelled sustainable, due to their complexity and potential environmental risks. Instead, it required beneficiaries to do no-deforestation and encouraged reforestation or conservation-based land use. Cooperatives receiving funding underwent rigorous environmental impact assessments and were monitored on-site by partners (i.e. Conexcus, Balterra) to ensure compliance with land use and ecological standards.

5.4.1.1 *Social impact*

The Green CRA has had a significant social impact by prioritising underserved communities and providing access to finance for vulnerable communities and supporting inclusive economic development. It provides working capital to 22 community-led businesses and approximately 4,500 producers of forest-based and agricultural commodities. Most of the loans were channelled through cooperatives, which then distributed funds to small-scale farmers, ensuring fairer and more stable income flows. These cooperatives often serve Indigenous and traditional communities—groups that have stewarded forest ecosystems for generations and are central to the social bioeconomy. By enabling timely purchases of high-value products like cacao, the Green CRA helped prevent farmers from having to sell to large buyers at lower prices. The initiative also offered technical assistance and close monitoring, reinforcing the capacity of these communities.

5.4.1.2 *Additionality*

The Green CRA mobilises capital for targeted beneficiaries—small-scale farmers, cooperatives, and Indigenous communities—who are typically excluded from conventional finance due to perceived risk and lack of collateral. By blending commercial and catalytic capital (from philanthropic source), the vehicle de-risks investments and enables access to funding for these beneficiaries.

Beyond financing, the Green CRA drives environmental benefits, with a focus on reforestation and conservation. For instance, Belterra implements integrative agroforestry models that actively restore degraded land and enhance biodiversity in all projects, and

[39] IRIS Catalog of Metrics | IRIS+ System

applied to the beneficiary projects of the Green CRA. Their approach emphasises a diverse mix of native and productive species, which improves both above-ground and soil biodiversity. These models are co-designed with small and medium farmers. Before any intervention, Belterra conducts a detailed ecological diagnosis to assess existing conditions and avoid unintended negative impacts. This baseline is essential not only for guiding restoration but also for demonstrating measurable improvements over time. Their methodology aims to support the generation of carbon credits, with clear documentation submitted to standards like VERRA to validate the additionality of their environmental outcomes, which should ensure equitable benefit sharing for Indigenous people and local communities (IP&LCs) supported through the Green CRA scheme.

The success of the Green CRA has inspired partners to explore replicating its blended finance model in new contexts that also deliver strong environmental and social outcomes. One such initiative led by Belterra involves developing a CRA tailored for seedling nurseries[40]—critical actors in reforestation and restoration efforts—which face similar barriers to credit access as smallholder farmers, including limited credit history. A pilot is currently underway with 5 to 10 nurseries, supported by the Climate Policy Initiative Lab as part of its current cohort. The familiarity and proven success of the Green CRA structure make it an attractive model for both philanthropic funders and commercial banks, who now better understand the risk profile and impact potential. In parallel, Grupo Gaia has partnered with asset manager fama re.capital to launch the FamaGaia Sociobioeconomy Fund[41], aimed at scaling support for community-led socio-bioeconomy projects. Additionally, Belterra has secured funding from Impact Earth's Amazon Biodiversity Fund[42], further demonstrating how the Green CRA's framework is catalyzing broader investment in sustainable, inclusive development.

Lessons learned

- Significant time and patience is required, as are partners with specialised financial and technical knowledge.
- Blended finance can align the incentives of diverse capital providers, making it possible to attract commercial investors to projects with social or environmental objectives, despite different investment profiles and risk-appetite
- Robust and context-sensitive monitoring systems can facilitate positive environmental and social impacts. It involves engaging communities, incorporating local knowledge, and collecting relevant, disaggregated data to track progress and adapt interventions accordingly.
- Engaging with partners with existing relationships when operating with smallholder farmers and cooperatives can be fundamental for meaningful collaboration, ensuring interventions – and financial support – are relevant, effective, and sustainable. In addition, technical assistance can be adapted to the unique needs, capabilities, and aspirations of these stakeholders.
- Blended finance mechanisms can catalyse replication and scale when they demonstrate clear additionality, impact, and risk mitigation. The mechanism's flexibility and capacity to support groups typically excluded from conventional finance, combined with demonstrated biodiversity and socials impact and improved investor confidence, shows

[40] The Seeded Initiative | The Global Innovation Lab for Climate Finance

[41] FamaGaia Sociobioeconomy Fund | fama re.capital

[42] ABF Case Study

that such models can be adapted and scaled across contexts with similar barriers and goals—particularly in the socio-bioeconomy and restoration sectors.

