



**REPORT**

# GREEN INCLUSIVE FINANCE IN SUB-SAHARAN AFRICA

Enabling environments, challenges, and opportunities

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JULY 2024



**OXFAM**  
Novib

# ABOUT THIS REPORT

Impact investments are critical in creating inclusive, sustainable, fair economies tackling poverty and inequality. Through strategic investments in impactful entrepreneurs and providing climate finance to Financial Service Providers (FSPs), Oxfam Novib Impact Investments is dedicated to fostering sustainable businesses in Africa, Asia, and Latin America.

The Oxfam Novib Fund (ONF) was established in 1998 to support FSPs worldwide. Since 2007, Triple Jump has managed the ONF. ONF's mission is to help vulnerable people's climate recovery and resilience by providing (risk) finance and other support to FSPs to mitigate climate change-related risks. ONF believes FSPs are crucial in serving vulnerable people with adapted products and services while making a long-term social and financial return.

The Oxfam Novib Fund has contracted this study to provide an overview of the development of the green inclusive finance sector in Sub-Saharan Africa, highlighting the opportunities ahead for impact investors enabling the environment and supporting directly diverse FSPs along the region.

## CITE AS:

Green Inclusive Finance in Sub-Saharan Africa - Enabling environments, challenges, and opportunities. Technical Report, Oxfam Novib & Triple Jump, prepared by N. Realpe & HEDERA Sustainable Solutions (2024)

HEDERA Sustainable Solutions GmbH (HEDERA) develops digital solutions to support microfinance institutions and impact investors in their impact data management processes, including data collection, analysis, reporting, and monitoring.

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## ACKNOWLEDGMENTS

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### Communication support:

Pauleen Genova - Oxfam Novib  
Sanne Baan - [maan](https://www.maan.nl)

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# EXECUTIVE SUMMARY

**Green inclusive finance is intended as the provision of financial and non-financial products to underbanked populations by financial service providers (FSPs) with the primary purpose of mitigating adverse environmental impact, promoting adaptive strategies, and fostering sustainability. As such it can act as a vital tool for enhancing the climate resilience of households, MSMEs, and communities.**

This article presents the results of a comprehensive study conducted by HEDERA on behalf of the Oxfam Novib Fund, managed by Triple Jump, with the primary purpose of obtaining an overview of the development of green inclusive finance practices in Sub-Saharan Africa (SSA). The study comprised two key components. First, it assessed the status of FSPs' integration of environmental strategies, the practices used to identify and manage environmental risks at the level of institutions and their clients, and the existing offerings of green financial and non-financial products. Subsequently, it explored the enabling environment and the challenges at the sector level, considering relevant regional and national initiatives, tools, and programs that can support the sector's consolidation.

Sub-Saharan Africa is a highly vulnerable region where climate-induced risks are strongly interconnected and amplified by socio-economic issues, such as extreme poverty, lack of access to basic services, reliance on biomass for cooking, insufficient access to clean water and sanitation, and gender disparities. FSPs and their clients in SSA are already affected by climate change, and green inclusive finance practices are necessary to mitigate these risks. FSPs have the potential to develop and offer green financial and non-financial products that address the unique needs of their clients while contributing to economic and environmental sustainability. The success of these financial services depends on their capacity to address a diverse spectrum of climate change risks while remaining both financially viable and environmentally sustainable.

In the last decade, regulations and policies for green finance in the region have emerged at the country level (i.e., Kenya, Nigeria). These are, however, primarily targeted at the commercial banking sector and not adapted to the needs of microfinance institutions.

Nonetheless, over the last few decades, there has been a clear increase in the commitment of various stakeholders to advance green inclusive finance in the region. Several investors and international development organizations have initiated programs, launched training activities, and provided technical assistance to support financial

service providers in the initial stages of designing and implementing environmental strategies.

To date, the sector still needs to mature. There are a few cases where institutions, with the support of stakeholders, have developed green products, implemented awareness-raising and training for staff and clients, and identified technologies to enhance their clients' climate adaptation. However, the focus has primarily been on climate mitigation, while there is also a need to address climate adaptation, resilience, and transition.

A precondition for scaling up the green products offered in SSA is developing climate risk mapping at the local level and having an integrated climate strategy. Sector frameworks and taxonomies can help identify gaps, define action plans, and monitor the institution's development levels and potential innovations. In terms of scale, networks of microfinance institutions across the region could play a key role in reaching the desired level of climate strategies and climate risk management, exploiting efficiencies, and sharing lessons learned and best practices among them.

Opportunities for the microfinance sector, especially for investors, focus on three axes: strategy definition, risk management, and offerings. First, FSPs must define a holistic environmental strategy and establish climate risk assessment mechanisms to embed within the institution, aiming to scale up their offer to enhance climate resilience. On the investors' side, capacity building should be provided to FSPs to strengthen strategic planning and expertise on green inclusive finance, and further align with other investors who invest in the same FSPs.

Second, FSPs need more client and market assessments for product design and to monitor the impact of green products. Institutions have already begun their digitization journey, and digital tools have a potential role in optimizing these processes. Investors can support FSPs with skills development, data collection, and stakeholder coordination to create synergies.

Finally, in product development, intersectoral collaborations, especially with technical enterprises, have already occurred in the renewable energy space (and beyond, with insurance providers, housing providers, etc.). To foster sustainable agriculture, water and sanitation solutions financing, and efficient equipment, establishing these partnerships is crucial for successful programs. For investors, the provision of fine-tuned funding and an openness to collaborate with non-traditional parties in the inclusive finance sector will be key to the growth of green microfinance.

# INTRODUCTION

**Sub-Saharan Africa (SSA) is one of the most climate-sensitive regions globally. It faces environmental challenges such as water scarcity, rising temperatures, and changes in rainfall patterns, among other risks. These stressors, together with extreme poverty, social inequalities, and lack of access to basic services, exacerbated vulnerabilities, especially in rural regions.**

Climate change and hazards affect the agricultural and fishery sectors, which are the backbones of local economies in most countries. SSA has the highest rate of severely food insecure population globally (more than 25% in the whole region (see Food and Agriculture Organization of the United Nations, processed by Our World in Data, n.d.) and steadily increasing in the last decade) with more than 20% of the population considered undernourished (see Food and Agriculture Organization of the United Nations via World Bank, processed by Our World in Data, n.d.). In the entire region, less than 40% of the population has access to clean fuel for cooking, while in selected rural areas, the number of households relying on biomass for cooking reaches 80% (ESMAP, 2018). The lack of access to improved drinking water and sanitation services, which affects 75% of the population in rural regions (WHO/UNICEF JMP, n.d.), further contributes to health vulnerabilities strongly related to climate change and climate risks.

