

Navigating the Climate-Finance Landscape in Eastern Africa: An Exploration of Climate and Agriculture Finance Instruments



INITIATIVE ON
Climate Resilience

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The CGIAR Initiative on Climate Resilience, also known as ClimBeR, aims to transform the climate adaptation capacity of food and agricultural systems in low- and middle-income countries. Its goal is to tackle vulnerability to climate change at its roots and support countries as they adapt and build equitable and sustainable futures.

The CGIAR Initiative on Diversification in East and Southern Africa, also known as Ukama Ustawi aims to support climate-resilient agriculture and livelihoods in 12 countries across East and Southern Africa. This initiative helps millions of smallholders intensify, diversify, and reduce the risks in maize-based farming systems through improved extension services, small and medium enterprise development, support for governance frameworks, and increased investment, all with a focus on gender and social inclusion.



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List of Acronyms

ARAF	Acumen Resilient Agriculture Fund	GHG	Greenhouse gas
AAC	African Agricultural Capital Ltd	IFC	International Finance Corporation
ACCF	Africa Climate Change Fund	IFAD	International Fund for Agricultural Development of the United Nations
ADB	African Development Bank	ICA	Impact Capital Africa
AECF	Africa Enterprise Challenge Fund	KCIC	Kenya Climate Innovation Center
AFC	Agricultural Finance Corporation	KCV	Kenya Climate Ventures
AGRA	Alliance for a Green Revolution in Africa	KCB	Kenya Commercial Bank
AIC	Agriculture Insurance Consortium	KLIP	Kenya Livestock Insurance Program
ATA	Agricultural Transformation Agency (Ethiopia)	MDBs	Multilateral Development Banks
CDM	Clean Development Mechanism	NDC	Nationally Determined Contribution
CCD	Climate Change Department	NEMA	National Environment Management Authority (Uganda)
CCSEAF	Cold Chain Solutions East Africa Fund	NETFUND	National Environment Trust Fund (Kenya)
CCSs	Cold Chain Solutions	PPP	Public Private Partnerships
CFF	Climate Finance Facility	RALP	Resilient Agriculture Livelihoods Project
CIF	Climate Investment Funds	RUFII	Rural Finance Initiative
CRGE	Climate Resilient Green Economy	SIDA	Swedish International Development Cooperation Agency
CBE	Commercial Bank of Ethiopia	SME	Small- and medium-sized enterprise
DANIDA	Danish International Development Agency	SSMDF	South Sudan Microfinance Development Facility
DBE	Development Bank of Ethiopia	UAIS	Uganda Agricultural Insurance Scheme
EABL	East African Breweries Limited	UDB	Uganda Development Bank
ECIC	Ethiopia Climate Innovation Center	UGEFA	Uganda Green Enterprise Finance Accelerator
EIC	Ethiopian Insurance Corporation	UNFCCC	United Nations Framework Convention on Climate Change
ESG	Environmental, Social, and Governance	WRS	Warehouse Receipt System
FLLoCA	Financing Locally-Led Climate Action	YII	Yield Index Insurance
GCF	Green Climate Fund		
GDP	Gross Domestic Product		
GEF	Global Environment Facility		
GFDRR	Global Facility for Disaster Reduction and Recovery		

Executive Summary

A massive level of sustained investment is needed to help developing countries in Africa meet the goals set forth in their Nationally Determined Contribution (NDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC). The annual financing gap between resources available and resources needed is \$200-\$400 billion, and this deficit is expected to grow unless funds from new sources are identified and allocated¹.

The purpose of this research report is to explore climate and agriculture finance instruments available in Uganda, Kenya, Ethiopia, and South Sudan, and identify which institutions (mainly government agencies, banks, and corporations) are providing these climate-finance solutions. This report also explores programs available through international multilateral climate funds and multilateral development banks, and the potential for increased participation in carbon pricing markets, such as the Clean Development Mechanism (CDM).

In addition to exploring the available climate and agriculture finance instruments, this report discusses the challenges limiting the use of climate-finance instruments and the funding gaps present in Uganda, Kenya, Ethiopia, and South Sudan based on their climate-change goals.

The report was developed through a synthesis of literature from a diverse range of climate-finance instruments and their applications across Eastern Africa. It draws heavily from global financial institutions such as the World Bank, regional development agencies, and local financial intermediaries. Key themes explored include the vulnerability of various countries to climate change, strategies for bridging climate-finance gaps, and mechanisms for scaling up green financing. The literature also highlights innovative climate-smart financing mechanisms adopted by both public- and private-sector players, including banks, microfinance institutions, and insurance providers.

Additionally, the review covers country-specific strategies for green growth, climate adaptation, and resilience-building, providing a comprehensive

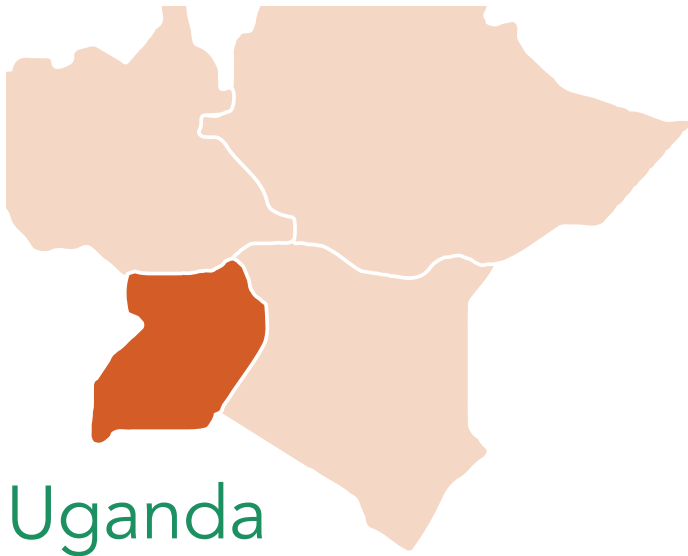
understanding of both policy frameworks and practical approaches to mobilizing climate finance in the region. This multi-sectoral approach gives insight into how different financial instruments are contributing to climate resilience efforts in sectors such as agriculture, energy, and infrastructure.

KEY ASSUMPTIONS:

Based on the literature reviewed, the following key assumptions were considered:

- Climate and agriculture finance instruments include any instrument that assists, builds capacity, funds, or improves access to finance for projects or business activities that can potentially reduce climate-change impacts or increase productivity in the energy, agriculture, and water sectors.
- Finance instruments are presented in aggregate by the institutions and/or banks offering them—these instruments are not categorized by mitigation or adaptation.
- Many national and regional climate finances are funded by international climate funds.
- The funding instruments—list of international climate funds, national/regional climate funds, government agencies, national banks, green banks, and private investment funds—presented and discussed in this report are not exhaustive, and there may be other, less-reported instruments being implemented in East Africa.
- This report makes no assumptions related to the actual availability and commitment of funds or biases impacting the selection of recipients.

The figures stated are in USD\$ unless noted otherwise.



Overview

Uganda is a land-locked, low-income country in East Africa with a population of over 44 million. Uganda has a tropical climate with two rainy seasons per year: however, the Northern region only experiences one, longer rainy season. According to the World Bank², temperatures have increased 1.3 degrees Celsius since 1960s, with increasing frequency in the number of hot days. While precipitation has been highly variable, there has still been a statistically significant reduction in annual and seasonal rainfall³, and there have been nine droughts recorded between 1900 and 2018⁴. Due to Uganda's climate and these trends, Uganda is at risk of climate shocks and natural disasters.

Uganda experiences extreme weather events, which lead to mudslides, landslides, droughts, and flooding. Flooding in Uganda has become more frequent, largely due to more intense rainfall, presents the largest risk as they impact more than 50,000 people and costs over \$62 million annually⁵. Droughts continue to wreak havoc on the country, with the latest drought recorded occurring during 2022 causing a death toll of around 200 and over 500,000 people starving due to food insecurity⁶. Moreover, the drought conditions in 2010 and 2011 led to an estimated loss and damage of \$1.2 billion, equivalent to 7.5% of Uganda's gross domestic product (GDP)⁷. Uganda relies heavily on rain-fed agriculture, with the sector employing 70% of the labor force and contributing more than 25% to the gross domestic product (GDP)⁸.

Climate and agriculture finance instruments have the potential to help manage climate-change risks, the increasing occurrence of natural disasters, and stabilize agricultural production for a population that faces constant food insecurity and starvation.



Climate and Agriculture Finance Instruments

There are many climate-finance instruments available in Uganda including subsidies, grants, repayable grants, concessional loans, performance-based loans, equity, other types of debt facilities, and agriculture insurance solutions. These instruments are offered by government agencies, national climate funds, national banks, corporations, private investment funds, and insurance firms.



Government Agencies and National Climate Funds

The Ugandan government has established agencies and initiatives to support climate finance and sustainability efforts. The Climate Change Department (CCD) is a government agency under the Ministry of Water and Environment that is responsible for coordinating climate-change actions in accordance with Uganda's implementation of the United Nations Framework Convention on Climate Change (UNFCCC)⁹. The National Environment Management Authority (NEMA) is a government agency mandated to oversee environmental management in Uganda. NEMA provides guidance on climate-change mitigation and adaptation and has implemented initiatives encouraging sustainable environmental practices. Based on publicly available information, these government agencies do not appear to provide access to finance instruments, but lead initiatives to strengthen and deepen environmental practices, technical knowledge, and access to information.

The Uganda Green Growth Development Strategy committee, which seeks to operationalize the tenets of a green economy set forth in the Uganda Vision 2040¹⁰, has highlighted several measures to support green growth, including conservation funds, energy standards and compliance programs, and subsidies. For example, two subsidies supporting green growth is provided as support for paddy rice farmers to increase agricultural productivity¹¹ through

the provision of seed, extension support, and agricultural fertilizers under the National Agriculture Advisory Services to are.

The Africa Enterprise Challenge Fund (AECF)—a leading nonprofit development organization—focuses on advancing the agriculture and renewable energy sectors. Its mission is to drive innovation and technology adoption to boost agricultural productivity, raise farmer incomes, expand access to clean energy, lower greenhouse gas (GHG) emissions, and strengthen resilience to climate change¹². AECF offers financing, advisory services, investment support, and knowledge resources to address funding gaps for small and growing businesses. It provides a range of financial solutions, including grants, interest-free loans, guarantees, working capital facilities, and repayable grants¹³. Furthermore, AECF organizes competitions with the ability to award a single business between US\$15,000 and US\$1.5 million. It is currently running the Nkwazi Scaling Women SMEs Project competition¹⁴.



National Banks

The Uganda Development Bank (UDB) is a government-owned bank that provides financing for development projects, including those focused on both climate-change mitigation and adaptation. The bank offers loans, guarantees, and equity investments to support climate-related projects in Uganda. UDB has recently launched the UDB Climate Finance Facility (CFF)—a strategic fund providing affordable finance to promote climate-smart agriculture, ensure climate-resilient infrastructure and low carbon-emission industries¹⁵. Specifically, the CFF fund will support green technologies through green financing options, including loans, bonds, equity, trade financing and asset financing¹⁶.

