



Impact investment and scaling of agricultural innovations

Fund International Agricultural Research (FIA)

V 1.0; March 2021

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Contents

Summary	1
1. Introduction	2
2. Definitions relating to impact investing and ESG investing	3
3. Current developments in impact investment	5
4. Impact investment in German technical and financial cooperation	6
5. Monitoring outcomes and impacts	8
6. Impact investment in agriculture: challenges, experiences and opportunities	10
7. Conclusions.....	12
8. References.....	13

Summary

- **Impact investments** are investments made into companies, organisations and business sectors with the intention of **generating beneficial social or environmental impacts alongside a financial return**. Impact investments aim to solve ecological, socio-economic and governance challenges through entrepreneurial approaches rather than relying on donations from governments and charitable organisations.
- Impact investment is one approach to **sustainable finance**, a term that refers to all investments and financial management processes with a significant environmental, social and governance (**ESG**) dimension.
- Impact investments are also **relevant for German technical and financial cooperation**. At GIZ, there are many people with experience in impact investment and programmes that seek to use it – along with other innovative financial solutions – to bring business ideas with a potential development impact to scale.
- As a growing industry, impact investing has become a potential source of funding for development-oriented activities in the agricultural sector. Although there is a great potential for achieving positive impacts on rural livelihoods and sustainable use of natural resources, **impact investments in the agricultural sector and sustainable food systems are still not as common as such investments in other sectors**, e.g., microfinance or energy.
- Recently, new investment instruments have been developed by international agricultural research organisations (esp. the CGIAR Research Program on Climate Change, Agriculture and Food Security, CCAFS) in close cooperation with renowned asset managers. A central strategy hereby is to provide the investees with comprehensive tailored advisory services and access to innovations that can make their operations more climate resilient and productive. Such *technical assistance* plays an important role in leveraging impact investments to bring innovations from agricultural research for development to scale, thereby making food systems more efficient, productive and resilient.
- Although socio-economic and/or environmental co-benefits are supposedly the centre-piece of any impact investment activity, developing and applying transparent monitoring systems to provide reliable evidence for these impacts remains challenging. Here, the experience and expertise of GIZ, non-governmental organisations (NGOs) and international agricultural research organisations (e.g. the CGIAR research centres) can potentially make a significant contribution and provide highly valuable input for developing reliable impact frameworks and monitoring systems.
- Impact investing is a highly differentiated sector. There is a need to identify investors/asset managers that are specifically interested in and capable of investing in the type of activity being pursued (e.g. specific agricultural practices). Facilitating communication between the farmers/entrepreneurs and the investors is often challenging and costly.

1. Introduction

An estimated USD 5 trillion to 7 trillion a year are needed to realise the 2030 Agenda for Sustainable Development and achieve the Sustainable Development Goals (SDGs) (UN Global Compact, 2019). In developing countries, the investment gap required to reach these goals is estimated to be around USD 2.5 trillion a year. These would appear to be large amounts compared with current spending by governments and charitable foundations in the agricultural sector but, in fact, they only account for a very small fraction of the combined global bankable assets of retail, high-net-worth individuals and institutional investors.

There is a trend, however, of investors increasingly considering environmental, social and governance (ESG) criteria in their investment strategies. One quarter of all professionally managed assets in the United States are invested now taking into account sustainability principles (US SIF 2018). The value of global assets applying ESG data to drive investment decisions hit USD 40.5 trillion in 2020 (Baker 2020). Such developments indicate that the SDGs are no longer just providing the framework for actors in the development sector but are increasingly being used by the finance sector as a strategic planning tool. The development sector now thinks more about economics than ever before, while the finance/private sector is increasingly concerned with developmental issues. This marks an important step towards unlocking much needed private capital to achieve socio-economic, environmental and governance targets, as defined by the SDGs. Investment needs in the agricultural and food sector are particularly high. According to the Food and Land Use Coalition (FOLU 2019), investments worth between USD 300 billion and 350 billion a year are needed to make our food and land use system more sustainable and capable of coping with risks and challenges induced by climate change, population growth and changed dietary patterns. Such a food system transformation, on the other hand, could create business opportunities worth up to USD 4.5 trillion a year by 2030.