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5.5 Case study 5 – Regenera Ventures Fund

Main findings
■ Regenera Venture's is a ten-year fund that seeks to invest in regenerative management in Mexico's agricultural sector, enhancing rural resilience, securing financial returns, and building regenerative capacity of the ecosystem. ■ The fund's investment thesis is grounded in social transformation (encouraging local community managing land assets), environmental regeneration (employing regenerative management practices) and economic profitability (diversified revenue streams and recurring sales). ■ The fund also relies heavily on a diversification strategy in building its portfolio. It will invest in earlier-stage companies, as well as more mature SMEs that are already at breakeven or profitable. This mix of companies at different stages and sizes, performing different types of economic activities within the regenerative ecosystem will, in itself, be a de-risking strategy. ■ Tailored technical assistance to each investee company to achieve effective implementation and impact monitoring of regenerative practices can enhance company growth in an environment where lack of technical expertise is prevalent.

Overview

Description of the Fund

Table 14: Key features of the Regenera Ventures Fund[43]

Fund mandate	Finance nature-based solutions and regenerative agriculture
Fund start date	2024
Fund size	$20-30 m
Fund term	10 years
Involved institutions and partners	Funded by USAID[44], Inter-American Development Bank (IDB) Project partners: SVX MX, Cl Ventures (investing arm of Conservation International)
Type(s) of blended mechanism (or capital structure or portfolio assets)	Long-term sustainability financing, equity, redeemable equity, mezzanine debt financing
Target investments	Agriculture, cattle ranching, forestry, fishing, nature tourism, with the possibility of investing up to 25% of the fund in financial inclusion for small producers
Target region	Mexico pilot stage (possible expansion in Latin America)
Target Sustainable Development Goals	**SDG 15**: Life on Land **SDG 2**: Zero hunger **SDG 5**: Gender equality **SDG 8**: Decent work and economic growth

[43] Climate Policy Initiative, 2024. Regenera Ventures Fund – Instrument Anaysis (September 2024). Available at: Regenera-Ventures-Fund_Instrument-Analysis.pdf

[44] USAID funded the Sustainable Landscape Ventures project which ran from 2020-2024 but has now ended the project due to the changing political landscape in the United States.

	SDG 17: Partnership for the goals **SDG 13**: Climate action

Context & background

The Regenera Ventures Fund (Regenera Ventures) is an innovative blended finance vehicle designed to pool funding from philanthropic, concessional, and private investors. The primary focus of the fund is to finance nature-based solutions and regenerative agriculture in Mexico. By offering long-term financing for sustainable projects, the fund aims to bridge the biodiversity finance gap and support the implementation and scaling of regenerative management practices.

Regenera Ventures came about from the learnings and implementation of the Sustainable Landscapes Entrepreneurship project, a USAID-funded project[45] implemented by Conservation International and a consortium of partners that includes SVX MX. Over the initial project period, SVX MX catalysed over $4 m in 40 transactions for 33 organisations. Currently, the project develops sustainable and inclusive value chains at scale that are market-driven and investor-ready in the Mexican states of Chiapas, Oaxaca, and the Yucatán Peninsula.

Mexico's agricultural sector is increasingly vulnerable to climate change, with rising temperatures, unpredictable rainfall, and extreme weather events threatening rural livelihoods. This sector is crucial for neighbouring countries and global trade, supplying 22.8% of US agricultural imports in 2022[46]. Mexico is also Canada's third-largest trading partner and a key exporter to Japan[47] and Europe[48].

Companies planning to implement and scale regenerative management across the agricultural sector in Mexico face several challenges, including inadequate access to financing, misaligned timelines and type of available financing, and the absence of technical support to shift production strategies. As a result, these companies end up either taking unfavourable debt financing available to them to try and fund the necessary changes or continue operating without such high-cost funding which perpetuates existing unsustainable practices.

Regenera Ventures transforms landscape management practices by investing in businesses that adopt regenerative management that restores soil health, conserves water, reduces harmful chemical usage, and increases the resilience of ecosystems to deal with extreme climate conditions. At the same time, it creates economic opportunities, supports social equity, and enhances community resilience through investments in companies that support livelihood improvement of rural communities. Table 15 provides a summary of the main barriers identified and how the fund aims to overcome them.

Regenera Ventures' first fund aims to exclusively target Mexico, testing the concept of redeemable equity in the context of Mexico's agricultural sector. After the launch of the first fund, the concept can be scaled to include other Latin American countries, particularly Colombia.

[45] Investments from USAID have now stopped due the changes in the United States political landscape.