FSPs in SSA are already affected by the impacts of climate change, particularly in their operations and client base. Challenging and extreme climate conditions, such as heatwaves, water stresses, and flooding, can affect infrastructure, institutional processes, and working conditions. Moreover, many FSP clients' income-generating activities are in the agriculture sector (crop production, commercialization, livestock), which is highly vulnerable to extreme weather events. This vulnerability impacts the default rate and increases the overall risk of the portfolio. Transition risks, such as rising energy costs, can further increase the vulnerability of the institutions and their clients.

Green inclusive finance supports economic opportunities and responds to the needs of households and micro, small, and medium-sized enterprises (partially) excluded by the standard banking sector, with the primary purpose of increasing resilience to climate change, mitigating adverse environmental impact, and fostering sustainability.

The spectrum of possible actions of green inclusive finance includes:

(i.) the definition and implementation of an environmental strategy, (ii.) the identification and management of environmental risks and opportunities, and (iii.) the offer of green financial and non-financial products.

The Oxfam Novib Fund, managed by Triple Jump, promoted a market assessment study focused on the challenges and opportunities of the green inclusive finance sector in the Sub-Saharan region. The study was implemented by HEDERA Sustainable Solutions (HEDERA) and consisted of three major components:

- Desk research, encompassing 17 countries in SSA<sup>1</sup>, aimed at providing an overview of the climate risks, stressors, and impacts in the considered countries, as well as of initiatives and multi-stakeholder programs assisting financial service providers in raising awareness or implementing specific activities in the field of green inclusive finance.
- Semi-structured interviews were conducted with 12 stakeholders, targeting sector associations, impact investors, microfinance networks, think tanks, and standards developers. The interviews entailed an analysis of the current experiences, challenges, and lessons learned concerning the green product offering by FSPs.
- A survey on the level of development of green inclusive finance was implemented with 15 FSPs from the Oxfam Novib Fund portfolio in nine different countries in SSA.

The study builds on different methodological and theoretical frameworks. The standard concepts, definitions, and dimensions of green inclusive finance considered in this study are based on the Green Index 3.0. This tool measures environmental performance at the institutional level of FSPs and was developed by the Green Inclusive and Climate-Smart Finance Action Group of the European Microfinance Platform (e-MFP, 2022). It is aligned with the Environmental Dimension (Dimension 7) of the Universal Standards for Social and Environmental Performance (USSEPM) from CERISE+SPTF. To present the drivers of green inclusive finance on an institutional level, HEDERA used the concepts of the Green Index 3.0 and DIM 7 to develop the Green Microfinance Penetration Framework according to three dimensions: enabling environment, execution (environmental strategy and environmental risk management), and the offering of green inclusive finance (green financial and non-financial products), (Realpe Carrillo & Reviakin, 2022) (see box 1), used for the survey to the FSPs.

<sup>1</sup>The list includes Angola, Burkina Faso, Cameroon, DRC Congo, Ethiopia, Ghana, Kenya, Madagascar, Mali, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, Tanzania, Uganda, and Zambia. The countries were chosen as these are the Oxfam Novib Fund (potential) focus countries in SSA.

## BOX 1. THE GREEN MICROFINANCE PENETRATION FRAMEWORK

The Green Microfinance Penetration Framework evaluates the drivers of green inclusive finance from the perspective of FSPs along three dimensions:

- **ENABLING ENVIRONMENT**, including governmental support, guidance at the local level, current regulations, stakeholders, and programs to evaluate the context surrounding the development of green inclusive finance and related challenges reported
- **EXECUTION**, considering the extent to which FSPs have progressed in implementing their environmental strategy and risk identification and management procedures;
- **OFFER**, evaluating the provision of financial and non-financial products (for households, MSMEs, and sustainable agriculture), the outreach of these products, and the related challenges.

This article describes the main findings of the study, discussing: (i) The regional context of climate risks and vulnerabilities, (ii) The enabling environment and the challenges for the sector level (regulations, relevant initiatives at regional and national levels, as well as tools and programs that can support the sector's consolidation), (iii) An overview of the development of green inclusive finance practices in SSA, including the status of integration of environmental strategies by FSPs, the practices used to identify and manage environmental risks at the institution their clients, and existing offerings of green financial and non-financial products, and (iv) A selection of case studies to discuss offering of green products by FSPs. Although the article's primary aim is to provide an overview of the region, its scope is constrained by the limited number of stakeholders and FSPs interviewed, which do not represent the entire continent. Finally, the article provides recommendations for FSPs and investors to support the development and scaling up of the regional green inclusive finance sector.

### CLIMATE RISKS AND VULNERABILITIES IN SUB-SAHARAN AFRICA

Sub-Saharan Africa faces heightened vulnerability to climate risks due to extreme weather conditions and high exposure to multiple stressors. The region's heavy reliance on rain-fed agriculture exacerbates its vulnerability, with the agricultural sector suffering from dry spells, erratic rainfall, water shortages, and heat stress. Additionally, recurrent climate extremes such as windstorms, floods, and droughts disrupt precipitation patterns, impacting crop yields and food prices. This increases the risks to food security and malnutrition in an already fragile ecosystem where the severe food insecurity rate is, in several countries, above 20% (see Food and Agriculture Organization of the United Nations, processed by Our World in Data). Several recent studies highlight various potential effects on the infrastructure (e.g., energy storage and energy supply), which can directly impact the productivity of small and medium businesses, as well as affect crop quality and the availability of water sources (see FAO, 2019; Hadebe et al. 2016; Chikoore & Jury, 2021; Thoithi et al., 2021; Wainwright et al.; 2021; Trisos et al., 2022). In most of the countries considered in the study, less than 50% of rural households in the region have access to basic

drinking water services and basic sanitation facilities, drastically expanding the range of vector-borne diseases, and increasing health vulnerabilities due to climate hazards (USAID, 2020). Adaptation responses become, therefore, critical for the region's sustainable development (USAID, 2018).

In the western part of SSA, climate vulnerability is marked by various factors, including increased temperatures, and shifting rainfall patterns. The long coastline, pivotal for its densely populated cities and economic hubs, faces rising sea levels and severe coastal erosion threats. The Sahel region, in particular, is expected to witness critical temperature increases up to 4 degrees and a sea level rise of up to 40 cm by 2028 (Tomalka et al., 2021), in the worst-case scenarios. Considering the critical levels of access to drinking water (less than 40%) and improved sanitation services (less than 20%), Burkina Faso and Niger are the most vulnerable countries.

The eastern region is increasingly facing climate risks that challenge its socioeconomic structure. Critical concerns include variable rainfall patterns, temperature increases, extreme weather events, environmental degradation, and health risks. Shifts in rainfall patterns lead to periods of drought and intense rainfall periods, impacting agriculture and flooding. Rising temperatures affect crop production, livestock, water resources, and human health, while extreme weather events, such as heavy rainfall during the short rainy seasons, have significant environmental and societal impacts. This will likely impact food and water supply, increasing the risk of malnutrition, hunger, and death by famine. In addition, other sectors, such as energy and environmental resources (e.g., land and forest degradation), are increasingly affected by the changes and variability in climate (Gebrechorkos et al., 2020). Rural communities in Ethiopia and DRC are among the most vulnerable, with access to basic water and sanitation services below 30% and peaks of severe food insecurity up to 40%. According to the latest projections, these countries will be exposed to a temperature increase of more than 3°C by 2080, as well as increasingly irregular rain patterns, which can further affect infrastructures and water availability (PIK, 2022).

