Financing Climate Adaptation in Kenya's Agri-Food System

Challenges & Opportunities

RTI International

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July 2025

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Contents

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Acronyms

AFC	Agriculture Finance Corporation
ARCAFIM	Africa Rural Climate Adaptation Finance Mechanism
ASALs	Arid and semi-arid lands
AfDB	African Development Bank
BII	British International Investment
CBO	Community-based organization
CCCAP	County Climate Change Action Plan
CCCF	County Climate Change Fund
CIAT	International Center for Tropical Agriculture
CIG	Common interest groups
CSO	Civil society organization
DRIVE	De-risking Inclusion and Value Enhancement
DSIK	German Sparkassenstiftung Eastern Africa
EIB	European Investment Bank
EGF	Equity Group Foundation
ESG	Environmental, Social and Governance
FAW	Fall armyworm
FLLOCA	Financing Locally-Led Climate Action Program
FPO	Farmer Producer Organization
GCF	Green Climate Fund
GEF	Global Environment Facility
GIZ	German development agency
GOK	Government of Kenya
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IsDB	Islamic Development Bank
KALRO	Kenya Agricultural and Livestock Research Organization
KAMIS	Kenya Agricultural Market Information System
Kes.	Kenyan Shillings
KCEP	Kenya Cereal Enhancement Programme
KDC	Kenya Development Corporation
KMC	Kenya Meat Commision
KMD	Kenya Meteorology Department
KWFT	Kenya Women Microfinance Bank
KYC	Know your customer
MAM	March-April-May
MDB	Multilateral development bank
MFB	Microfinance bank
MFI	Microfinance institution
MSME	Micro-, small- and medium-enterprises
NARVCDP	National Agricultural Value Chain Development Project
NCCAP	Kenya's National Climate Change Action Plan
NEMA	National Environment Management Authority
NGO	Non-governmental organization
NORAD	Norwegian Agency for Development Cooperation
OND	October-November-December
p.a.	Per annum
PCRA	Participatory climate risk assessment
PZ-RE	PTA Reinsurance Company
RK-FINFA	Rural Kenya Financial Inclusion Facility
Saccos	Savings and credit cooperatives
SALM	Sustainable agricultural land management
SME	Small- and medium-enterprises
SNV	Netherlands development organization
SSP	Small-scale producer
TA	Technical assistance
UNICEF	United National Children's Fund
USD	United States Dollars
VCF	Value chain financing
VSLA	Village Savings and Loan Association
WB	World Bank

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Purpose, Approach, and Acknowledgments

Purpose: Explore three questions to guide donors and philanthropy in supporting smallholder farmer climate adaptation in Kenya.

1

How do smallholder farmers in Kenya access financing for climate adaptation today?

2

How do climate financing programs interface with smallholder farmers and their adaptation to climate change?

3

What challenges and opportunities exist for financing to better enable smallholder farmer climate adaptation?

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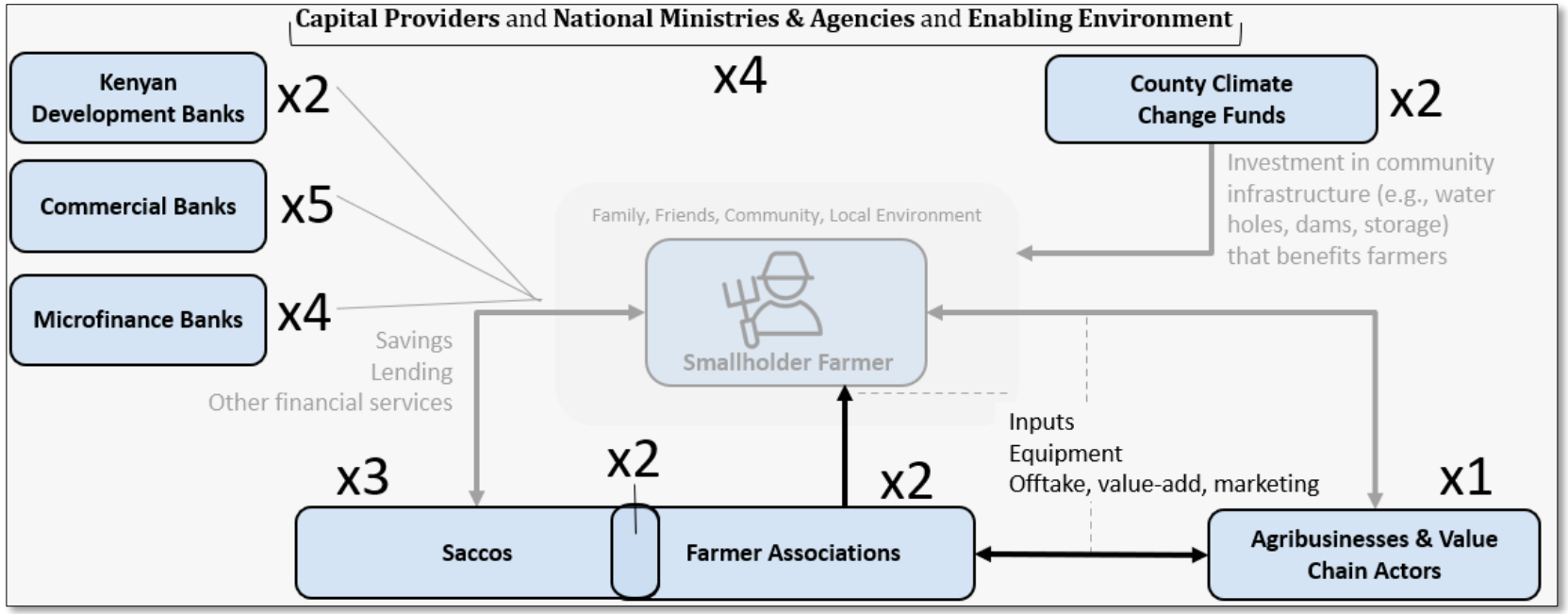
Approach: This analysis is based on a mixed-methods research approach, centered on interviews with financial institutions in Kenya.

1. **Literature review** was used explore each research question, with a focus on identifying climate finance programs in Kenya, mechanisms by which they deliver financing, and the status of disbursements. This review also captured existing analyses of smallholder financing access methods and challenges in Kenya.
2. **25 stakeholder qualitative interviews** were conducted by phone and by a research team in Kenya to explore key research questions with organizations providing or enabling smallholder farmer financing. Most interviews were with financial institutions providing farmer lending.
3. **Synthesis and recommendations** were developed for a primary audience philanthropy and donors interested in increasing Kenyan smallholder farmers' access to financing for climate adaptation.

Distribution of stakeholder interviews across the Kenya agri-food financing ecosystems



Acknowledgements: This research was a collaborative effort strengthened by the insights of expert stakeholders.

RTI International led this research effort in collaboration with Act 4 Change Consulting, made possible with support from the Gates Foundation.

Research and synthesis was supported by:

RTI International

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- Tyler Ovington
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With support from:

- Tom Bishop
- Amanda Rose

Act for Change Consulting

- Simon Wagura Ndiritu
- Kimani Kinyanjui
- Stella Mulaeh
- Isaac Kigen
- Johnson Kariuki

Findings in this report are supported by stakeholder interviews with organizations across the Kenyan agri-food system – with a focus on financial institutions and farm organizations.

Thank you for contributions from:

1. Meru Dairy Sacco
2. Kwetu Sacco
3. Universal Traders Sacco
4. Kalawa Farmers Sacco
5. Kilome Farmers Sacco
6. Kithoka Cooperative Society
7. Kimaeti Farmers Association
8. County Government of Makueni
9. County Government of Kakamega
10. Kenya Women Microfinance Bank
11. Juhudi Kilimo
12. Caritas Microfinance Bank
13. Rafiki Microfinance Bank
14. Equity Bank
15. KCB Bank
16. Family Bank
17. Agricultural Finance Corporation
18. Kenya Development Corporation
19. Absa Bank
20. KALRO
21. Stable Foods
22. ISF Advisors
23. BFA Global
24. Climate Policy Initiative
25. European Centre for Development Policy Management

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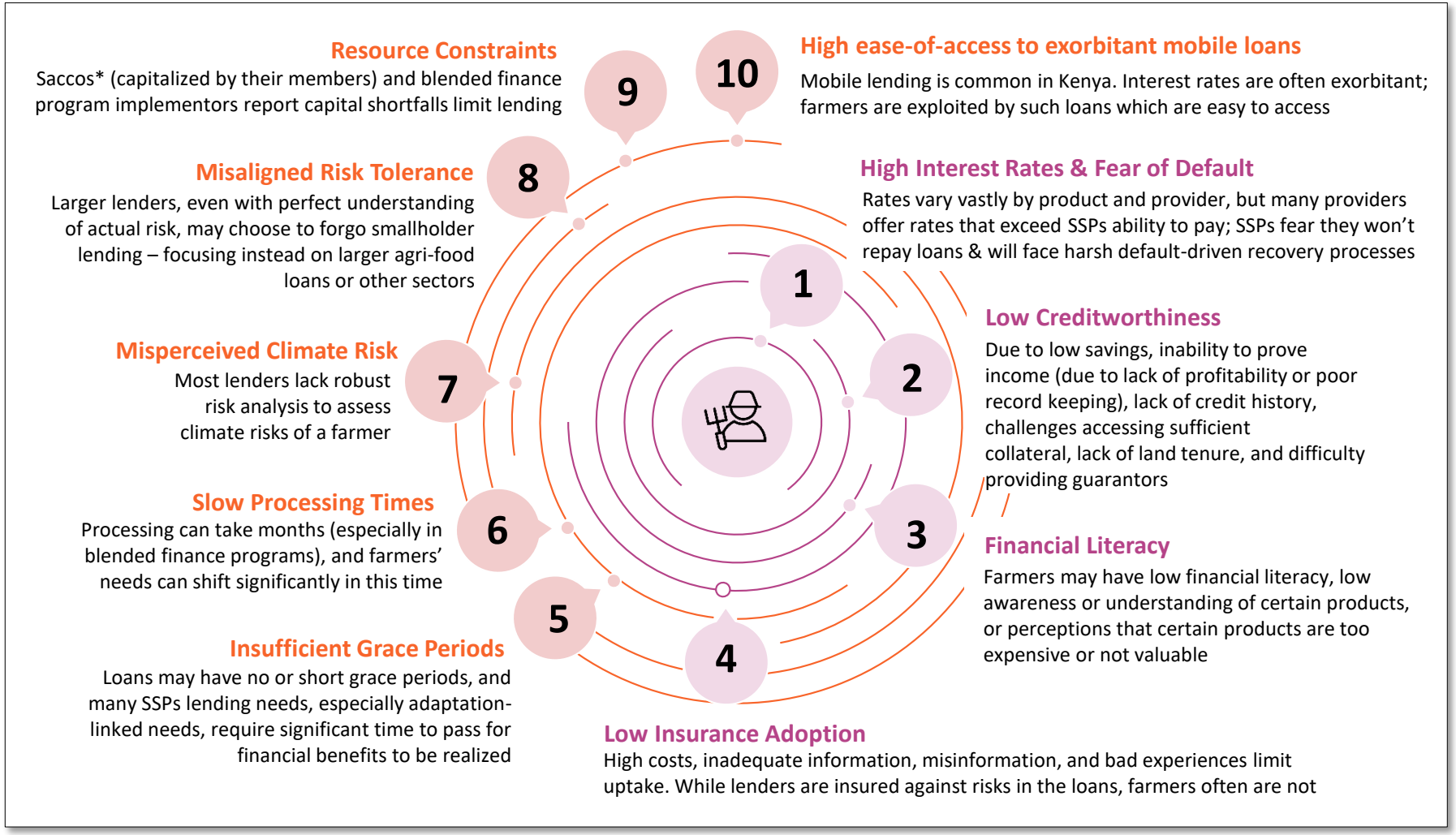
Executive Summary

Kenyan smallholder farmers are increasingly exposed to climate risks, threatening their incomes and livelihoods. **Risks are exacerbated by limited access to financing**, which is **driven by many interrelated factors** (see figure).

> "Agriculture in Kenya is mainly rainfed, which means it is significantly affected by unfavorable weather… high risk investments will attract higher interests. This affects uptake…weather dependent ventures are likely to be seen as too risky with chances of defaulting being higher. Without ways of de-risking such ventures, access to financing for them will remain low."
>
> Farmer & Acting Head of Credit
> Large microfinance bank in Kenya

Interrelated factors that combine to limit access to financing on the farmer-side (1-4) and lender-side (5-10)



Low Creditworthiness
Due to low savings, inability to prove income (due to lack of profitability or poor record keeping), lack of credit history, challenges accessing sufficient collateral, lack of land tenure, and difficulty providing guarantors

Financial Literacy
Farmers may have low financial literacy, low awareness or understanding of certain products, or perceptions that certain products are too expensive or not valuable

Low Insurance Adoption
High costs, inadequate information, misinformation, and bad experiences limit uptake. While lenders are insured against risks in the loans, farmers often are not

Insufficient Grace Periods
Loans may have no or short grace periods, and many SSPs lending needs, especially adaptation-linked needs, require significant time to pass for financial benefits to be realized

Slow Processing Times
Processing can take months (especially in blended finance programs), and farmers' needs can shift significantly in this time

Misperceived Climate Risk
Most lenders lack robust risk analysis to assess climate risks of a farmer

Misaligned Risk Tolerance
Larger lenders, even with perfect understanding of actual risk, may choose to forgo smallholder lending – focusing instead on larger agri-food loans or other sectors

Resource Constraints
Saccos* (capitalized by their members) and blended finance program implementors report capital shortfalls limit lending

High Interest Rates & Fear of Default
Rates vary vastly by product and provider, but many providers offer rates that exceed SSPs ability to pay; SSPs fear they won't repay loans & will face harsh default-driven recovery processes

High ease-of-access to exorbitant mobile loans
Mobile lending is common in Kenya. Interest rates are often exorbitant; farmers are exploited by such loans which are easy to access

*Savings and credit cooperatives (Saccos)

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Climate adaptation solutions exist, but **appropriate climate financing must be available and deployed** to enable smallholder resilience at scale.