[46] US Department of Agriculture (USDA), 2023. Mexico: Trade & FDI. Available at: https://www.ers.usda.gov/topics/international-markets-u-s-trade/countries-regions/usmcacanada-mexico/mexico-trade-fdi

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[48] Directorate-General for Agriculture and Rural Development, 2023. Agri-food trade statistical factsheet. Available at: https://agriculture.ec.europa.eu/system/files/2023-05/agrifood-mexico_en.pdf

Table 15: Main barriers for agricultural SMEs

Barrier	Description	Solution
Systemic gap in financing for SMEs	Agricultural SMEs play a crucial role in bridging the gap between small-scale producers and largescale markets, consolidating various agricultural products, services, and resources. However, they systemically lack access to adequate financing.	Regenera Ventures will increase the financing available to agricultural SMEs. The product offering will be tailored equity with appropriate ticket sizes for investee companies, therefore contributing to the reduction of the financing gap.
Startups drive innovation in the market but lack access to flexible financing	Startups are at the forefront of the creation of new products and services that can scale and support the regenerative transition. However, at this stage of development they face either funding constraints or limited offering connected to traditional venture capital.	Regenera Ventures offers access to capital with deep regenerative knowledge, provision of technical assistance, and access to regenerative networks to support early-stage startups.
Available financing does not align with company needs	Available financing options are not aligned with the timelines needed to implement changes and reap benefits. Quick repayment presents a burden to organizations.	Through long-term, redeemable equity investment, Regenera Ventures will better align cash flows from SME investment activities and their financing responsibilities, enabling the implementation of business and regenerative management strategies.
Lack of technical guidance	Organisations interested in implementing or scaling regenerative management currently lack technical support for strategic planning, implementation, and impact monitoring.	Regenera Ventures will offer tailored technical assistance to each investee company to achieve effective implementation and impact monitoring of regenerative practices, as well as enhancing company growth through implementation of business strategies.

Structure of the Fund

Aims and objectives

Regenera Ventures seeks to mainstream regenerative management in Mexico's agricultural sector, enhancing rural resilience, securing financial returns, and building regenerative capacity of the ecosystem. By investing in regenerative management, SMEs can reduce input costs, increase yields, diversify revenue streams, and secure long-term sustainability.

Currently, Regenera Ventures aims to invest mainly through redeemable equity, in companies within the agriculture, forestry, ecotourism, rural management, and food systems sector in Mexico. The fund targets investments in 12 to 15 companies across these sectors. The investment value is aligned with each company's needs. The funding timeline is also aligned with the timing of potential cash flows, allowing companies to make their investments and start to benefit from them before starting the repurchase period.

Supplementing their financial offering with technical support, the fund provides tailored technical assistance and tools for companies to plan, implement, and scale regenerative management, helping increase climate resilience. This enables effective implementation and impact monitoring of regenerative management interventions.

Financial structure

Regenera Ventures is a 10-year fund, with a two-year extension option structured in a typical LP-GP setup / arrangement common to private equity and venture capital funds. The fund has limited partners (LPs) such as development finance institutions and impact investors, and invests through (i) pure equity investments and (ii) mezzanine and quasi-equity redeemable into companies operating in Mexico. The general partner (GP) responsible for managing and implementing the fund is SVX MX.

Most of the portfolio is structured through redeemable equity, a type of results-based financing where the companies receive an equity-like investment with a mutually agreed timeline for share repurchase by the company. A smaller part of the portfolio dedicated to startups will have pure equity investment options to guarantee the fund has exposure to higher upside potential.

Regenera Ventures also provides technical assistance to businesses across its portfolio, supporting both the technical needs for the implementation of regenerative management and business-related matters to support the growth of portfolio companies.

Challenges & Solutions

Possible challenges and solutions related to the Fund's investments in Mexico have been identified below:

Challenge 1: Pipeline sourcing

Sourcing quality pipelines and attracting interest in this type of financing requires work in building connections and explaining the model.

Solution: Effort to build local connections with pipeline through multiple visits to landscapes, leveraging impact and regenerative networks, organisation of events, and role within Sustainable Landscape Ventures program. Consolidation of fund manager as a key voice in the regenerative agriculture movement.

Challenge 2: Underperformance of portfolio companies

Underperformance of portfolio companies, either through lack of growth or bad management, can lead to a lack of capital for share repurchase.

Solution: A seat at the board can guarantee that fund managers can influence decisions. Technical assistance can also facilitate investees to support growth.

Challenge 3: Macroeconomic challenges

Being a single-country fund, the instrument will be vulnerable to fluctuations of the Mexican economy.