Against this background, the objective of this report was to analyse the potential of impact investments into agricultural production and sustainable food systems. A general introduction to impact investment is provided (sections 2 and 3), and the current state of knowledge and implementation within GIZ on this topic is briefly reviewed (section 4). Section 5 outlines the monitoring systems currently available for impact investments, while section 6 deals specifically with impact investment in the agricultural sector and describes approaches for addressing important challenges by linking innovations from agricultural research with impact investments. The intention of the report is not to give a concise and exhaustive account of the working mechanisms and actors behind impact financing, as this has been described in length elsewhere (see, for example, GIZ 2017; IFC 2020; GIIN 2021), but to highlight options for using impact investments and solutions provided by agricultural research to achieve positive impacts at scale.

This document is the outcome of research conducted in 2019/2020. The methods employed to gather information included desk research, about 20 informal interviews with GIZ, KfW and various actors in the impact investment community and participation in expert meetings on impact investment.

2. Definitions relating to impact investing and ESG investing

According to the Global Impact Investing Network (GIIN), impact investments are investments made with the intention of generating positive social and environmental impact alongside a financial return. They can be made in both emerging and developed markets and may target a range of returns from below-market to market rate, depending on investors' strategic goals (GIIN 2021, Figure 1). They can come, for example, from individual investors or impact funds and may be debt-based or equity-based. The Global Sustainable Investment Alliance (GSIA) defines impact investments as targeted investments aimed at solving social or environmental problems (GSIA 2019), not explicitly including the intention of achieving financial profits. Indeed, some investors might accept no or even negative returns, provided that positive social/environmental impacts are high. Implicit in the definition of impact investing is the need to measure and monitor the impacts induced by the investments.

Impact investments are one category in a broader set of investment strategies that consider ESG factors in portfolio selection and management. These strategies are usually referred to as ESG investing (i.e. the consideration of ESG factors alongside financial factors in the investment decision-making process; MSCI 2021) or sustainable finance, which is an even broader concept emphasising that investments should also result in increased longer-term investments into sustainable economic activities (EC 2021). According to GSIA (2019), strategies besides impact investing that are part of ESG investing may include:

- **NEGATIVE/EXCLUSIONARY PORTFOLIO SCREENING:** the exclusion from a fund or portfolio of certain sectors, companies or practices based on specific ESG criteria;
- **POSITIVE (BEST-IN-CLASS) SCREENING:** investment in sectors, companies or projects selected for positive ESG performance (relative to industry peers);
- **NORMS-BASED SCREENING:** screening of investments against minimum standards of business practice based on international norms, such as those issued by the Organisation for Economic Co-operation and Development (OECD), the International Labour Organization (ILO), the United Nations (UN) and the United Nations Children's Fund (UNICEF);
- **ESG INTEGRATION:** the systematic and explicit inclusion of ESG factors into financial analysis; the investment decisions may be based on ESG scores or rating systems (MSCI 2019);
- **SUSTAINABILITY-THEMED INVESTING:** investment in themes or assets specifically related to sustainability, including clean energy, green technology and sustainable agriculture;
- **CORPORATE ENGAGEMENT AND SHAREHOLDER ACTION:** the use of shareholder power to influence corporate behaviour, including through direct corporate engagement (i.e. communicating with senior management) and filing or co-filing shareholder proposals);
- **COMMUNITY INVESTING:** capital is specifically directed to traditionally underserved individuals or communities, and financing is provided to businesses with a clear social or environmental purpose.

ESG investment strategies show a range of differences, for example, in terms of expected returns and stakeholder engagement (Figure 1).