Smallholder farmer climate resilience at scale

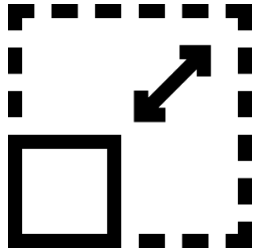
- Use resilient cultivars & breeds
- Make better, weather-informed decisions
- Adopt climate-smart management practices
- Switch crops, breeds, & farming systems
- Better manage water resources
- Be more resilient to shocks
- Diversify incomes

Climate financing categories aligned with instruments & users

	Adaptation Finance Category	Instruments	Target Users
1	**Working Capital for Climate-Resilient Operations:** Enable timely access to climate-smart inputs & services	Savings, microloans, overdrafts, climate-indexed insurance subsidies	Farmers, local agri-MSMEs, input dealers, service providers
2	**Climate Asset Finance:** Enable long-term climate-smart asset acquisition	Equipment leasing, asset-backed loans, concessional credit lines	Farmers, processors, cooperatives, SMEs
3	**Scaling Finance for Adaptation Solution Providers:** Expand delivery capacity of enterprises delivering adaptation solutions	Venture debt, concessional equity, mezzanine finance, blended capital, carbon markets	Agri-tech companies, aggregators, cooperatives
4	**Resilient Public Infrastructure Finance:** Develop and maintain physical (built and natural) and digital infrastructure for system-wide resilience	Public capital, climate funds, blended infrastructure public-private partnerships	National & local governments, utilities

Climate adaptation solutions

- Climate-resilient genetics
- Climate resilient inputs
- Weather forecasting and decision-support tools
- Climate risk transfer
- Climate risk management & infrastructure
- Land restoration & ecosystem health
- Diversification of agricultural systems



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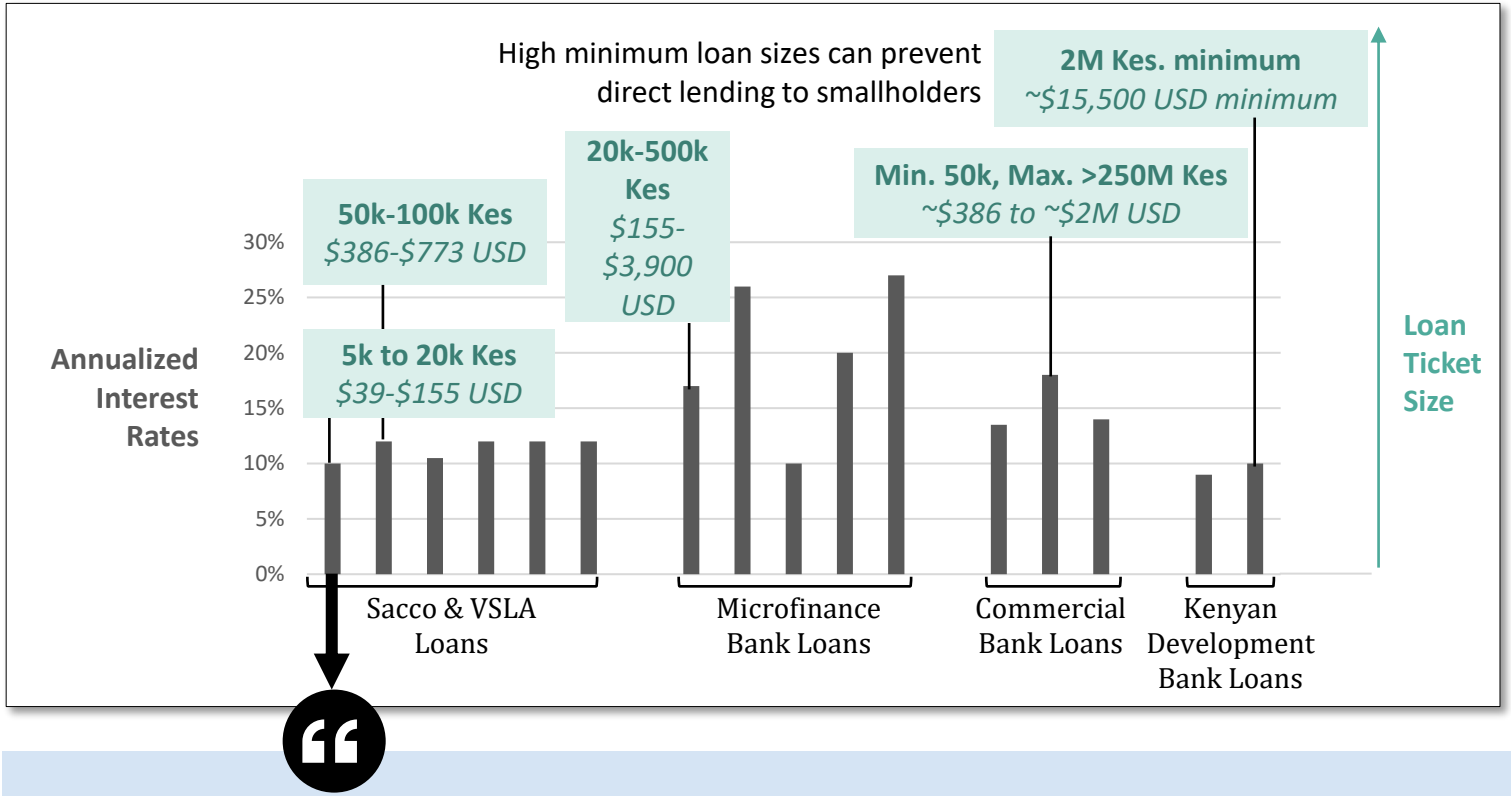
Local actors like **Saccos & county climate change funds** stand out as bright spots in the financing landscape; but resources constrain their ability to support smallholder adaptation at scale.

Saccos are navigating smallholders' needs and providing them financing. They often offer competitive interest rates and small ticket sizes (figure on right), low processing fees, options to guarantee loans through community guarantors, longer grace periods, flexibility in repayment, and mobile pay options.

Anecdotally, some Saccos have achieved 50%–80% adoption of lending products in their membership. There is poor data for smallholder farmer lending outside regulated lending institutions (most Saccos are not regulated). Recent survey data suggests 16%–48% of farmers utilize credit in Kenya (there is significant variable based on survey timing). This suggests the success of some Saccos is outsized compared to the average penetration of lending products across Kenya farmers. Many Saccos—and one development bank—noted their capital constraints limits their ability to meet demand for lending.

Kenya's county climate change funds (CCCFs) are another bright spot at the local level. They have successfully led participatory local climate risk assessments and prioritized adaptation investments for community infrastructure across Kenya. Counties have had various levels of success driving investments through these, limited by capital (and fundraising capacity).

Examples of annualized interest rates* & loan ticket sizes for ag-focused loans offered in 2025[1]



"Our products have been successful given that we have **cheap pricing**, we are **efficient in processing** loans, and **most importantly we carry out financial literacy trainings** to our members and loanees on responsible utilization of loans… **80% [of members] have a loan.**"

Business Development Manager, Sacco

1. Interviews with financial institutions conducted in the first half of 2025, *Interest rates shown in this figure do not include insurance and processing fees, as these fees were not uniformly available for all loans shown in this figure. See page 20 for additional details about these other fees, which can range from 1-12% of the loan value.

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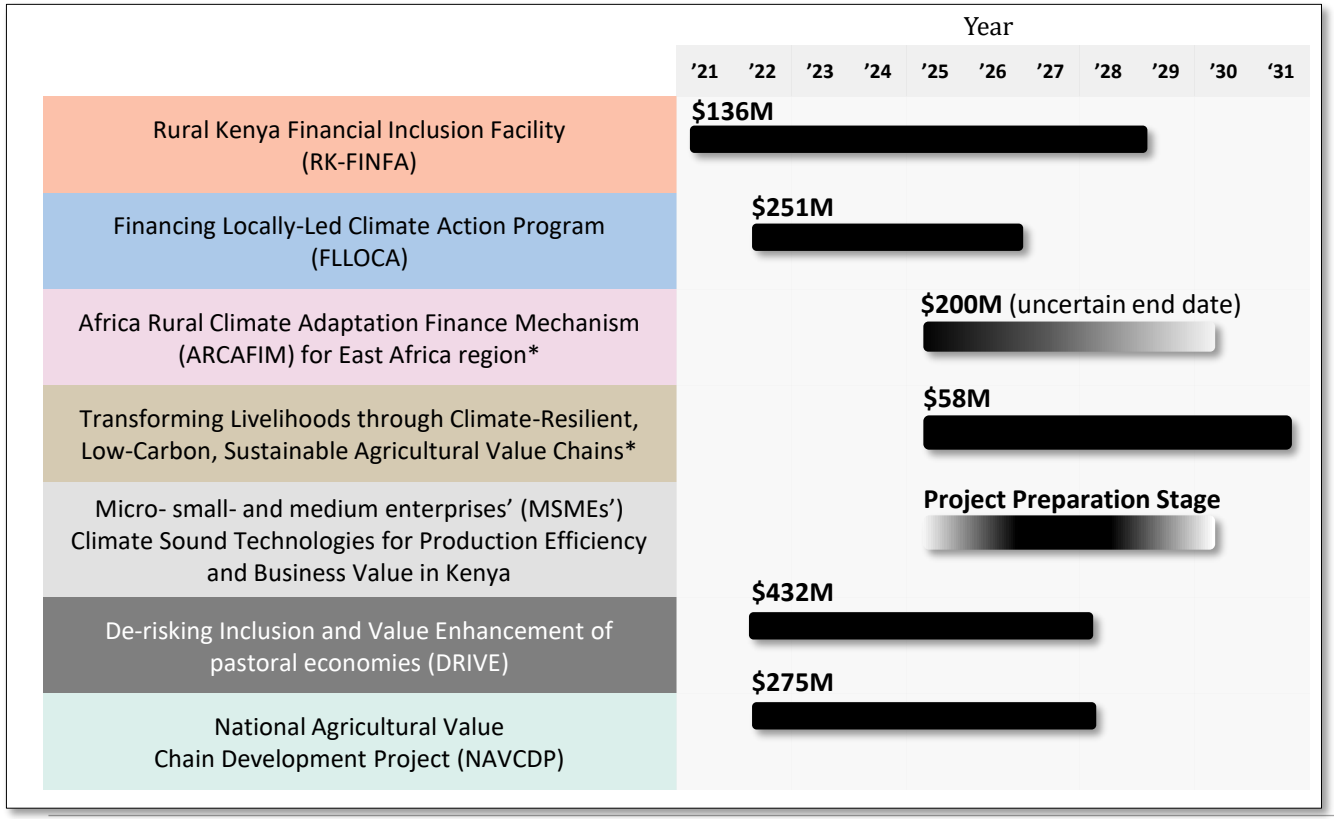
A handful of the largest **blended adaptation finance funds are on track to mobilize >$1B USD** in Kenya in the coming years, and many active programs benefits are reaching smallholder farmers.

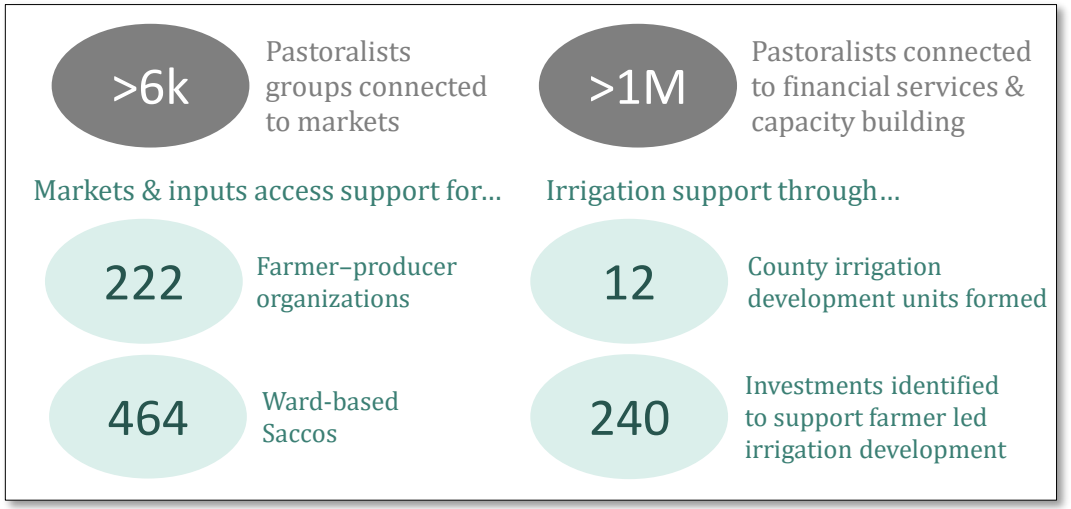
Blended finance programs work through various intermediaries, including commercial banks, microfinance institutions (MFIs), Saccos, and CCCFs. They are often designed to provide additional working capital at below-market rates to organizations serving smallholder farmers directly with lending or other services (e.g., inputs, offtake, insurance, etc.).

Budget & timeline (when known) for 6 large blended adaptation programs in Kenya ($USD, Millions)



Three of these active programs alone (DRIVE, NAVCDP, RK-FINFA) **have already disbursed >$278M,** and FLLOCA has been instrumental in developing the county-level CCCFs. Impacts at the smallholder level are not always clear, but some programs have reported out key impact metrics (see DRIVE and NAVCDP below). NAVCDP's Sacco support, like matching grants for achieving certain levels of membership and capital, has influenced some farmer associations to reorganize as Saccos to access the incentives. Blended finance programs have had challenges though. For example, RK-FINFA has had delays in disbursements due to challenges onboarding Sacco and MFB implementing partners.

Interim impacts of two example programs (DRIVE and NAVCDP)



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Philanthropic donors have many **opportunities** to address **challenges** raised by financial institutions to unlock market and blended finance for smallholders in Kenya.

CHALLENGES IN SPECIFIC VALUE CHAINS

1. Smallholder dairy producers' access to financing drops when they need it most, as lending is based on recent co-op milk deposits.
2. Climate risk constrains lending to smallholder farmers, especially for longer production cycle crops (e.g., maize, sugar) perceived as riskier to finance.
3. Horticulture producers lose out on potential income due to post-harvest losses & price effects during peak production.

CHALLENGES ADOPTING IRRIGATION & INSURANCE

4. Even when irrigation services are affordable, farmers struggle to afford inputs (e.g., seeds, fertilizer) that make irrigation adoption profitable.
5. Technology risk is a factor for asset financing; equipment warranty periods and the licensing held by installation teams can be barriers to lending.
6. Misperceptions, bad experiences, lack of smallholder-tailored offerings, and cultural preferences slow adoption of insurance.

CHALLENGES IN RISK ASSESSMENT, COMPLIANCE, AND CAPITAL SHORTFALLS

7. CCCFs lack capital and fundraising capacity needed to fully invest in community-owned adaptation assets.
8. Lenders have not broadly adopted tools to streamline loan processing and incorporate climate in risk assessment (but they are open to new tools).
9. Concessional loan reporting and compliance requirements can prevent adaptation funding from reaching the most vulnerable smallholder farmers.

Opportunities for philanthropy and donors include…

1. **Design & pilot new financial products** that bundle loans with insurance and technical support, installment payments, and longer & more flexible grace periods. Target efforts to solve gaps in asset-based financing, riskier value chains, and other barriers to adaptation.
2. **De-risk and enable new adaptation business models** through partnerships (e.g., between agtech providers and financial institutions), pilots, and carbon markets (especially for longer return on investment adaptations, like agroforestry).
3. **Bolster capital shortfalls & fundraising capacity** as CCCFs, Saccos, and even large development banks are capital constrained. More blended programs are needed, and CCCFs and Saccos need capacity-building support to raise money and grow membership.
4. **Invest in digital innovations that de-risk and speed lending** to support ongoing efforts from financial institutions of all sizes in Kenya. If done well, these innovations can lower perceived lending risks for lenders and safeguard their portfolios, allowing them to sustainably extend financing to more farmers. Combined with approaches addressing other challenges (e.g., mismatched actual lending risk, farmer perceptions), these innovations can help scale financing for smallholders.

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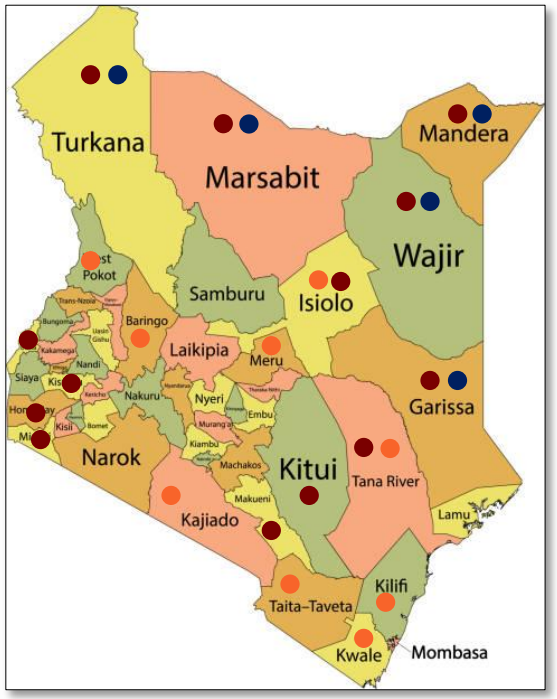
Climate risks to & available finance for Kenyan smallholder farmers

Climate change poses growing risks to the incomes and livelihoods of Kenyan small-scale producers.

Climate's role in Kenya's agricultural sector: Nearly all agriculture in Kenya is rainfed, resulting in high susceptibility to losses from variable rainfall and drought. Kenyan pastoralists and farmers rely on two rainy seasons to sustain their livelihoods, October-November-December (OND) short rains, and March-April-May (MAM) long rains. The degree to which the OND season can support a rainfed crop varies geographically. Inconsistent rainfall also limits forage availability in pastoralist lands that make up much of the country, leading to livestock losses, increased grazing distances, and reductions in milk production (KMD 2025). Pests & diseases, like fall armyworm (FAW) in maize, influenced by weather are an ongoing threat.

