



Scaling Financial and Information Services for Smallholder Adaptation

Part I: Project Information

GEF ID

10954

Project Type

MSP

Type of Trust Fund

LDCF

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Scaling Financial and Information Services for Smallholder Adaptation

Countries

Regional, Uganda, Zambia

Agency(ies)

FAO

Other Executing Partner(s)

CIAT

Executing Partner Type

Others

GEF Focal Area

Climate Change

Taxonomy

Climate Change, Focal Areas, Climate Change Adaptation, Climate information, Climate resilience, Livelihoods, Adaptation Tech Transfer, Least Developed Countries, Private sector, Innovation, Influencing models, Deploy innovative financial instruments, Stakeholders, Local Communities, Type of Engagement, Participation, Communications, Public Campaigns, Behavior change, Awareness Raising, Private Sector, Individuals/Entrepreneurs, Financial intermediaries and market facilitators, Capital providers, Civil Society, Community Based Organization, Academia, Beneficiaries, Gender results areas, Gender Equality, Access to

benefits and services, Capacity Development, Gender Mainstreaming, Sex-disaggregated indicators, Capacity, Knowledge and Research

Sector

AFOLU

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 2

Duration

24 In Months

Agency Fee(\$)

99,360.00

Submission Date

3/31/2022

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	LDCF	1,045,890.00	9,393,823.00
Total Project Cost (\$)		1,045,890.00	9,393,823.00

B. Indicative Project description summary

Project Objective

Increase smallholder farmers' adaptive capacity through scaled agricultural and financial risk reduction services

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
C1. INFORM More effective use of farmer-generated data for dissemination of climate and weather information and as market development tool	Technical Assistance	<p>Outcome 1: Providers of agro-advisory, financial, and insurance products and services use farmer-generated data more effectively to offer smallholders tailored climate information services, tools, and products</p> <p>Indicators:</p> <p>I1.1.a Reach of extension information via Shamba Shape-up (or Shamba Shape-Up-style) model in Uganda and Zambia</p> <p>(Target: Audience of 1 million viewers for agro-advisory TV programming across Uganda and Zambia by end Year 2)</p> <p>I.1.2. Agro-climate risk profiles (maps) created using downscaled climate data and crop models</p> <p>(Target: risk maps created by month 6)</p>	<p>O1.1. Shamba Shape Up and iShamba delivery model (including Let-it-Rain game) functionally scaled out from Kenya to Uganda and Zambia</p> <p>O1.2. Risk maps, report detailing risk profiles, prioritized risks by district & value chains created using iShamba data</p> <p>O1.3. Service providers given access to the iShamba farmer-created data</p> <p>O1.4. Platform to offer and support new bundles of agro-advisory and ARM products and services built</p>	LDC F	320,000.00	2,603,823.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
C2. BUNDLE Offer farmers bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles	Technical Assistance	<p>Outcome 2: Smallholder farmers have access to financially-sustainable bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles, needs, and farm characteristics</p> <p>Indicators:</p> <p>I.2.1 Existence of a protocol document or framework for financial product development (Target: Protocol/framework in place and in use by month 2)</p> <p>I.2.2 Existence of risk scoring system (Target: Risk scoring system in place and offered to financial service providers by month 3)</p> <p>I.2.3 # of gender-responsive insurance bundles offered (Target: gender-responsive</p>	<p>O2.1 Framework and approach for financial product development established</p> <p>O2.2 Risk scoring system integrating multiple risks made available to financial companies (credit scoring, insurance)</p> <p>O2.3 Gender-responsive insurance bundles, including CSA advisories, designed</p> <p>O2.4 Gender-responsive credit product bundles, including CSA advisories, designed</p> <p>O2.5 Farmer registrations and transactions digitized</p>	LDC F	270,809.00	3,140,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
C3. STIMULATE Improved uptake and use of agricultural risk management products and services by farmers	Technical Assistance	<p>Outcome 3: Increased supply (by providers) and uptake (by smallholder farmers) of climate risk management products and services</p> <p>Indicators:</p> <p>I3.1. Evidence on financial risks, costs and benefits of Risk-Contingent Credit (RCC) to (a) the credit provider, (b) the credit recipient (smallholder farmer), and (c) any technical assistance provision or advisory agents in the middle</p> <p>(Target: Proof of concept evidence assessed and reported by IFPRI by end of year 1)</p> <p>I3.2 # of new or improved insurance, advisory, or credit bundles accessed by smallholder farmers via Platform (disaggregated by gender and age)</p>	<p>O3.1. Proof of concept for risk-contingent credit provision in Uganda and Zambia</p> <p>O3.2 New or improved bundled insurance/loan/advisory products and services made available to farmers (including women and youth) through Platform</p>	LDC F	240,000.00	2,500,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
C4. LEARN Facilitate dissemination of lessons learnt for scaling similar efforts in other countries.	Technical Assistance	Outcome 4: Lessons learned in this project are available to inform similar investments in other contexts. Indicators: I4.1. Evidence performance of project, and lessons learned on best practices are available (Target: Synthesized evidence is available for stakeholders by end of year 2)	O4.1. A project report including a summary of lessons learned, impact evaluation estimates and best practices is produced and made publicly available for use as a template to guide the implementation of similar efforts elsewhere O4.2 Video and electronic print materials are developed to disseminate lessons learned from the project O4.3 A broad stakeholder meeting is convened to present and discuss lessons learned	LDCF	120,000.00	300,000.00
Sub Total (\$)					950,809.00	8,543,823.00
Project Management Cost (PMC)						
			LDCF	95,081.00	850,000.00	
			Sub Total(\$)	95,081.00	850,000.00	
			Total Project Cost(\$)	1,045,890.00	9,393,823.00	

Please provide justification

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Donor Agency	USAID Development Innovation Venture	Grant	Investment mobilized	1,500,000.00
Donor Agency	One CGIAR initiatives	Grant	Investment mobilized	2,500,000.00
Donor Agency	World Bank	Grant	Investment mobilized	1,000,000.00
Donor Agency	InsuResilience Solutions Fund (ISF)	Grant	Investment mobilized	4,393,823.00
Total Project Cost(\$)				9,393,823.00

Describe how any "Investment Mobilized" was identified

?Investment Mobilized? was identified from funded projects implemented by the lead executing agency in this proposal (Alliance Bioversity-CIAT). Only those investments that have a geographical and time overlap with the LDCF challenge project have been considered. These include: ? Mediae, funded by USAID DIV. ? One CGIAR initiatives: Building Systemic Resilience Against Climate Variability and Extremes (ClimBeR) and the Eastern and Southern Africa Regional Initiative. ? Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) funded by the World Bank. ? Crop insurance project in Kenya (aMaizing) funded by the InsuResilience Solutions Fund (ISF). ? Scaling weather index insurance with bundled climate smart agricultural practices and picture-based monitoring tools proposal submitted for funding to the InsuResilience Solutions Fund (ISF).

