

Masterclass on Climate Adaptation Finance

Climate Adaptation Investment Markets in Tanzania

Online webinar 14 April 2026



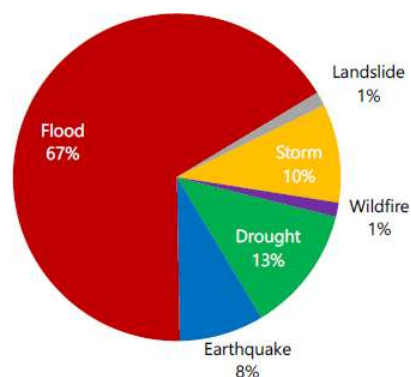
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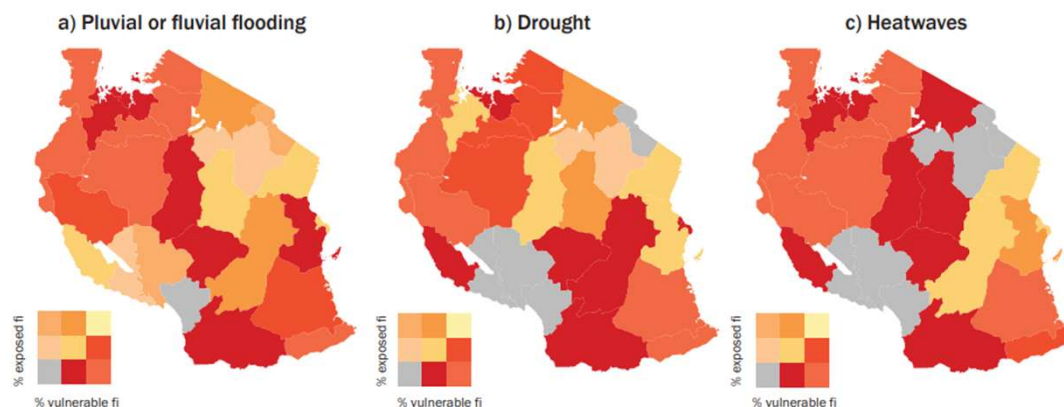


Tanzania's climate change outlook predicts increased floods and droughts, and higher temperatures over the next century

Natural disasters in Tanzania, 1980-2022 *Prevalence (% total events)*



Expected climate impact of floods, droughts, and heatwaves in Tanzania *Measure of risk vs. population impacted*



- **Over the last 40 years, among the range of natural disasters, Tanzania has primarily experienced floods, followed by droughts.** The frequency of floods in Tanzania increased by 45% during 2010-2020, while the frequency in Sub-Saharan Africa and the rest of world decreased by 14-15%, respectively. In fact, in the last five years the country has experienced record rainfall nearly every year
- **This is projected to persist and will be compounded by warmer temperatures.** Over the next century, Tanzania is projected to experience a 20% increase in average rainfall overall, though a key nuance is the variability: wet seasons will be dramatically wetter, while dry seasons will be drier. In fact, average temperatures will increase by 1 to 2 degrees by 2040



Climate change yields millions in annual losses for the country and costs it an estimated 2-4 percentage points in GDP growth

USD 28M

*Estimated annual losses
caused by floods*

USD 220M

*Repair costs for
roads and bridges*

USD 140M

*Estimated annual losses
caused by droughts*

2-4%

*Estimated annual
GDP loss from climate impact*

- **Tanzania's climate outlook suggests that many of the country's key assets could be jeopardized.** Areas for cultivation may reduce; weather-sensitive value chains may experience lower yields; Tanzania may not be able to maintain its position as a net exporter; coastlines may erode; water-borne diseases may return or intensify; manufacturing progress may slow down or decline, given the reliance of these industries on nature-based inputs; and in urban centers, daily economic activity may be negatively impacted by extreme heat or flooding
- **The economic impact of climate events, notwithstanding displacement and loss of life, is already significant:** floods cost an estimated USD 28M in annual losses and do extensive damage to national infrastructure, while droughts yield USD 140M in annual losses
- **Tanzania loses an estimated 2-4% of its GDP per year from climate losses. This gap could make the difference in Tanzania hitting or surpassing its target growth rate to meet its 2050 goals (8%).** The country has come within a few basis points of this target in the last two decades but has not managed to achieve it in the last 40 years