Stanbic Bank Uganda—or the Standard Bank, as it is known in other parts of the world—offers typical financial instruments such as agricultural finance and business loans. Additionally, it offers warehouse receipt system (WRS) financing, i.e., a business stores its goods in a secure warehouse, which issues a receipt confirming the goods are safely stored. The business can then take this receipt to the bank and use it as a guarantee to obtain a loan. This way, the stored goods act as security for

the loan, allowing the business to access funds without needing immediate cash sales. The bank typically provides this financing through products like contract financing or invoice discounting, which help businesses manage cash flow by providing funds upfront against future payments or stored goods. In 2022, Stanbic Bank released its climate policy to demonstrate its commitment to driving growth in a sustainable manner¹⁷. The bank's climate strategy largely employs an Environmental, Social, and Governance (ESG) approach to investment and funding. In 2019, Stanbic Bank launched a sustainable finance program that offers loans that support eco-friendly and socially responsible projects. These loans are funded by money raised through bonds and special loans that reward businesses for meeting certain goals or performance targets. These are the performance-based loans, which are a type of financing structure where the loan terms, interest rates, or repayment conditions are tied to the borrower achieving certain performance metrics or milestones. In sustainable finance, these types of loans encourage businesses to align their operations with global sustainability goals such as renewable energy, carbon emissions reduction etc. The bank also launched PowerPulse, a digital platform that provides bespoke solutions for photovoltaic solar projects¹⁸. Additionally, in 2020, it issued an inaugural US\$200 million Green Bond (with a 10-year maturity) in South Africa, an opportunity that should be explored for other countries together with sustainability-linked loans, ESG-performance incentive loans, and social and green bonds¹⁹.

Equity Bank Uganda offers typical banking products such as various capital accounts, business loans, working capital loans, asset finance loans and development loans. Equity Bank Uganda launched an environmental conservation and climate-financing initiative in 2021, which made available funding for the following areas/sectors: renewable energy, energy efficiency, water, climate-smart agriculture, circular economy and waste management, green buildings, transportation, and afforestation²⁰. Also in 2021, the bank announced a partnership with Uganda Green Enterprise Finance Accelerator (UGEFA) that will expand the bank's green finance portfolio. The partnership will give the bank access to a pipeline of 200+ green small- and medium-sized enterprises (SMEs) graduating from UGEFA's six-

month business development program, with plans to deliver US\$6.1 million in debt financing by 2023 to green SMEs²¹. Lastly, in 2022, Equity Bank Uganda launched Equi-Green Loan Financing for renewable clean technologies. This affordable financing facility will enable poor and middle-income households to buy improved cooking stoves, solar lighting systems, biomass systems, irrigation systems and water storage tanks through loan products starting as low as 200,000 UGX (Ugandan shillings), payable in 6 or 12 months²². (Note: Many of the climate and sustainable finance instruments available through Stanbic Bank and Equity Bank have been made possible by subordinated loans from the International Finance Corporation (IFC), a member of the World Bank Group and the largest global development institution focused on supporting private sector growth in developing countries.)

Centenary Bank has established itself as a key player in supporting the rural and agricultural sectors, with a particular focus on climate-smart agriculture and sustainable development. The bank offers a range of agricultural loans tailored to finance activities across various agricultural domains, including dairy, poultry, piggery, fishing, fish farming, beekeeping, and food processing (e.g., grain and oil mills). These financial products are designed to allow smallholder farmers and agribusinesses to invest in climate-resilient practices, such as improved irrigation systems, drought-resistant seeds, and sustainable farming techniques.

Centenary Bank is also committed to enhancing financial inclusion and literacy, particularly in rural areas, through its extensive network of branches and mobile banking services. The bank has embraced green financing, providing renewable energy solutions to over 3,163 people in 2023 through solar loans, micro-scale irrigation products, and power connection loans. Additionally, Centenary Bank has supported biodiversity conservation farming techniques and partnered with agricultural insurance consortium schemes to offer insurance compensation to farmers affected by adverse weather conditions, disbursing UGX 2.73 billion to 420 farmers²³.

In collaboration with Aceli Africa, Centenary Bank has also engaged in capacity-building initiatives,

supporting over 30 SMEs in the agricultural value chain.²⁴ Furthermore, as part of the Agricultural Credit Facility—a Government of Uganda initiative in partnership with the central bank, Uganda Development Bank Ltd, and other financial institutions—Centenary Bank provides medium-term credit facilities to agriculture and agro-processing projects at favorable interest rates. These efforts not only promote commercial agriculture and increase access to finance, but also contribute to food security and build confidence among financial institutions in lending to the agricultural sector. Other banks offering WRS financing include Allied Bank and Absa. An overview of each banks' WRS financing programs is detailed in a report titled: Warehouse Receipt Financing—a Banking Perspective²⁵. The Uganda Warehouse Receipt System Authority governs these banks and other WRS stakeholders.



Corporations and Private Investment Funds

The following institutions do not have a global reach and only serve East Africa, so these financial instruments should be available in Uganda as well as Ethiopia, Kenya, and South Sudan.

Pearl Capital Partners is an independent agriculture investment manager administering funds on behalf of its own investment company, African Agricultural Capital Ltd (AAC), and other funds totaling US\$48 million, collectively. Pearl Capital Partners invests US\$250,000-2 million in growing agricultural businesses in East Africa using a combination of equity, quasi-equity, equity-related, and debt investments²⁶. Pearl Capital Partners is a certified B Corporation that has invested in 20 Ugandan companies to date²⁷ and is currently investing through the Yield Uganda Fund that was launched in 2017²⁸.

Impact Capital Africa (ICA) is a marketplace supporting and connecting Sub-Saharan African businesses and impact investors. ICA is focused on supporting the growth of SMEs that will contribute to economic resilience and deliver social and environmental benefits. ICA identifies and prepares SMEs for investment, facilitates SME and investor introductions, interaction, and due diligence, and gathers SMEs, investors, and ecosystem enablers at

ICA conferences. Through ICA's activities, they have closed US\$80+ million deals, created 20,000 jobs, and prepared and presented 55 businesses²⁹.

SolarNow is a Netherlands-based social enterprise operating in Uganda and Kenya. It serves the education, healthcare, humanitarian, oil & gas, commercial and residential real estate, and agriculture markets, offering affordable solar systems, solar water pumps, and solar-powered appliances with a credit facility. To date, they have served over 50,000 clients who have installed 5 MW of solar and avoided producing 250 kilotons of CO₂³⁰.

Inua Capital provides flexible financing solutions tailored to the needs of investee companies, with a strong emphasis on climate finance and sustainability. They focus on equity and quasi-equity capital, while actively participating in governance and growth-strategy development. Inua is dedicated to integrating gender equity and ESG principles into their investments. They address systemic gender gaps and promote responsible business practices to ensure long-term value and sustainability. By aligning their investments with climate-resilient and environmentally sustainable practices, Inua Capital supports Ugandan SMEs in achieving both growth and climate impact³¹.

The Cold Chain Solutions East Africa Fund (CCSEAF), managed by ARCH Emerging Markets Partners Limited, is a US\$100M equity fund focusing on climate finance in Uganda and the broader East African region. CCSEAF aims to address the shortage of temperature-controlled supply chains by developing, financing, constructing, and operating cold chain solutions (CCSs) for food, agribusinesses, and pharmaceutical companies. Despite challenges posed by COVID-19, CCSEAF has continued its capital-raising efforts, with plans to establish six to eight CCS facilities across East Africa, including Uganda. In 2023, the fund made a significant investment in Kazi Logistics in Uganda, contributing to the development of sustainable, climate-resilient infrastructure in the region.

The 97Fund, overseen by Ortus Africa Capital, is a flexible investment fund that targets high-potential, early-stage companies across various sectors,

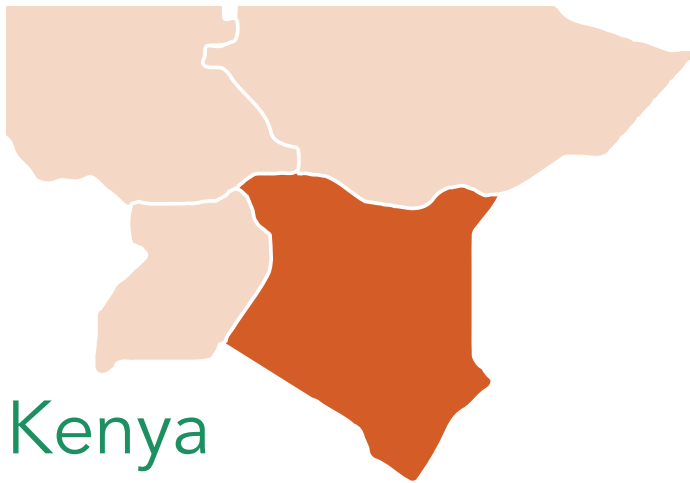
including Health, Transport and Logistics, Energy, AgTech, EdTech, Fintech, Insurtech, Manufacturing, Media, Tourism, and Creative Arts. Based in Uganda with a regional focus on East Africa, the fund prioritizes investments that not only promise substantial growth but also contribute to climate resilience and sustainability, with a particular emphasis on creating jobs for women and youth.

The 97Fund adopts a proactive and hands-on approach, drawing on its deep entrepreneurial and early-stage expertise. As both venture builders and investors, the fund is committed to empowering entrepreneurs by offering critical operational support and facilitating access to capital. The 97Fund seeks to drive innovation in sectors that contribute to climate-smart solutions, aiming to generate meaningful environmental and social impact alongside financial returns³².



Insurance

Lastly, insurance firms UAP Old Mutual Uganda, Goldstar Insurance, and Omulimsa offer agricultural insurance products. UAP Old Mutual Uganda offers multi-perils and index-based crop insurance³³ as well as livestock insurance³⁴. Goldstar Insurance offers crop, livestock, and aquaculture insurance³⁵. Goldstar Insurance is part of the Agro Consortium, a PPP including a group of 13 insurance companies licensed to offer and underwrite agricultural insurance in Uganda³⁶. Omulimsa, in partnership with the Agriculture Insurance Consortium (AIC), offers subsidized agricultural insurance under the Uganda Agricultural Insurance Scheme (UAIS). This insurance covers physical loss or damage to crops from uncontrollable factors such as pests, diseases, drought, fire, lightning, malicious damage, earthquakes, riots, strikes, explosions, windstorms, and excessive rainfall. Omulimsa also provides valuable market and weather information. It collects price data from 33 markets across Uganda, enabling farmers to make informed decisions and negotiate better with traders. Additionally, in partnership with aWhere, it offers localized weather data every 9km grid cell, giving farmers accurate, real-time weather updates to aid in planning and improve yields. This information is accessible via USSD, a mobile app, and a website³⁷.



Kenya

Overview

Kenya is classified as a lower middle-income country, yet it boasts the largest economy in East Africa and has a population of 52.6 million³⁸. Kenya has a wide range of climates due to its diverse geographic landscape, including highlands lowlands and coast.

The most common natural hazards Kenya is exposed to are droughts and floods. There have been 28 recorded droughts in the past 100 years with the droughts increasing in frequency³⁹. Notably, floods have caused the greatest human loss and climate change is expected to increase the risk and intensity of flood events, as well as increase rainfall amounts⁴⁰. Climate change impacts the agriculture, water, energy, and health sectors. Notably, agriculture is the mainstay of the Kenyan economy, with 80% of the Kenyan population relying on agriculture as its main support system⁴¹.

Climate and Agriculture Finance Instruments

In Kenya, grants, scholarships, performance-based contracts, debt, convertible debt, green bonds, equity, agribusiness loans, water and sanitation loans, WRS financing, and various insurance policies are offered by government agencies, national climate funds, national banks, corporations, private investment funds, and insurance firms.

Government Agencies and National Climate Funds

The Kenyan government finances and/or runs the National Treasury, Ministry of Environment, Climate Change and Forestry, Kenya Climate Innovation

Center (KCIC), and the Agricultural Finance Corporation (AFC).

The Public Private Partnerships (PPP) Directorate is a unit within the National Treasury that promotes and oversees the implementation of the Government of Kenya Programs focused on climate-related initiatives. The PPP Directorate provides technical, legal, and financial support to various government agencies⁴². The Directorate runs the Project Facilitation Fund, which can be accessed by government agencies to support preparing PPP projects, financing development expenditures, and liquidity support for PPP projects⁴³.