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	LDC F	Regional	Climate Change	NA	1,045,890	99,360	1,145,250.00
Total GEF Resources(\$)					1,045,890.00	99,360.00	1,145,250.00

E. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

50,000

PPG Agency Fee (\$)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	LDC F	Regional	Climate Change	NA	50,000	4,750	54,750.00
Total Project Costs(\$)					50,000.00	4,750.00	54,750.00

Meta Information - LDCF

LDCF true

SCCF-B (Window B) on technology transfer false

SCCF-A (Window-A) on climate Change adaptation false

Is this project LDCF SCCF challenge program?

true

This Project involves at least one small island developing State(SIDS). false

This Project involves at least one fragile and conflict affected state. false

This Project will provide direct adaptation benefits to the private sector. true

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). false

This Project has an urban focus. false

This Project covers the following sector(s)[the total should be 100%]:*

Agriculture	100.00%
Natural resources management	0.00%
Climate information Services	0.00%
Costal zone management	0.00%
Water resources Management	0.00%
Disaster risk Management	0.00%
Other infrastructure	0.00%
Health	0.00%
Other (Please specify:)	0.00%
Total	100%

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise false

Change in mean temperature true

Increased Climatic Variability true

Natural hazards false

Land degradation false

Costal and/or Coral reef degradation false

GroundWater quality/quantity false

Core Indicators - LDCF

CORE INDICATOR 1	Total	Male	Female	% for Women
Total number of direct beneficiaries	2,656,000	1,325,400	1,330,600	50.10%

CORE INDICATOR 2

Area of land managed
for climate resilience
(ha) 2,700,000.0
0

CORE INDICATOR 3

Total no. of
policies/plans that will
mainstream climate
resilience 2

CORE INDICATOR 4	Male	Female	% for Women
Total number of people trained 100,000	50,000	50,000	50.00%

Part II. Project Justification

1a. Project Description

1) The adaptation problems, root causes and barriers that need to be addressed (systems description)

1.1 Overview of the Challenge

The core challenge is the **high and increasing uncertainty of seasonal weather outcomes** in rainfed production systems of Eastern Africa (Thornton et al. 2010, Kogo et al. 2021), which gives rise to higher degrees of uncertainty of seasonal rainfall amounts and onset dates, increasingly erratic distribution, and increased frequency of crop failure. In East and Southern Africa (ESA), by 2050 climate change and climate variability are expected to reduce the production suitability of 33% of current cropland area, reducing cereal crop yields by 15% and resulting in potential losses of USD 50 billion of crop and livestock production per year, with impacts directly felt by 944 million people (Jarvis et al. 2021).

This creates a problem on both the supply and demand side for investment into the sustainable intensification and productivity growth required to feed the 60% growth in Southern Africa's population (116 million people) anticipated by 2050.

On the demand side, uncertain production conditions mean that smallholder farmers are resource-constrained and risk-averse, making them far less likely to invest in micro-loans or micro-insurance to expand or protect production (Winter-Nelson and Temu 2005, Doss et al. 2008, Shikuku et al. 2017). An IFPRI baseline household survey of 1,170 households in Kenya (May 2017) found that over 50 percent of the households are credit-rationed, or credit-poor. Climate risks can trigger poverty traps, with smallholders reverting to the short-term 'safety net' of subsistence farming with low risks but also low returns, rather than expanding investment into high-return farming enterprises (FAO, 2016).

On the supply side, financial products such as insurance, risk-contingent credit (RCC), and other forms of financial protection against natural disasters are rare in Africa, with the result that finance is not being supplied at levels required to trigger and sustain growth. Lenders view the agricultural sector as high risk and tend to rely on demand coming to them rather than investing time and resources into creating new credit markets. A successful RCC pilot conducted by IFPRI found that use of a RCC mechanism increased loan uptake by smallholders from 30% to 40%. However, instruments such as RCC need to be further scaled up in Africa if they are to have significant impact on production under climate change-affected conditions.

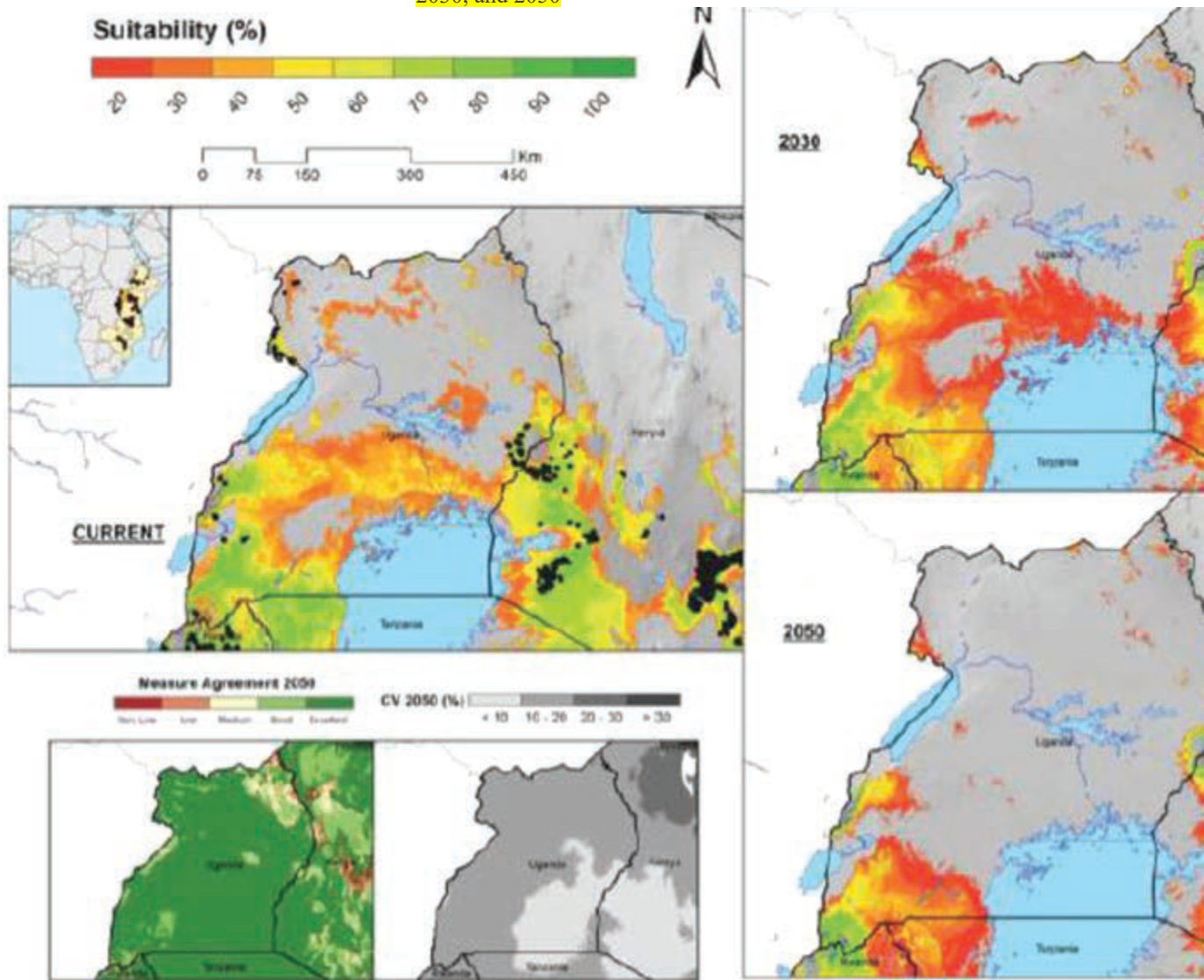
1.2 Estimated impacts of climate change in Zambia and Uganda

According to the World Bank's 2021 [Climate Risk Profile for Uganda](#), which synthesises data from a number of sources, rural smallholder households are already living under considerable climate-related risks, many of which are expected to worsen under most climate change scenarios. Data collected since the 1980s underscores Uganda's current exposure to droughts, flooding, landslides, and heat waves. The largest of these risks, particularly in low-lying areas of the country, is flooding. Nearly 50,000 people are negatively affected by floods every year, resulting in an annual average of >\$62 million in lost GDP. Uganda experiences both flash floods and slow-onset floods, with rural areas in the northern and eastern parts of the country being particularly exposed.