As a result, financial systems must move beyond access to actively build resilience, enabling individuals and businesses to absorb shocks and sustain livelihoods

Four Dimensions of Financial Health

Day-to-day management Income covers everyday expenses without constant stress. Cash flow is managed well enough to meet regular needs. <i>Example: Enough cash at month-end to cover food and transport.</i>	Handle shocks Ability to absorb an unexpected financial setback without lasting harm to income, assets, or well-being. <i>Example: Savings or insurance available to cover a medical emergency</i>
Progress toward goals Making headway on longer-term financial objectives: saving, investing, or building an asset base over time. <i>Example: Has a savings plan and contributes to it regularly.</i>	Financial confidence A sense of control, capability, and trust when making financial decisions. <i>Example: Can compare and choose a suitable financial product without assistance.</i>

FSDT recognizes that access alone is insufficient and is shifting toward a financial health approach. Our new 2026 – 2030 strategy aims to encourage similar shift within the broader financial sector

- Financial health depends on resilience to shocks and the sustained ability to manage volatility.
- Climatic shocks are a core driver of financial vulnerability requiring integrated solutions.



FSDT has begun implementing this shift through climate risk capacity building and climate finance flow analysis initiatives

1

Climate Risk Capacity Building Initiative

FSDT, in collaboration with the BoT Academy, is developing a climate risk capacity building program for financial service providers (FSPs) to support the integration of climate risk into their operations and strengthen their ability to deliver more resilient financial solutions.

2

Research and Diagnostics

FSDT is undertaking multiple research initiatives on resilience and climate finance flows within the financial sector to generate market insights that support more informed decision-making by FSPs, regulators, and other market actors.

Climate Adaptation Investment Markets in Tanzania



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The private investment potential in upfront adaptation solutions in Tanzania is estimated at **\$3Bn/year**



Private investment potential in adaptation
(% of GDP)

COUNTRY	FLOODS	DROUGHTS
Tanzania	0.8%	3.0%

IFC, *Adapting to Natural Disasters in Africa, What's in it for the Private Sector?*, 2022, p.16



Adaptation finance in Sub-Saharan Africa in 2023

\$12.96Bn

CPI, *Global Landscape of Climate Finance Data Dashboard*



Ratio of international to domestic finance for adaptation

98:2

CPI, GCA *Adaptation Finance Flows to Africa*, 2025



% contributed by private sector in 2023

6%

CPI, GCA *Adaptation Finance Flows to Africa*, 2025



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From climate-related financial risks to climate adaptation market opportunities



For African companies, physical climate risk can harm

5-25% of EBITDA

World Economic Forum, [The Cost of Inaction: A CEO Guide to Navigating Climate Risk](#), 2024, p. 16



For African Financial Institutions, physical climate risk and transition risks can

significantly impact Non-Performing Loans (NPLs)

Yet, it is imperative to make private climate adaptation finance work for all: make it client-centered, affordable and inclusive.



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Climate change can deepen financial exclusion. Financial institutions that serve clients' adaptation and resilience needs, will not only de-risk their portfolio, but open new markets and strengthen long-term profitability.