Type of investments	Conventional investing	Portfolio screening	ESG integration	Sustainability themed investing	Impact investing	Corp. engagement and shareholder action	Community investing	Venture philanthropy	Philanthropic donation	
Type of investors	Conventional investors	ESG/responsible or sustainable investment					Philanthropy, public donors			
Motivation for the investment	Focus on market returns					Focus on non-financial returns				
Impact logic	ESG not explicitly considered	Avoidance of harm			Active engagement in activities; monitoring of impacts			Financial support		
Examples	Conventional equity/bond instruments	Screening out of producers of tobacco, fossil fuels, weapons	Based on optimized ESG benchmarks	Focus on environment, health, agriculture etc.	Green or impact bonds (measurement and reporting towards outcomes)	Filing or co-filing shareholder proposals	Co-design with local communities	Seed capital donations	Charitable donations	

Figure 1: **Schematic overview of different ESG investment strategies and transfers to development work.** The first row shows the range of different private sector investment strategies/monetary transfers from conventional investing (left) to philanthropic donations (right). Row 2 pinpoints the strategies that can be considered ESG investing. Row 3 shows how expectable market returns give way to non-financial returns along the different approaches. Row 4 shows different strategies for achieving development outcomes. Row 5 gives some examples and remarks in relation to the different strategies. More specific descriptions of ESG investment strategies are provided in the text.

3. Current developments in impact investment

The volume of ESG investment has increased steadily over recent years (Figure 2), but such investments have been made mostly in North America and Europe. Even though impact investments account for just a small fraction of the overall ESG investment, they have grown faster than other types of ESG investment (Figure 2).

Impact investment also takes place in other continents although on a smaller scale in terms of total volume. In East Africa, such investment surpassed USD 9.3 billion, Nairobi being the hotspot and hub of East African impact investing (Bouri et al., 2015a). In West Africa, total capital deployment of USD 6.5 billion was estimated by Bouri et al. (2015b), mostly in Nigeria, Ghana and Côte d'Ivoire.

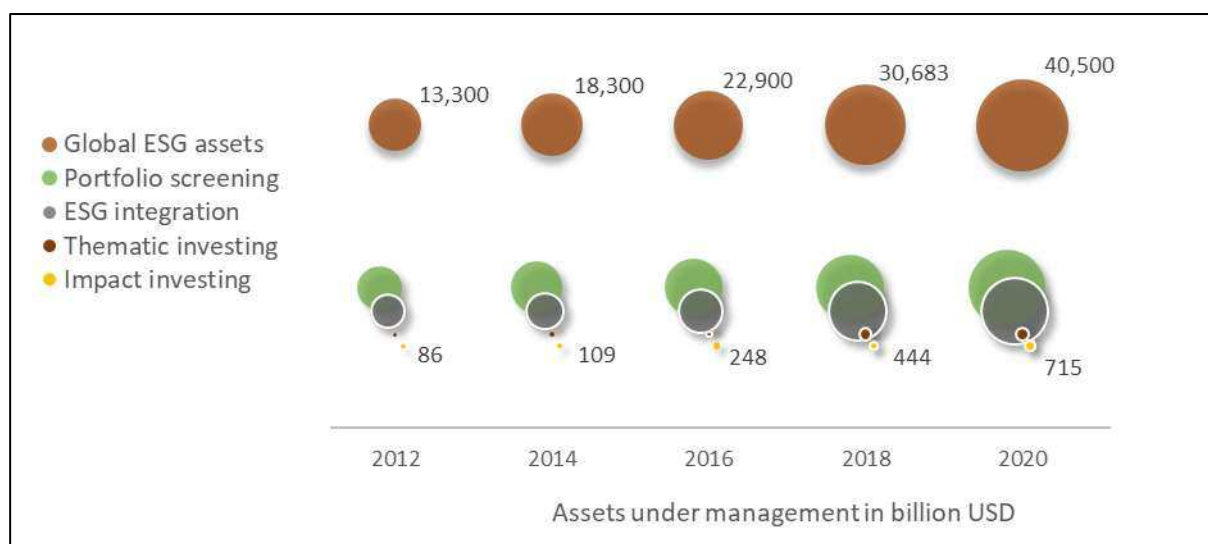


Figure 2: ESG investing assets are growing and reflect diversity by region and strategy. Based on data from GSIA (2015, 2017, 2019), Baker (2020) and GIIN (2021). See page 3 for an explanation of the different strategies. Note that figures might include double counting.

The growing interest in ESG can be explained by a range of factors that are related to a changing mindset among investors and improved availability of data and analytics, which facilitate a better understanding of the investments' impacts. Global sustainability challenges, such as flood risk and sea level rise, privacy and data security, demographic shifts and regulatory pressures, are introducing new risk factors for investors. As companies face rising complexity on a global scale, modern investors may re-evaluate traditional investment approaches.