Droughts are also major hazards, affecting nearly 2.4 million people between 2004 and 2013. In 2010 and 2011, economic losses attributed to drought were estimated at \$1.2 billion, equivalent to 7.5% of national GDP. While the entire country is somewhat exposed to drought risk, the most drought-prone areas include the cattle corridor linking western and central regions, as well as the northern and eastern parts of the country.

Under most climate change forecast model scenarios, Uganda will experience increased incidence and intensity of flooding as well as drought conditions in many parts of the country. The studies summarised by the Climate Risk Profile indicate the likelihood of major reductions in the national production of food crops such as cassava, maize, millet and groundnuts by the 2050s, with the value of overall losses reaching up to US\$1.5 billion. A study by the Uganda Ministry of Water and Environment (2015) found that the predicted suitability for Arabica coffee production would decline considerably by 2050, with expected yield losses in the range of 10-50% and associated losses of foreign exchange earnings of \$15-\$80 million per year.

Predicted suitability for Arabica coffee production in coffee-producing zones in Uganda for current, 2030, and 2050



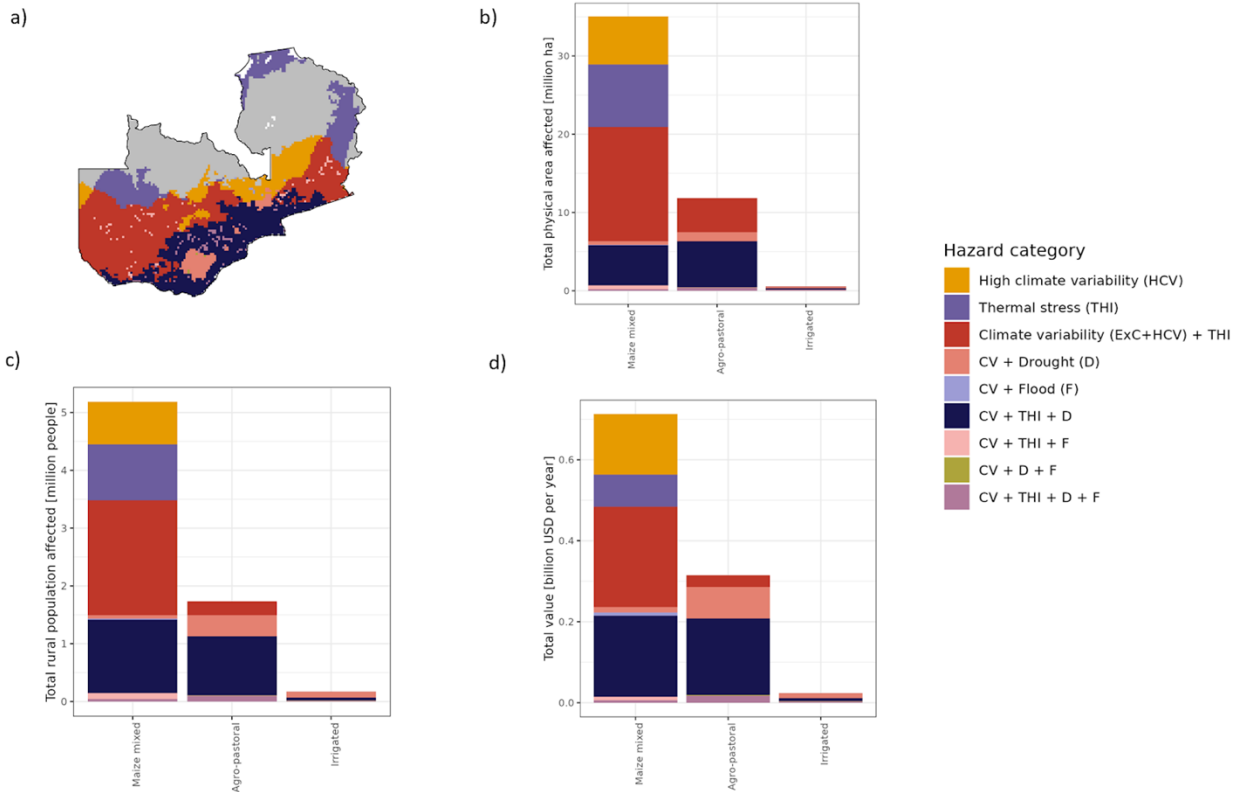
Source: Uganda Ministry of Water and Environment (2015). https://cdkn.org/wp-content/uploads/2015/12/Uganda_Agricultural_Sector.pdf

A study using FAO's Crop Water Assessment Tool (CROPWAT) indicated that Uganda could suffer up to 46% reductions in banana yields due to anticipated soil moisture deficits (Sabiiti et al. 2016). Another study found that increased heat and water scarcity conditions are likely to increase

evapotranspiration, and in turn are expected to contribute to crop failure and yield reductions (Ugandan Ministry of Agriculture, Animal Industry and Fisheries 2015).

The World Bank's [Climate Risk Profile of Zambia](#) indicates a number of concerning trends related to climate-related risks. From 2000-2007, the intensity and frequency of droughts and floods and the number of people affected has increased, from about 1.23 million in 2004/05 to 1.44 million in 2006/07. Recent major droughts were experienced in 2000/01, 2001/02 and 2004/05. A 2020 [research report](#) found that all provinces in Zambia are predicted to experience increasing temperatures by mid-century – both mean and minimum temperatures – and all areas are also predicted to experience increasing delays or inconsistencies in the onset of seasonal rainfall, and an overall decrease in precipitation between now and the middle of the century. Average monthly rainfall is predicted to decrease in all provinces, including during the critical months of September, October and November, i.e., the start of the rainy season. These predictions are associated with both delayed onset of rains, as well as decreased effective duration of the growing season. Overall, the predicted long-term trend is decreasing annual and seasonal rainfall, and possible shifts in the timing of rainy seasons. As a result of these expected climate changes, modelled predictions for crop yields include decreases in long-maturing varieties of maize by 35-90% (depending upon the scenario and province). Beans are similarly predicted to suffer yield losses of 20-65%. The [ThinkHazard dashboard for Zambia](#) assesses that there is up to a 20% chance that serious droughts will occur in the coming 10 years, with a medium likelihood of an increase in drought tendency and an increase in the physical area of drought in the coming decades.