Solution: Investing in organisations that are exporters with overseas presence can help mitigate exposure to single-country risk. Investing in multiple regions of the country and different types of companies can diversify cash flows, minimising risks.

In addition, the investment thesis relies heavily on a **diversification strategy** in building its portfolio. It will invest in earlier-stage companies, as well as more mature SMEs that are

already at breakeven or profitable. This mix of companies at different stages and sizes, performing different types of economic activities within the regenerative ecosystem will, in itself, be a de-risking strategy. Additionally, technical assistance will further de-risk. Once the first fund can show returns, the team should be well-positioned to attract more private investors to the structure.

Outcomes

Table 16: Full list of Regenera Ventures Fund KPIs

KPIs		
Environmental Impact		
Reduction in artificial inputs in production	Tons of CO_2e reduced or avoided through regenerative projects	
Economic and Social Impacts		
Net jobs created in rural and urban communities	Number of people economically benefiting from sustainable resources	
Adaptation and Resilience		
Support provided to people to adapt to climate change (gender-disaggregated).	Inclusive Management	
Identification of investment opportunities aligned with		
Gender inclusion	Youth inclusion	Social justice
Commitment to Regeneration: Gender inclusion as an integral part of the success of regenerative enterprises.		

Impact (pre-investment assessment)

Biodiversity and climate impact

Regenera Ventures transforms landscape management practices by investing in businesses that adopt regenerative methods that restore soil health, replenish the water cycle, reduce harmful chemical usage, and increase the resilience of ecosystems to better respond to climate change and extreme weather conditions. Specifically, the fund prioritises four areas of conservation impact to achieve climate adaptation and mitigation objectives:

1. **Adaptation**

- Improved soil health: Soil health can improve through a transition to biological inputs and other regenerative agriculture practices.

- Cleaner water: Decrease in water pollution from the decreased use of chemical agricultural inputs, coupled with the restoration of the water cycle, and an increase in resilience to droughts.

2. **Mitigation**

- Reduction in pesticide usage: An increase in biological inputs offsets the use of chemical inputs including pesticides.
- Reduction in waste and energy consumption: Decrease of waste materials and energy consumption from the adoption of sustainable packaging, processing, and optimisation of supply chain logistics

Currently, the fund does not disclose data on these indicators.

5.5.1.1 *Social impact*

Regenera Ventures will assess financial and gender inclusion by tracking the number of jobs created, women in leadership positions, and companies owned by women across all its portfolio companies. Specific metrics will be applied to companies based on the four categories:

- **Direct Production Engagement** measures that increase in farmers' annual income due to regenerative agricultural management and technology.
- **Added-Value Processes** tracks reduced costs, waste, and pollution for companies through supply chain integration and logistics aligned with regenerative management.
- **Market Game-Changers** assesses the increase in product acceptance rates due to improved sourcing, packaging, and marketing practices.
- **Regenerative Infrastructure** measures the number of companies adopting new technologies that support regenerative management

In addition, Regenera Ventures aims to create economic opportunities, support social equity, and enhance community resilience through investments in SMEs that support livelihood improvement of rural communities. Some of the social outcomes it focuses on include:

1. **Livelihoods**

- Farmer incomes increase as yields improve from better soil health and decreased input costs.
- Direct full-time employment opportunities are created through financing the growth of regenerative agribusinesses.

2. **Community resilience**

- Farmers can build financial resilience by diversifying their income streams through crop diversification and complementary regenerative practices, such as agroforestry.
- Training and technical assistance help producers, farmers, and consumers realize the benefits of regenerative management.

3. **Agriculture Productivity**

- Companies can increase and diversify their revenue from regenerative agricultural partnerships and traceability systems.
- Increased yields from managed lands using regenerative and climate-smart practices.

Currently, the fund does not disclose data on these indicators.

Additionality

Since, the fund currently does not provide any biodiversity impact indicators, it is difficult to prove any additionality.

Lessons learned

- Regenera Venture's investment thesis has been contextualised to the Mexican market. It is grounded in social transformation (encouraging local community managing land assets), environmental regeneration (employing regenerative management practices) and economic profitability (diversified revenue streams and recurring sales).
- With the high cost of private capital in Mexico and an uncertain economic environment[49], Regenera Ventures' flexible financing model and low-ticket sizes of investments will help encourage investment in nature-based solutions and regenerative agriculture at the local level.
- Tailored technical assistance to each investee company to achieve effective implementation and impact monitoring of regenerative practices can enhance company growth in an environment where lack of technical expertise is prevalent.

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[49] Owing to the mix of smallholder farming and larger-scale monoculture farms, large influence from the U.S. economy, corruption and high levels of local crime.