2024 Impact Snapshot: Above-average MAM rainfall temporarily improved food security, but severe MAM flooding impacted 101,132 households and displaced 55,109 across 43 counties, while impacting 65,377 acres of crops, 11,539 of which were lost. Later in the year, poor rainfall in the OND season led to a significant loss in livestock productivity and reduced milk production, contributing to a sharp increase from 1 million food insecure individuals in July 2024 to over 1.8 million by January 2025. Climate-related hazard events are marked on the map based on previous analyses (KMD 2025 & Red Cross 2024):

- **Low rainfall OND:** Lower than expect rainfall led to widespread losses
- **Flooding:** River flooding in ASALs, El Nino influenced high rains and flooding in Lake Victoria Region
- **FAW outbreaks:** Most severe FAW impacts on food security in Baringo, Kajiado, West Pokot



Climate change projections: Both rainy seasons are becoming more variable. Increased incidence of droughts is expected, as are more frequent heavy rainfall events. Adaptation strategies must address dealing with both prolonged dry periods and periods of excess rainfall (Kotikot et al., 2024), as well as crop establishment challenges linked to heavy rainfall events. Pests & disease are expected to become only more damaging with changing climate conditions (Assede et al., 2025).

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A diverse set of climate adaptation solutions can strengthen the resilience of smallholder farmers to climate change.

Taxonomy of climate adaptation solutions for smallholder farmers

Climate resilient genetics

Crop and livestock varieties developed or selected for resilience to drought, heat, climate-linked pests, and other climate risks

Climate resilient inputs

Farming inputs that build resilience of soil and reduce impact of climate hazards, like organic fertilizer, biochar, biofertilizer, and biopesticides.

Weather forecasting and decision-support tools

Accurate, reliable systems for delivering tailored information to enable climate-smart agriculture decision-making

Climate risk transfer

Solutions (e.g., insurance, emergency borrowing, food relief) that transfer climate risks away from farmers, enabling faster recovery after shocks (e.g., floods)

Physical climate risk management infrastructure

Irrigation, rainwater harvesting, polytunnels, shading structures, cold chains, cattle dips, decentralized energy

Land restoration & ecosystem health

Rehabilitation of ecosystems & promotion of biodiversity that enhances resilience of agricultural systems, including forest management, conservation agriculture, and tillage reduction

Diversification of agricultural systems

Strategies to improve, stabilize, and diversify farmer incomes, including intercropping (e.g., maize and beans) and agroforestry (e.g., fruit tree agroforestry)

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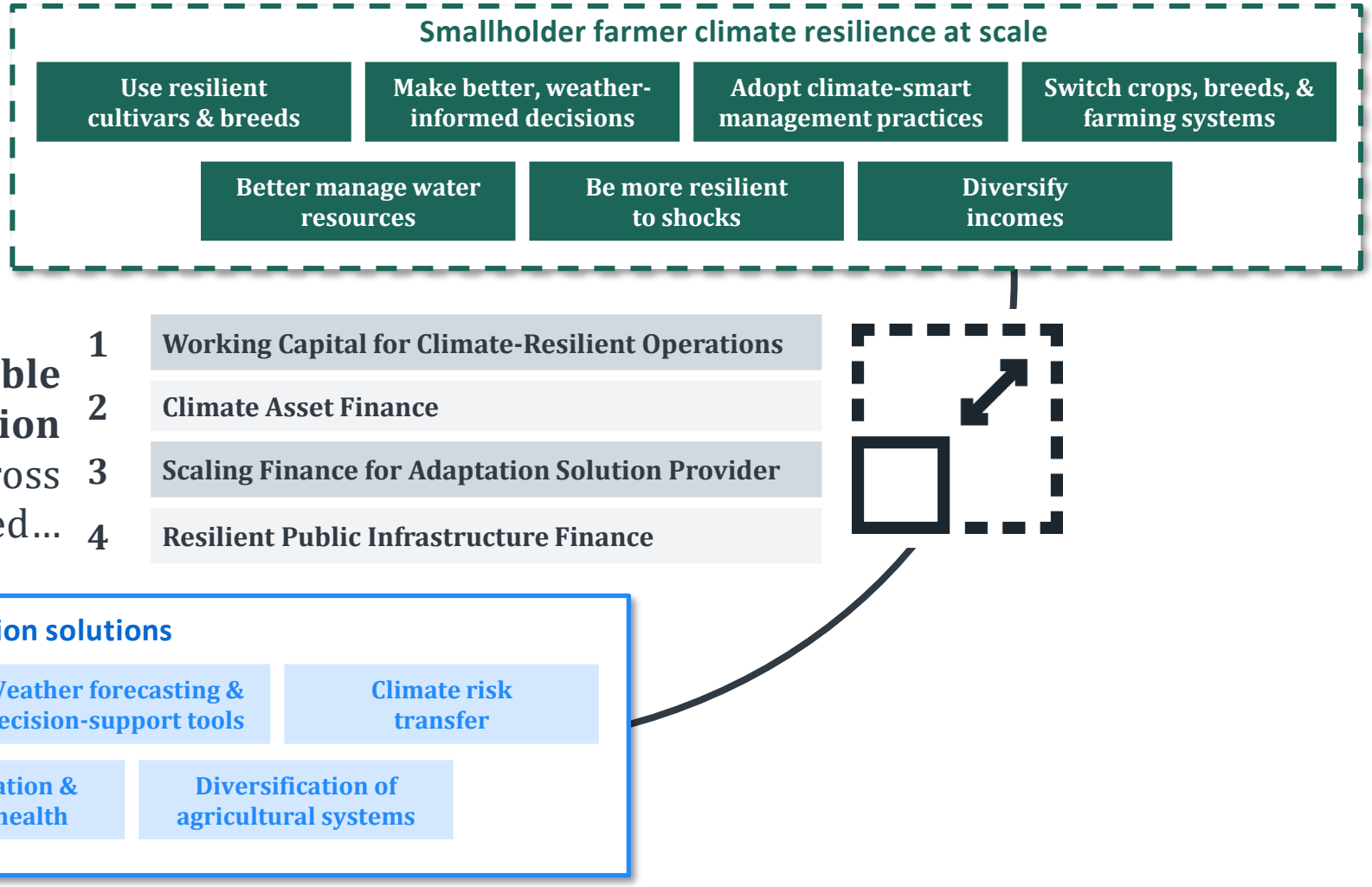
For proven adaptation solutions to scale, climate financing must be available and deployed to meet user needs.

Climate financing must be available and deployed to enable adaptation at scale. Different finance users across the agri-food system need…



Framework developed by RTI. For more detailed framing of Agri-SME financing needs, review ISF Advisors' report titled The state of the agri-SME sector – Bridging the finance gap (2022). For more detailed breakdown of climate-responsive financial products, review CGAP's Strengthening Climate Resilience & Adaptation through Financial Services (2022).

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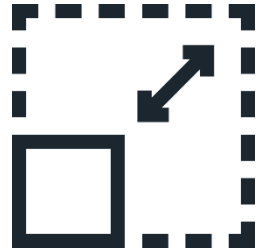
Adaptation financing ranges from short-term working capital to long-term asset financing, enterprise scaling, and infrastructure development.

Smallholder farmer climate resilience at scale

Climate financing categories and associated instruments, users, and activities

	Adaptation Finance Category	Instruments	Target Users	Adaptation Activities Enabled
1	**Working Capital for Climate-Resilient Operations:** Enable timely access to climate-smart inputs & services	Savings, microloans, overdrafts, climate-indexed insurance subsidies	Farmers, local agri-MSMEs, input dealers, service providers	Input purchase (e.g., drought-tolerant seeds), pay-per-use climate services (e.g., irrigation-as-a-service, insurance premiums)
2	**Climate Asset Finance:** Enable long-term climate-smart asset acquisition	Equipment leasing, asset-backed loans, concessional credit lines	Farmers, processors, cooperatives, SMEs	On-farm (e.g., drip irrigation, solar pump) and off-farm assets (e.g., solar dryers, solar mills, storage)
3	**Scaling Finance for Adaptation Solution Providers:** Expand delivery capacity of enterprises delivering adaptation solutions	Venture debt, concessional equity, mezzanine finance, blended capital, carbon markets	Agri-tech companies, aggregators, cooperatives, cold chain providers	Scaling access to climate-smart solutions (e.g., cold chain, off-grid energy, digital advisory, insurance)
4	**Resilient Public Infrastructure Finance:** Develop and maintain physical (built and natural) and digital infrastructure for system-wide resilience	Public capital, climate funds, blended infrastructure public-private partnerships	National & local governments, utilities	Public irrigation schemes, digital weather & advisory systems, natural infrastructure development (e.g., reforestation), roads



Climate adaptation solutions

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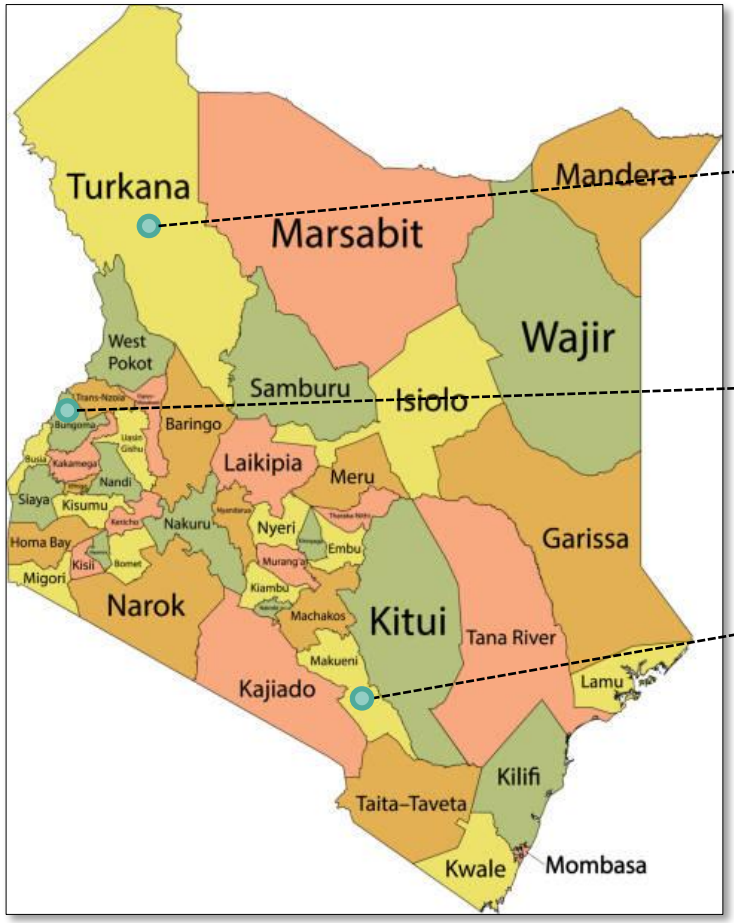
County-level adaptation investment plans have prioritized local community adaptation needs, but they are under-resourced.

Climate change action plans describe prioritized adaptation needs based on relative climate risks faced. FLLOCA played a key role in enabling these plans.



Example insights from county climate change action plans…

Turkana, an arid agro-pastoralist county, is drought prone and faces high temperatures that threaten livestock. It borders Lake Turkana and nearby areas face flood risks. (Turkana CCCAP 2023)

Prioritized activities include breeding for drought-tolerant species, cold-chains for vaccinations, early warning system, grazing area mapping, and feeding programs.

Bungoma is relatively population-dense, agriculturally productive area with high rainfall. Hazards include heavy storms, flash floods, dry spells, landslides, and pests. (Bungoma CCCAP 2023)

Prioritized activities include conservation agriculture, agroforestry, small-scale irrigation, aquaculture, crop insurance, and early warning systems, among others.

Makueni, a semi-arid agro-pastoralist and pastoralist county identifies drought, erratic rainfall, and floods as key climate stressors. (Makueni CCCAP 2023)

Prioritized activities include irrigation development, adoption of improved breeds, livestock vaccination, pasture development, and integrated pest & disease management.

"[T]he needs are huge because of the scale of climate hazards. To adequately build resilience, [we] need more resources, which are not there."

Chief Officer, Environment, Natural Resources, Mining and Climate Change, County Government of Makueni

Participatory Climate Risk Assessments (PCRAs) and County Climate Change Action Plans (CCCAPs) from select counties: Meru (PCRA, CCCAP), Machakos (PCRA, CCCAP), Makueni (PCRA, CCCAP), Nakuru (PCRA, CCCAP), Turkana (PCRA, CCCAP), Narok (PCRA, CCCAP), Kitui (PCRA, CCCAP), Bungoma (PCRA, CCCAP), Kakamega (PCRA, CCCAP)

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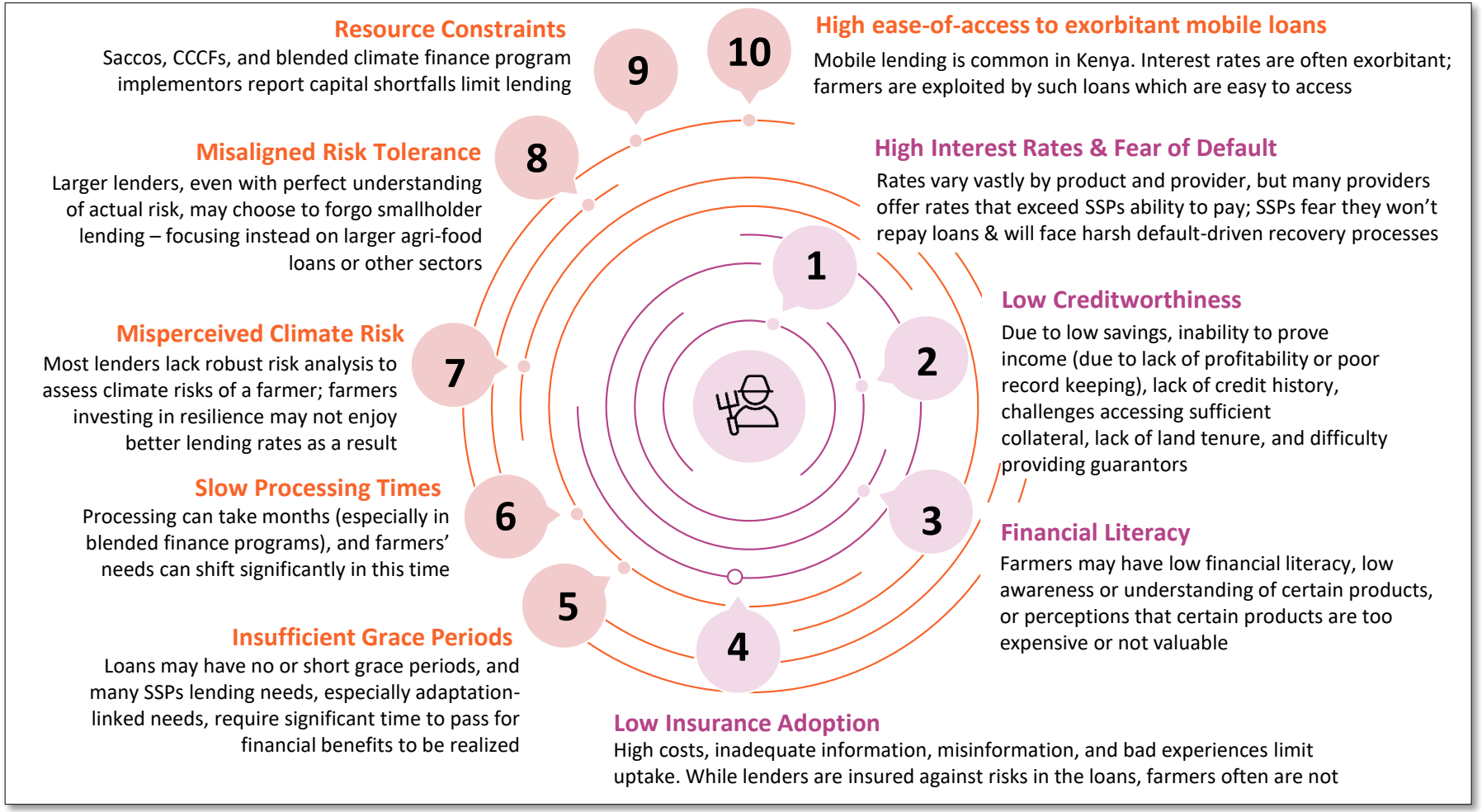
Many interrelated factors combine to limit smallholder farmers' access to finance, constraining their ability to invest in adaptation

"Agriculture in Kenya is mainly rainfed, which means it is significantly affected by unfavorable weather… high risk investments will attract higher interests. This affects uptake…weather dependent ventures are likely to be seen as too risky with chances of defaulting being higher. Without ways of de-risking such ventures, access to financing for them will remain low."