Zambia



Uganda

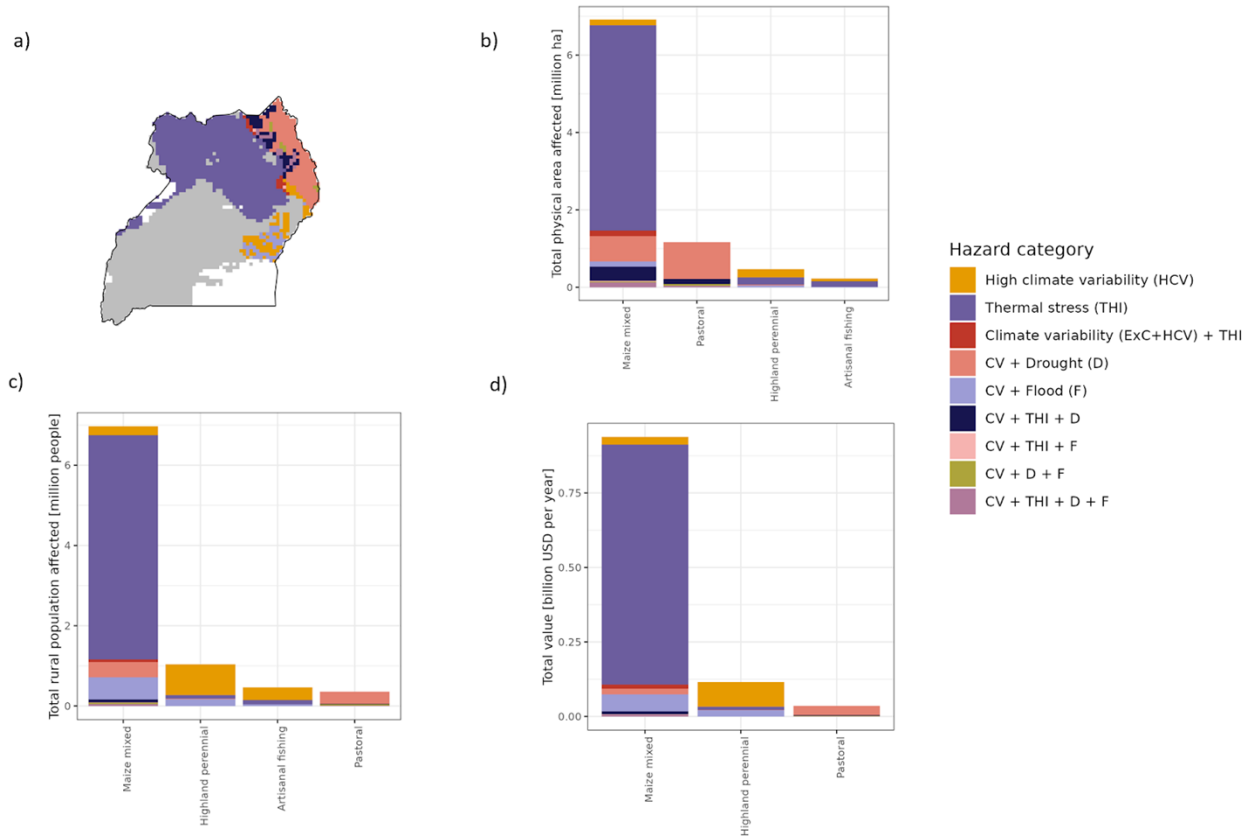


Figure 1 and 2: Climate change risk profiles of Zambia and Uganda (Source: A. Ghosh, Alliance of Bioversity-CIAT)

Both Uganda and Zambia are extremely vulnerable to different sources of risk affecting agricultural production and marketing outcomes.

In **Uganda**, perennial, low-input banana systems dominate much of the bimodal production areas (Kikulwe et al., 2018). The Platform for Agricultural Risk Management (PARM), a G8-G20 initiative hosted by the International Fund for Agricultural Development (IFAD), conducted a **risk assessment of Ugandan agriculture** in 2015, and found that the principal risks were: (i) Weather risk (Ugandan agriculture is mostly rain-fed, making it vulnerable to weather hazards and climate change); (ii) Market risk (Uganda experiences high price fluctuations on account of weather conditions, low level of stocks, low level of organization of producers in the value chain, and segmentation of regional and domestic markets. Farmers are exposed to both inter-annual and intra-annual price volatility. Yet the country lacks price stabilization instruments.); and (iii) Public policy and institutional risk (ongoing restructuring of the extension system has created many challenges for farmers to access advisory and other support services).

The World Bank report "Increasing Agricultural Resilience through Better Risk Management in Zambia" found that drought, floods, animal disease outbreaks and price volatility are the principal risks affecting crop and livestock farming in the Republic of **Zambia**. A living conditions survey in 2010 classified 78 percent of Zambians as extremely or moderately poor in rural areas. The most commonly cited reason for poverty was the inability to afford agricultural inputs (32 per cent of the rural population) and the lack of capital to start up or expand farms. The high cost of inputs, poor rural infrastructure, and the absence of rural financial services make it difficult for smallholders to access needed resources.

1.3 Barriers

1. **In ESA, poor access to reliable and actionable climate data makes it difficult for smallholders to manage on-farm risk.** This barrier will be addressed by the public education activities under **Component 1 (Inform: More effective use of farmer-generated data for dissemination of climate and weather information and as market development tool)**, specifically in the scaling out of detailed climate and climate adaptation information via the Shamba Shape-up (or Shamba Shape-Up-style) model in Uganda and Zambia. The public information element will initially target 1 million smallholder farmers across both countries with up-to-date weather and climate information specific to their areas, although these figures are extremely conservative (Shamba Shape-Up TV programming regularly reaches an audience of 7-9 million a week in Kenya).

2. **Agro-advisories, financial products (credit, insurance) and agricultural risk management tools available to farmers are not well tailored to local smallholder needs or risks.** Uncertain production conditions also mean that resource-constrained and risk-averse smallholder farmers in ESA are less likely to invest in micro-loans or micro-insurance to expand or protect production. This can in turn trigger poverty traps, with smallholders reverting to the short-term 'safety net' of subsistence farming with low risks but also low returns, rather than expanding investment into high-return farming enterprises (FAO, 2016). The lack of tailored or appropriate ARM products and services further disincentivises farmers to invest in their on-farm risk management strategy. This barrier will be addressed in **Component 2 (Bundle: Offer farmers bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles)** by designing a set of agro-advisory and ARM bundles (combining advisory services with credit, insurance, and risk management products) that specifically target the unique set of needs and risks of those smallholder farmers. The design of these bundles will incorporate data about on-farm weather, climate, and agricultural risks and conditions generated by the smallholder farmers themselves, through their participation in the Let it Rain game and iShamba app suite. These features have been designed to draw out specific data that agro-advisory, ARM, and financial service providers can use to more effectively tailor their products and services to the needs of smallholders.

3. **Financial service providers consider smallholder farming to be risky so are not supplying insurance or credit at levels required to trigger growth.** Financial products such as insurance, risk-contingent credit (RCC), and other forms of financial protection against natural disasters are not available for the majority of the smallholders in Africa, with the result that finance is not being supplied at levels required to trigger and sustain growth. Lenders view the agricultural sector as high risk and tend to rely on demand coming to them rather than investing time and resources into creating new credit markets. A successful risk-contingent credit (RCC) pilot conducted by IFPRI found that use of a RCC mechanism increased loan uptake by smallholders from 30% to 40%. Instruments such as RCC need to be further scaled up in Africa if they are to have a significant impact on production under climate change-affected conditions. To address and overcome this barrier, the **Risk-Contingent Credit pilot under Component 3 (Stimulate: Improve both the supply and uptake of risk management products and services)** will generate evidence for the effectiveness of risk-contingent credit versus regular credit, with a control group (regular credit borrowers) being directly compared to an experimental group (risk-contingent credit borrowers). The evidence will be used to inform and stimulate the credit provision market in both Uganda and Zambia towards more tailored or flexible loan financing terms for smallholder farmers. This Component will measure and evaluate changes to the levels of both supply (by ARM and financial providers) and uptake (by smallholder farmers) attributable to the project.