The Kenyan Ministry of Environment, Climate Change and Forestry champions and facilitates strong governance in the protection, rehabilitation, conservation, development, and management of environmental and forestry resources. Its semi-autonomous government agencies include the National Environment Trust Fund (NETFUND) and the National Environment Management Authority (NEMA). The mission of NETFUND is to advance research that improves environmental management, as well as to provide capacity-building initiatives, environmental awards, publications, scholarships, and grants. The fund acts as a hub for environmental conservationists and funding organizations to share insights and work together on feasible projects⁴⁴. Additionally, NETFUND's business incubation program provides business support services for green startups including technical and financial support⁴⁵.

NEMA was created to execute all of Kenya's environmental policies, and its responsibilities encompass the mobilization and oversight of financial and human resources for effective environmental management⁴⁶. In its 2019-2024 Strategic Plan, NEMA has flagged climate change and the green economy for sustainable development as two of its six key result focus areas. NEMA aims to enhance its capacity to access climate finance and position itself as an effective climate-finance entity, measured by the number of engagements with entities and number of funded projects⁴⁷. Another of NEMA's objectives is to enhance access to climate finance for adaptation and mitigation actions in Kenya, with a baseline of 1 billion KES (Kenyan Shillings) and a 5 billion KES target funding level⁴⁸.

The Kenya Climate Innovation Center (KCIC) offers incubation, capacity building, and financing options to new, small, and medium business ventures and Kenyan entrepreneurs addressing the challenges of climate change through various programs and grants. KCIC's Agribiz is a five-year program that provides services needed for women- and youth-owned early-stage agribusiness enterprises through eight business incubation hubs that offer access to finance, among other services⁴⁹. From January 2023 to December 2024, KCIC launched the Productive Use of Solar Energy Pilot Program to enhance the use of solar energy in key agricultural value chains, with a US\$355,000 program budget; successful applicants will be supported through a performance-based contract and transaction advisory services to facilitate access to financing such as debt, grants, and equity financing⁵⁰. KCIC's GreenBiz program runs through to December 2025 and has 1 billion KES committed to supporting climate technologies through the GreenBiz Incubation Program and the GreenBiz Accelerator Program; various types of financial support are available once applicants meet the financing criteria⁵¹.

Kenya's Ministry of Agriculture and Livestock Development launched a WRS in 2020, which allows farmers to sell inventory at optimal prices instead of or immediately after harvest. The receipt, which is a "document of title", can also be used as collateral to access credit from participating financial institutions or traded in commodity markets. The East African Grain Council, supported by the Alliance for a Green Revolution in Africa (AGRA) were key players in the establishment of the WRS⁵².

Financing Locally-Led Climate Action (FLLoCA) is a five-year program supported by the Government of Kenya, World Bank, DANIDA (Danish International Development Agency), and SIDA (Swedish International Development Cooperation Agency), with additional co-financing from the German Government under its KfW Development Bank for 16 counties, as of December 2022. The total funding for the program is USD297 million, effective from February 1, 2022. The goal of the program is to implement community-driven climate resilience initiatives while strengthening the ability of both county and national governments to address climate-related risks.

Implemented by the Government of Kenya, in collaboration with County Governments, FLLoCA supports initiatives that strengthen local resilience to climate change and other stressors—by building capacity at the local level for planning, budgeting, implementing, and monitoring resilience investments—enhance access to green technologies, and develop robust policy, legal, and regulatory frameworks for climate financing.⁵³

FLLoCA aims to foster collaborative partnerships between communities, national, and county governments. The program emphasizes capitalizing on national and county climate-change funds, building county-level capacity for climate action, and strengthening national-level coordination, monitoring, and reporting.

The Agricultural Finance Corporation (AFC) is a government development finance institution wholly owned by the Government of Kenya. Its mandate is to assist the development of agriculture and agriculture industries by making loans and assisting the loan beneficiaries. AFC offers numerous loan products designed for groups or individuals with terms of up to five years and repayment in annual installments. It offers equipment loans⁵⁴, agribusiness loans for agricultural service providers, and loans for most types of agriculture-production businesses including livestock and fisheries⁵⁵, cash crops, horticulture, and water development.



National Banks

National banks differ, with some offering climate-finance instruments and others only providing typical asset loans for agricultural and commercial equipment. The banks operating in Kenya that offer climate-finance instruments are the Kenya Commercial Bank (KCB), Bank of Africa Kenya, Equity Bank Kenya, the Co-Operative Bank of Kenya, and Family Bank Kenya.

KCB and Bank of Africa Kenya only provide asset and equipment loans for agricultural equipment^{56,57} and do not list any other specific climate finance-focused instruments on their website. However, KCB was accredited by the Green Climate Fund (GCF), meaning that the bank can finance green projects of up to US\$250 million, and the bank plans to increase its green portfolio from 8.4% of the total loan book

to 25%⁵⁸; note that NEMA is the only other GCF-accredited entity⁵⁹.

Equity Bank Kenya has several instruments that support climate finance and agriculture. The bank offers Maji loans for water and sanitation-related equipment⁶⁰, water loans for purchase of tanks, boreholes, shallow wells, and other equipment to access water⁶¹, and sanitation loans to finance construction of pit latrines, septic tanks, and more⁶². Equity Bank Kenya also offers traditional asset finance for machinery and equipment⁶³.

Stanbic Bank Kenya structured the country's first green bond—Acorn Holdings issued US\$40 million in green bonds to finance green and environmentally friendly accommodation for 5,000 university students in Nairobi⁶⁴. Stanbic Bank also structured a sustainability-linked borrowing base and term loan facility for Greenlight Planet Kenya, a company offering off-grid solar solutions⁶⁵.

Co-Operative Bank of Kenya does not formally offer any climate or agriculture finance instruments; they are committed to sustainability and have released annual ESG reports. The bank, in collaboration with funding partners, established a US\$10 million partnership to finance sustainable agriculture and a US\$75 million partnership with IFC to support climate-smart projects including sustainable agriculture, renewable energy, and energy efficiency⁶⁶. The bank provided funding to organizations involved in wind power generation, solar power installations, and those transitioning to energy-efficient green machinery. Co-Operative Bank of Kenya has identified climate financing as a significant environmental issue within its ESG strategy⁶⁷.

Family Bank offers several instruments that support climate finance and agriculture. Among these is the Kilimo Biashara loan, which provides working capital to finance the purchase of stock and farm inputs.⁶⁸ The bank also offers a medium-term farming finance product designed to assist farmers in purchasing and fattening steers for sale, preparing land for farming, and purchasing necessary inputs like seeds, fertilizers, and chemicals. This product also facilitates lease payments, harvesting, and other agricultural activities, specifically targeting crops such as wheat and barley.⁶⁹

In 2024, Family Bank received a US\$5 million loan from the eco.business Fund to bolster sustainability-certified companies, smallholder farmers, and other agribusiness value-chain actors embracing eco-friendly and climate-smart approaches. This funding aims to enhance the competitiveness of agribusinesses committed to sustainable practices.⁷⁰

The last Kenyan bank to explore is Absa Bank Kenya, which is another key player in climate finance, allocating 10% of its capital to promoting green energy, green building, and sustainable agribusinesses⁷¹. In March 2023, Absa Bank obtained a US\$10 million loan from the eco.business Fund to provide financing to domestic and export businesses engaged in Kenya's agricultural value chains. This funding aims to enhance resource efficiency, bolster food security, and alleviate the impacts of climate change within the agricultural sector⁷².

As of 2023, Absa Bank Kenya had disbursed KES 1.5 billion towards climate-smart agriculture and KES 25 billion for climate finance. The bank intends to grow its climate finance portfolio to KES 120 billion by 2025, demonstrating a strong commitment to supporting the country's transition to sustainable and resilient agricultural practices⁷³.



Corporations and Private Investment Funds

Corporations also have unique and green-focused programs funded by charity foundations that operate as subsidiaries of the corporation. Britam Holdings and East African Breweries Limited (EABL) are corporations running climate-finance programs that offer access to financing. The Britam Foundation accepts proposals for funding water, disaster relief and environmental conservation focused projects⁷⁴. EABL Foundation provides grants to organizations that operate within the corporation's focus areas such as water and environmental conservation⁷⁵.

Private investment funds such as Kenya Climate Ventures (KCV), GroFin, and Catalyst Principal Partners are active in Kenya and East Africa.

KCV is an investment management company seeking to accelerate the development of climate smart solutions by providing tailored and targeted

financial assistance to early and growing businesses. They have invested US\$4 million in 20 climate enterprises focusing on agribusiness, water, commercial forestry, and renewal energy businesses in Kenya⁷⁶. KCV invests equity, convertible debt, and debt, allocating \$50,000-\$200,000 for early-stage businesses and \$100,000-\$1 million for growth stage businesses⁷⁷.

GroFin is a development fund specializing in financing and supporting small and growing businesses across Africa and Middle East (GroFin SGB Fund has exposure in Kenya and Uganda); They provide startup and early-stage growth capital to businesses that operate in areas with a high rate of poverty or businesses that provide vital products or services to these areas⁷⁸.

Catalyst Principal Partners is an Eastern Africa focused private equity fund investing US\$5 million-\$20 million in emerging and mid-sized businesses in the industrial agro-processing sector among others⁷⁹.



Insurance

Insurance instruments supporting climate finance and agriculture are offered by Equity Bank Kenya, Old Mutual Kenya, and Kenya Livestock Insurance Program (KLIP), as well as other firms.

Equity Bank Kenya offers crop insurance including index-based weather insurance and multi-peril crop insurance,⁸⁰ Bima ya Mifugo insurance covering livestock⁸¹ and greenhouse insurance⁸². Old Mutual Kenya is another financial services firm providing agricultural insurance products such as index-based policies and multi-peril policies for all commercial field crops⁸³. Old Mutual Kenya also provides livestock insurance for all types of livestock farming⁸⁴.

KLIP offers livestock insurance to pastoralists who live in remote regions. The program is a PPP with support from the World Bank, Government of Kenya, Swiss Re Group, and International Livestock Research Institute. A central aspect of this groundbreaking insurance program is its utilization of satellite data to establish an index for grazing conditions. This approach allows for early payment activation during droughts when conditions fall beneath a crucial threshold⁸⁵, allowing herders to take pre-emptive action to save their livestock.

Waumini Insurance offers comprehensive agro-insurance for crops and livestock, providing coverage against losses due to risks such as diseases, drought, theft, livestock injury, and reduced yields. Their policy covers various types of crops, whether rain-fed or irrigated, and insures against perils including fire, floods, diseases, pests, frost, and hail. The coverage extends to multiple crop categories, including horticultural produce like tomatoes and French beans, floricultural produce such as lilies and roses, annual crops like maize and wheat, and forestry produce like cypress and eucalyptus trees.⁸⁶

APA Insurance provides a range of crop insurance solutions to protect farmers from losses due to natural disasters. Their Multi-Peril Crop Insurance policy delivers seasonal coverage against various natural calamities, including drought, pests, diseases, hail, and floods. This policy applies to all crop types, regardless of farm size, with claims assessed by experts.

Additionally, APA offers Named-Peril Crop Insurance, which focuses on specific risks like uncontrollable diseases and accidents, with options to include coverage for transit risks and theft. APA provides insurance to farmers with steel-structured greenhouses, which covers damage, with compensation based on evaluations by loss assessors.

The company also offers Forest Insurance, protecting commercial tree farms, orchards, natural forests, and nurseries from risks such as fire, lightning, and windstorms. For those concerned with yield variability, Area Yield Index Insurance provides coverage for crop yield shortfalls below historical averages, within specific regions, with payouts based on crop-cutting assessments. Lastly, Weather Index Insurance offers protection against weather-related damages, with payouts linked to weather conditions monitored by stations or satellites.⁸⁷

These insurance options provide farmers with financial stability, improved management options, and the reassurance of a safety net against unforeseen losses.