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Upcoming reports and investment briefs for Tanzania, Zambia, Kenya



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Illustrative market opportunity for **only 5** adaptation & resilience technologies in Tanzania is **> \$500Mn today**



Adaptation Solution & Theme / Sectors exposed	Agriculture	Low-income Housing	Manufacturing
1. Hermetic Storage Systems <i>Storage and Post-Harvest Systems</i>	 \$100Mn		
2. Solar Irrigation Systems <i>Water Management & Irrigation</i>	 \$40Mn		
3. Cold Storage for Milk Chilling & Preservation <i>Storage and Post-Harvest Systems</i>	 \$70Mn		
4. Home Upgrades for Adaptation <i>Housing / Incremental built</i>		\$340Mn	
5. Climate Efficient Cooling for Manufacturing <i>Cooling equipment and services</i>			\$15Mn

Estimated Current Serviceable Addressable Market
under significant data limitations
(rounded numbers)



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Hermetic storage can **avoid \$300-400Mn** annual post-harvest losses in staple crops



Adaptation Solution & Theme / Sectors exposed

Agriculture

Hermetic Storage Systems

Storage and Post-Harvest Systems

\$100Mn

Estimated Current SAM

Hermetic Bags



Hermetic Cocoons



Hermetic Silos



Type of clients:

Smallholder farmer groups & cooperatives

Traders / aggregators

Food reserve agencies

Millers & large traders

Government reserve agencies

Tanzania produces around **8 million tonnes** of maize annually, yet **only 40% of grain** is stored in improved conditions today.

Based on our estimates, even modest adoption of hermetic storage, reducing losses to **5-10%**, could recover **USD 250-300 million in value per year**, improving household incomes and creditworthiness while expanding the revenue base for agri-finance institutions.



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Cold storage for dairy can **avoid the approx. 23%** post-harvest loss in milk production in the country



Adaptation Solution & Theme / Sectors exposed

Agriculture

Cold Storage for Milk Chilling & Preservation
Storage and Post-Harvest Systems

\$70Mn

Estimated Current SAM



Solar-Powered Cold Storage for Milk



Biogas Domestic Milk Chillers



Portable/Mobile Cooling Units and Milk Chilling Tans

Domestic demand for milk projected to increase significantly, rising from **3.1 billion litres to 5.5 billion litres by 2030** (Tanzania Dairy Board, 2021).

Type of clients:

Smallholder farmer with formal market access
Cooperative societies and private aggregators
Milk collection centers
Formal dairy processors

15-40%

IRR opportunity



10-15%

Price uplift



40-50%

Yield increase



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Home upgrades for adaptation is a large, under-served market in Tanzania



Adaptation Solution & Theme / Sectors exposed

Housing

Home Upgrades for Adaptation
Housing / Incremental built

\$340Mn

Estimated Current SAM



Type of clients:

Individual homeowners
Small-scale property owners
Savings and Credit Cooperatives (SACCOs) and
Village Community Banks (VICOBAAs)
Vendors / suppliers of materials

The majority of the country's **15 million dwellings** were built incrementally and without formal engineering oversight (Tanzania Census 2022).

The upgrades required are practical and affordable. **Heat adaptation packages** – principally reflective roof coatings and passive ventilation improvements – cost between **US\$15 and US\$180 per home**. **Flood adaptation packages** – plinth raising, perimeter drainage, and waterproof wall sealing – range from **US\$300 to US\$600**.



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3 steps to increase the resilience of portfolios for financial institutions

1



Map vulnerable sub-sectors

Uncover vulnerable sub-sectors to climate-related financial risks

2



Advise clients

Understand your clients adaptation & resilience needs

3



Improve clients' adaptive capacity

Finance adaptation solutions that increase/secure incomes



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CLIMATE ADAPTATION INVESTMENT MARKETS TANZANIA

Africa Business Adaptation Platform



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Hawabai Abdulla
Principle Strategic Planning
and Climate Change
**Tanzania Agricultural
Development Bank**



Joseph Mrawa
Chief Financial Officer
**Tanzania Mortgage
Refinance Company**



Dr. Michael Knaus
Climate Team Coordination &
Vice-President
kfW DEG Invest



Carla Legros
Consultant
CGAP - World Bank



Evan Girvetz
Global Lead Finance and
Investments for Climate Action
CIAT (CGIAR)



William Mulehi
Senior Manager,
Clean Energy Access
CLASP