2.a) The baseline scenario

Although reliable statistics are hard to find, most assessments of the prevalence of crop insurance in sub-Saharan Africa indicate very low percentages of farmers who are covered (Tadesse et al. 2015, Osumba et al. 2020). Household survey data indicate very low adoption rates in general (Merry 2021, Kramer et al. 2021, GIZ 2021).

In Uganda, starting in 2016, the Uganda Agricultural Insurance Scheme (UAIS), a government scheme, provides coverage to approximately 150,000 farmers, which is less than 2% of the 8 million people active in the agricultural sector (InsuResilience Fund undated).

Data for Zambia are less comprehensive, but indicate insurance coverage well below the SSA average. Until 1992, insurance was only provided through Zambia State Insurance Corporation (ZSIC), a government-owned insurer. Currently there are 20 insurance and 3 locally licensed reinsurance companies providing insurance services in Zambia (PIA, 2019).

WFP has supported the delivery of weather index insurance to 7,800 smallholder farmers in Eastern province (by covering 75 percent of the premium; UN 2021), a small fraction of the estimated total agricultural holdings. However, the uptake of insurance among smallholders and their retention to the program have remained low. Using 2019 nationally representative data from Zambia (the Rural Agricultural Livelihoods Survey), we find that 4% of households report any kind of crop insurance (including insurance provided via Zambia's national Farmer Input Support Program [FISP]). For Uganda, in the 2015 wave of the Living Standards Measurement Survey, only 0.11% of rural households report any insurance premium expenditures within the prior year.

2.b) Associated baseline projects

In addition to the limited schemes and baseline investments in ARM mentioned above, the following baseline projects are highlighted:

? **Mediae**, activities in Uganda are funded by USAID Development Innovation Venture. Founded in 1997, Mediae is a small social enterprise that's committed to addressing the informational needs of East Africans through sustainable and research-based media productions. It produces pioneering and inspirational media in order to supply vital knowledge in forms that can be widely accessed and understood. And in so doing, empowering the lives of millions of viewers. One of Mediae's flagship initiatives is the Shamba Shape Up, addressing the informational needs of East Africans through sustainable media productions that are entertaining, educative and help improve livelihoods. This initiative has been running for successfully for over 5 years in 3 countries, benefitting 428,000 households, viewed by over 12million persons and contributing to dairy farming profits of over USD24 million. Co-funding from the Shamba Shape Up initiative comes in the form of providing the cost of set-up and launch of the Shamba Shape Up TV program in Uganda that allows to replicate Kenyan successes in Uganda. The co-funding covers the initial cost related to registration in a new country and licensing fees. It also supports related monitoring and evaluation and learning efforts to assess the impact of the Shamba Shape Up programs on the farming community that never had such platforms.

? One CGIAR initiatives: **Building Systemic Resilience Against Climate Variability and Extremes (ClimBeR, 2021-2024, USD 45 million)**. The ClimBeR Initiative aims to transform the climate adaptation capacity of food, land and water systems in six low- and middle-income countries, including Zambia, ultimately increasing the resilience of smallholder production systems to withstand severe climate change effects like drought, flooding and high temperatures. This objective will be achieved through: (i) Reducing risk in production system-linked livelihoods and value chains at scale; (ii) Building production-system resilience through recognizing the relationships among climate, agriculture, security and peace; (iii) Developing adaptation instruments to inform policy and investment; and (iv) Multiscale governance for transformative adaptation. Through this project, underlying evidence for developing the strategic partnership to design and deliver innovation package bundles of digital agro-advisory systems and agricultural risk management products will be provided. Scoping analysis for the identification of an agricultural risk profiling system (that identifies the key agricultural and value chain risks) will be covered. The interactions with partners in the regions and stakeholder consultation activities will be co-funded, and partial costs associated with the design of climate information systems and financial products will be covered. iShamba mobile delivery platform will be supported to set-up their operations in Zambia that will include operational and licensing costs.

? **Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA, 2020-2025, USD 60 million)** is an initiative that will enhance access to climate information services and validated climate-smart agriculture technologies in Africa. With the support of AICCRA projects, farmers and livestock keepers will be able to better anticipate climate-related events and take preventative actions, with better access to climate advisories linked to information about effective response measures. This will help communities better safeguard their livelihoods and the environment. It is supported by a grant from the International Development Association (IDA) of the World Bank, and will enhance research and capacity-building activities by the CGIAR and its partners. In Zambia (**AICCRA-Zambia**), co-funding

resources from this project take the form of supporting Shamba Shape Up to conduct the initial scoping analysis and launch activities in the country. The national Ag-Data Hub for Zambia will provide near and short-term weather advisory that will be used for developing more detailed agronomy and CSA advisory. Additionally, the winning Agricultural small- and medium-sized enterprises (agri-SMEs) from the [AICCRA Zambia Accelerator program](#) will participate in CSA technology identification, scaling and delivery.

? Crop insurance project in Kenya (*aMaizing, 2021-2024, USD 1,854,000*), led by ACRE Africa in partnership with CIAT, VanderSat/Planet and SwissRe, is funded by the InsuResilience Solutions Fund (ISF). The vision of the aMaizing project is to increase the resilience of 300,000 currently uninsured Kenyan smallholder farmers against climate related risks, thereby positively impacting the lives of 1.2 million beneficiaries by the end of 2023/24. The proposed solution combines unique proven approaches and techniques to deliver the impact by a) implementation of a unique village-level champion farmer distribution model to increase uptake and awareness of insurance products; b) bundling of services to give farmers access to finance, certified inputs and free advisories; c) reduction of the basis risk, using a proven solution for the Kenya market: high spatial resolution soil moisture based index insurance product from VanderSat/Planet; d) Integrating picture based insurance (PBI); e) making a special basis risk fund mechanism available that ensures farmers receive payouts; and f) delivering a very transparent solution for all participants. Although the project is implemented in Kenya, the learning from the project activities will directly contribute to the GEF investments in both Uganda and Zambia. The insurance solutions identified and developed for the smallholder farmers will be adapted in the target regions of program implementation by involving the partners that are already part of the aMaizing project.

? Scaling weather index insurance with bundled climate smart agricultural practices and picture-based monitoring tools (*2023-2025, USD 2,539,823*), led by Mayfair in partnership with CIAT, IWMI, ACRE Africa, Syngenta Foundation and other partners, has been submitted to the InsuResilience Solutions Fund (ISF) for funding consideration. It aims to address some of the main reasons behind low uptake of insurance in Zambia, including high monitoring and claim verification costs of traditional insurance, limited scope of covered risks and basis risks (i.e. the imperfect correlation between farmers' actual losses and insurance payouts); and design of insurance as standalone products, neglecting complementary risk-management options such as agro-advisories, irrigation, stress-tolerant improved varieties and various conservation agriculture practices. The proposal will focus on a bundled product design including climate-smart agricultural (CSA) practices with enhanced crop insurance solutions. The design consists of Weather Index Insurance (WII) and picture-based monitoring tool (PBM). This model will utilise satellite data and smartphone imagery to verify losses, observe crop management practices and promote the adoption of productivity-enhancing yet resilient technologies through bundling with stress-tolerant seeds and agro-advisory services to insured farmers. Photos of the agricultural fields captured with smartphones will help to reduce monitoring costs currently being incurred by insurance companies, minimize basis risks and create synergies with CSA resilience technologies. By taking pictures of insured crops, farmers will engage directly in the insurance process, thereby improving trust and tangibility due to the increased value proposition of free agronomic advisories. This project will play a critical role expanding on the GEF investment on insurance solutions for the Zambian smallholders.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project