Government Agencies and National Climate/Agriculture Funds

Starting with government agencies, Ethiopia's Agricultural Transformation Agency (ATA) mandate is to spur agricultural development and transform smallholder farmers into commercialized actors. There are opportunities to seek investment from ATA or for ATA to help expose potential projects to investors as they have select investment opportunities (ranging from US\$1 million to US\$5 million) listed on their website by ATA's Private Sector in Agriculture team⁹². The team can be reached at privatesector@ata.gov.et⁹³.

The Ethiopia Climate Innovation Center (ECIC) assists small and medium-sized enterprises (SMEs) working on solutions to tackle climate change by offering early-stage financing, backed by the World Bank Group's InfoDev initiative. The ECIC aims to provide grant funding to as many as 40 climate technology entrepreneurs and make equity investments in more than 20 companies⁹⁴.

The Ethiopian Environmental Protection Authority offers the P4G Partnership, which accelerates pioneering green, market-based partnerships. They seek to fund highly transformative partnerships⁹⁵, though there is no specific guidance on the type of instrument used for funding.

The Climate Resilient Green Economy (CRGE) Facility is Ethiopia's national climate fund established by the Ministry of Finance to attract climate finance to support the CRGE strategy, which aims to build a carbon-neutral and climate-resilient economy, and reduce GHG emissions by 2030. The CRGE Facility is tasked with resource allocation, measuring, reporting, and verifying climate-change projects, and coordinating international development partners on climate-finance support⁹⁶. Resources from the CRGE facility are prioritized and allocated by its Management Committee⁹⁷.



Ethiopia

Overview

Ethiopia is a low-income country and the 2nd most populated country in Africa with a population of 120 million⁸⁸. The country has a diverse climate and landscape, divided into three zones: 1) the alpine vegetated cool zones (cooler climate); 2) the temperate Woina Dega zones, where much of the population is concentrated; and 3) the hot Qola zone, which has both tropical and arid regions⁸⁹.

Drought is the single most destructive climate-related natural hazard in Ethiopia, due to drought induced impacts on agricultural productivity, but floods, volcanic eruptions, and earthquakes are also common. The country has a long history of recurring droughts, which have increased in frequency, magnitude, and impact since the 1970s⁹⁰. Agriculture is the sector that is most vulnerable to climate-change impacts as Ethiopia is dominated by small-scale subsistence farmers who remain heavily dependent on rainfall⁹¹.



Climate and Agriculture Finance Instruments

Government agencies, national climate funds, national banks, and insurance funds offer the climate and agriculture finance instruments in Ethiopia, including grants, loans, equity, agricultural loans, microfinance loans, warehouse receipt financing, and various types of agricultural insurance.



National Banks

The Co-operative Bank of Oromia provides banking solutions focused on cooperatives and agro-based businesses. This bank offers collateralized commodity financing,⁹⁸ agricultural term loans for fertilizers and other inputs,⁹⁹ merchandise loan facilities for merchandise or warehouse receipts,¹⁰⁰ and agricultural machinery loans¹⁰¹. The bank also provides the following financing solutions for cooperatives involved in agricultural production activities: working capital loans, agricultural mechanization, agricultural processing, and export financing facilities¹⁰².

The Commercial Bank of Ethiopia (CBE), established 1963, is one of the oldest banks in Ethiopia and has almost 40 million account holders¹⁰³. CBE supports the agricultural industry by offering agricultural term loans, idea financing, microfinance loans, and channel financing¹⁰⁴. Additionally, CBE partnered with the Ethiopia Commodity Exchange to launch an IFC-supported WRS in 2019 for the agricultural value chain, particularly that of maize¹⁰⁵.

The Development Bank of Ethiopia (DBE) is an institution established to promote the national development agenda through development finance to viable projects from priority areas of the government¹⁰⁶. The DBE extends credit to borrowers and projects that have received a thorough appraisal and are found to be financially, economically, and socially viable. Currently, bonds with a variety of values, maturity and interest rates are being offered to finance the Grand Ethiopian Renaissance Dam¹⁰⁷. The DBE also offers loans for various projects including agricultural, agro-processing projects¹⁰⁸ and rural electrification projects¹⁰⁹.



Insurance

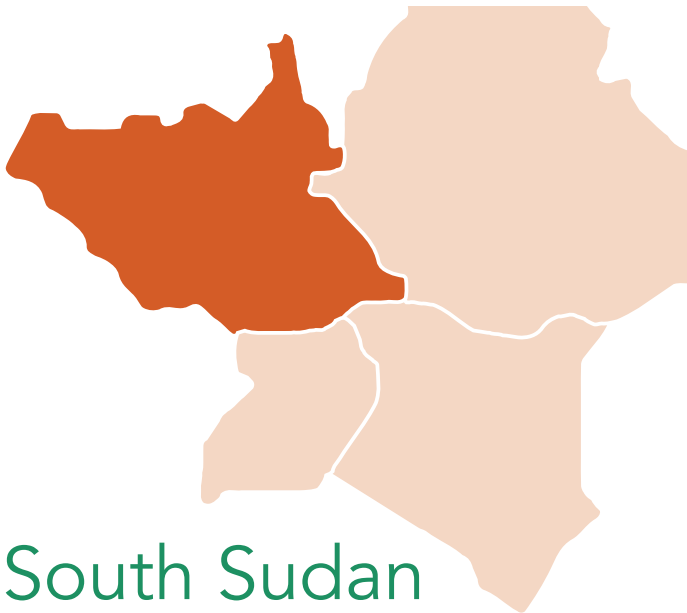
The Ethiopian Insurance Corporation (EIC) is a state-owned public enterprise that offers insurance services. EIC offers non-life insurance policies including crop insurance, livestock insurance, weather-indexed crop insurance, and horticulture-plantation insurance policies¹¹⁰.

Nyala Insurance, one of Ethiopia's leading private insurance companies, provides agricultural microinsurance to safeguard the financial

interests of farmers involved in crop and livestock production. Their agricultural microinsurance offers a comprehensive multi-peril crop insurance policy that covers a wide range of crops such as cereals, pulses, oilseeds, spices, fruits, vegetables, and plantation crops like tea, cotton, and sugarcane. Notably, Ethiopia's largest export crop, coffee, is insured under a separate, dedicated policy due to its unique importance.

In addition to crop coverage, Nyala Insurance offers livestock indemnity insurance, protecting animals such as cows, oxen, sheep, and goats used for dairy, fattening, or production purposes. This insurance ensures that farmers are financially protected against risks that could impact their agricultural livelihoods.¹¹¹

Oromia Insurance offers a diverse range of agricultural and microinsurance products tailored to meet the needs of farmers and livestock owners. Their crop insurance portfolio includes Weather Index Crop Insurance, which compensates farmers based on weather conditions; Multi-Peril Crop Insurance, covering risks such as drought, floods, pests, and diseases; Area Yield Index Insurance, which provides payouts when yields fall below a specified threshold; Vegetation Index Crop Insurance, using satellite data to assess crop health; and Coffee Plantation Insurance, a specialized product protecting Ethiopia's largest export crop. In addition, Oromia Insurance provides livestock coverage through Index-Based Livestock Insurance, which pays out based on environmental indices, and Multi-Peril Livestock Insurance, offering protection against a range of risks such as disease and natural disasters. These products help ensure that farmers and livestock owners can protect their financial interests against a wide range of agricultural and climate risks.¹¹²



South Sudan

Overview

South Sudan is a low-income country and one of the poorest countries¹¹³ in Africa, based on per capita GDP, and has a population of 10.7 million. South Sudan has a tropical climate with a rainy season and a dry season.

The most common natural hazards South Sudan is prone to are floods and droughts. Flooding is common during the rainy season with the country experiencing more intense flooding in recent years. Droughts, particularly in the northern and eastern parts of the country are a major challenge. In 2019, South Sudan ranked amongst the 10 countries most affected by climate change globally¹¹⁴. Climate change will continue to significantly impact South Sudan as an estimated 95% of the population is dependent on climate-sensitive livelihoods¹¹⁵.

These climate issues are exacerbated by conflicts rooted in ethnic and political divisions that have been ongoing since South Sudan gained its independence from Sudan in 2011 (South Sudan is Africa's youngest country). These conflicts make climate-change initiatives much more difficult to implement and reduce access to international climate funds and other sources of capital.

Climate and Agriculture Finance Instruments

Overall, the following climate-finance instruments are available in South Sudan through climate

funds, banks, and microfinance institutions: grants and agricultural loans, and regional, national and international climate funding via debt and debt-like instruments.

Generally, South Sudan does not have the funding and government capacity to achieve climate-change policy measures¹¹⁶; therefore, there are no South Sudanese government agencies that clearly offer climate finance and agriculture instruments.



Regional and National Climate/Agriculture Funds

The South Sudan Resilient Agriculture Livelihoods Project (RALP) is a national agriculture fund designed to support investments in farmer training. Its goal is to help farmers effectively manage their organizations, adopt new technologies, and implement climate-smart agricultural practices, while also investing in tools, machinery, and seeds¹¹⁷.



National Banks

Kush Bank and Equity Bank South Sudan are the only national banks offering relevant instruments. Kush Bank offers pre-shipment finance for companies in the agriculture and fisheries sector to enable stocking up, processing, and packaging¹¹⁸. Kush also offers services specifically to the humanitarian and social sector including pre-financing facilities to fund pressing beneficiary projects¹¹⁹.

Equity Bank South Sudan offers agriculture loans for medium- and large-scale farmers dealing in any aspect of farming¹²⁰.

Lastly, the Co-operative Bank of South Sudan participates in agricultural projects, in a co-financier capacity: The Rural Enterprises for Agriculture Development is a planned grant arranged by United Nations' International Fund for Agricultural Development (IFAD) and funded by international programs, in addition to the national government and the Co-operative Bank of South Sudan¹²¹.



Microfinance Institutions

The South Sudan Microfinance Development Facility (SSMDF) was created the Government of South Sudan, the Bank of South Sudan, and the World Bank,

with the aim of creating a sustainable microfinance sector¹²². There is no official website for SS MDF, so it is unclear if the facility still has available capital to provide support to microfinance institutions.

The Rural Finance Initiative (RUF I) is a cross-border microfinance institution in South Sudan and Uganda. It is unclear whether RUF I is currently offering microfinance services and loans as the website is under construction¹²³. RUF I is seeking capital to scale their existing loan portfolio^{124,125}.

Lastly, there are online microfinance institutions like Kiva, which operate in 80 countries around the world

including South Sudan. Kiva also launched a “direct to social enterprise program” that aims to raise capital for social enterprises via loans of US\$10,000-50,000 with repayment terms of 18 months or less¹²⁶.

Overall, South Sudan has fewer climate-finance tools available than other countries because it is a relatively new country and due to country-specific political and ethnic conflicts. Furthermore, sources of climate-finance instruments may be harder to identify due to lower press coverage and lack of established websites.



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International Funds and Development Banks

There are two sources of global funds to consider: international climate funds and development banks.

International Multilateral Climate Funds



There are many international climate funds managed by international organizations investing in developing countries. These funds can be multilateral, bilateral, or private-sector funds. Additionally, these funds offer a variety of financial instruments including grants, concessional loans, equity investments and guarantees in support of climate-related projects and programs.

Typically, an investment plan or concept note for a project addressing a significant opportunity for climate mitigation or climate adaptation is developed under the leadership of the recipient country. The scope of the investment plan is tailored to fit the national priorities of the recipient country. The international climate funds then work to source co-financing and scale up access to capital for the project.

These funds will usually align with projects that fit within its programming strategy and sector themes of interest such as food value chains, water-resources management, and automated weather systems. Some funds like the Least Developed Country Fund, managed by the Global Environment Facility (GEF), provide grants, while others like the

Climate Investment Funds (CIF) offer more financing instruments such as concessional loans, co-financing, and grants¹²⁷. International climate funds determine the type of instrument either based on what fits with the project situation or the type of instrument the fund is mandated to offer.