At the macro level, there is increasing evidence that investments in sustainable food system transformation create business opportunities exceeding investments by a factor of 10 (FOLU 2019). There is, however, some debate about how this high potential translates into monetary returns for individual impact investors. A recent survey of around 500 institutional investors found that they regarded 'improved image and reputation' as a primary benefit of including ESG in their investment strategy (Institutional Investor 2019).

Creating a positive impact with investments becomes increasingly important for investors for less pragmatic reasons too. Younger investors, in particular, see investing as an expression of their social, political and environmental values. Furthermore, they are inclined to invest in companies that have a positive social or environmental impact rather than just avoid investing in companies with unsustainable and/or ethically questionable business practices (US Trust 2014). The millennial generation of investors could put between USD 15 trillion and 20 trillion into US-domiciled ESG investments alone over the next two to three decades (BoA 2016).

Zooming in on the composition of the impact investing community, Mudaliar and Dithrich (2019) analysed the characteristics and motivations of 1,340 active impact investors. Most of the investors were asset managers (64%, mostly pro-profit), with foundations the second biggest group (21%). In terms of investment volume too, asset managers led the race. Development finance institutions (development banks) also accounted for a large share of assets (Figure 3) but only 4% of the investors analysed. The findings suggest that only relatively few investors manage large impact investing portfolios.

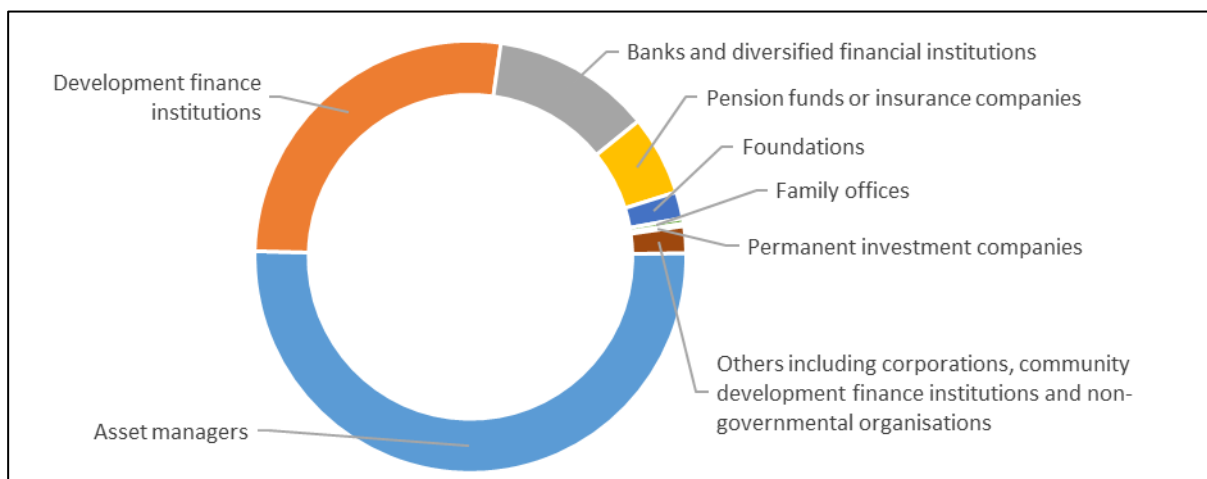


Figure 3: Aggregate assets under management in the impact investing sector according to organisation type for 2018. Based on a GIIN survey (n = 1,340; figures represent direct investments only; Mudaliar and Dithrich 2019).

4. Impact investment in German technical and financial cooperation

All the people interviewed for this report acknowledged the general potential of impact investing as a tool for financing development activities. A search of the GIZ intranet yielded some GIZ projects in which impact investing plays a prominent role (Table 1). Other projects involving impact investing to a minor extent are the Global Donor Platform and the Make-IT initiative (GIZ 2017). In the projects identified, impact investments are often one of several approaches used, and the focus tends not to be on the agricultural sector. Specific information available in the GIZ intranet/Integrated Digital Applications (IDA) on impact investment, especially in the agricultural/rural development sector, while growing in volume, is still limited.