A key premise of this project is that exposure to the consequences of agricultural risks can be effectively reduced through risk management systems that are specifically tailored to the conditions prevailing in the agricultural sector. Agricultural Risk Management (ARM) can significantly contribute to improving the resilience of vulnerable rural households by increasing their capacity to absorb and adapt to risks. The project addresses the following 'keystone' elements of effective ARM for smallholder farmers in climate-vulnerable countries:

Improving Data on Climate Risk: Management thinker Peter Drucker once said, 'We can't improve what we can't measure?'. Improving data collection and analysis of climate risk related information is an important strategy to reduce the key climate risks faced by smallholder farmers on-site (pests and

diseases for both crops and livestock, water deficit, intra-annual price fluctuations based on crop shortages). A key issue for improving information and early warning systems is the dissemination of climate risk information to smallholder farmers, which is currently lacking in both target countries.

Agro-Advisory Role in Risk Reduction: It is critical to raise awareness of farmers on their individual risk exposure and on the best way to protect their livelihoods. This requires well trained and informed extension officers that can provide practical advice to farmers. This Project focuses on digital advisory services, which facilitates rapid scaling to reach more farmers, and operates using a much cheaper and more sustainable delivery system (i.e., existing media channels for information, SMS for delivery of agro-advisory services, etc.). Integrating risk management into the core extension messages is important to help farmers understand how they can reduce, transfer, or cope with risks.

Stimulating Provision of ARM Products and Services: The current status of agricultural credit and insurance markets in Uganda and Zambia is not comprehensively documented but, like elsewhere in sub-Saharan Africa, is generally understood to be very limited (a [2018 report](#) estimates that only 3% of farmers in the region are insured in any way). Similarly, access to formal and informal credit markets is very low across the region ([Adjognon et al. 2017](#)). Finally, access to advisory services remains [limited](#), even where national extension systems are active. Digital advisory services have [great potential](#) to reach farmers, although the majority of tools developed thus far have [failed to scale](#) beyond pilot studies.

This project seeks to crowd in private investment by lowering some of the costs impeding initial investment by service providers. This will be done through investments designed to reduce some of the constraints facing key service providers. For insurance providers, these constraints include:

- ? Limited data and knowledge about farmers' insurance needs
- ? Sparse and poor-quality data for designing and pricing insurance contracts
- ? The high cost of insuring many frequent and high-severity risks
- ? Designing and pricing insurance products given the uncertainties of climate change
- ? Costly and underdeveloped distribution channels for providing insurance on a large scale to small, dispersed farms
- ? Managing moral hazard with indemnity based insurance and basis risk with index-based insurance
- ? Regulatory hurdles and uncertainties about government policies that may affect the financial viability of private insurance
- ? Access and high costs of international reinsurance

By incentivizing farmers opting in at scale to national, georeferenced databases on farmer characteristics related to production risk and insurance needs, some of the core information constraints facing insurers are addressed. The project also entails contracted supply of core services (risk maps and risk assessments of value chains) which help to inform product design. The Let-It-Rain game as well as the advisory service components of the project ? Shamba Shake Up and the iShamba platform ? are designed to raise explicit awareness of risks and the role of insurance in addressing them, expected to improve understanding and confidence of potential beneficiaries in insurance products.

Insurance literacy and awareness have been identified as important constraints to demand (Mobarak and Rosenzweig, 2012; Gaurav et al., 2011; Cole et al., 2013; Collier et al., 2009), along with a lack of trust (Gin? and Yang, 2009). Thus, the bundled interventions should both lower the costs of product delivery and raise the effective demand (which would also lower costs through economies of scale).

Similarly, the proposed interventions should help to reduce both supply and demand constraints to credit market development: the farmer database will serve to parameterize potential market demand for credit suppliers, and core services (in the form of credit scoring of target beneficiaries) will be contracted under the project to overcome fixed initial costs of product design.

Finally, the costs of advisory services will be lowered if the Let-it-Rain game effectively induces demand for advisory services. Initial calculations suggest that monthly costs of iShamba advisory services would drop by 75-90% (see assumptions on page 20 below).

These interventions in insurance, credit, and advisory services are expected to create more profitable investment opportunities at scale individually, as described above, but also by addressing constraint complementarities. This is the core rationale of the proposal.

	PROBLEM	SOLUTION
Farmers	<ul style="list-style-type: none"> • Limited access to advisory services • Limited access to risk management tools • Limited access to credit • Uncoordinated solutions to multiple constraints 	<ul style="list-style-type: none"> • Improved access to advisory services • Improved access to risk management tools • Improved access to credit • Bundled solutions to multiple constraints
Service providers	<ul style="list-style-type: none"> • Lack of market intelligence • High initial coordination costs with supporting service providers • High unit operational costs associated with limited demand 	<ul style="list-style-type: none"> • Access to market intelligence data • Lower coordination costs with supporting service providers • Greater product demand enables lower unit operational costs

Figure 3: Identified problems and suggested solutions for main project interest groups

In response to the main challenge and barriers identified above, and in alignment with the core rationale of the project, the **Theory of Change** is that *if* we (A) help extension agents, media houses, educators, and the providers of climate agro-advisory services, risk management tools, and financial products and services make better use of farmer-generated **information** gathered through the iShamba suite for more effective dissemination of climate and weather information (via public education and outreach) and for more targeted financial product or market development (Component 1), (B) work with agro-advisory and financial goods and services providers to design and offer farmers sustainable bundled agro-advisory, financial products and ARM tools that have been carefully tailored to their specific risk profiles, and (C) take measures to evidence and stimulate both the supply and uptake of new risk management products and services (such as risk-contingent credit), *then* we will likely achieve the following changes in knowledge, attitudes, skills, or practices (KASP) of both our stakeholder groups (smallholder farmers and service/product providers):

Outcome 1: Providers of agro-advisory, financial, and insurance products and services use farmer-generated data more effectively to offer smallholders more tailored climate information services, tools, and products;

Outcome 2: Smallholder farmers have access to financially-sustainable bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles, needs, and farm characteristics, and;

Outcome 3: Increased supply (by providers) and uptake (by smallholder farmers) of climate risk management products and services

Over the longer term, the expectation is that these three outcomes will, in concert, lead to the **Impact** of 50,000 smallholder farmers (of which 60% of are women) across Uganda and Zambia using increased access to bundled digital agro-advisory services and Agricultural Risk Management (ARM) products & services to manage on-farm climate and agricultural risk more effectively. For a visual representation of what the Theory of Change looks like, and how outputs logically link to outcomes, and how the outcomes in turn contribute to the Impact, please see the diagram below.



Figure 4: Project Theory of Change Diagram

The Theory of Change is underpinned by several key **assumptions**. Specifically that:

A1. Exposure to the consequences of climate and agricultural risks *can* be effectively reduced through risk management systems that are specifically tailored to the conditions prevailing in the agricultural sector.

A2. Increased access to accurate climate and weather information *will logically* translate to more effective on-farm management of climate and agricultural risk.