Farmer & Acting Head of Credit
Large microfinance bank in Kenya

Interrelated factors that combine to limit access to financing on the farmer-side (1-4) and lender-side (5-10)

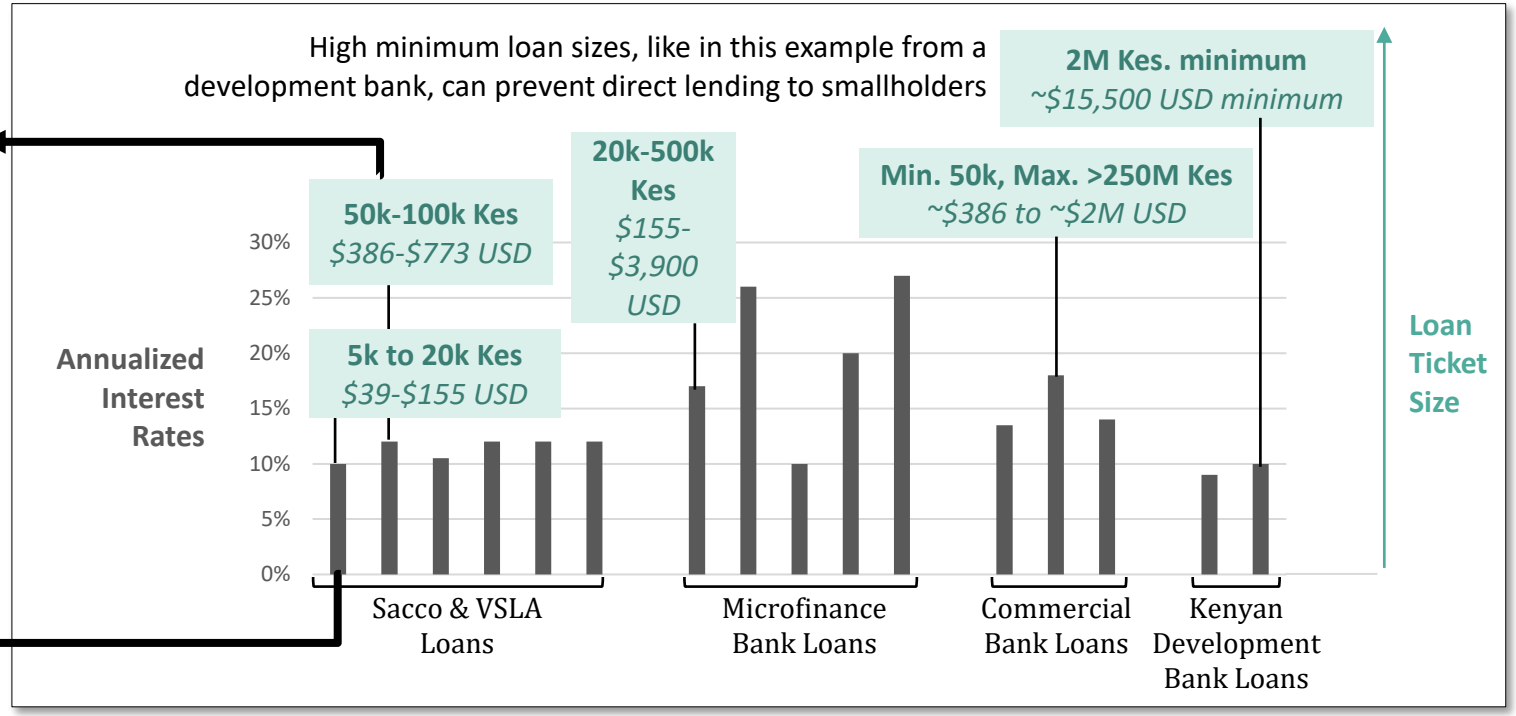


Overcoming these challenges, some local lenders have achieved 50%–80% adoption of lending products by their smallholder farmer membership.

Describing this success, the Sacco's business development manager explained: "Our products have been successful given that we have **cheap pricing**, we are **efficient in processing** loans and most importantly we carry out **financial literacy trainings** to our members and loanees on responsible utilization of loans… **80% [of members] have a loan."** [1]

"The majority of us in the VSLA's [are] highly dependent on [our members] as the only source of loaning since it's not preferable for us to access credit from banks and Saccos. **[The] majority of our members, around 50%, have a loan with the VSLAs at any given time in the year."**[1]

Examples of annualized interest rates* & loan ticket sizes for ag-focused loans offered in 2025



*Interest rates do not include insurance and processing fees. See next slide for additional details about other fees.

1. Interviews with lenders during the first half of 2025

VSLA = Village Savings and Loan Association

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Saccos are successfully lending to many Kenyan farmers, but they are often limited to member savings, constraining the support they can offer.

Two examples of Kenyan Saccos' geographic focus areas and loan product information.

Sacco A Sacco A offers two agriculture loan products to their members for farmers in four counties, and ~80% of members are currently using a loan product.	
Loan Size (Average)	Kes. 50,000–100,000 ($387–$774 USD)
Interest Rate	12%
Other Fees	Processing and Insurance: 4%
Strengths	Kilimo product • Flexible payments tailored to the harvest cycle • Allows farmers to borrow 3x their savings • Offers a grace period where the loanee is only required to make interest payments (full repayment is not due until harvest) Biashara (Value Chain) product • 36-month repayment period with no grace periods • Allows farmers to borrow 3x their savings
Limitations	• Biashara product is less flexible, the loanee is required to provide proof of business, repayment history, and permits from the government for livestock farmers • New farmers would not have the documents to obtain Biashara loans

Sacco B The Sacco operates an agribusiness lending unit in three counties.	
Loan Size (Average)	Kes. 20,000–30,000 ($155–$232 USD)
Interest Rate	Individual Farmers: 10.5% Groups of Farmers: 15%–20%
Other Fees	Insurance Fees: 1%
Strengths	• Has a complete agribusiness lending unit offering multiple products: Crop farming loan, Livestock loan, Energy loan, Equipment and Extension Services Loans • Loan products cover entire agriculture value chain
Limitations	• Requires collateral • Requires documented payment history • Excludes farmers with limited recordkeeping knowledge or payment history • Lending capacity limited to member savings

Sacco lending information from primary research interviews conducted in the first half of 2025.

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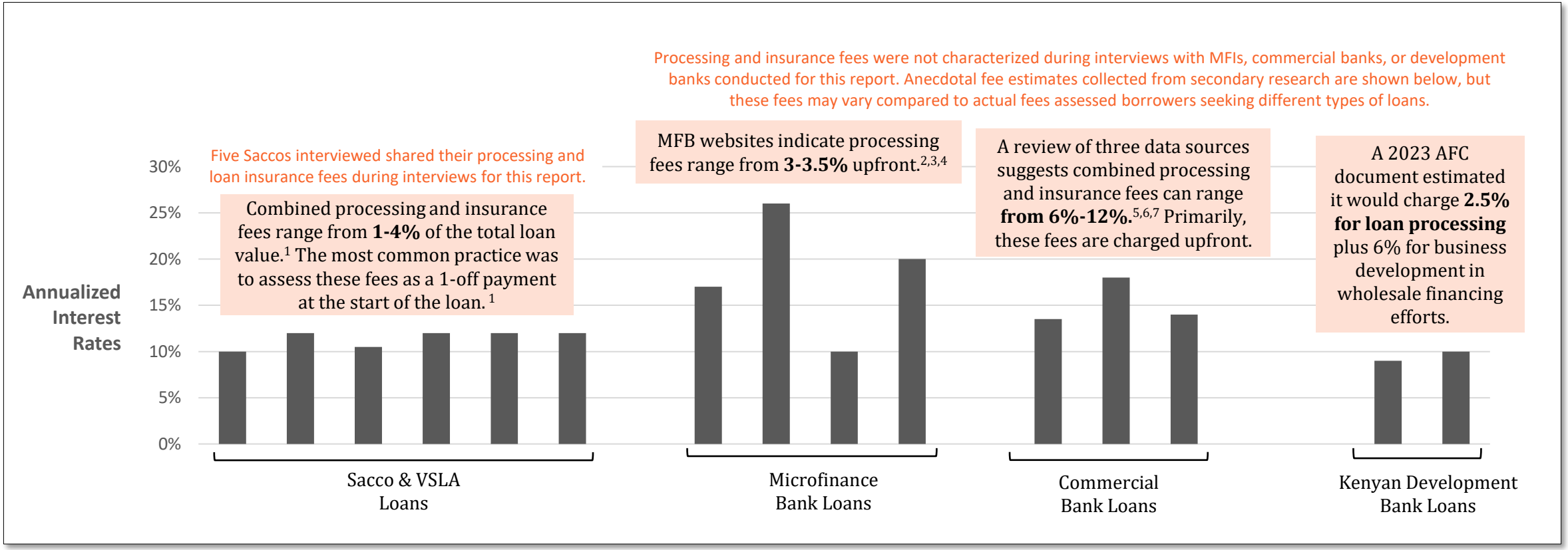
Borrowers pay additional processing, loan insurance, and other fees to access loans; these fees range from +1-12% of the loan's value.

Most often, these fees are assessed at the start of the loan; for example, a borrower receiving a 10,000 Kes. loan may only actually receive 9,036 Kes. after fees are deducted. Sometimes, fees are alternatively or additionally assessed throughout the course of the loan.

Examples of annualized interest rates* annotated with processing and loan insurance fee information from interviews and other sources



1. Interviews with lenders during the first half of 2025, 2. Rafiki tariff guide, 3. Caritas MFB tariff guide, 4. KWFT tariff guide 5. SIDA Report (2019), 6. Family Bank Virtual Banking Terms & Conditions published in 2019, 7. Co-Operative Bank FAQ on loan charges 8. AFC investment paper on new agri-financing models

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There is no exhaustive quantitative analysis of lending products accessed by Kenyan smallholder farmers.

Data Gap: Average (instead of anecdotal) loan product finance details & utilization rates for smallholder lending across channels

The high prevalence of informal lending, including by family members and unregulated financial institutions, leads to an unclear picture of current lending support available to Kenyan smallholders. This can make it challenging for development organizations to understand and address their needs.

What do we know that goes beyond anecdotes?

Highlights from 60 Decibels' survey of 1,484 farmers across 38 Kenyan counties

- **16% of farmers used credit** during the 2023–24 masika (long rain) season in Kenya.
- **Half of these farmers accessed these services digitally**, and half accessed bundled services (typically information, inputs, and market access services); digital adoption was much lower in subsistence farmers (3%) compared to commercialized farmers (16%).
- **9% of non-credit users reported previously using digital credit.** They did not use it this season as they did not need it, had negative previous experiences with loan providers, or had issues with eligibility.

Central Bank of Kenya's Agriculture Sector Survey in January 2025 included 294 respondents across Kenya, but only a fraction of respondents were farmers.

- **48% of farmers used some form of credit to finance farm activity** according to the January survey. This is a significant jump from September (28%) and only a slight increase from November (44%), suggesting significant seasonality in lending.
- **Saccos and banks were both used by 38% of respondents** for loans in the January survey. Family and friends loans, followed by digital loans, were other key sources of financing for farm activity.
- **Input purchasing (95%)** was the main use farmers reported for their agricultural loans or other lending products.

Aceli Africa Financial Benchmarking developed a dataset of agri-SME loans dispersed from 2011–2023 across Kenya.

- In Kenya, average **agri-SME loan interest rates have risen from 13% to 18%** from 2020 to 2023. In the same period, value of loans increased from $89M USD in 2020 to $137M in 2023—a +15% compound annual growth rate.
- Most lending (37%) to agri-SMEs in Kenya targeted processed foods, followed by maize (30%), tea (13%), cereals (11%), and agro-dealers (10%).

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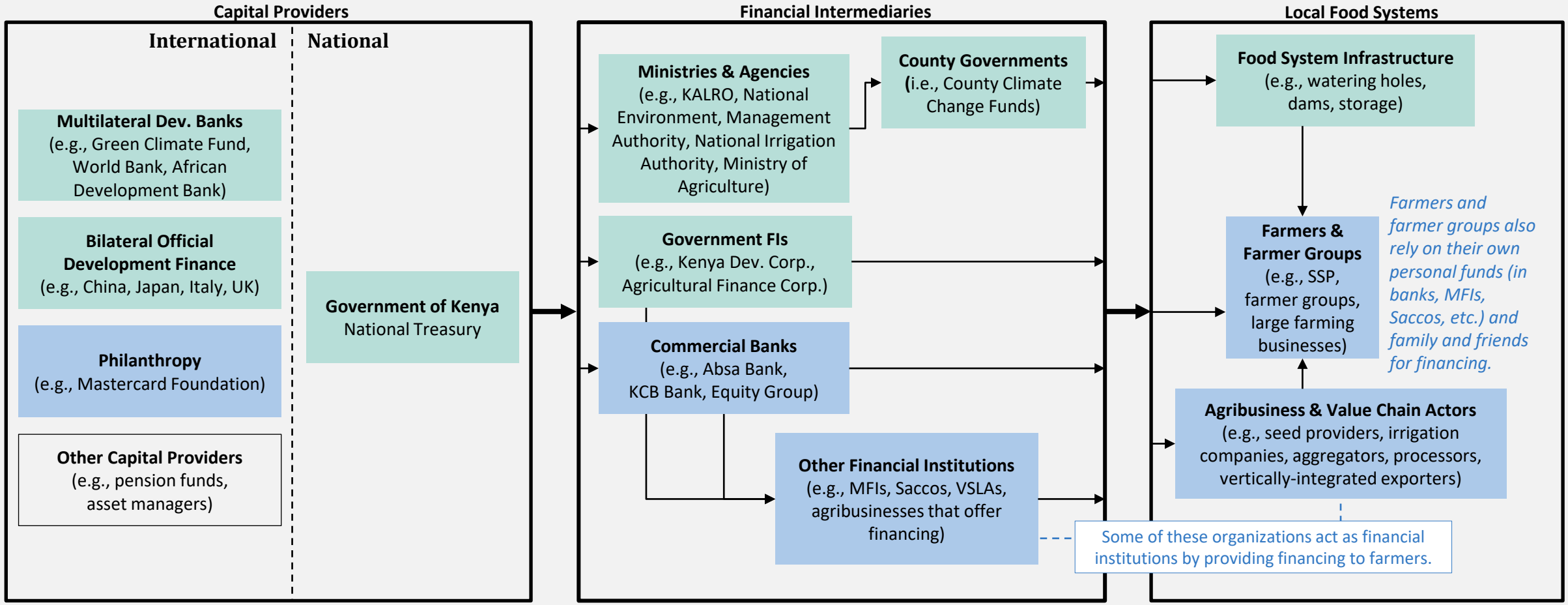
Many initiatives are trying to funnel climate adaptation financing down through intermediaries to better support smallholder farmer adaptation.