Lastly, the Global Facility for Disaster Reduction and Recovery (GFDRR) provides funding and expertise to help countries reduce their risks from natural hazards and climate change. GFDRR has issued 134 grants totaling over US\$40 million in FY2022¹²⁸ in areas such as disaster risk financing, resilience to climate change and resilient infrastructure¹²⁹. GFDRR has a public database of all their currently available grants¹³⁰.

Multilateral Development Banks and Other Institutions



Multilateral Development Banks (MDBs) like the African Development Bank (ADB) have initiatives and partnerships^{131,132} with dozens of organizations and funds in support of climate change and agriculture, including the Africa Climate Change Fund (ACCF), CIF and GEF. ADB serves as an implementing agency, manages, and invests alongside many of the funds established through its initiatives and partnerships. ADB offers non-concessional loans, concessional loans, equity investments, loan guarantees and grants¹³³.

IFC is a member of the World Bank and the largest global development bank dedicated to the private sector in developing countries. In 2021, IFC provided 32% of its own climate finance funding, mobilized US\$3.6 billion for climate change initiatives, and supported 111 climate-smart projects¹³⁴. IFC offers a wide range of financing instruments, including blended concessional finance, grants, loans, equity investments, debt securities, and guarantees^{135,136,137}.

Many international climate funds work with MDBs as implementing agencies or as partner firms to invest funds with promising projects.

Like the international climate funds, these development banks spur many co-financing activities: when they make an investment, they will contribute climate fund dollars alongside their investment and then also attract other sources of private capital. This is commonly called blended finance.

Other Private-sector Institutions



KawiSafi Ventures is dedicated to making a significant impact at the intersection of climate and energy poverty by investing in renewable, off-grid energy solutions. Established by Acumen—a pioneer in impact investing—KawiSafi Ventures leverages Acumen’s decade-long experience of investing over US\$20 million in the off-grid energy sector. The venture’s primary goal is to deliver clean, affordable energy to over 10 million people in East Africa, with a focus on low-income populations, while displacing more than a million tons of carbon. This initiative not only addresses energy poverty but also contributes to averting the long-term climate crisis.

To further its impact, KawiSafi Ventures launched the KawiSafi Ventures Technical Assistance Facility (KSV TAF) in April 2020 as a 5-year program. Seeded with US\$ 5 million from the GCF, the KSV TAF is designed to address specific market failures or externalities within the off-grid energy ecosystem in East Africa. The facility provides both firm-level and sector-level support that extends beyond traditional investment activities, including initiatives like consumer protection, promoting gender inclusion, and knowledge creation. Through these efforts, KawiSafi Ventures aims to foster a more sustainable and equitable off-grid energy ecosystem in the region, with a focus on Kenya and Rwanda, while maintaining a commitment to delivering market-competitive returns.¹³⁸

The Acumen Resilient Agriculture Fund (ARAF) is a US\$58 million climate adaptation fund and the world’s first equity fund specifically designed to build smallholder farmers’ climate resilience. Headquartered in Nairobi, ARAF invests in local start-ups that offer innovative solutions to smallholder farmers. With operations in both East and West Africa, the fund targets early-growth stage agribusinesses, investing between US\$300,000 and \$4 million in business models that help smallholders adapt to and thrive amidst the challenges posed by climate change^{139,140}.

The Katapult Africa Seed Fund is a pilot initiative within the Katapult system, providing seed funding for startup companies alongside an accelerator program. This approach enables companies to refine their strategies, accelerate growth, and prepare for external investments. The fund specifically targets agritech, climate tech, and impact tech companies. In 2024, Katapult Africa will invest in approximately 15 impact startups across the continent, offering upfront investments ranging from US\$150,000 to US\$500,000—averaging around US\$200,000. Through a tailored three-month accelerator program, Katapult Africa will support these startups in enhancing their growth and scalability.¹⁴¹

Equator VC is dedicated to accelerating climate action in Sub-Saharan Africa by investing in high-growth ventures across the energy, agriculture, and mobility sectors that prioritize carbon mitigation and climate resilience. In the energy sector, Equator VC seeks out innovative technologies and business models focused on distributed renewable energy, including advancements in battery technology, smart microgrids, and digitized energy systems. In the agricultural sector, the fund is committed to enhancing sustainability and productivity, targeting solutions that disrupt value chains, reducing post-harvest losses, and improving market access. In the mobility space, Equator VC supports the transition to electric mobility through innovations in vehicle design and energy networks. The fund invests in Seed and Series A stages, targeting ventures with product-market fit and growing revenues. By fostering these transformative businesses, Equator VC aims to drive impactful change in climate finance and sustainability across the continent¹⁴².

Pula is a firm focused on agricultural insurance and technology, committed to creating and providing cutting-edge insurance and digital solutions that assist smallholder farmers in managing yield risks, enhancing farming techniques, and boosting their incomes. Their insurance solutions protect farmers from a range of climate-related threats, including drought, excessive rainfall, pests, and diseases. Pula partners with local insurance firms and international reinsurance companies to underwrite risks while managing product development, risk allocation, farmer education, claims evaluation, and payouts.

Among Pula's offerings is Yield Index Insurance (YII), which protects farmers from low yields by covering the value of their purchased inputs. The country is segmented into agro-ecological zones, and average historical yield data for each zone is used to determine

payouts when yields drop below a predetermined level. They also provide Hybrid Index Insurance, which merges Weather Index Insurance and YII for comprehensive protection against multiple risks.

Pula's Index-Based Livestock Insurance shields pastoralists by covering damage to grazing land caused by drought or insufficient rainfall. This insurance ensures prompt payouts that allow farmers to buy livestock feed or relocate their animals during drought conditions, functioning as a large-scale asset protection initiative. Pula operates in countries including Kenya, Nigeria, Zambia, Malawi, and Mozambique, and is expanding into Asia and Latin America. Through its FieldSense platform, Pula delivers remote monitoring, agronomic advice, and farmer engagement tools to improve efficiency and enhance insurance uptake among farmers¹⁴³.



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The Clean Development Mechanism (CDM)

Carbon pricing policies have immense potential to play a key role in global efforts to address climate change and reduce GHG emissions. There are 68 carbon pricing instruments and emissions trading systems (ETS) operating worldwide¹⁴⁴. Given the fragmented nature of current carbon pricing policies—various types of carbon credits, traded on several different exchanges across the globe to achieve various goals—they are often not fully understood.

The carbon pricing market is growing. Record ETS prices were observed in 2022 and global carbon pricing revenue increased by almost 60% to US\$84 billion, representing 23% coverage of total global GHG emissions¹⁴⁵. Moreover, cross-border approaches to carbon pricing are increasingly gaining traction¹⁴⁶. In summary, the adoption of carbon pricing has continued to increase, but global coverage remains low.

The CDM under UNFCCC represents 11% of the carbon pricing market as measured by volume of issuances¹⁴⁷. Given the small share of CDMs—when measured against the total market and the large financing gap in national determined contributions in East African countries—the carbon pricing market represents a large, untapped opportunity, as credits issued under the CDM may be used to achieve the goals set forth in each country's Nationally Determined Contributions (NDCs).

There are CDM projects operating in Ethiopia, Kenya, and Uganda, that have earned, are earning or will earn carbon credits in the future, depending on where they are in the verification or crediting period. There is a large opportunity for East African countries to grow their participation in carbon pricing markets. Based on the CDM project database available on their website¹⁴⁸, Kenya has nine projects registered, with the most recent project being a 5.1MW Grid Connected Wind Electricity Generation

project at Ngong Hills, Kenya, registered in May 2014. Uganda has a total of eight projects with its most recent project, the Institutional Improved Cook Stoves for Schools, and Institutions project, registered in February 2017. Lastly, Ethiopia has one project, the Humbo Ethiopia Assisted Natural Regeneration Project, registered in December 2009 (note that Ethiopia had two projects rejected by the CDM executive board).

United Nations Framework Convention on Climate Change (UNFCCC)

As required by the Paris Agreement, NDCs are submitted every five years. The following data is from the latest NDC submissions from Uganda, Kenya, Ethiopia, and South Sudan. Total cost estimates represent the total cost of implementing adaptation, mitigation, coordination, monitoring, and reporting the milestones and targets in the countries' latest NDC.

The total cost of Uganda's most recent (2022) NDC is US\$28.1 billion, and the republic commits to covering unconditional actions requiring US\$4.1 billion or 15% of the total cost of its NDC¹⁴⁹. It therefore requires international support to cover conditional measures and actions totaling US\$24 billion.

The total cost of Kenya's most recent (2020) NDC is US\$62 billion, for which Kenya can provide resources to cover 13% or US\$8.1 billion¹⁵⁰. It would require international support to fill the US\$53.9 billion gap to fully implement the mitigation and adaptation actions in its NDC.

The total cost to implement Ethiopia's most recent (2021) NDC is estimated at US\$316 billion, to which Ethiopia has committed to invest US\$63.2 billion from domestic resources¹⁵¹. The remaining 80% of

its NDC, or US\$252.8 billion is slated to be received from international climate-finance sources. Ethiopia has the largest funding gap on an absolute dollar basis.

South Sudan's latest NDC (2021) will require US\$100 billion for the implementation of all actions over a period of 10 years, and the Government of South Sudan is able to finance US\$6.5-7 billion domestically¹⁵². South Sudan needs international funding to help fill the gap of US\$93-93.5 billion or ~93% of the total cost of its NDC and is targeting support from multilateral and bilateral organizations and international climate funds, and using grants, concessional/non-concessional loans to source funding. South Sudan has the largest funding gap on a percentage basis.

Uganda, Kenya, Ethiopia, and South Sudan are only able to cover a small portion of the total cost of their NDCs. At large, Africa will need to invest more than US\$3 trillion in climate mitigation and adaptation by 2030 to implement its NDCs¹⁵³. If developed countries do not increase climate financing to developing nations, Africa may struggle to meet its climate commitments¹⁵⁴.

Challenges Limiting the Use of Climate and Agriculture Finance Instruments

Countries typically have competing priorities when deciding whether to make an investment in reducing impacts from climate change versus allocating those resources elsewhere. For example, Kenya's priorities are still economic and social development, and poverty eradication. As a natural resource-dependent developing country, it requires huge financial investment to support green growth. Given Kenya's lack of capital and competing priorities, it has committed to financing only 13% of its NDC to the UNFCCC¹⁵⁵.

The global climate-finance landscape and the

stakeholders involved is quite fragmented. As a result, the various institutions and agencies may have different objectives even though they have similar mandates. For example, between 2015 and 2019, many highly vulnerable countries received climate adaptation funding; however, some of Africa's most financially constrained economies were unable to access these resources¹⁵⁶.

Many of those in need of climate and agriculture finance solutions, whether subsistence farmers, pastoralists, or SMEs, are just too small in scale to access credit. In Uganda, over 75% of agro-processing firms are informal and operate on a small scale, offering low-value products and exhibiting limited innovation. As a result, less than 1% of farming households rely on credit to acquire fertilizers or agrochemicals, and only 6.3% of small-scale agribusinesses have access to loans or lines of credit¹⁵⁷.

Another challenge limiting the use of climate and agriculture finance is the underdeveloped financial sector in Africa. Capital markets are underdeveloped and illiquid, which makes it difficult to attract the growing pool of climate finance (i.e., green bonds)¹⁵⁸. African banks also lack the knowledge to underwrite complex green energy projects. Most domestic banks and institutional investors do not lend to or invest in low-carbon sectors because they have little knowledge or the ability to assess returns on low-carbon projects¹⁵⁹.

While climate change and natural disasters are causing more disruptions to African economies, these events induce higher financing costs and increase the overall cost of capital instead of further incentivizing climate financing¹⁶⁰. This counterintuitive dynamic causes investment dollars to flow to other geographies and asset classes instead of towards green, low-carbon projects in Africa.