**“MY ENTIRE HOUSE IS NOW COMPLETELY FLOODED. MY FAMILY DOES NOT HAVE A PLACE TO SLEEP, AND WE HAVE HAD TO RELOCATE TO A FIELD NEARBY WHERE WE HAVE SET UP TENTS AS WE WAIT FOR THE RAINS TO STOP”**

The El Niño-induced floods in Garissa and Tana River Counties in northern Kenya continue to displace families and cause destruction to people’s properties and communications infrastructures such as roads.



## ENABLING ENVIRONMENT: A VIEW ON THE GREEN INCLUSIVE FINANCE LANDSCAPE

The interest in green inclusive finance has grown considerably in the last two decades, with the consolidation of several initiatives at national, regional, and international levels and a broad stakeholder landscape, including networks, founders, NGOs, international development cooperation, and governmental agencies. In the recently published [Green Map](#), a tool showcasing a series of experiences in green inclusive finance worldwide, 9 out of 28 featured institutions are active in Sub-Saharan Africa. This pronounced representation of African institutions has also been echoed in dedicated microfinance events, where climate resilience is the central topic of the discussions. For example, at the last edition of the [African Microfinance Week \(SAM\)](#), more than 1100 participants gathered in Lomé, with a program strongly centered around climate issues and the role of sustainable finance in enhancing resilience to climate risks.

### REGULATIONS AND POLICIES

The growing relevance of green inclusive finance still needs to be fully reflected in structured guidance from regulators. Different countries have developed specific regulations for advancing green finance, sustainable banking, and providing advice on climate-related risk management<sup>2</sup>. In some cases, countries have made progress through partnerships with international development cooperation bodies and other stakeholders<sup>3</sup>, or by collaborating with international agencies as first steps in this direction<sup>4</sup>. However, these regulations and initiatives are often driven by national banks and do not consider the needs of the microfinance sector. The interviewed stakeholders recognize the need for regulations and policies that guide and support green finance to become more inclusive and tailored to FSPs. This is reflected by the desire of some FSPs to be more aware of the existing regulations and the current developments for guidance from policymakers for the inclusive finance sector.

Practitioners, such as VisionFund International, addressed a potential vacuum from the regulatory perspective to advance in green inclusive finance, while CGAP raised concern regarding policy development where regulations could potentially exclude vulnerable populations from accessing financial services (Knaack & Zetterli 2023).

### TOOLS AND FRAMEWORKS

In response to the need for more structured guidance from regulators for the microfinance sector, several global stakeholders have advanced in developing frameworks dedicated to the microfinance sector. These frameworks aim to guide them in their journey toward sustainable finance and environmental strategy development. The Universal Standards for Social Performance Management were recently updated and included the environmental dimension within its mandatory standards - the Dimension 7. The latest version of the Green Index, GI3.0, a comprehensive tool for assessing performance, including qualitative and quantitative outcome indicators, raising awareness, and providing institutions with concrete action plans and steps for their environmental performance, was released in 2021. Impact investors have used the ALINUS tool, a reduced Dimension 7 and GI3.0 derivative. Other tools specific to the microfinance sector focused on the wide ESG (Environmental, Social, and Governance) spectrum of indicators, such as the ESG FMO Toolkit and the AFISAR tool of Agents for Impact.

Stakeholders and FSPs point to the need for more open tools for climate risk assessment and the limited scalability of specialized technical assistance, which benefits only some institutions. While the Green Index explicitly contains elements and indicators of risks and vulnerability, there are currently no tools that can support institutions in undertaking their own climate risk assessment. The taxonomy for climate-responsive financial products from CGAP (Notta, 2022) can, however, help FSPs define their products based on the risk management stage they aim to achieve across the traditional products offered — savings, credit, payments, and insurance.

<sup>2</sup>Examples reported by the [Alliance for Financial Inclusion \(AFI\)](#) include Nigeria ([Principles of Sustainable Banking](#)), Kenya ([Guidance on Climate-Related Risk Management](#)) -and has just launched the draft for its [Green Finance Taxonomy for revision-](#), Ghana ([Ghana Sustainable Banking Principles](#)), and Senegal ([Sustainable Financing Framework](#)).

<sup>3</sup>Examples are in Cameroon (supported by the [German Sparkassenstiftung Eastern Africa](#)).

<sup>4</sup>Examples are Madagascar, Sierra Leone, and Tanzania (collaborating with the [Green Climate Fund](#)), and DRC (supported by the [African Development Bank](#)).

## COMMUNITIES AND DEDICATED PROGRAMS

The presence of international impact investors in the microfinance sector has considerably increased their support for FSPs in their green inclusive finance agenda. Concrete actions include financial support and technical assistance for market assessment, digital tools, climate risk assessment, or product development. The Swiss Capacity Building Facility has supported the development of green financial services, especially for climate resilience and transition, and aims to keep supporting the sector in the region. Project examples include financing technical assistance for the development of a weather index insurance to de-risk smallholder agriculture in Zimbabwe and supporting Mali in scaling up an index-based insurance for smallholder farmers.

The interviewed stakeholders highlighted the need for structured coordination of capacity building and technical assistance at the regional level. This is necessary to optimally support the development of an enabling environment, to better exploit synergies, and to foster the sharing of experiences across institutions. Individual and uncoordinated initiatives may overload institutions and duplicate efforts from impact investors and multilateral cooperation. One step forward in this direction is the coordinated effort in the context of the SSNUP (Smallholder Safety Net Upscaling) program, which coordinates technical assistance efforts in agricultural value chains and aims to build a network of impact investors, FSPs, and other stakeholders. FSP networks also have a role in enhancing coordinated actions such as mapping client vulnerabilities and climate risks and developing integrated climate risk strategies.

MAIN (Microfinance African Institutions Network), the largest microfinance network in Africa, has been actively supporting the growth of green inclusive finance in the continent with different capacity-building activities, including the development of materials (e.g., a manual for green product development) and dedicated training on the ecological and social transition of FSPs and the development of green financial products. The positive outcomes of these initial efforts show that MAIN, like other FSP networks, can significantly enhance coordinated actions such as mapping client vulnerabilities and climate risks and developing integrated climate risk strategies.