One of GIZ's main strategies for creating demand for sustainable investments is to connect key actors in partner countries, for example, by facilitating dialogue among finance institu-

tions, commercial banks, the public sector, investors and fund managers. Interviewees considered that impact investment is not the most appropriate tool for targeting directly reaching very small and vulnerable farmers and rural entrepreneurs and is better suited to bigger and more agile and innovative entrepreneurs (which then may target smaller producers).

Table 1: Examples of GIZ projects with a focus on impact investing

Project	Timeframe, location	Consideration of impact investing	Unit
Water and Energy for Food (WE4F)	Global	Impact investing is considered one option for improving access to suitable financing for climate-friendly and energy- and water-efficient innovations.	G520
Inclusive Business Action Network (iBAN)	Nigeria, two other sub-Saharan countries, Cambodia, Philippines	Impact investing is considered one option for removing obstacles to scaling and replication of scalable business models.	G120
Responsible Enterprise Finance Programme in India	India	Impact investing is considered one possibility for supporting very small, small and medium enterprises.	2100
Financing for Sustainable Development	Global	Analyses the potential contribution of impact investing in strategic development financing.	G410
Land and Environmental Management in Amazonia (CAR)	Brazil	Impact investing is considered one option for financing rural extension services.	2400
Innovative approaches to financial systems development	Global	Creates structures to enable local impact investing activities.	G120
Mainstreaming of biodiversity within the Mexican Agricultural Sector	Mexico	Support in adapting criteria for public and private finance instruments for agricultural production taking into account biodiversity and climate aspects (including impact investing).	2500
Impact investment for the sustainable use of biodiversity in Peru	Peru	Aims at improving the conditions for impact investing in biodiversity-friendly business models.	2400
Private Business Action for Biodiversity	global	Impact investing is considered one option for financing rural biodiversity conservation.	G330
Competence Centre Financial Systems Development, Insurance	global	GIZ Sectoral Department	

German financial cooperation organisations are involved in creating mechanisms to improve the investment sector in partner countries. Structured funds play a crucial role here, in which an initial base of public investors (e.g., development finance institutions such as KfW) and donors provide a risk cushion to unleash the financial clout of private institutional investors. This means that capital preservation investments, mostly by public investors, are used as a buffer against risks and to leverage investments from private or institutional investors. The assets in the funds may then be channelled by the fund manager or local financial institutions in the form of loans to local enterprises. ESG impacts are anticipated, for example, by providing business expansion loans to companies with sustainable business models or by helping them to invest in more climate-resilient production approaches. Other examples include investments in companies whose services contribute to improving the efficiency of food distribution systems, which can help to reduce post-harvest food losses. Setting up such structured funds and investing in them is an important contribution to establishing viable impact investment ecosystems in partner countries.

As early as 2014, DEG (German investment and development cooperation) invested USD 12.5 million in a Brazilian impact fund (DEG 2014). The fund provided financing for small and medium-sized enterprises that target low-income households. The companies receiving financing were selected based on their ability to deliver innovative products and services to low-income households and their commitment to environmental protection and climate change mitigation.

Another example of a successful impact investment vehicle with a focus on agriculture is the eco.business fund that has been set up with advice and funding from KfW (eco.business fund 2021). It channels funding into companies and advisory services, but predominantly into local banks, which in turn provide loans to agricultural producers. The local retail structures of the banks know the risks of the local markets and the customers, which are usually medium-sized entrepreneurs applying sustainable (e.g. deforestation-free) approaches for producing food and other agricultural products. Several other similar funds have been established with the support of KfW/BMZ and other actors (e.g. CIAT 2019).

Even though German technical and financial cooperation actors GIZ and KfW are active in the field of impact investing, cooperation has so far not been intensive

5. Monitoring outcomes and impacts

Although socio-economic and environmental co-benefits are supposedly the centrepiece and hallmark of any impact investment activity, developing and applying transparent monitoring systems to provide reliable evidence of social and environmental impacts remains a challenging and often underexplored aspect. Key problems include the inability to dynamically benchmark the impact of investments (i.e. compare across value chains or over time); a lack of robust data (i.e. weak integration of scientific resources, no indication of error margins, no baselines); and a potentially problematic definition of impact (Negra et al. 2019).