A3. *Bundling* financial services and products with information and agro-advisories (blended finance) is a more effective way to reach, target, and activate smallholder farmers as a client pool than *separately-marketed* products and services.

A4. Women and men have different needs, priorities, and access to climate information, products, and services, hence the need for a bundle design architecture that incorporates the results of Gender Analysis to ensure that bundles reach their target group most effectively.

A5. Proof of concept for Risk-Contingent Credit (RCC) *will* generate the evidence base needed for banks, MFIs, and other financial services providers to start developing and rolling out RCC products on a larger scale across ESA markets.

A6. Using farmer-generated data more effectively will lower investment risk for financial service providers (credit, insurance) and will allow non-financial service providers (advisory) to more effectively target smallholders as a client group, thus driving up both the supply of climate risk management financing, tools, and information, *and* the uptake by smallholder farmers of these goods.

A7. All the pre-conditions, delivery mechanisms, and enabling environment for outscaling the Kenyan delivery models (iShamba suite, Shamba Shape-Up publication education and outreach) are in place in Uganda and Zambia, and favorable to success.

Under **Outcome 1:** *Providers of agro-advisory, financial, and insurance products and services use farmer-generated data more effectively to offer smallholders more tailored climate information services, tools, and products.* This outcome rests on activities which address the lack of concrete partnerships with Telecom service providers in Uganda or Zambia to support the (i) gamification strategy, conducted through subsidized SMS, and (2) enabling ICT for platform and database hosting. Specifically, the Shamba Shape Up and iShamba delivery model (including Let it Rain game) will be functionally scaled out from Kenya to Uganda and Zambia (**O1.1**). Furthermore, risk maps and risk profiles, which detail prioritized risks by district and value chains, will be created using iShamba data (**O1.2**). Service providers will be given access to the iShamba farmer-created data (**O1.3**). Using those inputs, the platform to offer and support new bundles of agro-advisory and ARM products and services will be developed (**O1.4**), and an updated version of the Let-it-rain game produced for Uganda and Zambia (**O1.5**).

Under **Outcome 2:** *Smallholder farmers have access to financially-sustainable bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles, needs, and farm characteristics,* the framework and approach for financial product development (**O2.1**) will be established, drawing on Outcome 1 outputs as key enablers for these development efforts. This will entail the development of a risk scoring system (**O2.2**) integrating multiple risks made available to financial companies (credit scoring, insurance). The financial products will be offered within the context of *gender-inclusive insurance bundle, including CSA advisories* (**O2.3**), as well as via gender-inclusive credit product bundle, including CSA advisories (**O2.4**). These will be delivered through the same ICT platform that is also digitizing farmer registrations and transactions (**O2.5**).

Under **Outcome 3:** *Increased supply (by providers) and uptake (by smallholder farmers) of climate risk management products and services,* we will deliver the proof of concept for risk-contingent credit provision in Uganda and Zambia (**O3.1**), which will entail measurable delivery of new bundled insurance/loan/advisory products and services made available to farmers, including women and youth (**O3.2**), through the Platform constituted by elements described under the outputs of Outcomes 1 and 2, as described above.

4) Alignment with LDCF/SCCF Program Directions

The project is aligned to the LDCF/SCCF 2018-2022 Programming Directions Objective 1: *Reduce Vulnerability and Increase Resilience through Innovation and Technology Transfer for Climate Change Adaptation.* In particular, the project supports entrepreneurship in the adaptation and climate resilience space with its focus on smallholders and their access to bundled services that reduce agricultural and financial risks in the face of weather and climate change-related production uncertainty. Furthermore, the project adopts a gender-sensitive approach, providing opportunities to producer women and men equally. The proposed project addresses climate security concerns, providing answers that help lift people out of the poverty trap

The project focuses on private sector engagement, cross-learning, and this in the agriculture sector, which remains a priority sector in countries? NAPAs and NAPs, including in Zambia and Uganda. The project will also focus on lifting barriers to improved risk management from the supply side, encouraging private sector financial and insurance product providers (micro-finance institutions, banks, and insurance companies) to investigate a new client pool or market segment for the design and roll-out of RCC products.

5) Additional cost reasoning and expected contributions from the baseline, the LDCF and co-financing
This investment will add value to other ongoing activities in the target countries. In particular, this project will:

? Scale out the existing coverage of Shamba Shape Up programming (adding an additional 2M new viewers in Zambia and Uganda) and iShamba platforms (adding another 50,000 new subscribers).

Thus, this project is building on the existing investment in Mediae by USAID, putting climate change adaptation and climate risk management at the heart.

? Expand the number of beneficiaries currently planned under the One CGIAR ClimBeR Initiative (by 5,000 over the currently targeted 5,000) and One CGIAR's Eastern and Southern Africa regional initiative (by adding 20,000 new insurance beneficiaries).

Importantly, however, the core value proposition of this project is in generating evidence for how to design catalytic investments for enabling private sector investment in emerging markets for services that support climate change adaptation in the region.

6) Adaptation benefits (LDCF/SCCF)

We envision the following direct beneficiaries to the project activities within two years:

Project interventions	Beneficiaries		
	Uganda	Zambia	Total
Extension information via Shamba Shape-up	2,000,000	500,000	2,500,000
Participation in Let-it-rain game	20,000	30,000	50,000
Delivery of iShamba phone-based extension	30,000	50,000	80,000
Index insurance for crop losses	10,000*	10,000*	20,000*
Credit	1,500*	1,500*	3,000*
Risk contingent credit	1,500*	1,500*	3,000*

* 60% of these beneficiaries will be women, through tool targeting. This kind of targeting is not feasible for the other categories of direct beneficiaries.

It is furthermore estimated that 100,000 persons will be trained on climate risk management strategies, smallholder financial products and use of digital tools.

It is also expected that at least 2 strategic business plans of main actors from the private sector will fully integrate climate change adaptation concerns as a result of project interventions. This is at least 1 plan per country. However, during PPG, the exact number and nature of policies and plans mainstreaming climate change adaptation will be refined.

In addition, an estimated 2.7 million hectares of production land will be under climate resilient management as a result of the project.

In addition, this project envisions important second order transformative impacts, which have the potential to benefit many millions of additional farmers if private sector investment in these markets continues to scale as a result of the initial push provided by this investment.

7) Innovation, sustainability and potential for scaling up.

The **innovation** of our approach is to simultaneously scale the demand for, and supply of, bundled services that will reduce agricultural and financial risk for smallholder farmers in the face of weather and climate change-related production uncertainty. This will occur by: (I) drawing on successful Alliance-led gamification strategies in ESA, encourage a pool of a million smallholder farmers across three ESA countries to use low-tech ICTs, such as mobile phones and radio call-ins, to play a fun game that allows them to exchange information on weather and on-farm risk factors observed on their farms for valuable agro-advisory services adapted to their specific needs, stimulating further demand for the service; and (II) combining and cross-referencing the resulting information from smallholders to arrive at more accurate and relevant weather and climate modelling and forecasting capabilities, which in turn will refine the information and advice fed back to smallholders via the agro-advisories. Our strategy is to use this enriched dataset to (A) rapidly build awareness and demand for information and growth financing among the smallholder target group, and (B) encourage private sector financial and insurance product providers (micro-finance institutions, banks, and insurance companies) to investigate this potentially new client pool or market segment for the design and roll-out of RCC products. Furthermore, these data can be used to refine the design of climate smart agricultural practices to local geographical and farmer-specific contexts. Evidence suggests that such targeting may help stimulate productive investments by smallholder farmers. The approach is presented in the schematics below (Figure 5).