<sup>5</sup>Projects currently implemented in the context of SSNUP in SSA include, e.g., the support for index insurance products in Senegal, Mali, Burkina Faso, and Ivory Coast, see <https://www.ada-microfinance.org/en/ssnup>



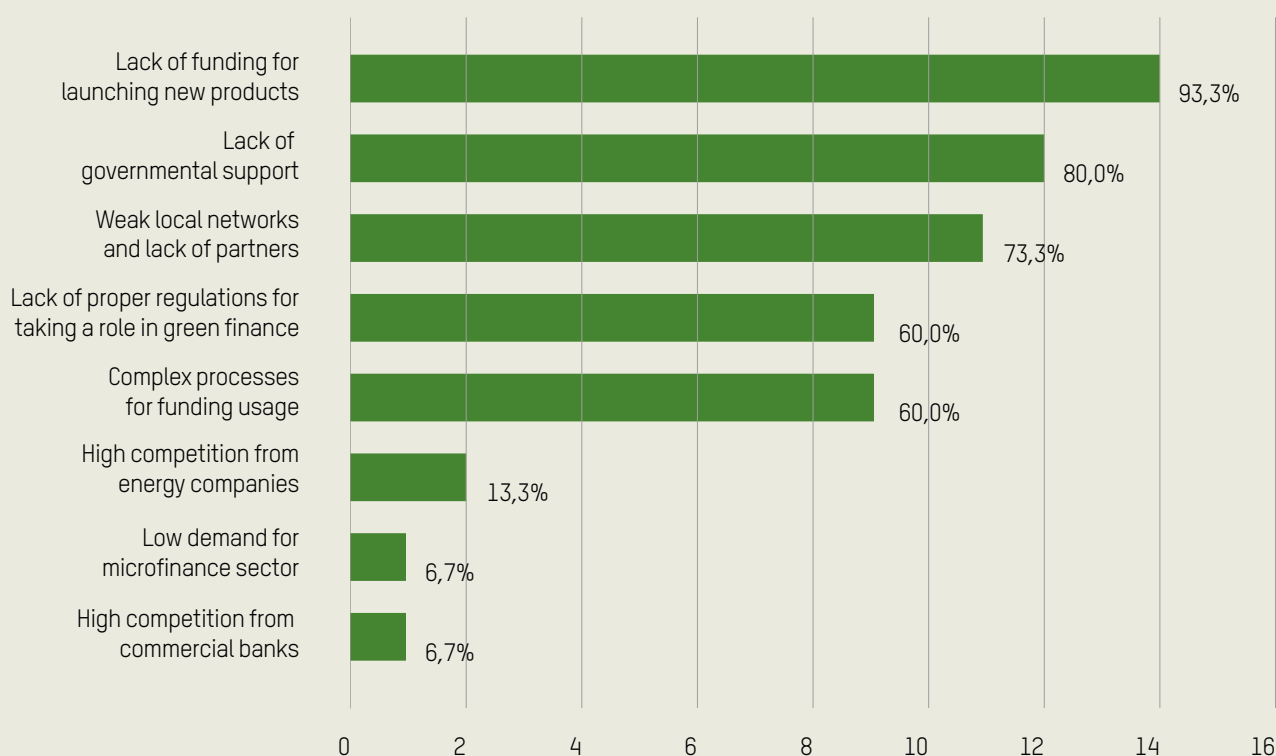
## PARTNERSHIPS

The interviewed stakeholders highlighted the importance of partnerships between FSPs and companies, for example, between FSPs and energy entrepreneurs, to promote access to clean energy. There is high potential, particularly in linking the microfinance and pay-as-you-go (PAYGO) sectors, with a focus on providing access to energy technologies for households and businesses, e.g., solar home systems, solar water heaters, LPG cookstoves, among others. Impact investors also serve energy companies, and, according to practitioners, these companies are often preferred to FSPs due to their business-oriented vision of growth and impact in the Global South. Stakeholders agree that FSPs have a great and not fully exploited potential to address the challenges of financing the last mile, such as the final distribution

of the systems or their acquisition through microfinance services, and to better address the needs of the most vulnerable communities.

Partnerships and collaborations between financial institutions and sustainable agriculture specialists were also highlighted as crucial for fostering climate adaptation, resilience, and innovation. For instance, these partnerships include collaborations with stakeholders focusing on capacity building for business development (LadyAgri), ICT providers for credit assessment digitization, including climate risks management (YAPU Solutions), or integrating data collection and capacity building for agriculture (Ksapa).

**CHALLENGES OF THE MICROFINANCE SECTOR (N = 15 )**



### BOX 2. FSP SURVEY (ENABLING ENVIRONMENT)

The interviewed FSPs perceived a high demand for green finance in the microfinance sector, low competition from energy companies financing last-mile and low competition from peer commercial banks delivering green products. On the other hand, the lack of funding for launching new products (93.3%), the lack of governmental support (80%),

the weakness of local networks, and the lack of partners (73.3%) were the most mentioned challenges for an enabling environment for green inclusive finance in the respective countries. 60% of the respondents indicated that the lack of proper regulations for taking a role in green finance and the complexity of processes related to funding usage were significant factors.

## EXECUTION: IMPLEMENTATION OF GREEN INCLUSIVE FINANCE PRACTICES

### ENVIRONMENTAL STRATEGY

The environmental strategy comprises the whole range of activities that FSPs can plan, implement, and monitor to promote the establishment of green inclusive finance practices. Concrete steps are the definition of objectives to be achieved, the identification of outcome KPIs, the establishment of reporting and monitoring processes, and the allocation of internal resources for practical implementation.

Defining a holistic strategy at the institutional level that considers environmental aspects throughout all processes (from loan application to impact monitoring) is fundamental for the sustainable delivery of green financial products. However, the interviewed stakeholders agree that currently, most of the efforts are directed toward stand-alone green product development, often supported by external stakeholders. While these practices can yield positive outcomes and success stories, the lack of institutional effort in the background hinders the scaling up of the initiatives once the external support is no longer available.

There is a positive trend of greater awareness from microfinance networks (VisionFund International, BAOBAB, ACEP) in terms of developing and implementing global climate finance strategies. These networks play a major role in the inclusive finance landscape as they can access capital and a large outreach across multiple countries in the region. They can, therefore, reach diverse target groups, achieve larger portfolio diversification, and develop risk management strategies and activities at the level of the whole network. At the same time, microfinance networks can facilitate knowledge sharing and foster the adaptation of green practices across the member institutions. However, it is acknowledged that the definition and implementation of the individual environmental strategies at the level of single institutions entails very specific aspects depending on local contexts and might still require tailored resources and guidance.

### CASE STUDY: SUSTAINABLE GROWTH: INTEGRATING GREEN FINANCE AT ACEP BURKINA FASO

Established in 2012, ACEP Burkina Faso, a key player in the ACEP International network, serves micro, small, and medium-sized enterprises (MSMEs), with over 47,000 active customers in the country. The institution has actively integrated green inclusive finance into its operations, targeting urban and peri-urban MSMEs. ACEP Burkina prioritized developing an environmental strategy to ensure its social responsibility, to meet clients' environmental expectations, to mitigate climate-related financial risks, to capitalize on green economy opportunities, and to comply with regulations. This strategy helps reduce risks, explore new business opportunities, and reinforces its commitment to sustainable development.