Moreover, there are capacity and coordination barriers limiting the use of and access to climate and agriculture finance. For example, in Ethiopia, there is a lack of technical capacity that includes knowledge gaps and limited awareness of climate science and risk analysis. Lack of coordination across all levels of government leads to climate-change

implementations concentrated at the national level, which means regional and subregional issues are not able to tap into climate funds such as the CRGE facility¹⁶¹.

Lastly, in countries like South Sudan, violence, political instability, corruption, lack of infrastructure and weak governance make it difficult to attract international funding and execute climate-change projects.

Summary of Findings

In conclusion, there are many climate-finance instruments offered in East Africa: from traditional instruments such as grants, loans, equity, and insurance to more climate- and agriculture-specific instruments such as green bonds, WRS financing and performance-based loans. Various government agencies, national banks, insurance firms, private investment funds and climate funds make these sources of funding available. Government agencies play a key role in Uganda, Kenya, Ethiopia, and South Sudan by forming partnerships with international organizations and national or development banks to make these solutions available.

While these climate and agriculture instruments are encouraging in the fight against climate change, green finance—including the issuance of green bonds, green loans, sustainability bonds, and sustainability-linked bonds and loans—remains in its early stages. Between 2014 and 2021, Africa represented less than 0.26% of global green bond issuance, the lowest proportion among all global regions.¹⁶² There is a strong global demand for green finance, as evidenced by the US\$623 billion in green bonds issued worldwide in 2021¹⁶³, but there is still considerable room for growth in green bond issuance in Africa.

In addition to these domestic sources of capital, funding from international climate funds, development banks, and carbon pricing markets through the CDM are available to support the fight against climate change. Even though these

instruments are available, there are still constraints limiting their use, including a massive funding gap between the costs outlined in the NDCs that can be covered with domestic resources and the funds to be raised from international sources to satisfy the total cost of each country's NDC. South Sudan has the largest financing gap (it is only able to cover 7% of its NDC from domestic resources) and Africa is expected to need a capital injection of more than US\$3 trillion by 2030 to implement its NDCs.

In Africa, there are structural, governmental, financial, and policy challenges hindering increased use of the available climate and agriculture instruments, which also prevent new capital sources from flowing to East Africa. Key challenges include countries balancing climate-change initiatives with other competing priorities, underdeveloped and illiquid capital markets in Africa, and higher financing costs. Also, countries like South Sudan, one of the most challenged countries in Africa due to years of political conflict, instability, and violence, lack the infrastructure needed to attract international sources of capital.

If international climate funds were to invest their available funds (defined as pledged funds that have not been disbursed) in Africa, it would only contribute US\$35.4 billion towards closing the funding gap. To put this figure into perspective, it only represents 0.5% of the US\$3 trillion needed by 2030 for Africa to implement its NDCs.

Since many of these climate-finance tools are relatively new, there are few studies evaluating the efficacy or long-term results of their use. There is a need to study the social and environmental impact of these tools, as well as the financial returns and risk to investors over the project's time horizon. Documenting the positive results for all stakeholders involved may attract new sources of capital to the continent.

Unless East African and African countries as a whole identify new sources of capital to fund climate-change projects, they will not meet the goals set forth in their NDCs under the UNFCCC.

References

¹ World Economic Forum, 2023. COP28: Bridging the climate finance gap in Africa and beyond [online] Available at: [COP28: Bridging the climate finance gap in Africa and beyond | World Economic Forum \(weforum.org\)](https://www.weforum.org/articles/cop28-bridging-the-climate-finance-gap-in-africa-and-beyond/)

² World Bank, 2021. Uganda Climate Report. [pdf] Climate Knowledge Portal. Available at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15464-WB_Uganda%20Country%20Profile-WEB%20%281%29.pdf

³ World Bank, [no date]. Uganda: Vulnerability. Available at: <https://climateknowledgeportal.worldbank.org/country/uganda/vulnerability> [Accessed 25 October 2023].

⁴ <https://climateknowledgeportal.worldbank.org/country/uganda/vulnerability>

⁵ Reuters, 2022. More than 200 people die as drought ravages northeast Uganda. [online] Available at: <https://www.reuters.com/world/africa/more-than-200-people-die-drought-ravages-northeast-uganda-2022-07-19/>

⁶ Reuters, 2022. More than 200 people die as drought ravages northeast Uganda. [online] Available at: <https://www.reuters.com/world/africa/more-than-200-people-die-drought-ravages-northeast-uganda-2022-07-19/>

⁷ World Bank, [no date]. Uganda: Climate Change Knowledge portal. Available at: <https://climateknowledgeportal.worldbank.org/country/uganda/vulnerability>

⁸ World Bank, 2021 Uganda Climate Report. [pdf] Climate Knowledge Portal. Available at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15464-WB_Uganda%20Country%20Profile-WEB%20%281%29.pdf, p.14

⁹ Hostalite, [no date]. CCD Portfolio. [online] Available at: <https://www.hostalite.com/portfolio/ccd/>

¹⁰ National Planning Authority, [no date]. Uganda Green Growth Development Strategy. [online] Available at: <http://www.npa.go.ug/about-npa/>

[uganda-green-growth-development-strategy/](https://www.npa.go.ug/about-npa/)

¹¹ United Nations Environment Programme, [no date]. Uganda: Environmental Law. [pdf] Available at: <https://leap.unep.org/sites/default/files/legislation/uga184391.pdf>

¹² AECF, [no date]. The Africa Enterprise Challenge Fund. [online] Available at: <https://www.aecfafrica.org/>

¹³ AECF, [no date]. How We Deliver: Financing. [online] Available at: <https://www.aecfafrica.org/approach/how-we-deliver/financing/>

¹⁴ AECF, [no date]. Our Programmes: Nkwanzu Scaling Women SMEs Project. [online] Available at: <https://www.aecfafrica.org/approach/our-programmes/other-sectors/nkwanzu-scaling-women-smes-project/#geographical-focus->

¹⁵ Kikubo Lane, 2023. Uganda Development Bank turns focus to green economy financing. [online] Available at: <https://kikubolane.com/2023/04/05/uganda-development-bank-turns-focus-to-green-economy-financing/>

¹⁶ UDBL, [no date]. No action is not an option for climate change: Is green financing the way to go?. [online] Available at: <https://www.udbl.co.ug/no-action-is-not-an-option-for-climate-change-is-green-financing-the-way-to-go/>

¹⁷ Standard Bank Group, [no date]. Why we matter: Climate Strategy. [online] Available at: <https://www.standardbank.com/sbg/standard-bank-group/why-we-matter/climate-strategy>

¹⁸ Standard Bank Group, [no date]. Why we matter: Climate Strategy. [online] Available at: <https://www.standardbank.com/sbg/standard-bank-group/why-we-matter/climate-strategy>

¹⁹ Standard Bank Group, [no date]. Why we matter: Climate Strategy. [online] Available at: <https://www.standardbank.com/sbg/standard-bank-group/why-we-matter/climate-strategy>

²⁰ Business Week, [no date]. Equity Uganda launches climate financing. [online] Available at: <https://www.busiweek.com/equity-uganda-launches-climate-financing/>

- ²¹ UGEFA, [no date]. Equity Bank and UGEFA formally launch their partnership. [online] Available at: <https://www.ugefa.eu/news/equity-bank-and-ugefa-formally-launch-their-partnership>
- ²² Equity Group Holdings, [no date]. Newsroom Item. [online] Available at: https://equitygroupholdings.com/ug/component/equity_newsroom/newsroomitem/67
- ²³ Centenary Bank, 2022. New Avenues for Social Transformation [pdf] Available at: https://www.centenarybank.co.ug/assets/uploads/reports/CentenaryAR_IM_070623_Lite.pdf
- ²⁴ Centenary Bank, 2022. New Avenues for Social Transformation [pdf] Available at: https://www.centenarybank.co.ug/assets/uploads/reports/CentenaryAR_IM_070623_Lite.pdf
- ²⁵ USAID, 2006. [WAREHOUSE RECEIPT FINANCING A BANKING PERSPECTIVE]. [pdf] Available at: https://pdf.usaid.gov/pdf_docs/PNADK971.pdf p.13-23
- ²⁶ Pearl Capital, [no date]. About Us. [online] Available at: <https://site.pearlcapital.net/about/>
- ²⁷ Pearl Capital, [no date]. Our Investment. [online] Available at: <https://site.pearlcapital.net/portfolio/our-investment/>
- ²⁸ AVCA Africa, 2017. Pearl Capital Partners reaches first close for Uganda Fund. [online] Available at: <https://www.avca-africa.org/newsroom/member-news/2017/pearl-capital-partners-reaches-first-close-for-uganda-fund/>
- ²⁹ Impact Capital Africa, [no date]. About Us. [online] Available at: <https://impactcapafrica.com/about-us/>
- ³⁰ SolarNow, [no date]. About Us. [online] Available at: <https://www.solarnow.eu/about.html>
- ³¹ Inua Capital, [no date]. About us. [online] Available at: <https://inuacapital.com/about-us/>
- ³² The 97 Fund, [no date]. About us. [online] Available at: <https://the97.fund/>
- ³³ UAP Old Mutual, [no date]. Crop Insurance. [online] Available at: <https://www.uapoldmutual.co.ug/business/crop-insurance/>
- ³⁴ UAP Old Mutual, [no date]. Livestock. [online] Available at: <https://www.uapoldmutual.co.ug/business/livestock/>
- ³⁵ Goldstar Insurance, [no date]. Agricultural Insurance. [online] Available at: <https://www.goldstarinsurance.com/agricultural-insurance/>
- ³⁶ Agriculture Insurance Company, [no date]. About Us. [online] Available at: <https://aic.ug/about-us/>
- ³⁷ Omulimisa Insurance, [no date]. Agricultural Insurance. [online] Available at: www.omulimisa.org/insurance
- ³⁸ World Bank, 2021. Kenya Climate Report. [pdf] Climate Knowledge Portal. Available at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15724-WB_Kenya%20Country%20Profile-WEB.pdf p.10
- ³⁸ World Bank, 2021. Kenya Climate Report. [pdf] Climate Knowledge Portal. Available at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15724-WB_Kenya%20Country%20Profile-WEB.pdf p.11
- ³⁹ AgriFinance, [no date]. About Us. [online] Available at: <https://agrifinance.org/aboutUs>
- ⁴⁰ Public Private Partnership Unit - Kenya, [no date]. PPP Overview. [online] Available at: <https://www.pppunit.go.ke/ppp-overview/>
- ⁴¹ AgriFinance, [no date]. About Us. [online] Available at: <https://agrifinance.org/aboutUs>
- ⁴² Public Private Partnership Unit - Kenya, [no date]. PPP Overview. [online] Available at: <https://www.pppunit.go.ke/ppp-overview/>
- ⁴³ Public Private Partnership Unit - Kenya, [no date]. Mandate & Functions. [online] Available at: <https://www.pppunit.go.ke/mandate-functions/>
- ⁴⁴ NETFUND, [no date]. Who We Are. [online] Available at: <https://netfund.go.ke/about-who-we-are/>
- ⁴⁵ NETFUND, 2023. Factsheet. [pdf] Available at: <https://netfund.go.ke/wp-content/uploads/2023/04/NETFUND-Factsheet.pdf>