This makes it difficult to test whether a change in a development indicator can reliably be attributed to an investment or company (Abt 2018). This issue of *additionality* (i.e. whether positive effects would have occurred anyway without the investment) is especially prominent

in activities related to afforestation or avoided deforestation but also applies to other land use-related activities.

Prominent indicators for rating the impact of investment funds are integrated in the Impact Reporting and Investment Standards (IRIS+) framework (GIIN 2019). The use of IRIS+ ensures some level of consistency in the impact claims and performance review of an impact fund. IRIS+ provides a framework that impact funds can use to define their core characteristics and objectives. It contains a catalogue of sector-specific metrics (GIIN 2020), which includes over 30 metrics for agriculture alone, for example average agricultural yield per hectare during the reporting period, number of unique smallholder farmer individuals who were clients during the reporting period and amount of pesticides used during the reporting period. Other IRIS+ metrics are related to biodiversity and ecosystems, education, health and energy.

The UN-backed Principles for Responsible Investment (UNPRI 2019) are a voluntary and aspirational set of six ESG investment principles. It has been signed by around 2,700 investment managers, asset owners and service providers from all over the world.

The Social Return on Investment (SROI) methodology facilitates the measurement of values that are not traditionally reflected in financial statements (e.g. environmental and social values). It is based on seven principles and can be used to monetise social and environmental benefits and also to better understand the socioeconomic conditions in which the activities take place. It should be noted that the approach has been criticised for being over-simplistic.

In the interviews carried out for this research, no examples were identified involving the application of these principles. The more sophisticated the monitoring system is, the higher the cost for the beneficiaries and investors. Much of the data used for impact monitoring are drawn from the lending companies/households. This requires more effort and due diligence from the recipients. As a result, many potential investees would rather accept higher rates from conventional loan providers and not be forced to give insights into their business activities and household data.

Notwithstanding these problems, impact monitoring seems to be carried out by many institutional investors. Mudaliar et al. (2018) analysed responses from 229 impact investors that manage over USD 228 billion. Most of the respondents (76%) have set impact targets for at least a part of their investments. Their motivation was to drive social/environmental impact management and/or to hold both investees and their own teams accountable in terms of impact. Respondents also expressed the need to reduce the risks of 'impact washing', which is increasingly becoming a problem as the industry goes mainstream. Monitoring activities can also generate additional business value for both investors and investees although this is difficult to quantify (Bass et al. 2020).

In setting up monitoring systems for impact investment practice, NGOs, development actors and research institutes have an important role due to their experience in developing theories of change, monitoring systems and communicating the impacts to third parties.

6. Impact investment in agriculture: challenges, experiences and opportunities

Although the volume of impact investments has increased sharply over recent years, in the agricultural sector in developing countries it remains relatively small compared to sectors such as microcredits or energy.

The reasons for this are related to the specific risks attached to agricultural production and high transaction costs resulting from having to deal with large numbers of small producers that may be scattered over large areas. Usually operating in rural areas, the visibility and accessibility of agricultural entrepreneurs for investors is also often reduced. More general problems include that investors often find it too risky to offer loans to companies that lack experience, credit history and/or collateral and are therefore “not bankable”. Other risks stem from unstable currencies, which cause additional costs as credit insurance against currency-related risks costs up to 20% of the amount insured. There are tools and approaches for reducing these investment risks (see, for example, the Swedish International Development Cooperation Agency’s guarantee instrument; Sida 2020), but in many cases costs related to risk compensation render investments unprofitable. A risk mitigation strategy that can be used in the design of investment instruments is to diversify the geographical focus of the investments and invest in enterprises in all the links in the value chain (i.e. focus not just on primary production, but also on processing, retail, etc.).

Another problem is that there is often no trust between farmers, investors/bankers, suppliers and other parties. Impact investors and agricultural entrepreneurs traditionally operate in different contexts and use different terminologies, and the time needed to create mutual understanding must not be underestimated. Values and preferred approaches are often not aligned between investors and investees. For example, some investors might not agree to the application of mineral fertilisers in projects they invest in, even if the use of mineral fertiliser is considered the most efficient way of significantly increasing the production by both advising NGOs and the farmer. Power imbalances between investors and farmers can, to some degree, be compensated by NGOs that provide legal support, for example.