ACEP recognizes the challenges of climate change and aims to integrate climate considerations into its strategy. The institution has defined specific objectives for its environmental performance, considering activities both within the institution and for its clients. The focus lies in incorporating green inclusive finance into its core operations, which aligns with its goals of enhancing client economic development and resilience to environmental challenges and tracking and reporting on its commitment. To track its environmental performance, ACEP has a committee that manages all the environmental and social subjects and reports on its outcomes to the board and investors at least once every two years.

ACEP monitors its campaigns to raise environmental protection awareness, including tree planting, cleaning in the local markets, and sensitization of practices that reduce negative environmental impacts. The institution also identifies green products to finance for its clients. Among its offerings, ACEP finances renewable energy systems, water and sanitation improvements, and waste management solutions. ACEP applies an exclusion list and offers non-financial services to respond to environmental emergencies. These efforts are integrated into its lending practices and risk management frameworks, ensuring environmental considerations are relevant to its operations.

Despite facing challenges such as the need for expertise to develop and implement environmental data management tools and to train operational staff, ACEP Burkina Faso is committed to expanding its green finance initiatives and recognizes significant market opportunities, especially in the agricultural sector.



Cleaning in the local markets is one of the campaigns of ACEP Burkina Faso to raise environmental protection awareness.

## ENVIRONMENTAL RISK MANAGEMENT

Environmental risk management activities focus on adverse environmental impacts *-how clients and the institution affect the environment*, and on climate risks and vulnerabilities *-how the environment and climate affect the clients and the institution*. Identifying and managing these risks is critical to the environmental strategy, especially in SSA, where institutions and clients are highly exposed to climate risks and have deficient infrastructure.

Internal environmental risk management looks at activities related to institutional vulnerabilities (e.g., assessment of the institution's own risk due to climate change, lack of access to basic services, adverse events), the identification, management, and reduction of adverse environmental impacts of institutional activities (e.g., carbon footprint, waste production, etc.), as well as training of staff to assess and improve environmental aspects. External environmental risk management activities are related to the identification and management of risks at the portfolio or client level (e.g., vulnerability to climate change, adverse events, biodiversity loss, health, disease, lack of access to basic services of clients), identification and management of adverse environmental impacts of clients activities, (e.g., emissions, pollution, waste management, deforestation), categorization of loans according to these risks, training of staff and clients on environmental risk management, and activities to understand clients' needs and market demand. These concepts, also used in the Green Index 3.0 and Dimension 7, help classify the type of practices FSP can engage in regarding environmental risk management.

The interviewed stakeholders agree that internal risk

management and reduction of adverse impacts (including digitization strategies) are more common than external risk management practices, which is in line with the latest trends also presented in the State of the Art (Forcella & Realpe Carrillo, 2023) and HEDERA's data analysis (HEDERA Sustainable Solutions, 2021). This is seen as a consequence of the fact that these indicators are often related to due diligence and reporting to investors and the implementation of regulations, policies, and ESG indicators designed for central banks.

The interviewees also highlighted that risk management at the client level is critical for the environmental strategy, although less established than internal risk management activities. The most predominant external environmental risk management practices in SSA include loan categorization according to potential adverse impacts of clients' activities and using exclusion lists<sup>6</sup>. In some cases, these practices are already mandatory in the context of due diligence processes designed by investors.

FSPs and microfinance investors are increasingly interested in innovating and becoming more active toward risk quantification and management systems tailored to the microfinance sector<sup>7</sup>. Practitioners consider risk management at the client and portfolio levels extremely useful and relevant (see also HEDERA data analysis and e-MFP Group Green Inclusive and Climate Smart Finance Action Group, 2021); however, tools and digital systems to efficiently identify, monitor, and report these risks, specifically developed for the microfinance sector, still need to be improved.

<sup>6</sup>See, e.g., the [loan categorization guidelines](#) and the [exclusion list](#) provided by IFC.

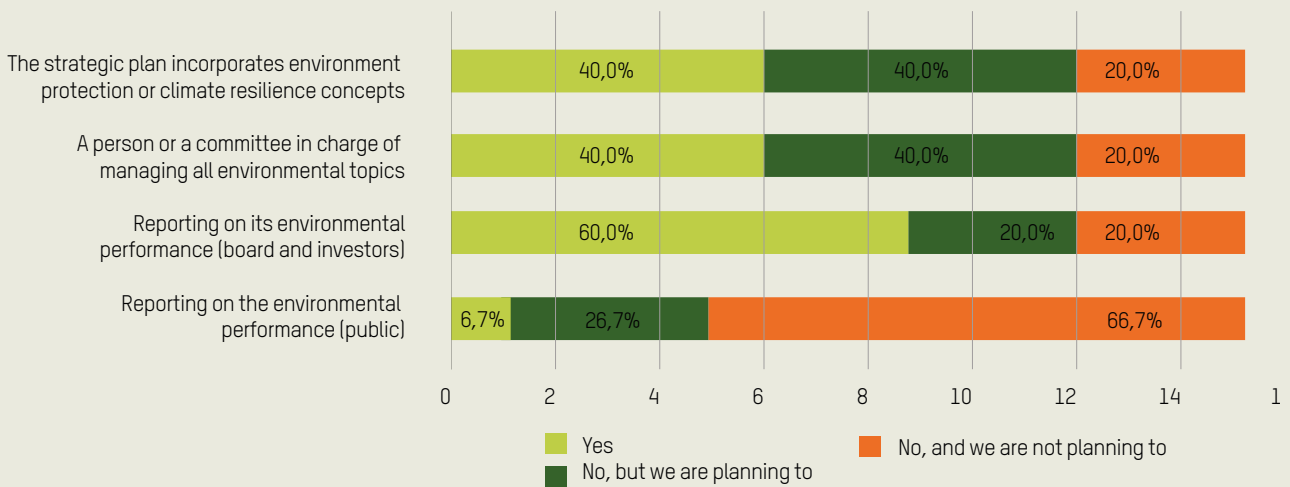
<sup>7</sup>These conclusions are also in line with the results of sector-wide interviews on the relevance of environmental performance practices and indicators presented in: [https://hedera.online/reports/2021/ag\\_gicmf/what\\_the\\_sector\\_says/html/](https://hedera.online/reports/2021/ag_gicmf/what_the_sector_says/html/).

### BOX 3: FSP SURVEY (EXECUTION)

The landscape of environmental sustainability within the 15 surveyed FSPs is varied, with 80% of the institutions either having integrated or planning to integrate environmental protection and climate resilience into their strategic plans. Half of the FSPs are either managing environmental topics through dedicated personnel or committees or plan to do so, signifying a trend toward institutionalizing environmental responsibility. The majority (60%) of institutions deliver internal reports including environmental aspects, and 40% have a committee or a person in charge of environmental topics.