Simplified diagram of how international and national capital devolves through intermediaries to support local food system actors in Kenya



KEY | Public (Domestic & International) | Private (Domestic & International) | Mix of Public & Private

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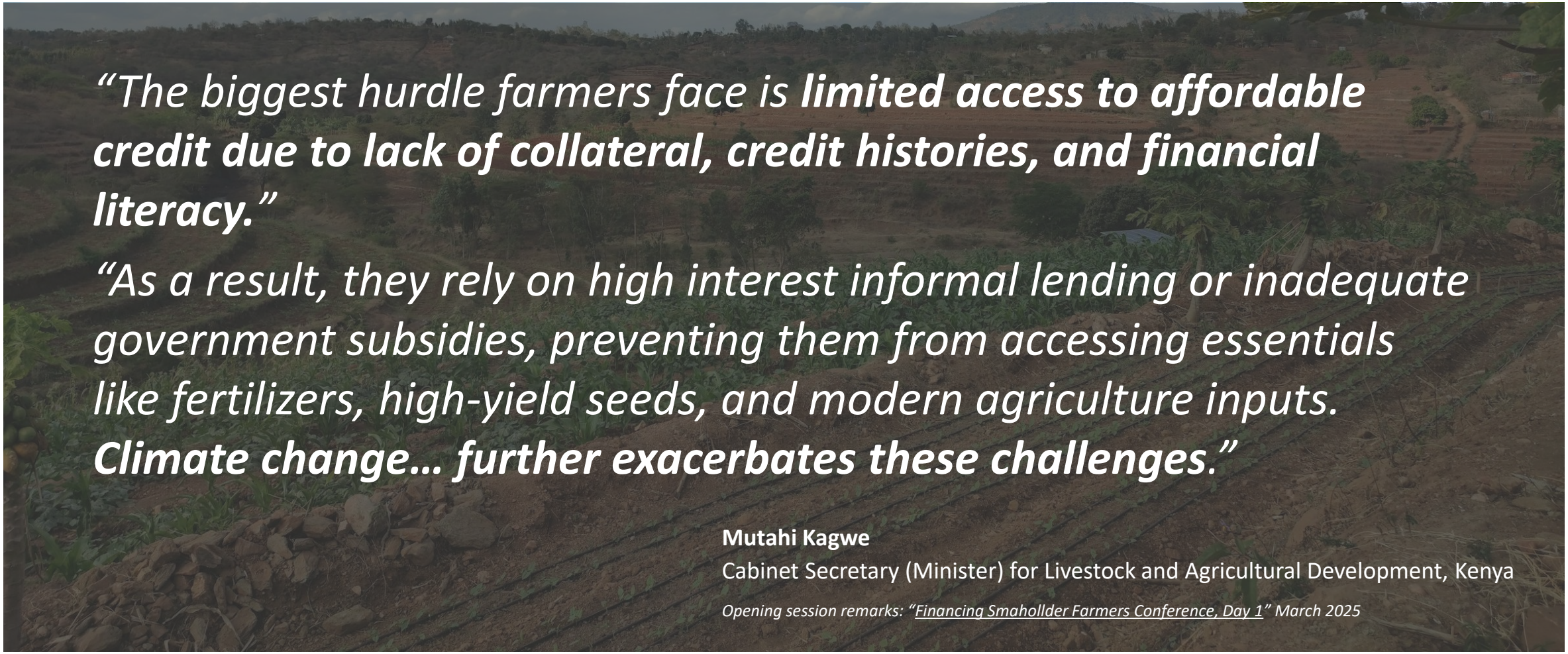
To succeed, adaptation finance initiatives must overcome fundamental challenges that hinder smallholder farmer access to finance.



*"The biggest hurdle farmers face is **limited access to affordable credit due to lack of collateral, credit histories, and financial literacy.**"*

*"As a result, they rely on high interest informal lending or inadequate government subsidies, preventing them from accessing essentials like fertilizers, high-yield seeds, and modern agriculture inputs. **Climate change… further exacerbates these challenges**."*

Mutahi Kagwe
Cabinet Secretary (Minister) for Livestock and Agricultural Development, Kenya

Opening session remarks: "Financing Smahollder Farmers Conference, Day 1" March 2025

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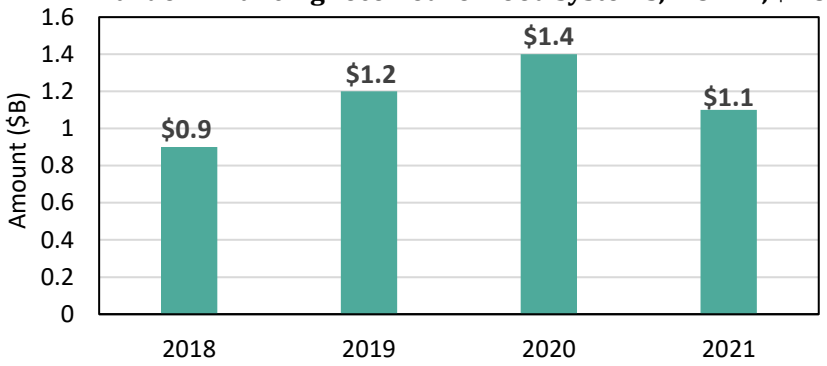
U.S. shifts could lead to decreases in food systems[1] funding in Kenya, where international funding has been a growing fraction of the total.

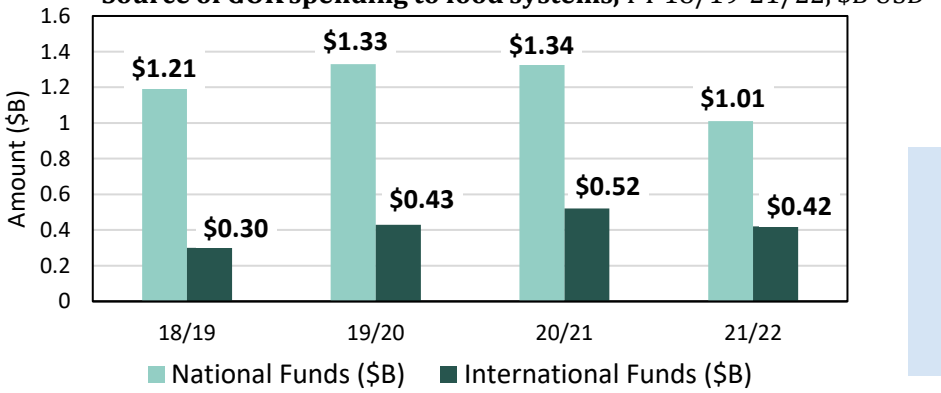
From 2018–2021, international development financing for Kenyan food systems increased 27% (top).[1] But overall spending on food systems (-5%) & national funds-based spending (-16%) both dropped in the same period. [1]

The World Bank is the biggest multilateral funder to Kenyan food systems, contributing $366M per year (58% of multilateral contributions) on average from 2018–2021.[1] Given recent policy changes, it is important to note the U.S. has historically been the leading bilateral donor in Kenyan food systems and has influence within key multilateral organizations.

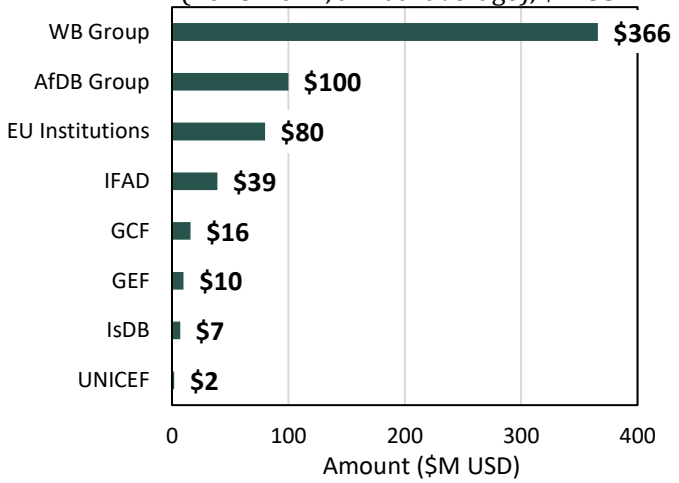
Int'l dev. financing received for food systems, '18-'21, $B USD[1]



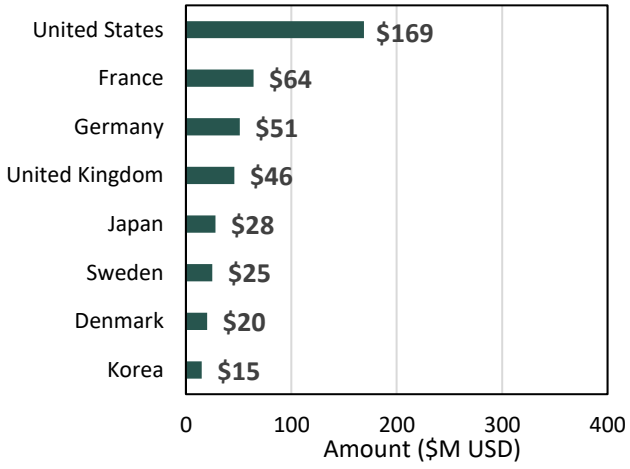
Source of GOK spending to food systems, FY 18/19-21/22, $B USD[1]



Top multilateral funders to Kenyan food systems, annual average
(2018-2021, annual average), $M USD[1]



Top bilateral donors to Kenyan food systems, annual average
(2018-2021, annual average), $M USD[1]



How is the money dispersed? Following a separate methodology than the analysis referenced in the charts and other text of this slide, a recent, global Climate Policy Institute (CPI) study of climate finance for agrifood systems found that, for international adaptation, mitigation, and dual benefit finance in Kenya, low-cost project debt (46%) and grants (34%) were the most prevalent instruments for climate finance in 2021–2022.[2] Looking only at adaptation finance, grants were the primary instrument (76% grants, 16% low-cost debt).

1. World Bank and IFAD analysis (2024), which employs a broad definition of food system spanning agricultural development and value chains, infrastructure for food systems, social assistance, nutrition and health, climate change, and natural resources. 2. Kenya data collected as part of Climate Policy Initiative's recent global study on climate finance for agri-food systems; as these Kenya estimates were extracted from work with a global geographic focus, they may not represent all the flows going to Kenya.

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This report highlights the status of a set of large, blended finance programs in Kenya, but there are many other climate finance initiatives emerging.

Non-exhaustive* set of blended finance programs reviewed for this report

Rural Kenya Financial Inclusion Facility	*IFAD*	RK-FINFA "supports the transformation of the rural and smallholder agriculture sector through private sector-led development by improving the access of smallholder farmers and rural [MSMEs] to appropriate financial services."
Financing Locally-Led Climate Action Program (FLLOCA)	*World Bank*	The FLLOCA program "aims to strengthen local resilience to the impacts of climate change, natural hazards, and other shocks/stressors by building capacity to plan, implement, and monitor resilience investments in partnership with communities."
Africa Rural Climate Adaptation Finance Mechanism (ARCAFIM) for East Africa region**	*IFAD*	Africa Rural Climate Adaptation Finance Mechanism (ARCAFIM) "is a large-scale model of tailored finance for poor small-scale food producers and rural microenterprises. Small and medium-sized rural agribusinesses will also access concessional loans through this new scheme. The mechanism is scalable and can be replicated in other countries and regions."
Transforming Livelihoods through Climate-Resilient, Low-Carbon, Sustainable Agricultural Value Chains**	*FAO*	Transforming Livelihoods through Climate-Resilient, Low-Carbon Agricultural Value Chains will focus on the Lake Region Economic Bloc, "[t]he project will promote climate-resilient, low-carbon farming techniques, improving access to finance, and fostering collaboration among stakeholders, with an aim to significantly enhance food security, boost farmer incomes, while building a more sustainable agricultural sector."
MSME's Climate Sound Technologies for Production Efficiency and Business Value in Kenya	*Green Climate Fund*	MSME's Climate Sound Technologies for Production Efficiency and Business Value in Kenya: Tackles barriers banks cannot overcome without the concessional funding, like: " challenges of funding MSMEs and microfinance in the Kenyan financing market, limited funding for adaptation result areas for tailored for MSMEs, unsuitable credit terms for MSMEs, and an absence of gender-tailored solutions."
De-risking Inclusion and Value Enhancement of pastoral economies (DRIVE)	*World Bank*	DRIVE objectives are to "enhance pastoralists' access to financial services for drought risk mitigation, include them in the value chains, and facilitate the livestock trade in the Horn of Africa."
National Agricultural Value Chain Development Project	*World Bank*	NAVCDP works to transform smallholder farmers, "across 33 counties in Kenya from subsistence to commercial farming through increased value addition and market participation... and includes key investments in infrastructure, irrigation, access to financial services, and sustainable agricultural practices"

Other climate finance initiatives

There are other climate finance initiatives—blended and otherwise—that will be important enablers of climate adaptation in Kenya. But they were not analyzed in this report. A non-exhaustive set of examples includes:

- British International Investment (BII) provision of a $100M Tier 2 capital facility for KCB Bank Kenya to increase lending to climate-related projects and women-led SMEs, including in the agriculture sector (2025)
- Proparco's €1M technical assistance to Equity Group Foundation to help Kenyan smallholder farmers transition to climate-smart agriculture (2025)
- GIZ's recently unveiled AI-powered farmer credit scoring solution developed through the Digital Transformation Center Kenya initiative, with data from KALRO (2025)
- Central Bank of Kenya finalization of a taxonomy and a climate risk disclosure framework as part of suite of green finance tools for the banking sector to promote more sustainable investments (2025)
- FSD Africa's Climate Finance Training Programme (2023)
- Absa Bank's $10M USD financing deal with eco.business Fund to support climate-smart agricultural practices in Kenya (2023)
- FSD Africa's Climate Finance Training Programme (2023 launch)

*Non-exhaustive set of projects chosen as they most clearly align with agri-food system climate adaptation in large-scale public funding

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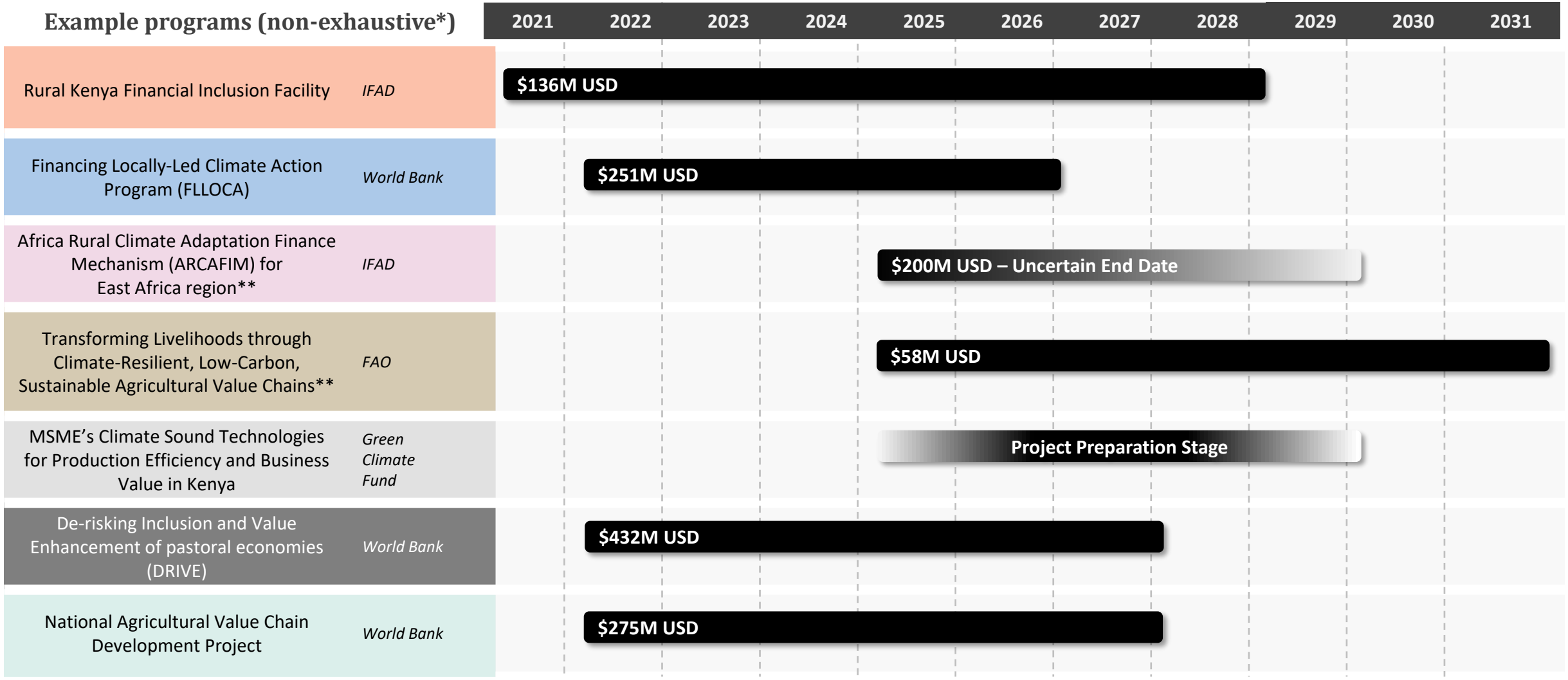
Six large blended finance programs intend to invest >$1B USD in Kenyan agri-food system adaptation in the coming years.