- ⁴⁶ National Environment Management Authority, [no date]. About NEMA. [online] Available at: https://www.nema.go.ke/index.php?option=com_content&view=article&id=1&Itemid=136
- ⁴⁷ National Environment Management Authority, [no date]. NEMA Strategic Plan 2019-2024. [pdf] p.35-36. Available at: <https://www.nema.go.ke/images/Docs/Awarness%20Materials/NEMA%20Strategic%20Plan%202019-2024%20Final-min.pdf>
- ⁴⁸ National Environment Management Authority, [no date]. NEMA Strategic Plan 2019-2024. [pdf] p.52. Available at: <https://www.nema.go.ke/images/Docs/Awarness%20Materials/NEMA%20Strategic%20Plan%202019-2024%20Final-min.pdf#p.52>
- ⁴⁹ Kenya Climate Innovation Center, [no date]. About Us. [online] Available at: <https://agribiz.kenyacic.org/about-us/>
- ⁵⁰ Kenya Climate Innovation Center, [no date]. PUSE Financing Program. [online] Available at: <https://www.kenyacic.org/puse-financing-program/#1677499666334-b7e63e1c-2e02>
- ⁵¹ Kenya Climate Innovation Center, [no date]. GreenBiz.[online] Available at: <https://www.kenyacic.org/greenbiz/#1623416217417-acd74b3c-cef9>
- ⁵² AGRA, [no date]. Kenya's Warehouse Receipt System: Key to Income Increases for Farmers. [online] Available at: <https://agra.org/news/kenyas-warehouse-receipt-system-key-to-income-increases-for-farmers/>
- ⁵³ National Treasury, 2021. Financing Locally-led Climate Action Program [pdf]. Available at: <https://www.treasury.go.ke/wp-content/uploads/2021/03/ToR-for-the-Development-of-the-ASSA-Manual-Cleared-by-WB-June-2020.pdf>
- ⁵⁴ AgriFinance, [no date]. Agribusiness Loan Product. [online] Available at: <https://agrifinance.org/loanProduct/QWdyaWJ1c2luZXNz>
- ⁵⁵ AgriFinance, [no date]. Livestock and Fisheries Development Loan Product. [online] Available at: <https://agrifinance.org/loanProduct/TGI2ZXN0b2N-rlGFuZCBGaXNoZXJpZXMgRGV2ZWxvcG1lbnQ=>
- ⁵⁶ KCB Group, [no date]. KCB Asset-Based Finance. [online] Available at: <https://ke.kcbgroup.com/for-your-biashara/get-trade-financing/kcb-asset-based-finance>
- ⁵⁷ KCB Group, [no date]. KCB Asset-Based Finance. [online] Available at: <https://ke.kcbgroup.com/for-your-biashara/get-trade-financing/kcb-asset-based-finance>
- ⁵⁸ KCB Group, 2021. Annual Report. [pdf] p.77. Available at: <https://africanfinancials.com/document/ke-kcb-2021-ar-00/>
- ⁵⁹ KCB Group, [no date]. On Climate Change, Time for Inaction Has Long Passed. [online] Available at: <https://ke.kcbgroup.com/our-blog/trending/on-climate-change,-time-for-inaction-has-long-passed>
- ⁶⁰ Equity Group Holdings, [no date]. Maji Loan. [online] Available at: <https://equitygroupholdings.com/ke/borrow/maji-loan>
- ⁶¹ Equity Group Holdings, [no date]. Water Loan. [online] Available at: <https://equitygroupholdings.com/ke/borrow/water-loan>
- ⁶² Equity Group Holdings, [no date]. Sanitation Loan. [online] Available at: <https://equitygroupholdings.com/ke/borrow/sanitation-loan>
- ⁶³ Equity Group Holdings, [no date]. Asset Finance. [online] Available at: <https://equitygroupholdings.com/ke/borrow/asset-finance>
- ⁶⁴ Climate Bonds Initiative, 2019. First Green Bond from Kenya: Acorn USD40m Climate Bonds Certified Financing Green Buildings. [online] Available at: <https://www.climatebonds.net/2019/10/first-green-bond-kenya-acorn-usd40m-climate-bonds-certified-financing-green-buildings>
- ⁶⁵ Standard Bank, [no date]. Greenlight Planet Case Study. [pdf] Available at: https://corporateandinvestment.standardbank.com/static/file/CIB/PDF/2021/Investment%20Banking/CIB_Greenlight-Planet_Case-Study.pdf
- ⁶⁶ Co-operative Bank of Kenya, 2021. Sustainability Report 2020. [pdf] p.31. Available at: <https://www.co-opbank.co.ke/wp-content/uploads/2021/11/Co-operative-Bank-Sustainability-Report-2020.pdf>

- ⁶⁷ Co-operative Bank of Kenya, 2023. ESG Report 2021. [pdf] p.19. Available at: <https://www.co-opbank.co.ke/wp-content/uploads/2023/01/Co-operative-Bank-ESG-Report-2021.pdf>
- ⁶⁸ Family Bank, [no date]. Loans-Kilimo biashara. [online] Available at: <https://familybank.co.ke/loans/kilimo-biashara/>
- ⁶⁹ Family Bank, [no date]. Business mid-term loans. [online] Available at: <https://familybank.co.ke/loans/farming-business-mid-term-loans/>
- ⁷⁰ Family Bank signs USD 5 million financing, 2024. [online] Available at: <https://familybank.co.ke/eco-business-fund-and-family-bank-bolster-partnership-for-agribusinesses/>
- ⁷¹ Absa Kenya. [online] Available at: <https://www.absabank.co.ke/sustainability/>
- ⁷² Absa Kenya signs USD 10 million Financing. [online] Available at: <https://www.ecobusiness.fund/en/press/absa-bank-signs-usd-10-million-financing-deal-with-the-ecobusiness-fund-to-support-climate-smart-agricultural-practices-in-kenya>
- ⁷³ Absa Kenya Eyes Green Lending Portfolio. [online] Available at: <https://www.businessdailyafrica.com/bd/corporate/companies/absa-eyes-sh120-billion-green-lending-portfolio--4414668>
- ⁷⁴ Advance Africa, [no date]. EABL Foundation Grants. [online] Available at: <https://www.advance-africa.com/EABL-Foundation-Grants.html>
- ⁷⁵ Advance Africa, [no date]. EABL Foundation Grants. [online] Available at: <https://www.advance-africa.com/EABL-Foundation-Grants.html>
- ⁷⁶ KCV, [no date]. Investment. [online] Available at: <https://kcv.co.ke/investment/>
- ⁷⁷ KCV, [no date]. Products and Services. [online] Available at: <https://kcv.co.ke/products-and-services/>
- ⁷⁸ GroFin, [no date]. Investors. [online] Available at: <https://www.grofin.com/investors/#toggle-id-7>
- ⁷⁹ Catalyst Principal Partners, [no date]. Home. [online] Available at: <https://catalystprincipal.com/>
- ⁸⁰ Equity Group Holdings, [no date]. Crop Insurance. [online] Available at: <https://equitygroupholdings.com/ke/insure/crop-insurance>
- ⁸¹ Equity Group Holdings, [no date]. Bima Ya Mifugo. [online] Available at: <https://equitygroupholdings.com/ke/insure/bima-ya-mifugo>
- ⁸² Equity Group Holdings, [no date]. Green House Insurance. [online] Available at: <https://equitygroupholdings.com/ke/insure/green-house>
- ⁸³ Old Mutual, [no date]. Crop Insurance. [online] Available at: <https://www.oldmutual.co.ke/business/employer-needs/crop-insurance/>
- ⁸⁴ Old Mutual, [no date]. Livestock Insurance. [online] Available at: <https://www.oldmutual.co.ke/business/employer-needs/livestock-insurance/>
- ⁸⁵ <https://www.worldbank.org/en/news/feature/2018/11/05/kenyas-pastoralists-protect-assets-from-drought-risk-with-financial-protection>
- ⁸⁶ Waumini Insurance, [no date]. Agro-Insurance. [online] Available at: <https://www.wauminiinsurance.co.ke/agriculture-insurance/#1460205407850-9deeab10-3ad6>
- ⁸⁷ APA Insurance, [no date]. Crop cover. [online] Available at: https://www.apainsurance.org/product_detail_crop
- ⁸⁸ The World Bank, 2018. Kenya's Pastoralists Protect Assets from Drought Risk with Financial Protection. [online] Available at: <https://www.worldbank.org/en/news/feature/2018/11/05/kenyas-pastoralists-protect-assets-from-drought-risk-with-financial-protection>
- ⁸⁹ The World Bank, [no date]. Ethiopia. [online] Available at: <https://data.worldbank.org/country/ET>
- ⁹⁰ World Bank Group, 2021. Ethiopia Country Climate Risks and Opportunities Report. [pdf] p.10. Available at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15463A-WB_Ethiopia%20Country%20Profile-WEB.pdf
- ⁹¹ World Bank Group, 2021. Ethiopia

Country Climate Risks and Opportunities Report. [pdf] p.14. Available at: <https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15463A-WB-Ethiopia%20Country%20Profile-WEB.pdf>

⁹² Agricultural Transformation Agency, [no date]. Investment Opportunities. [online] Available at: <https://www.ata.gov.et/investment-opportunities/>

⁹³ Agricultural Transformation Agency, 2016. Investing in Ethiopia's Industrial Parks: Opportunities in Ethiopia's Feedlot and Abattoir Sector. [pdf] Available at: http://ata.gov.et/wp-content/uploads/2016/06/2016-Feedlot-Abattoir-Teaser_vWIP.pdf

⁹⁴ Addis Ababa University, [no date]. Ethiopian Climate Innovation Center. [online] Available at: <http://www.aau.edu.et/blog/ethiopian-climate-innovation-center/>

⁹⁵ Environmental Protection Authority, [no date]. P4G Partnership. [online] Available at: <https://www.epa.gov.et/sectors/climate-change-and-bio-diversity/p4g-partnership.html>

⁹⁶ Ministry of Finance, [no date]. CRGE Facility. [online] Available at: <https://www.mofed.gov.et/programmes-projects/crge-facility/>

⁹⁷ United Nations Development Programme, [no date]. Ethiopia CRGE Facility. [online] Available at: <https://mptf.undp.org/fund/3et00#>

⁹⁸ Cooperative Bank of Oromia, [no date]. Collateralized Commodity Financing (CCF). [online] Available at: <https://coopbankoromia.com.et/collateralized-commodity-financing-ccf/>

⁹⁹ Cooperative Bank of Oromia, [no date]. Agricultural Term Loan. [online] Available at: <https://coopbankoromia.com.et/loan-and-advances/agricultural-term-loan/>

¹⁰⁰ Cooperative Bank of Oromia, [no date]. Merchandise Loan Facility. [online] Available at: <https://coopbankoromia.com.et/loan-and-advances/merchandise-loan-facility>

¹⁰¹ Cooperative Bank of Oromia, [no date]. Agricultural Machinery Loan. [online] Available at: <https://coopbankoromia.com.et/loan-and-advances/agricultural-machinery-loan/>

¹⁰² Cooperative Bank of Oromia, [no date]. Cooperative Financing. [online] Available at: <https://coopbankoromia.com.et/cooperatives/cooperative-financing/#agriculturemechanization>

¹⁰³ Commercial Bank of Ethiopia, [no date]. About Us. [online] Available at: <https://www.combanketh.et/en/about/>

¹⁰⁴ <https://www.combanketh.et/en/loan>

¹⁰⁵ World Bank Group, [no date]. IFC Supported Warehouse Receipt Financing System Launched in Ethiopia. [pdf] Available at: https://collaboration.worldbank.org/content/usergenerated/asi/cloud/attachments/sites/collaboration-for-development/en/groups/agrifin/products/jcr:content/content/primary/blog/ifc_supported_warehouse-s4aM/IFC%20Supported%20Warehouse%20Receipt%20Financing%20System%20Launched%20in%20Ethiopia.pdf

¹⁰⁶ Development Bank of Ethiopia, [no date]. Mission, Vision, and Value. [online] Available at: <https://www.dbe.com.et/index.php/about/mission-vision-and-value>

¹⁰⁷ Development Bank of Ethiopia, [no date]. Bond. [online] Available at: <https://www.dbe.com.et/index.php/bond>