However, only one institution actively publishes public environmental performance reports, though many plan to do this in the future. Only 20% (3 institutions) are actively monitoring their own environmental footprint (covering aspects such as carbon emissions, electricity usage, fuel consumption, and waste production), while one-third (5 institutions) are educating their staff on practices to mitigate the negative environmental impacts of institutional activities. The challenges hindering the adoption of environmental risk management practices – both at the level of institution and clients – are primarily attributed to a lack of knowledge (indicated by more than 80% of respondents), need for appropriate tools (more than 66%), and the complexity of the topics, especially concerning risk assessment at client level (90%).

FSP SURVEY (EXECUTION)



## OFFER: GREEN FINANCIAL AND NON-FINANCIAL PRODUCTS

A microfinance institution's green offer includes financial and non-financial products aimed at protecting the environment and mitigating or adapting to climate change in the short and long term. Financial products include savings, credits, insurance, and payments designed to reduce adverse environmental impacts, enhance climate resilience, and support sustainable practices. Dedicated credit lines and savings for financing technologies or sustainable practices help clients adopt methods that minimize environmental harm and adapt to climate change. Examples of financed technologies and practices for climate adaptation include systems for improved energy, water, sanitation, waste management, nature-based solutions, enhanced biodiversity protection, and weather-resistant housing. Additionally, financial products that improve climate resilience encompass emergency loans, credits bundled with insurance services, remittances, and payments that support the transition to new livelihoods due to climate change. Non-financial green products and services include activities and training that raise awareness among clients about their vulnerability to climate change, environmental degradation, and the adverse environmental impacts of their productive activities (Forcella and Realpe Carrillo, 2022).

### PRODUCT DIVERSIFICATION AND GREEN OPPORTUNITIES

The study results confirm the increasing interest of FSPs in expanding and differentiating the offer of green products and managing the related opportunities. Although public market data on green offerings are still very fragmented (examples in this direction are the [IMPACT-R Database](#) (Reape Carrillo & IMPACT-R, 2024), the selection of green champions presented in the [Green Map](#), this does not mean that green offers are still uncommon in SSA. A recent internal study by MAIN revealed that about one-fourth of the member institutions (32 out of 123) currently offer green products. FSPs are exploring various green financial products, -climate-smart agriculture loans and renewable energy financing- are the most common. Products for climate change mitigation are the most popular, and mainly related to acquiring clean energy technologies (solar home systems, solar-powered

appliances, clean cookstoves), for which there is a clear market demand. International development efforts and local government policies have also further boosted their adoption. In this sector, alternative financing schemes such as PAYGO play an important role, a sector that has evolved considerably in SSA. Despite the leading role played by energy companies, reliable partnerships between FSPs and technology providers (two-hand model) still have great potential since FSPs can provide the required expertise in financial matters and a higher market outreach to energy companies from which can profit (see also Realpe Carrillo, et al. 2015). On the other hand, energy companies can provide the in-house technical expertise and, assume responsibility for the robustness of the technologies.

The offers addressing climate change adaptation and resilience are significantly less developed and cannot address the current demand (Zetterli, 2023). The climate-responsive scan from CGAP revealed a more significant offering of financial services focused on insurance or the combination of borrowing and insurance in SSA compared to all other regions (Notta, 2022). Current products mainly include financing sustainable agricultural practices and agricultural insurance products. In this context, non-financial services (such as educational activities for clients) are also important in building more resilient communities, supporting the market development for financial products, and creating awareness of the relevance of sustainable practices. According to the assessment trends presented in the State of the Art (Forcella & Realpe Carrillo, 2023), dedicated client training is more established in African FSPs than in other regions. Moreover, this aspect appears to be correlated with implementing risk management practices (HEDERA Sustainable Solutions, 2021).

## CASE STUDY: STRATEGIC DEVELOPMENT OF GREEN INCLUSIVE FINANCE AT BAOBAB SENEGAL

Baobab Senegal, part of the Baobab Group established in 2007, has integrated green inclusive finance into its strategic framework, emphasizing environmental sustainability alongside financial services delivery. With a network of 55 branches and 798 employees, the institution targets urban and semi-urban communities. The core of Baobab Senegal's green inclusive finance work lies in its financial products that support sustainable environmental practices.

The institution offers financing solutions for renewable energy, such as solar home systems and water pumps, supporting sustainable agricultural practices and efficient water management for irrigation. These initiatives are critical in regions facing water scarcity and the need for sustainable energy solutions.

Digitization is the cornerstone of Baobab Senegal's operational strategy, enhancing the efficiency of green finance delivery. The institution leverages digital tools for loan management, aligning with its commitment to reduce paper use and optimize resource management.

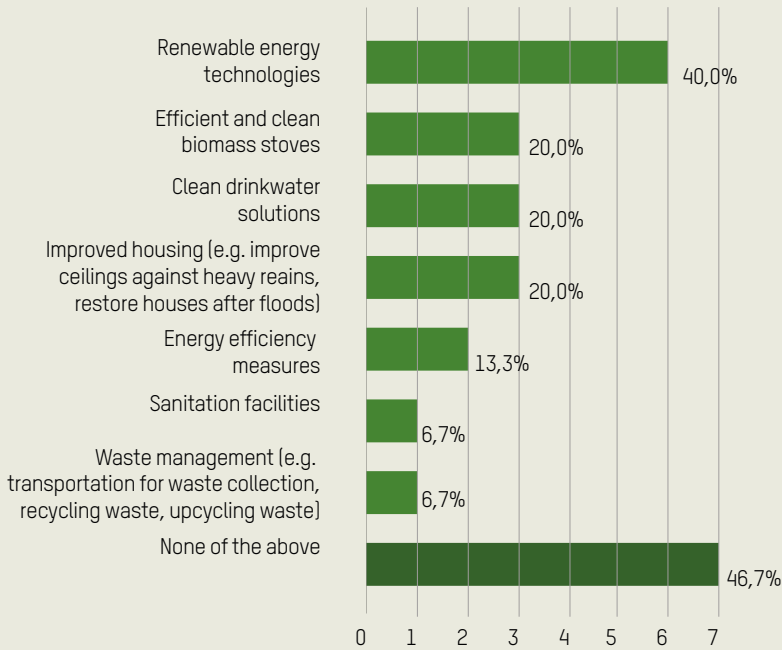
However, Baobab Senegal faces several challenges that could impede the expansion of its green finance portfolio. These include the need for more specialized knowledge about climate-responsive products within the institution, ensuring the robust quality of the technologies offered, and increased collaboration with stakeholders such as governmental agencies, investors, and consultants. To address these issues, Baobab Senegal focuses on enhancing internal capacities through targeted training programs and seeks to deepen partnerships with international organizations and local NGOs.