*Non-exhaustive set of projects chosen as they most clearly align with agri-food system climate adaptation in large-scale public funding **Indicates GCF partially funded project.

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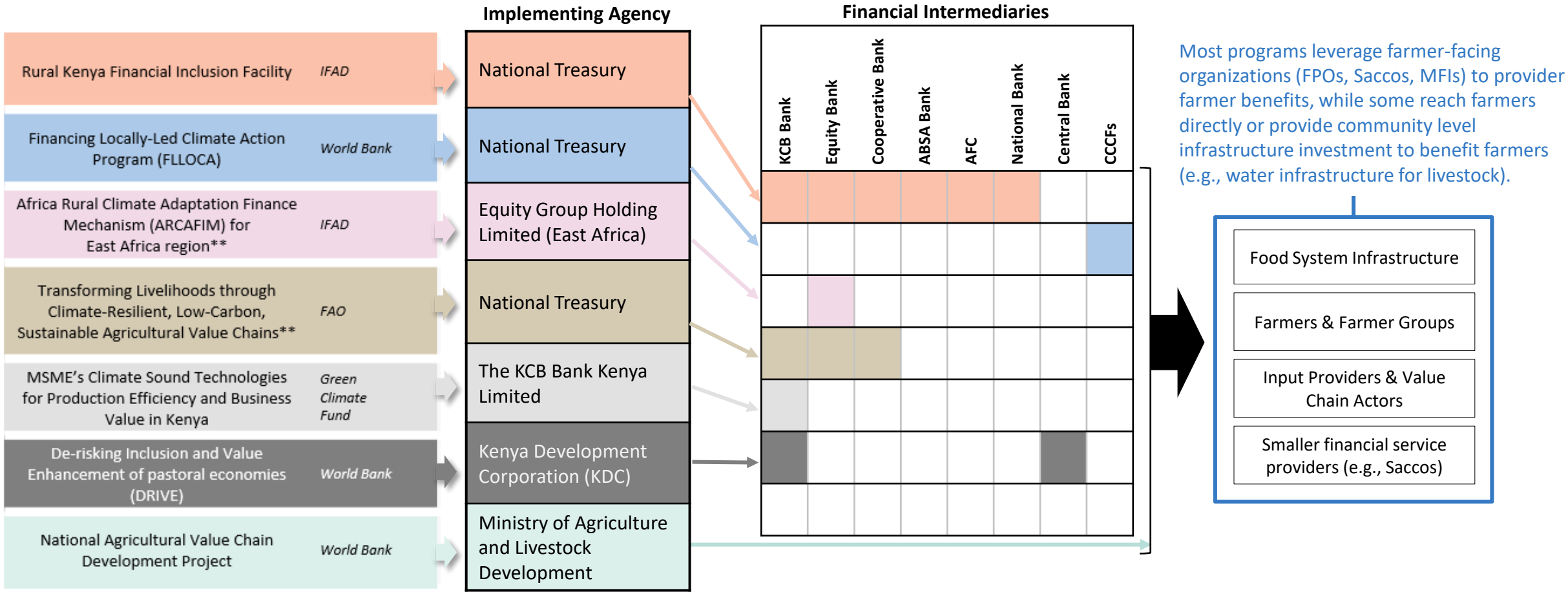
These programs channel funding through commercial and development banks, county climate change funds, and other partners.

How funding reaches farmers varies by program. Some programs devolve funding through many, few, or a single bank, while others pass through directly to farmer-facing groups, like FPOs and Saccos, or invest directly in agribusinesses & infrastructure.



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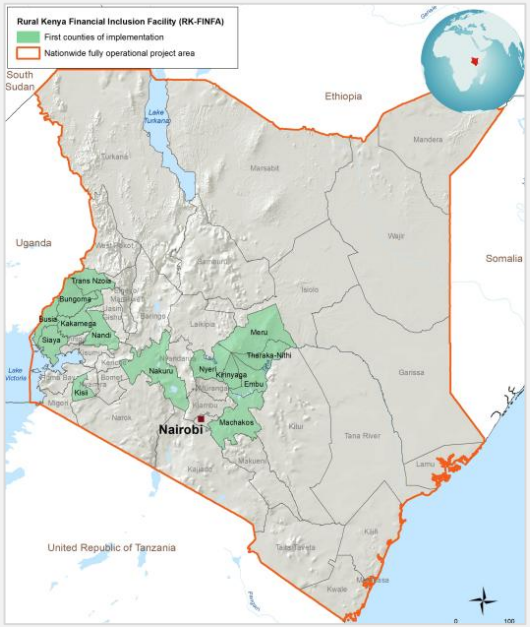
Programs often have multiple components, like in this IFAD example.

IFAD's Rural Kenya Financial Inclusion Facility will run from 2021–2028. The facility provides a two-pronged climate adaptation finance investment meant to jumpstart Kenyan FIs lending to SSPs and MSMEs .

Budget: $134M, 64% of which comes from private financial institutions in loan guarantee operations. IFAD loan of $22M and GoK in kind of $24M.

Geography:



1 Rural Credit Guarantee Scheme

$20m

Risk sharing through credit guarantees to Kenyan mainstream banks. $20M to support lending of $80M, primarily to MSMEs.

Hosted by the National Treasury

$80m

Cooperative, National, ABSA, Kenya Commercial, Equity Bank

Three Types: direct productive investment loans; wholesale lending to Saccos & MFBs; SMEs value chain financing (VCF) (if on-lending input loans)

Direct to MSMEs & Farmers

Wholesale lending to rural FIs

VCF

Input Loans

Financial institution TA support

2 Green Financing Facility

$15m

Wholesale capital to rural Saccos and MFI for on-lending micro-loans to smallholders and microenterprises. $15M support, $5m leveraged

Hosted by Agricultural Finance Corporation (AFC)

$20m

4 MFIs and 20 Saccos (rural)

Smallholder & microenterprises: only activities and projects in climate change adaptation/mitigation qualify[1]

Climate smart projects

Other non-financing activities

SSP & SMEs Business dev support (demand)

Value chain support projects by IFAD and other agencies

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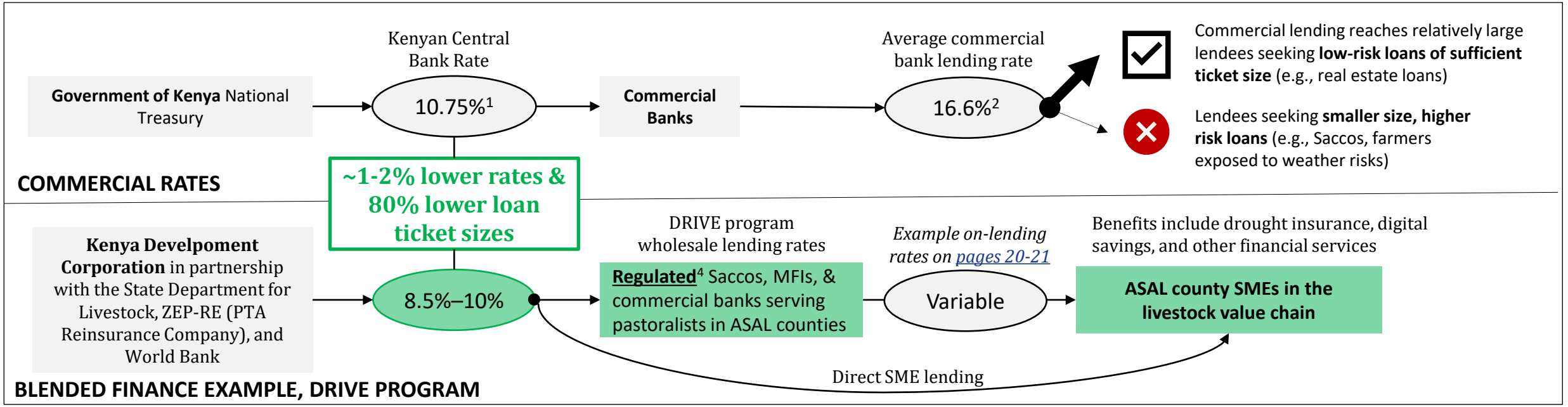
Many programs offer blended financing that can enable lower lending rates and ticket sizes compared to commercial lending.

Commercial lending rates in Kenya (top) compared to blended rates in the World Bank DRIVE program (bottom).



DRIVE program context[3]: DRIVE has a wholesale financing facility targeting financial intermediaries for onward support to SMEs in the livestock value chain; it also as other elements enabling lending to individuals. KDC, a Kenyan development bank, is DRIVE's implementing partner.

DRIVE program impact on loan size and interest rates[3]: DRIVE enables KDC to offer smaller loans and competitive interest rates. KDC ordinarily has a minimum loan amount of Kes 10 Million [~$77k USD], but under DRIVE, the minimum is Kes 2 million [~$15k USD]. DRIVE also enables offering of competitive interest rates of around 9–10% depending on loan risk category; DRIVE has a special consideration for women, and they enjoy lower interests at 8.5%.

1. Kenya Central Bank interest rate, February 2025, 2. Kenya commercial banks weighted average lending rate, Jan. – Nov. 2024, 3. Interview with person familiar with DRIVE, first half of 2025

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Active adaptation finance programs are disbursing funds, but flows from these programs to local groups and smallholders are not always clear.

To catalyze the positive impact of these programs for SSPs, there is an opportunity for funders to clarify understanding of a program's success in reaching SSPs, and support to solve challenges that prevent SSPs from receiving support.

Program		Funding Amount & Status	Progress & Local Actors Involved
(RKFIN-FA) "supports the transformation of the rural and smallholder agriculture sector through private sector-led development by improving the access of smallholder farmers and rural MSMEs to appropriate financial services."	*IFAD*	Committed: €40,898,400 Dispersed: €8,264,627	**Progress:** Significantly delayed and appears to not be functionally offering loans at this point[1]. Disbursed money likely sitting at AFC or Tier 1 bank. In 2025, AFC is still seeking applicants to participate in GFF, and "[m]ajor delays have been caused by delayed onboarding of implementing partners."[1] **Local actors involved:** *AFC seeking Sacco & MFI partners,[2] no evidence of any existing partnerships.*
(DRIVE) objectives: "enhance pastoralists' access to financial services for drought risk mitigation, include them in the value chains, and facilitate the livestock trade in the Horn of Africa."	*World Bank*	Committed: $353,460,000 Disbursed: $154,550,000	**Progress:** Ahead of schedule with disbursements[3]. Planning to pass off insurance to private sector, potentially African Pastoral Markets Development Platform. **Local actors involved:** 6,000+ pastoralist groups supported & connected to markets, and >1m pastoralists covered by financial services and capacity building. [3]
(NAVCDP) "focuses on transforming smallholder farmers… from subsistence to commercial farming through increased value addition and market participation... and includes key investments in infrastructure, irrigation, access to financial services, and sustainable agricultural practices."	*World Bank*	Committed: $250,000,000 Dispersed: $124,250,000	**Progress:** On schedule in terms of disbursements.[4] **Local actors involved**: 464 Ward-based Saccos and 222 FPOs supported in access to markets and inputs[4]. 12 county irrigation development units formed (identifying 240 investments in farmer led irrigation development for support).

*FLLOCA not reported as it does not aim to provide finance for small farmers; $ refers to USD; 1. RK-FINFA Supervision Report; 2. AMFI K Solicitation; 3. Implementation Status & Results Report ; 4. Implementation Status & Results Report

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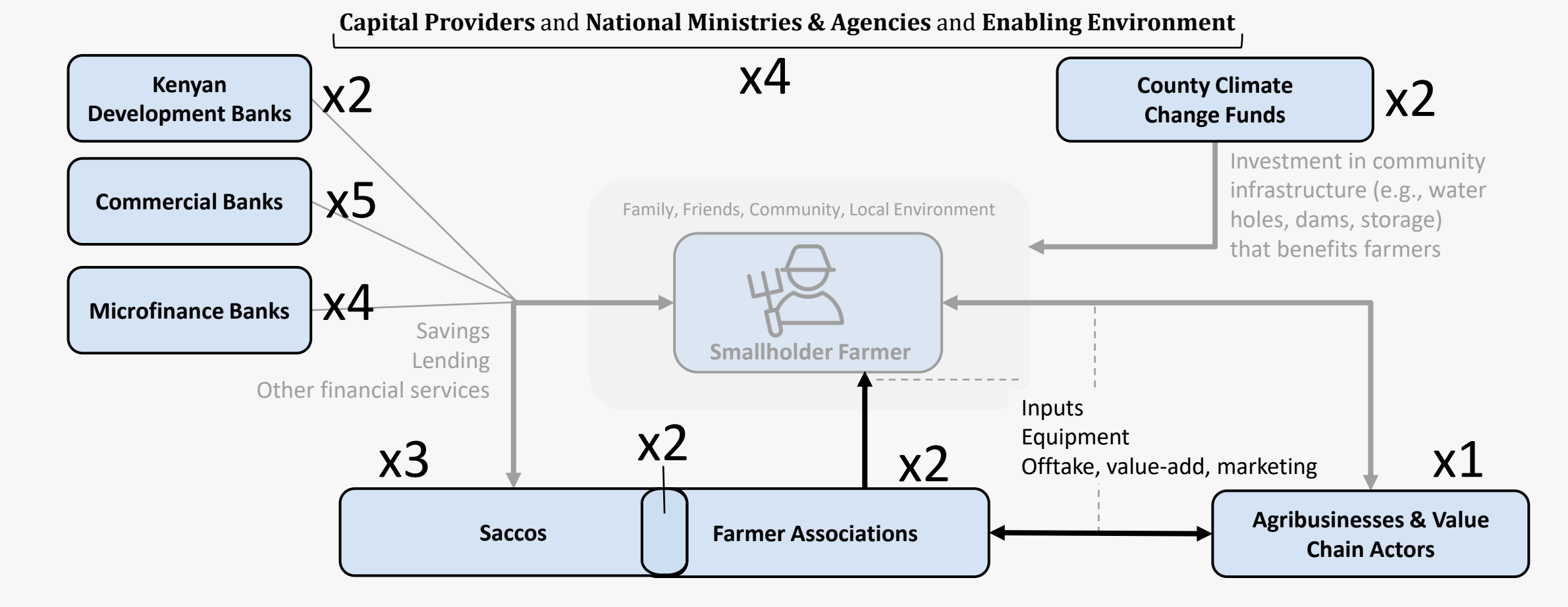
Challenges financing smallholder farmers

Adaptation-focused insights from Kenyan financial institutions and farmer cooperatives

25 local stakeholder interviews highlight key challenges limiting SSP access to finance and adaptation resources.

This interview sample size can provide qualitative insights, but findings are not statistically significant or necessarily representative of challenges across Kenya.