¹⁰⁸ Development Bank of Ethiopia, [no date]. Loan Requirements. [online] Available at: <https://www.dbe.com.et/index.php/services/loan-requirements>

¹⁰⁹ Development Bank of Ethiopia, [no date]. Rural Electrification. [online] Available at: <https://www.dbe.com.et/index.php/services/rural-electrification>

¹¹⁰ Ethiopian Insurance Corporation, [no date]. Non-Life Insurance. [online] Available at: <https://eic-et.com/index.php/non-life-insurance/>

¹¹¹ Nyala Insurance, [no date]. Agricultural Micro-Insurance. [online] Available at : [Agricultural Micro Insurance | Nyala Insurance \(nyalainsurancesc.com\)](https://nyalainsurancesc.com)

¹¹² Oromia Insurance, [no date]. Agricultural Insurance. [online] Available at: https://oromiainsurance.com/product/agricultural_microinsurance.php

¹¹³ Statista, 2022. Gross domestic product (GDP) per capita in South Sudan from 2008 to 2022. [online] Available at: <https://www.statista.com/statistics/727344/gross-domestic-product-gdp-per-capita-in-south-sudan/>

¹¹⁴ United Nations in South Sudan, 2023. United Nations Sustainable Development Cooperation Framework South Sudan 2023-2025. [pdf] p.19. Available at: <https://southsudan.un.org/sites/default/files/2023-02/UN%20Sustainable%20Development%20SOUTH%20SUDAN-%20FINAL.pdf>

¹¹⁵ United Nations in South Sudan, 2023. United Nations Sustainable Development Cooperation Framework South Sudan 2023-2025. [pdf] Available at: <https://southsudan.un.org/sites/default/files/2023-02/UN%20Sustainable%20Development%20SOUTH%20SUDAN-%20FINAL.pdf>

¹¹⁶ U.S. Department of State, 2022. 2022 Investment Climate Statements: South Sudan. [online] Available at: <https://www.state.gov/reports/2022-investment-climate-statements/south-sudan/>

¹¹⁷ The World Bank, 2021. South Sudan: New Financing to Address Acute Food Insecurity and Desert Locust Crisis. [online] Available at: <https://www.worldbank.org/en/news/press-release/2021/06/11/south-sudan-new-financing-to-address-acute-food-insecurity-and-desert-locust-crisis>

¹¹⁸ Kush Bank, [no date]. Business Products. [online] Available at: <https://kushbankss.com/business-products/>

¹¹⁹ Kush Bank, [no date]. Humanitarian & Social

Sector. [online] Available at: <https://kushbankss.com/humanitarian-social-sector/>

¹²⁰ Equity Group Holdings, [no date]. Agriculture Loan. [online] Available at: <https://equitygroupholdings.com/ss/borrow/agriculture-loan>

¹²¹ International Fund for Agricultural Development, [no date]. Republic of South Sudan: Smallholder Agriculture Transformation and Market Integration Programme. [online] Available at: <https://www.ifad.org/en/web/operations/-/project/2000004330>

¹²² South Sudan Microfinance Development Facility, [no date]. About. [online] Available at: <https://www.developmentaid.org/organizations/view/416742/south-sudan-microfinance-development-facility>

¹²³ Rural Finance Initiative (RUFi), [no date]. Home. [online] Available at: <https://rufimfi.com/>

¹²⁴ Refugee Investment Network, [no date]. Rural Finance Initiative (RUFi). [online] Available at: <https://refugeeinvestments.org/opportunities/rural-finance-initiative-rufi/>

¹²⁵ Refugee Investments, 2022. Rural Finance Initiative. [pdf] Available at: <https://refugeeinvestments.org/wp-content/uploads/2022/06/1.-Rural-Finance-Initiative.docx.pdf>

¹²⁶ Kiva, [no date]. Kiva Launches Direct to Social Enterprise Program. [online] Available at: <https://www.kiva.org/blog/kiva-launches-direct-to-social-enterprise-program>

¹²⁷ International Finance Corporation, [no date]. Climate Investment Funds. [online] Available at: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/bf/focus-areas/bf-climate/cif

¹²⁸ Global Facility for Disaster Reduction and Recovery, [no date]. Where We Work. [online] Available at: <https://www.gfdrr.org/en/where-we-work>

- ¹²⁹ Global Facility for Disaster Reduction and Recovery, [no date]. Thematic Areas. [online] Available at: <https://www.gfdr.org/en/thematic-areas>
- ¹³⁰ Global Facility for Disaster Reduction and Recovery, [no date]. Grants. [online] Available at: [https://www.gfdr.org/en/grants?field_topics_term_target_id\[\]=617](https://www.gfdr.org/en/grants?field_topics_term_target_id[]=617)
- ¹³¹ African Development Bank Group, [no date]. Initiatives & Partnerships. [online] Available at: <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships>
- ¹³² African Development Bank Group, [no date]. Climate Change Financing & Partnerships. [online] Available at: <https://www.afdb.org/en/topics-and-sectors/sectors/climate-change/financing-partnerships>
- ¹³³ Lum, T., 2010. China's Assistance and Government-Sponsored Investment Activities in Africa, Latin America, and Southeast Asia. [pdf] Congressional Research Service, p.4. Available at: <https://sgp.fas.org/crs/row/R41170.pdf>
- ¹³⁴ International Finance Corporation, [no date]. Climate Business. [online] Available at: https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Climate+Business
- ¹³⁵ International Finance Corporation, [no date]. About IFC. [online] Available at: https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/about+ifc_new
- ¹³⁶ International Finance Corporation, [no date]. About IFC. [online] Available at: https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/about+ifc_new
- ¹³⁷ International Finance Corporation, [no date]. How to Apply for Financing. [online] Available at: https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/solutions/how-to-apply-for-financing
- ¹³⁸ KawiSafi Ventures, [no date]. About us. [online] Available at: <https://www.kawisafi.com/>
- ¹³⁹ Acumen Resilient Agriculture Fund, [no date]. Home. [online] Available at: <https://arafund.com/>
- ¹⁴⁰ Aceli Africa, [no date]. What we do. [online] Available at: <https://aceliafrica.org/what-we-do/approach/>
- ¹⁴¹ Katapult Africa, [no date]. About us. [online] Available at: <https://katapult.vc/africa/>
- ¹⁴² Equator VC, [no date]. Investment Focus. [online] Available at: <https://equator.vc/investment-pillars>
- ¹⁴³ PULA Advisors, [no date]. Products and services. [online] Available at: <https://www.pula-advisors.com/livestock-insurance/#>
- ¹⁴⁴ World Bank, [no date]. Inclusive Cities Approach Paper. [pdf] pp.9, 10, 34. Available at: <https://openknowledge.worldbank.org/entities/publication/a1abead2-de91-5992-bb7a-73d8aaaf767f>
- ¹⁴⁵ World Bank, [no date]. Inclusive Cities Approach Paper. [pdf] pp.9. Available at: <https://openknowledge.worldbank.org/entities/publication/a1abead2-de91-5992-bb7a-73d8aaaf767f>
- ¹⁴⁶ World Bank, [no date]. Inclusive Cities Approach Paper. [pdf] pp.10. Available at: <https://openknowledge.worldbank.org/entities/publication/a1abead2-de91-5992-bb7a-73d8aaaf767f>
- ¹⁴⁷ World Bank, [no date]. Inclusive Cities Approach Paper. [pdf] pp.34. Available at: <https://openknowledge.worldbank.org/entities/publication/a1abead2-de91-5992-bb7a-73d8aaaf767f>.
- ¹⁴⁸ United Nations Framework Convention on Climate Change, [no date]. Project Search. [online] Available at: <https://cdm.unfccc.int/Projects/projsearch.html>
- ¹⁴⁹ Republic of Uganda, 2022. Uganda's Updated Nationally Determined Contribution. [pdf] United Nations Framework Convention

on Climate Change, p.iv. Available at: https://unfccc.int/sites/default/files/NDC/2022-09/Updated%20NDC%20_Uganda_2022%20Final.pdf

¹⁵⁰ Republic of Kenya, 2022. Kenya's First Nationally Determined Contribution (updated version). [pdf] United Nations Framework Convention on Climate Change, p.2. Available at: <https://unfccc.int/sites/default/files/NDC/2022-06/Kenya%27s%20First%20%20NDC%20%28updated%20version%29.pdf>

¹⁵¹ Federal Democratic Republic of Ethiopia, 2021. Ethiopia's Updated Nationally Determined Contribution (NDC). [pdf] United Nations Framework Convention on Climate Change, p.21. Available at: https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission_.pdf

¹⁵² Republic of South Sudan, 2022. South Sudan's Second Nationally Determined Contribution. [pdf] United Nations Framework Convention on Climate Change, pp.27, 159. Available at: <https://unfccc.int/sites/default/files/NDC/2022-06/South%20Sudan%27s%20Second%20Nationally%20Determined%20Contribution.pdf>

¹⁵³ African Development Bank, [no date]. Climate Change. [online] Available at: <https://www.afdb.org/en/topics-and-sectors/sectors/climate-change>

¹⁵⁴ African Development Bank, 2022. African Economic Outlook 2022 - Chapter 3. [pdf] p.99. Available at: https://www.afdb.org/sites/default/files/2022/05/25/aeo22_chapter3_eng.pdf

¹⁵⁵ FSD Kenya, [no date]. A Snapshot of FSD Kenya's Intended Work in Green Finance. [blog] Available at: <https://www.fsdkenya.org/blogs-publications/blog/a-snapshot-of-fsd-kenyas-intended-work-in-green-finance/>

¹⁵⁶ World Bank, 2019. Policy Note: The Potential of Manufacturing and Industrialization in Africa. [pdf] p.9. Available at: <https://documents1.worldbank.org/curated/en/186951566901268406/pdf/Policy-Note.pdf>

documents1.worldbank.org/curated/en/186951566901268406/pdf/Policy-Note.pdf

¹⁵⁷ World Bank, 2019. Policy Note: The Potential of Manufacturing and Industrialization in Africa. [pdf] p.9. Available at: <https://documents1.worldbank.org/curated/en/186951566901268406/pdf/Policy-Note.pdf>

¹⁵⁸ African Development Bank, 2022. African Economic Outlook 2022 - Chapter 3. [pdf] African Development Bank, pp.106-107. Available at: https://www.afdb.org/sites/default/files/2022/05/25/aeo22_chapter3_eng.pdf

¹⁵⁹ African Development Bank, 2022. African Economic Outlook 2022 - Chapter 3. [pdf] African Development Bank, pp.106-107. Available at: https://www.afdb.org/sites/default/files/2022/05/25/aeo22_chapter3_eng.pdf

¹⁶⁰ African Development Bank, 2022. African Economic Outlook 2022 - Chapter 3. [pdf] African Development Bank, pp.106-107. Available at: https://www.afdb.org/sites/default/files/2022/05/25/aeo22_chapter3_eng.pdf

¹⁶¹ FSD Ethiopia, [no date]. Landscape of Climate Finance in Ethiopia. [pdf] FSD Ethiopia, pp.20-21. Available at: https://fsdethiopia.org/wp-content/pdf/Landscape%20of%20Climate%20Finance%20in%20Ethiopia_compressed%20%281%29.pdf

¹⁶² FSD Ethiopia, [no date]. Landscape of Climate Finance in Ethiopia. [pdf] FSD Ethiopia, pp.20-21. Available at: https://fsdethiopia.org/wp-content/pdf/Landscape%20of%20Climate%20Finance%20in%20Ethiopia_compressed%20%281%29.pdf

¹⁶³ FSD Ethiopia, [no date]. Landscape of Climate Finance in Ethiopia. [pdf] FSD Ethiopia, pp.20-21. Available at: https://fsdethiopia.org/wp-content/pdf/Landscape%20of%20Climate%20Finance%20in%20Ethiopia_compressed%20%281%29.pdf

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