The institution, which is working on a sustainable bond project, is committed to doubling its green finance portfolio by the end of 2024. This ambitious goal underscores its dedication to enhancing financial inclusion, particularly among women and youth, and supporting sustainable enterprise development.

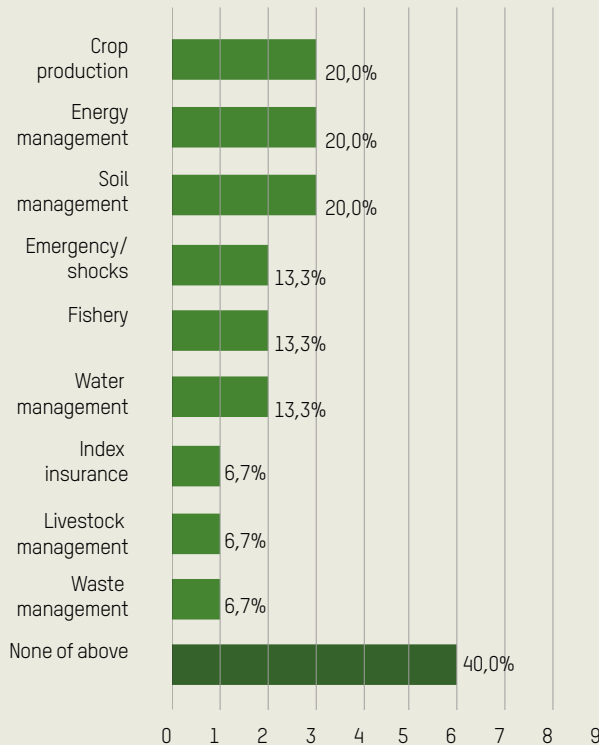
- ⋮ Clients of Baobab Senegal that have access to financial products supporting sustainable agricultural practices.



**GREEN PRODUCTS FOR  
HOUSEHOLD/BUSINESSES (N = 15)**



**GREEN PRODUCTS FOR  
AGRICULTURE AND BIODIVERSITY (N = 15)**



**BOX 4. FSP SURVEY (OFFER)**

Out of the 15 surveyed FSPs, 11 already offer green products for households or businesses. The study's results differentiate between the offer of products for households and businesses, the offer for agriculture and biodiversity, and further green financial products.

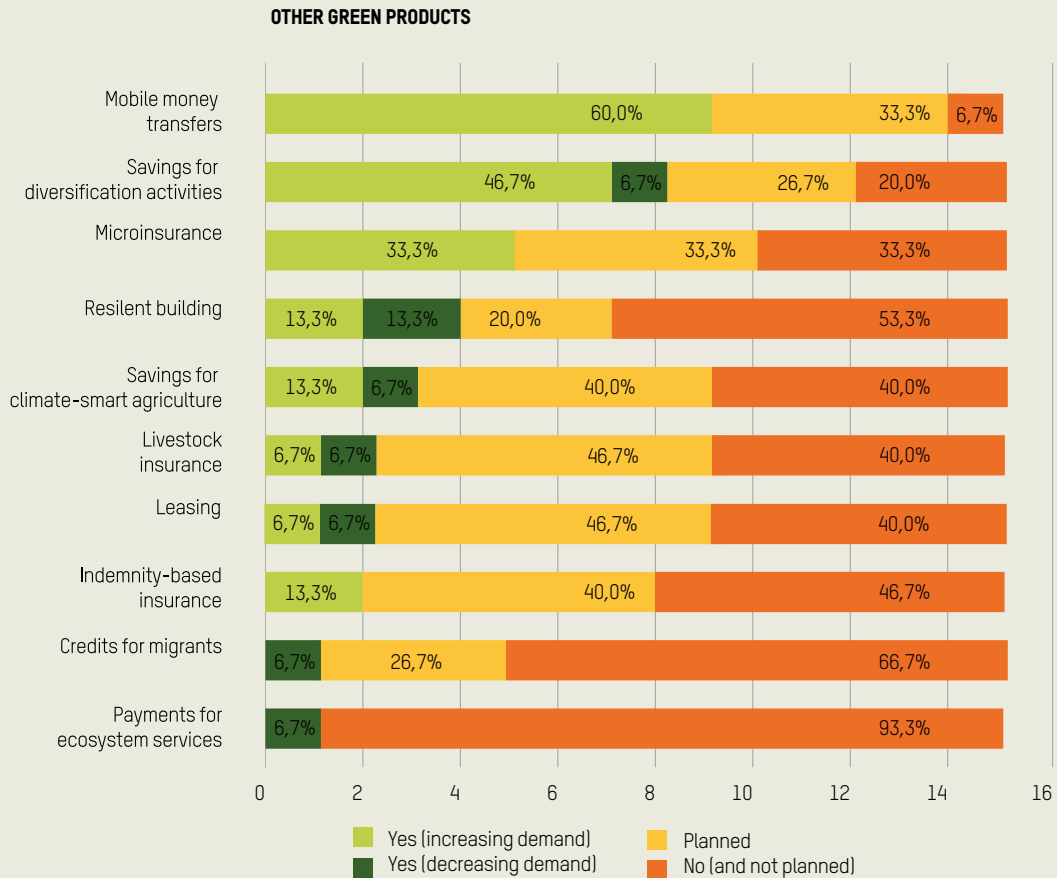
Financing renewable energy solutions, including solar home systems and lamps, are the most common and is provided by 6 institutions.

Additionally, three FSPs (20%) offer financing for clean cookstoves, and three have products focused on WASH (water filters and improved sanitation facilities).

60% of the surveyed institutions offer financial products for sustainable agriculture, including crop diversification, solar-based energy solutions, and sustainable soil management. Approximately 26% provide loans for resilient building enhancements, such as improved roofing and restoration following flooding.

Microinsurance is offered by a third of these institutions, with equal proportions either planning to offer it or having no immediate plans. Two institutions offer indemnity-based and livestock insurance due to increasing demand.

More than half of the institutions provide savings options to support diversification activities, reflecting a growth trend in this portfolio. In contrast, only one offers loans for migrant family relief and resettlement, with decreasing demand noted. Regarding non-financial services, one-fourth of the institutions assess and train clients on climate change adaptation strategies like water management, while 20% focus on raising climate impact awareness.



## GENDER LENS

Tailoring green products to women’s needs has a great potential to foster their empowerment since women are often the most affected by climate-related risks that impact households’ access to basic needs. This does not imply only creating products exclusively for women, but rather understanding the specific needs, concerns, and priorities that women have and integrating it within the development of financial products, for instance, in product design, marketing, conditions, and capacity building. International impact investors have recognized this opportunity, promoting financial products with a strong gender lens and supporting institutions in this direction. On the other hand, FSPs must develop customer-centric products which, unless the institution already has a

strategic focus on prioritizing female borrowers, shall address all target groups. In this respect, the interviewed stakeholders also pointed out that, depending on the product type, an intrinsic gender bias might arise. For example, considering green products for energy technologies, male borrowers might have the potential to acquire larger technologies for productive purposes, while women might be focused on smaller technologies and products serving primarily household needs. The same phenomena have also been perceived in sustainable agricultural practices, where equipment for efficient energy management or water management is demanded by men more so than by women.