This does not mean that achieving profits from investments in the agricultural smallholder sector is not possible. Many NGOs act as brokers between investees and investors, including Solidaridad Network, One Acre Fund and Impact Base, as do some GIZ programmes (see section 4). These organisations normally have local finance professionals in the areas of intervention. Other potentially very important actors are international agricultural research institutes (most prominently represented by CGIAR), which operate in many partner countries, maintain large partner networks and are able to provide crucial services, data and innovations.

Agricultural innovations are the motor behind many agricultural business models and – if applied in suitable contexts and introduced in an appropriate way (see footnote 1) – can increase the productivity, climate resilience and sustainability of agricultural entrepreneurs and other actors in food systems. As they can contribute to value addition in food value chains, they play a crucial role in successful investment projects. Improving supply chains, logistics, processing and marketing makes a 200% or more increase in the productivity of agricultural activities realistic. Examples include the livestock sector in East Africa, where soaring demand for animal

products creates many investment opportunities in climate-smart dairy production. At the same time, there are possibilities to increase productivity, for example, by using improved fodder grasses to feed the animals.

CGIAR has been constantly developing such innovations. Ironically, uptake by end users has been limited for several reasons.¹ Investments in companies with sustainable business models that want to increase their productivity or need to react to changing production conditions will create demand for tailored innovations and services from agricultural research that are designed for action and impact. There are examples of impact investment strategies that included transformation of conventional agricultural production systems to organic production on large areas of land within a short period of time. In this case, scientists were consulted about how nature-based solutions could increase soil fertility. Other examples where agricultural research and innovation play a central role in impact investments include landscape restoration and reforestation activities, the establishment of agroforestry systems, sustainable mechanisation, solar-powered irrigation and the introduction of climate-smart practices to increase resilience and adaptation. Linking investees and investors with agricultural innovation processes and solutions is one important function of technical assistance facilities, which are now common elements of investment instruments.

Other core functions of research-based technical assistance facilities include the mobilisation of data for investors to estimate risks and opportunities for their investments. This includes data on the main vulnerabilities and threats induced by climate change (for examples, see CCAFS 2018, ICFA 2020 and SNV 2020), in addition to data and analyses relating to markets and trends in global and regional food systems that can facilitate strategic investments. Technical assistance facilities may also be involved in building a pipeline of investable projects, the lack of which is often considered a major bottleneck in impact investment activities (Koerner et al. 2020). This includes the identification of convincing, investable business cases that are well documented by accounts, financial records, etc.

Currently, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS) is developing new innovative finance mechanisms with the support of the BMZ/GIZ FIA Programme and in close cooperation with asset managers. Here, CCAFS can build on experiences from other blended finance funds (e.g. CIAT 2019). The new finance instruments will feature powerful technical assistance facilities and will have a diversified food system approach in order to respond to the challenges mentioned above.

¹ One of the main reasons for this is that innovations did not always respond to the farmer's specific needs or aspirations. Furthermore, their development was not adequately informed by the socio-economic and environmental context in which they were introduced. Often, solutions were presented without giving enough consideration to the farmer's actual problems. For example, digital innovations based on smartphone apps often neglect gender-specific access to technology in rural contexts.

7. Conclusions

Many positive environmental and social impacts can be achieved through targeted investments in the agricultural and food sector. There are few sectors where ecosystem services, basic human needs and the potential to lift people out of absolute poverty are so closely intertwined. Unfortunately, impact investment (and sustainable finance in general) is not yet living up to its full potential in contributing to achieving the SDGs.

There are huge opportunities to harness science and innovation to reorient and leverage private finance flows towards innovative investments in sustainable food systems. However, much greater efforts are needed to design instruments that respond to the specific challenges associated with investments in the agricultural and food sector.

Development organisations, NGOs and research organisations can play an important role here, for example, by helping investors and asset managers to identify investable business ideas and understand the rural context in which they are planning to invest, adequately supporting investees with services and innovations and designing effective and efficient monitoring systems.

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