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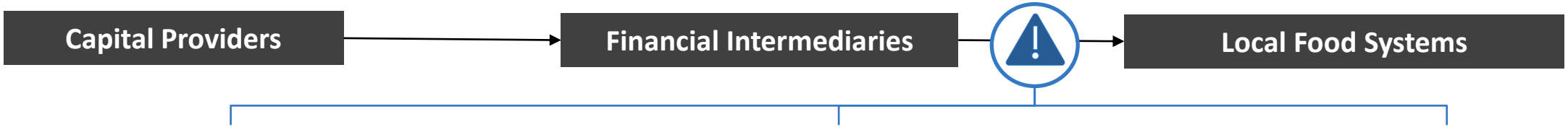
Key challenges can be addressed to unlock the flow of financing to SSPs in local food systems.



CHALLENGES IN SPECIFIC VALUE CHAINS

1. Smallholder dairy producers' access to finance drops when they need it most, as lending is based on recent co-op milk deposits (page 40)
2. Climate risk constrains lending to farmers, especially for longer production cycle crops (e.g., maize, sugar) perceived as riskier to finance (page 41)
3. Horticulture producers' unpredictable incomes, driven by climate-linked food losses & market price fluctuations, make them risky lendees (page 42)

CHALLENGES IN IRRIGATION AND INSURANCE ADOPTION

4. Even when irrigation services are affordable, farmers struggle to afford inputs (e.g., seeds, fertilizer) that make adoption profitable (page 43)
5. Technology risk is a factor for asset financing; equipment warranty periods and the licensing held by installation teams can be barriers to lending (page 44)
6. Misperceptions, bad experiences, lack of smallholder-tailored offerings, and cultural preferences slow adoption of insurance (page 45)

CHALLENGES IN RISK ASSESSMENT, COMPLIANCE, AND CAPITAL SHORTFALLS

7. CCCFs lack capital and fundraising capacity needed to fully invest in community-owned adaptation assets (pages 46-47)
8. Lenders have not broadly adopted tools to streamline loan processing & incorporate climate in risk assessment – but they are open to new tools (page 48)
9. Concessional loan reporting and compliance requirements can prevent adaptation funding from reaching the most vulnerable smallholder farmers (page 49)

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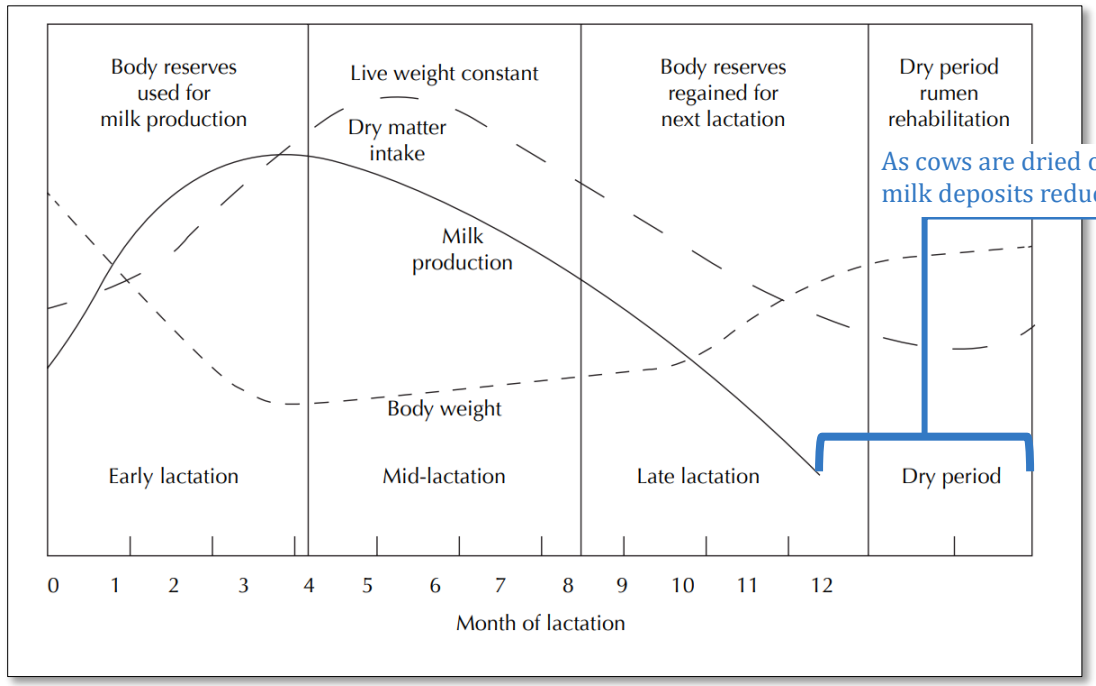
Smallholder dairy producers' access to financing can drop when they need it most, as lending is based on recent milk deposits.

Lactation curve (ILRI Smallholder Dairy Training Manual, 2019)



Milk deposit-based lending can prevent smallholders from optimal cow feeding ahead of calving events or during droughts

Farmer situation: A dairy cooperative explained the best practice is to dry off the cow at 7 months of pregnancy followed by 'steaming up' which includes feeding the cow increased amounts of high-quality pastures and concentrates. **With declined production, most farmers cannot access adequate funds, and this impacts productivity upon calving.**

Lender perspective: "We have a '1/3 rule' where **we look at the revenue from milk supplied to the union and we consider a third as their payment capacity** [for a loan]. We don't allow the monthly repayment amounts to be above this 1/3. We don't want to give a farmer a loan and they end up selling their cows."

Dairy-focused Sacco

Feed storage and finance solutions could help address this

As CIAT highlighted in 2024, feed storage and insurance can make farmers resilient to drought-driven credit gaps. At the cooperative level, there are loan products (like Meru Dairy Sacco's Shrika Development loan) that can help cooperatives buy fodder that they preserve for farmers to use during the dry season as well. But for small farmers, the calving event-linked drop in access to finance challenge is unmet.

While not dairy-focused, pooling resources has helped a farmer association interviewed for this report with a similar timing challenge.[1] Its farming members faced financial strain at planting time, as this is the same time they must raise school fees for children. The association developed an aggregated approach to buying inputs and made inputs available to members at low- or no-initial payment, with flexible repayment through harvest.

1. Interview conducted with farmer association in first half of 2025

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Climate risk constrains lending to smallholder farmers, especially for longer production cycle crops (maize, sugar).

Maize & sugar are seen as riskier than tea & dairy by lenders

"**It is very risky to finance ventures like maize farming in Makueni since the risk of crop failure is very high.** If the famers were not relying on rainfall, the failure rate would be lower but again irrigation is another investment, and you also need to ask yourself where this water for irrigation will be coming from."

Sacco B

Lender marketing is not neccesarily indicative of their risk tolerance

A large commercial bank explained that unpredictable weather patterns and fluctuating commodity prices affect repayment capacity of borrowers, so value chains with structured and predictable cash flows, such as tea and dairy, are preferred compared to annual crops with uncertain yields and delayed incomes.

Commercial Bank A

"Their website [at a large commercial bank] has loans for cereals. **My interviewee,** though, **was categorical: they stay away from maize farmers. [They] stay away from sugarcane farmers too.** They would rather loan to workers in a sugar factory than sugar cane growers, due to the risks."

Researcher perspective

Diverse incomes & de-risking measures are considered by some lenders, suggesting adaptation can improve access to financing

"In assessing viability of a loan application, we check purpose of the request, credit history, line of business and involved risks, cash flows, sustainability, and availability of collateral among others. **A farmer [reliant] on rainfall is riskier than one using irrigation, and so the credit will be priced higher**. Again, **if a farmer** who is reliant on rainfed farming **has other income sources, then he will have a better risk rating.**"

"**You also need to consider if the venture is insured**. For example, we have Kilimo Imara Loan that attracts an interest of 26% and Kilimo Dhabiti Loan that attracts an interest of 17%. If you have a good risk rating, then they can qualify for Kilimo Dhabiti and if not then you can go for Kilimo Imara."

Microfinance Institution A

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Horticulture producers' unpredictable incomes, driven by climate-linked food losses & market price fluctuations, make them risky lendees.

Exposure to climate and market price fluctuations make it difficult to extend farmers loans

"There are uncertainties relating to climate change affecting expected harvest quantities… **a loan to a mango farmer [may be] issued with valuation of Kes. 20 per fruit, but the price at harvest turns for the worse at Kes. 5 per fruit** and, mangoes being perishable, the farmer risks earning zero should they fail to sell. **Such challenges make it difficult to loan farmers** who are solely depended on farming as their only source of income…. **Farmers face challenges of exploitation by brokers at harvest, reducing their income;** the absence of consistent market prices [makes] long-term financial planning a challenge. Poor record keeping and tracking of spending during the production process [also leads to a challenge in] improper product pricing."

Sacco A

Preservation technologies can enable farmers to repay loans

"Fruits like pixie [orange] and mangoes will get ready at the same time, leading to an oversupply. **Farmers need facilities like cold rooms** where they can aggregate and protect their produce from loss. **[They also need] the capacity and technology to do value addition to their produce**. For example, the sun here is quite hot, and we can also use solar driers for preservation. We just need the capacity and the technology. **This will stabilize income and make it easier to repay the loans."**

Sacco D

Local technology partners & data platforms can help address this challenge

A recent study on the **solar dryer market in Kenya (2023)** describes the uptake and economics of adoption of solar dryers for food production. It includes a landscape of local fabricators and other actors engaging in expanding this market—potential partners for philanthropy and donors. It touches briefly on Saccos' role in financing adoption. In one case study, a group of 60 women losing 100 kg per harvest of vegetables increased their income by Kes. 12,000 per year by drying vegetables after harvest.

Increased access to the Kenya Agricultural Market Information System (KAMIS) platform, which provides live market prices for various commodities in Kenya—like mango and oranges—may also help farmers maximize incomes for their produce.

© Gates Foundation

Even when irrigation services are affordable, farmers struggle to afford inputs (seeds, fertilizer) that make adoption profitable.

High costs of inputs & labor for high-value crops constrain farmer investment in irrigation

In focus groups, farmers told one irrigation technology company that: "**affording water isn't [the] problem. It's affording higher value inputs: $1,000 USD for seedlings, fertilizers, [other inputs], and labor... [but] without [access to water], they'll never have the confidence to try high value crops.** Instead, they go low risk – low reward: maize, beans, and pray for good rains. Onions, tomatoes, peppers, eggplants, etc. are higher risk. You risk, there, $1000 instead of $20. [It is] too large of a risk for them."

Even when offering 60% of season preparation costs at 0% interest, the company found farmers don't have the other 40% to put down to benefit from this credit. The company noted that in its target counties, farmers often have no smartphone, no motorbike, no credit, and are often illiterate. And most have not been approached by an MFI to discuss lending.

Irrigation Technology Company

Most formal lending institutions demand collateral and do not offer simple loans at affordable rates, thus **"a farmer for instance who only needs a loan to purchase a bag of fertilizer, or a packet of seeds" cannot get a loan.**

KALRO

Financial institutions are interested in partnering to scale-up access to irrigation

"One of the main challenges that we have here as farmers is the drought. **We need more support to facilitate our members to develop farm ponds and put together small irrigation systems. This can help with horticulture and diversify income.** Also we can have more community dams and support members to make use of them in agriculture production…**we need more capacity and linkages on** fundraising and **partnership development."**

Sacco D

"We have a structured way of supporting farmer install water tanks and solar pumping systems, but **we lack a structure for supporting farmers installation of micro-irrigation**. We have more farmers seeking support to support **fodder production** and this **is an area of opportunity**. Possibly, **partnerships that can support [lending that is not] limited to the amount of savings can help boost smaller farmers."**

Sacco E

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Technology risk is a factor for asset financing; equipment warranty periods and installation team licensing can be barriers to lending.

For an MFI offering 10%–20%+ rates for clean energy asset financing, where finding qualified partners is key to success

"**We offer a rate of 10% per annum on reducing balance for small-scale projects** in order **to promote clean energy project installations**, however, **for large-scale installations, the market rate applies,** which is usually pegged on a **base rate of 20% plus a risk premium**… we [link loan applicants] with solar installation companies. We disburse funds to the installation companies – but only after the determination that the installations are successfully implemented… **[we have learned] solar installations are very delicate, and if you don't get the 'right' professionals they will negatively affect the business model."**

MFI B

Credit risk is considered alongside the warranty period & installation team

"When financing ventures like solar and water projects, we don't just look at credit risk, but we also consider technology risk. **We will connect a farmer to a supplier, and we also directly pay the supplier.** In cases where a client comes with a preferred supplier who is not in our database of the approved, we have to vet things like quality and warranty. For example, **if the warranty is 2 years, we cannot give a facility with 3 years [repayment] period. We also check if the technicians have the required 3 licenses from Energy and Petroleum Regulatory Authority**."

Commercial Bank B

Agtech companies could streamline future sales by ensuring they meet farmer & financer needs

For irrigation, post-harvest processing, and other equipment:

- Ensure technology providers offer warranties covering loan periods
- Ensure appropriate licensing is in place for installation teams for solar technologies
- Consider ways to reduce the effort new financing partners may need to spend to vet technology suppliers (reducing transaction costs for new equipment sales)

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Misperceptions, bad experiences, lack of smallholder-tailored offerings, and cultural preferences slow the adoption of insurance.

Misunderstanding & poor perception of insurance

"More needs to be done to eliminate or reduce the misconceptions…. **misconception and limited knowledge about insurance affects uptake**… farmers [are] coming to initiate insurance for their tomatoes after they have even planted. Unfortunately, insurance wants to engage with you from the onset as a way of ensuring you are following best practices in mitigation of risks. In this case of the tomato farmer, they can't be covered for that season."

MFI A

"**Many farmers think that insurance is a waste of money**… DRIVE* [was] introduced as away of insuring our livestock, but most of us were skeptical. A bonus of Kes. 6k was offered to the first people to insure… this bonus was given out as promised. **Community members were expecting to be compensated during the dry season, but this did not happen…** We also had **another initiative on crop insurance**, and **it was not very clear why some people were compensated, and others were not.**"

Sacco C

*It seems most farmers and pastoralists did not understand that the DRIVE project insurance offers protection against prolonged forage scarcity only caused by drought, and payouts are triggered by well defined drought index that indicated severe drought.

Cultural preference against interest rates in Muslim pastoralists

"[We] target pastoralist community in ASALs, most of which are Muslims. The products charge an interest, and this poses a challenge of compliance with Sharia laws. This affects uptake levels."

Kenyan Development Bank A

Lack of smallholder-appropriate poultry insurance offerings

While poultry is quite vulnerable, and many farmers are usually interested in insurance, **insurance providers will usually not cover farmers with less than 1,000 birds.**

Sacco B

Spreading payments can help increase adoption, but more is needed to drive uptake

"**Bima Loan allows farmers to pay for insurance premium over a period of 10 months** at 1% interest per month. **Previously, they were paying this premium in cash and in a lumpsum, and this made it very difficult even for those who were willing."** But while this helps adoption, uptake remains low. Only 200 members out of the 10,000 members (2%) use the Bima Loan. Practical ways to increase insurance uptake are needed, like more sensitization & subsidies for first timer buyers.