# OPPORTUNITIES FOR FSPS AND HOW INVESTORS CAN SUPPORT THEM

- 1 Development of a complete environmental strategy, capacity building, and knowledge-sharing**

FSPs must define a holistic environmental strategy and establish climate risk assessment mechanisms to embed within the institution, aiming to scale up green products. Despite the multiple initiatives implemented to raise awareness on the subject – at the national, regional, and international levels –, stakeholders still need further expertise. Knowledge sharing is needed at the sector level on the nuances of climate change resilience, the role of financial inclusion, literacy, and empowerment to align the understanding of green inclusive finance as a framework and the pathways to delimit and determine the offers for their clients.

Investors can play an essential supportive role in cofinancing training and capacity-building activities and specialized training for FSP staff and clients. This helps build the necessary technical expertise within FSPs to understand the vulnerabilities, manage the risks, identify solutions and opportunities, and monitor the results over time via standard frameworks and indicators. Capacity building should be provided to FSPs to strengthen strategic planning and expertise on green inclusive finance, and further align with other investors who invest in the same institutions. By exploiting existing networks of investees and dedicated stakeholder platforms, investors can also actively contribute to the sharing of best practices and lessons learned in the sector.

- 2 Client and market assessments for defining and monitoring green product impact**

FSPs need detailed client and market assessments for product design and monitoring of the impact of green products. Market and baseline studies that include geolocalization and understanding life conditions in terms

of lighting, cooking solutions, fuels used, house materials and construction, appliances used, and investment plans over the future will be of increasing importance to provide in-depth information for defining the types of products and services to offer, as well as for managing portfolio risk. Data collection practices and digital tools tailored to FSPs will thus play a critical role. As institutions have already begun their digitization journey, digital tools have a potential role in optimizing these processes.

While all stakeholders consider risk and vulnerability assessments to be crucial within the product development journey, the lack of available data to monitor risks at the client level, such as access to basic needs, access to infrastructure, housing material, climate-related reasons for default is considered one of the most pressing challenges. Public data sources on climate hazards, climate scenarios, and climate profiles are mostly available at the country or regional level and might not be applicable at the level of FSPs' portfolios to assess client exposure and sensitivity to climate hazards, demand, and vulnerabilities.

All interviewed stakeholders acknowledged the importance of fostering digitization, and FSPs in the region are increasingly digitizing their operations, among others to efficiently collect customer data already at the loan application stage. This data is often very superficial or limited to socio-demographic indicators. In some cases, data includes additional information such as the PPI (Poverty Probability Index<sup>8</sup>), which could already be used to identify areas of vulnerability and potential for specific equipment or technologies that can change household conditions and enhance clients' resilience.

By leveraging digital tools and data-driven insights, FSPs can better understand and address the needs of their clients. Furthermore, targeted technical assistance from impact investors can help build the necessary expertise and infrastructure to support these initiatives effectively.

<sup>8</sup>See <https://www.povertyindex.org/>

### 3 Market development: finetuning products, intersectoral collaborations and education & awareness-raising activities

The classical approach to financial product design refers to creating a new product or adapting an existing one, considering the characteristics of certain technologies (e.g., power systems, appliances, water filters) or sustainable agriculture practices and the demands of target users. However, the market development aspect of new products is often underestimated.

In practice, FSPs may need help designing flexible products tailored to different local contexts to respond to the challenges posed by climate. This will involve testing the product designs with clients from different contexts and fine-tuning products to specific customer needs.

Moreover, the sustainable offering of technologies and non-financial services also depends on the possibility of finding reliable partners. For developing a green offer, FSPs have engaged in intersectoral collaborations, particularly in the renewable energy space, and with partners such as insurance providers and housing providers. Supporting these partnerships is crucial for successful programs to foster sustainable agriculture, financing of water and sanitation solutions, and efficient equipment.

In addition, educational and awareness-raising activities play a fundamental role in market development. Several stakeholders indicated that low market demand might be due to consumer preferences not necessarily prioritizing sustainability over short-term economic benefits (for instance, preferring low-cost and inefficient appliances over technologies that are more efficient alternatives with higher initial costs). These issues can lead to a mismatch between the financial services offered, the strategic objectives of the institution, the actual preference of the clients and the capacity of the institution, limiting the effectiveness and uptake of green inclusive finance and the potential for upscaling. However, when the benefits of alternative products are well understood by both employees of the FSPs as well as their consumers, customer preferences might shift over time.

These activities may entail initial expenses, but the value derived from it is often realized over the medium term. Investors, therefore, can play a critical role in supporting FSPs in implementing these practices and providing funding for the piloting of new products that is more patient and impact-linked than their usual credit lines. Fine-tuned funding from investors can help FSPs overcome these initial barriers and smoothen the market development of new products.

# CONCLUSIONS

**Climate risks in Sub-Saharan Africa are strongly linked to other vulnerabilities and should be addressed holistically.**

Compared to other global regions, the lack of access to basic needs and the rate of food insecurity is much more pronounced, making communities, local economies, and infrastructures more vulnerable to climate hazards. To address these issues effectively, increased investments in green finance, more robust policy support, and innovative financial products are essential for building long-term resilience and enabling communities to manage climate impacts sustainably.

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**Investors should promote financial services for climate resilience, adaptation, and transition.**

In the past decade, green products mainly focused on climate mitigation, e.g. financing renewable energy systems. However, these technologies alone cannot respond to the spectrum of existing risks and vulnerabilities nor ensure resilience against future scenarios. Investors must expand their scope to include funding and support for climate adaptation initiatives like water management, sustainable agriculture practices -across all areas (crop production, energy, water, and waste management, forestry and agro-forestry, soil and livestock management), and resilient infrastructure designed to resist extreme weather.

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**Climate-risk mapping and customer-centric products are preconditions for developing and upscaling green products.**

FSPs and practitioners need further capacity building and access to detailed information for better decision-making in terms of climate response. Microfinance networks can be crucial in efficiently defining top-down strategic lines for their institutions, outlining cascading goals, and sharing best practices. Existing frameworks and tools for climate risk assessment and monitoring must be further aligned and adapted to the microfinance sector. The role of digital tools and platforms for data collection and sharing will be increasingly important and has a high potential to support the industry. Therefore, in partnership with technology providers, the microfinance sector has a significant opportunity to scale up digital tools and data platforms, ensuring that green financial products are effectively developed and expanded.

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