Sacco E

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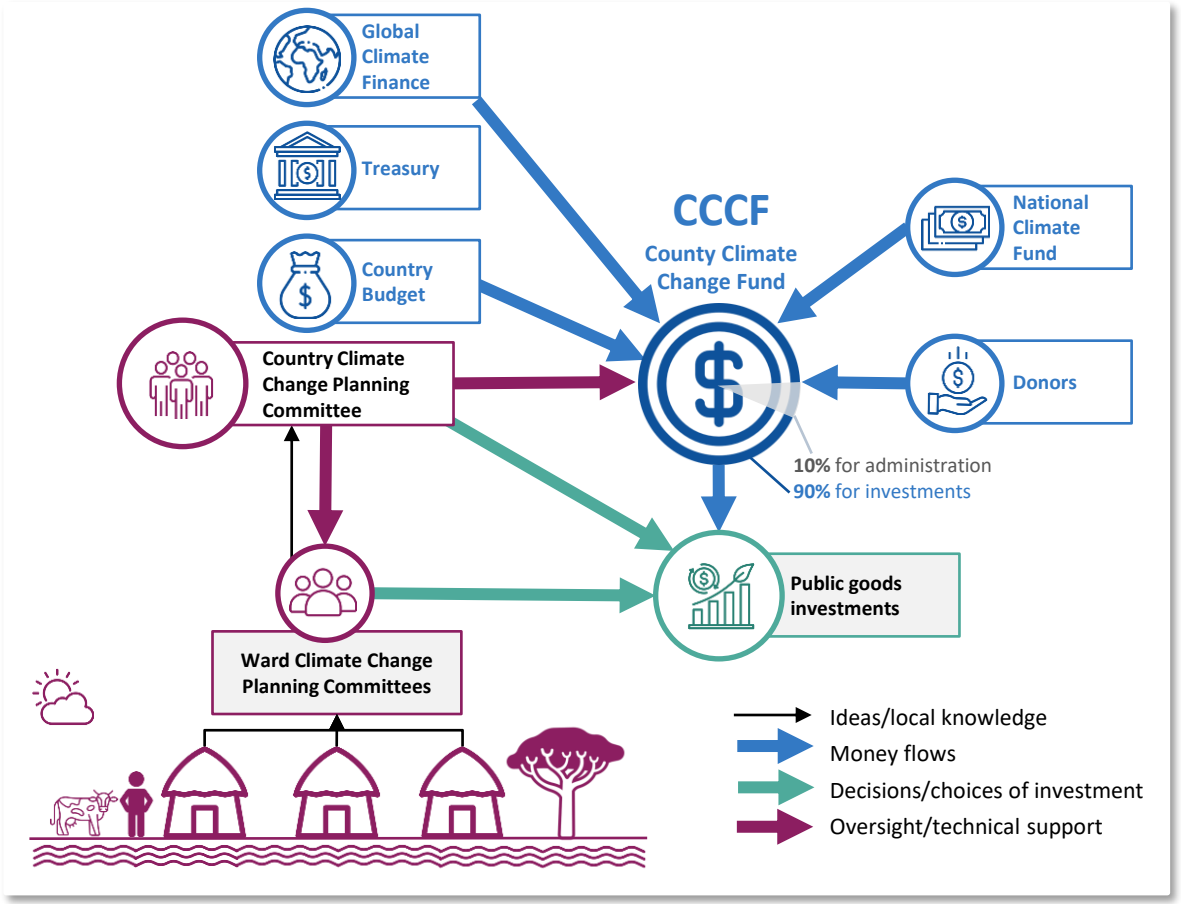
CCCFs are an important mechanism for locally-driven adaptation funding in Kenya.

This is the main mechanism for financing adaptation investments with no financial returns (e.g., shared watering holes) in Kenya.

- **CCCFs have been scaled nationwide** with government in a push **to devolve decision making and resource allocation to local levels.**
- With the GOK & World Bank's support through FLLOCA, **all counties in Kenya have established these structures**. Arid and semi-arid counties were the first to establish the program over a decade ago; these counties' (e.g., Isolo, Garissa, Wajir, Makueni, and Kitui) CCCFs are most developed.
- Through this mechanism, national climate finance dollars, international public climate finance, and county budgets are invested at the discretion of county and sub-county local entities (i.e., Ward Climate Change Planning Committees). **Around 70% of the investment budget is at the discretion of the Ward Committees,** 20% is allocated by the county, and 10% is for administration.

Devolved Climate Finance in Kenya, adapted from CIF (2024)



CCCFs have been effective in supporting their communities, but they need more capital to reach their full potential for smallholder farmers.

Conversations with two counties in Kenya revealed their CCCFs are constrained by capital shortfalls that prevent them for fully investing in farmer adaptation. Despite this constraint, they are actively supporting a range of initiatives, including: building of beehives, solar powered water pumps, demonstration farms, input subsidies, Sacco strengthening, rehabilitation of cattle dips to counter pests, drought-tolerant crop development, farmer group capacity building, and mapping of small-scale irrigation opportunities to support horticulture.

Funding shortfalls limit county-level adaptation investments, and governments have limited capacity to raise additional resources

"Implementation of the aspirations under the [County] Climate Change Action Plan (2023-2027) **will cost Kes. 5 billion, yet last year the [contribution was a total of Kes. 0.4 billion].** This is not enough'… [and] **we have limited capacity** including at the county government and community level **to write winning bankable proposals. This limits the ability to access available climate financing."**

County Government Representative

"Some of our wards are geographically quite big and the needs are huge because of the scale of climate hazards**. To adequately build resilience, [we] need more resources, which are not there**."

County Government Representative

Technical capacity support to CCCFs could help them raise funds

"Building technical capacity to write winning proposals… would help scale-up initiatives like small-scale irrigation to counter climate change effects. We have a clear climate change action plan that can guide this…. [and] one of the performance indicators that we have is our ability to collaborate and optimize partnerships in support for adaptation. We want this to happen."

County Government Representative

Saccos could channel adaptation resources to smallholders

"The **30 local level Saccos for example are good platforms to channel adaptation resources to smallholders.** These are registered and operational groups and Saccos… Around 9 Saccos out of a target of 30 have received their Kes. 1 million. It is expected that when they meet additional requirements, they will be given an additional Kes. 5,000,000 each. No Sacco so far has met the requirements needed to receive the Kes. 5,000,000."

County Government Representative

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Lenders have not broadly adopted tools to streamline loan processing & incorporate climate in risk assessment – but they are open to new tools.

Slow processing of loans negatively impacts borrowers

Where land is community owned or its owner does not possess legal ownership documents, presenting collateral is a challenge, and "getting a charge on collateral, usually land, [can take months] – which leads [to] delay in approval and release of funds**. You end up in a situation where, when the financing is being approved, the market conditions are favorable – but by the time the funds are released, the cost of livestock for example has doubled. This can lead to losses for the clients…** And it usually takes 45 days for clients to get the money after approval is sent to Treasury from [the development bank]."

Kenyan Development Bank A

Many lenders do not use climate risk analysis tools, but they are open to them

Sacco B explained that it lends based on the capacity to repay the loan, but it must secure the funds with shares, guarantors and/or collateral. In assessing the risk, it looks at other sources of income and previous payment records… **it does not use dedicated climate analysis tools at a farmer level, but exposure to such tools would add value**.

"**We have data about production levels for the farmers**, and this helps in extending loans that they can repay. This data also presents an opportunity to create custom products for different profile of farmers. **The use of this data can be combined with other risk analysis tools that allow for broader loan products**. For example, **can we de-risk and incentivize financing for the low producers**?"

Sacco E

Lenders are open to additional digital innovations that improve lending, like advanced climate risk tools

One commercial bank said that **opportunities include developing improved credit scoring using alternative data points** beyond conventional credit models, **capacity training for farmers** in financial literacy and agribusiness skills, **digital financial solutions like e-vouchers,** policy changes like **Central Bank incentives around climate finance**, and donor blended funds with credit guarantees which are less restrictive.

Commercial Bank D

One MFI explained that it applies comprehensive risk assessments that incorporate borrower character, creditworthiness, ESG standards, and **climate risk evaluations. It remains open to leveraging advanced analytics tools, like from CGIAR and Apollo Agriculture**, to improve lending decisions.

MFI D

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Concessional loan reporting & compliance requirements may slow and ultimately reduce the flow of adaptation funding to small-scale producers.

Requirements can lead to disbursement delays

"The World Bank has a strong focus on Environmental, Social and Governance (ESG) compliance which is good. However, **most of the target entities are not that structured and compliance becomes an issue.** For example, requirements like farm hands having contracts, no child labor, and having adequate safety are usually hard to meet for target ventures. **Implementing compliance measures can cause delays in approval of funds."**

Kenya Development Bank A

It's difficult to produce analyses that meet concessional lending reporting requirements

One commercial bank noted that administrative and tracking challenges stem from **complex legal agreements, the introduction of new taxonomies, and difficulties in tracking climate finance transactions** in its portfolio.

"Understanding risk is key in agriculture, and [doing it] requires a specific set of skills… some **funds are in [Equity Group] that have conditionality for accessing**, like from EU MDBs. This money is given to Equity Bank, **but they cannot neccesarily allocate it on to organizations or companies** [for a variety of reasons, including] the analysis involved – **sometimes the bank can't submit evidence of that analysis [as they lack the capacity to produce it]."**

Researcher with expertise in Kenyan climate finance

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Opportunities

for donors and philanthropy to address challenges

High priority opportunities to solve challenges include…

1. **Design and pilot tailored products that meet smallholder farmer needs** building off the momentum of Saccos and MFBs.
2. **De-risk & enable new adaptation business models** for investments with relatively fast ROI (e.g., irrigation, solar mills & dryers), as well as longer-term investments (e.g., agroforestry).
3. **Bolster capital shortfalls and capacity for CCCFs and Saccos,** organizations well positioned to support smallholders' adaptation needs.
4. **Invest in digital innovations that de-risk and speed lending** to lower perceived climate risk for lenders, enable improved rates and capital flows to SSP, and protect lenders from risks.

CHALLENGES TO SOLVE	
1	Smallholder dairy producers' access to finance drops when they need it most, as lending is based on recent co-op milk deposits.
2	Climate risk constrains lending to farmers, especially for longer production cycle crops (e.g., maize, sugar) perceived as riskier to finance
3	Horticulture producers lose out on potential income due to post-harvest losses & price effects during peak production.
4	Even when irrigation services are affordable, farmers struggle to afford inputs (e.g., seeds, fertilizer) that make adoption profitable.
5	Credit is considered alongside technology risk for asset financing – warranty period and installation team licensing can be barriers to lending
6	Misperceptions, bad experiences, lack of smallholder-tailored offerings, and cultural preferences slow adoption of insurance
7	CCCFs lack capital and fundraising capacity needed to fully invest in community-owned adaptation assets.
8	Lenders seek better, climate-informed risk assessment tools to build on recent progress in this domain.
9	Concessional loan reporting and compliance requirements can prevent adaptation funding from reaching the most vulnerable smallholder farmers.

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SSP-specific challenges can be addressed via support for tailored financing products, which can unlock scalable pathways for SSP resilience building.

1

Design and pilot tailored products that meet smallholder farmer needs building off the momentum* of Saccos and MFIs. For example…

Bundling & installment payments to drive adoption

Meru Dairy Sacco's bundled financing model enabled increased uptake of insurance products for dairy SSP

Longer, more flexible grace periods

Can provide SSP time to invest loans and stabilize financially before payback

Boost access and use of more affordable mobile lending

Mobile lending rates can be exorbitant, but access is high. Support awareness of digital lending from increasingly digitizing Saccos and MFIs

Remember to consider value chain- & community-specific challenges SSP face when selecting and designing pilots, like…

Maize & Sugar

Long production seasons raise risk profiles & reduce lending as banks shy away from the growing season risks associated with these longer-maturing crops, which they perceive to face greater climate risk

Dairy

SSP access to finance drops when they need it most as available financing is based on recent milk production, which can drop due to drought or an upcoming calving event (when cows should be steamed up)

Poultry

No tailored products for smallholders with <1,000 chickens, despite demand from farmers to insure their vulnerable flocks

*Many Saccos already offer below-average lending rates and well-tailored products to SSP (e.g., longer grace periods, structures by which to pool community member assets into collateral), and ward-level farmer groups are increasingly registering as Saccos to access incentives from climate finance programs. These groups understand SSP deeply and can be a source of resilience, but many need capacity-building support and improved connection to sources of subsidized adaptation finance to scale their impact.

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A range of investments in SSP adaptation can be catalyzed through support for business model de-risking & capacity strengthening for local FIs.

2

De-risk & enable new adaptation business models for investments with relatively fast ROI (e.g., irrigation, solar mills & dryers), as well as longer-term investments (e.g., agroforestry) through…

Partnership-oriented convenings

Bring agri-tech companies and local FIs together to enable new, scalable partnerships that align stakeholder incentives and increased adoption of climate adaptive technologies

Pilot studies

Subsidize testing of innovative business models (e.g., irrigation-as-a-service, bundling of offtake & input credit) to validate them and enable scaling by agritech companies & financing partners

Carbon market projects for SSP resilience

Kanza's Eastern Kenya agroforestry pilot showed re-allocating tree production risks can deliver increased resilience and diversified incomes for SSP

3

Bolster fundraising capacity to close capital shortfalls of CCCFs & Saccos, organizations well-positioned to support smallholders' adaptation needs by…

County Climate Change Funds (CCCFs)

Provide fundraising capacity support and otherwise partner with CCCFs, enabling them to better implement high-value community-owned adaptation investments across Kenya

Saccos

Support continued capacity development (e.g., digitization), & explore partnership in connection to new adaptation business models and pilots

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Support climate risk analytic solutions to unlock capital for SSP & mitigate risk for FIs (but beware, SSPs may not directly benefit from this alone).

4 **DO invest in digital innovations that de-risk and speed lending** to lower perceived and actual climate risk for lenders. This can protect lenders from climate risks while enabling better capital flow and interest rates for SSP.

DO NOT assume demonstration of SSP resilience (e.g., via resilient practice or technology adoption) will necessarily cause lenders to offer lower rates, at least not in the near term.*

For many lenders, agricultural production risk is not a primary consideration influencing SSP loan making. While some lenders described offering lower rates for insured or irrigated lendees, many said they make loans expecting SSP sources of non-farm income to enable payback, and that they do not assess other factors. Therefore, improved understanding of climate risk from analytics, or even resilient production practices like irrigation and insurance, may not always influence lenders' assessment of lending risks, which can be decoupled from agriculture risks.

DO NOT focus support on organizations too risk averse to engage SSP at scale (e.g., many large commercial banks)

For some lenders, there may be no feasible amount of reduction in real or perceived climate risk that will increase their willingness to lend to SSP. Many large banks have a low footprint in agriculture and preferentially lend to the most stable, bankable value chains (dairy, poultry). The gap between SSP realities and their risk tolerance may not be closeable through analytics.

*Lending is often based on income and savings (factoring into assessment of ability to repay). So, in the long term, SSP resilience improvements that lead to higher income or savings could enable access to bigger loans at improved terms

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Appendix

Additional Resources

Additional Resources: One repository & recent analyses focused on climate adaptation financing & agriculture

Kenya climate directory: **(2023–):** Launched in 2023, this centralized repository of climate change and nature-related knowledge resources in Kenya includes a growing set of >2,000 files covering climate change, adaptation, food security, financing, and other topics.

Making a case for smallholder farmer resilience – insights from FinAccess 2024 **(FSD Kenya, May 2025):** This analysis of 2024 survey data reveals trends in Kenya's agriculture workforce, income and digitalization, usage and drivers of use of finance by farmers of different archetypes, shocks and vulnerabilities experienced by farmers, and their financial inclusion. Additional analysis and full survey data can be found here.

Adaptation finance to local food systems in Kenya (**ECDPM, June 2023):** This analysis investigates the mechanisms by which food system adaptation financing flows to the local level in Kenya, annotating what does and does not work. It highlights key structural, institutional, and technical barriers to adaptation financing for local food systems in Kenya, and it recommends pathways to supporting adaptation at the local level.

Landscape of climate finance for agrifood systems **(ClimateShot Investor Coalition, May 2025)**: This globally-focused report analyzes climate finance going to global agrifood systems in 2021/22, tracking flows across uses, financial sources, sectors, regions, and instruments. It includes many Kenya-specific examples, like financing for climate-smart aquaculture, carbon credits generated via climate-smart agriculture, index-based insurance, and Kenya's Warehouse Receipt System.

Blended Finance for Climate-Smart Agrifood Systems: A playbook for concessional capital providers **(ClimateShot Investor Coalition & ISF Advisors, June 2025)**: This report outlines five, high-impact investment strategies for driving climate-smart agrifood system transformation. For each strategy, real-world examples and actionable guidance are provided to help capital providers optimize their blended finance strategies.

Helping women farmers grow sustainably with green asset finance: lessons from India and Kenya **(Accion, March 2025)**: This report describes the results of innovative green asset financing model testing with smallholder dairy farmers, especially women, in Kenya and India. It captures lessons learned from exploration of various interventions (e.g., milk receipt-based model, product bundling model, program financing model, asset financing model) that can inform future green asset financing programs.

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