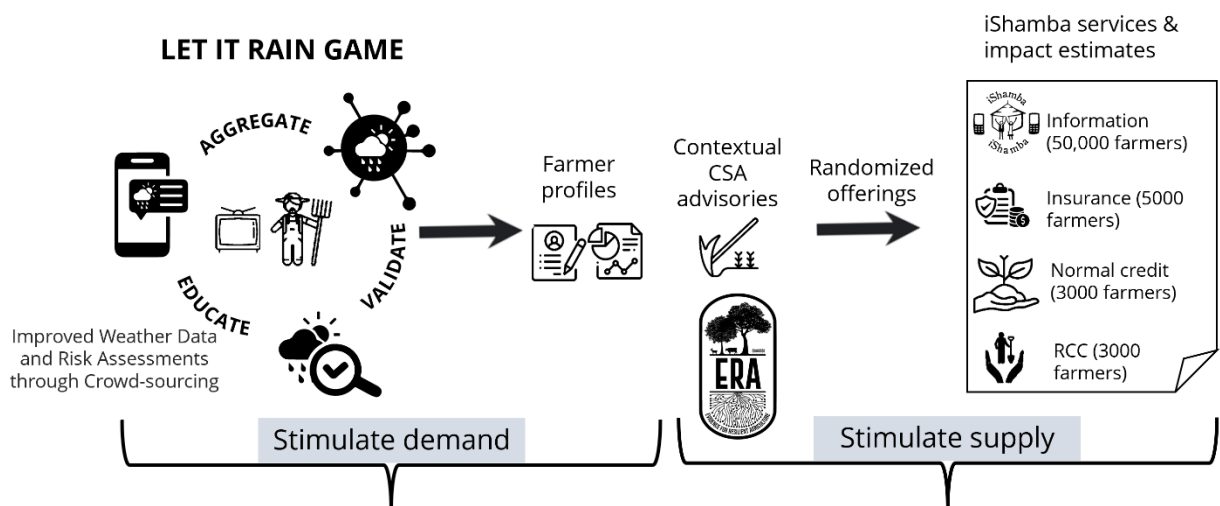


Figure 5: Design of the proposed activities*

A previous pilot project (Let it rain), launched during the 2020 long rainy season in Kenya, was advertised in Shamba Shape-up to more than 8 million viewers, Mediae's popular farm make-over TV and radio show in Kenya. More than 25,000 Kenyan farmers from 10 counties participated within a month. These data suggest that this combined approach creates a culture of forecast use, encourages community participation and discussions on weather, and helps to overcome barriers of advisory adoptions, irrespective of age, gender or socio-economic status, thereby stimulating the demand. The target million smallholders will include an existing network of farmers from Kenya. We aim to take advantage of the learnings from Kenyan context and introduce them in Uganda and Zambia.

Innovation: The design of the proposed delivery model itself is quite innovative. First, we address both the supply and demand sides of the equation by rapidly scaling farmer awareness and buy-in to the system by using an innovative **gamification-based incentive strategy** (demand) and by continuously improving the flow of advisories back to the smallholder, creating a virtuous cycle (supply). Designing delivery of the bundle around mass media and common mobile ICTs allows us to overcome the most common barriers to scaled adoption of digital innovation, i.e., literacy, lack of access to any tech more sophisticated than a TV or mobile phone, cost per use, and access issues experienced almost exclusively by women and young people, who are often traditionally excluded from the farming decision-making process.

Second, we focus, albeit as more of an indirect impact pathway, on increasing the supply of smallholder-friendly financial products to the market. Index insurance, normal credits and RCC are instruments with huge potential to dissolve the traditional bottlenecks faced by smallholder farmers when trying to access financing that can withstand high levels of agricultural risk on-farm, however, they are yet to be implemented at a scale that triggers transformation of the risk landscape at large. Data collected by this project's delivery model will facilitate a much more granular targeting/profiling of potential demand among potential client base for such risk-contingent or index insured products, as well as feed into index payout trigger algorithms, leading to a more reliable contract with lower basis risk.

The **proposed implementation partnership** is also innovative: the Alliance of Bioversity and CIAT leads one of the largest research programs on Climate Change Agriculture and Food Security (CCAFS) globally and co-leads the Big Data Platform established for harnessing the power of Big Data for agricultural research & development with IFPRI. With the vision of achieving a world free of hunger and malnutrition, IFPRI's mandate is to provide research-based policy solutions that sustainably reduce poverty and end hunger and malnutrition. Founded in 1997, Mediae has a long history of producing popular, wide-reaching TV, radio, print and mobile phone programs throughout East Africa and into other sub-Saharan African (SSA) countries, such as Makutano Junction, Know Zone, Shamba Chef, Don't Lose the Plot and Shamba Shape Up. Mediae's iShamba service is a mobile-based farmer information service that disseminates relevant and timely agricultural information to more than half a million farmers directly to their mobile phones in Kenya alone with plans to expand throughout ESA. Other potential partners and their roles include ACRE Africa (insurance portfolio management), ECLOF International (credit services), Financial Access (credit score development), Sprout Insurance (operation digitization backed by blockchain) and FAO (monitoring, evaluation and impact assessment of the program).

Sustainability: Mediae's iShamba, the mobile agro-advisory platform, currently operates on a premium-subscription business model where Individual farmers subscribe at 65-90 US cents per month. We are looking at scaling this model by introducing the financial products to the premium package. With an increasing number of subscribers creating economies of scale, we believe that we will be able to get the subscription costs down to about 17 cents per month (\$2 per year). This project targets 100,000 new farmers in Uganda and Zambia that will generate annual revenues of \$200,000 USD, which will enable reinvestments for further improvements in the service bundle. We believe their clients will, in return, use the expected 5-40% gains in increased on-farm productivity and income due to using the services offered in the bundle to buy from the private sector companies that are supporting subscription costs and pay to renew their subscriptions in subsequent years. Based on our prior experience, we expect to roll out an insurance policy with a fee of \$3 for a sum insured of \$20 for each smallholder and a maximum of \$100 loan for both RCC and regular credit with 15% premium rates. With a target of 5,000 subscribers for insurance and 3,000 for each credit product, the financial products providers (insurance companies, MFIs and banks) will see a total of \$805,000 transactions per season.

Potential for scaling up: Harnessing digital technology for (1) the gathering and exchange of farmer-generated data about on-farm agricultural, climate, and financial risk, (2) the design and delivery of digital ARM bundles that combine ARM products and services with agro-advisories, and (3) the use of a digital Platform and farmer generated database as a market development tool for private sector credit, RCC, and insurance providers, has the potential to address system and cost inefficiencies **at scale**. A recent study suggests that increased access to technology-based advice and input recommendations can increase yield by between 12-17% (Corral et al. 2020), further strengthening the eventual value capture argument for ICT4D (Internet Communications Technology for Development) solutions. **Costs drastically decrease as scale increases.** New ICT4D solutions will replace conventional non-digital solutions, saving labor, time, and money. For example, a pilot of Digital Green (a digital extension service) proved that its system was 10 times more effective per dollar spent than the classical extension system (Gandhi et al., 2009) . A mobile-phone based advisory service in India created a ten-fold return on investment (Cole and Fernando, 2016). A recent Mercy Corps AgriFin (MCA) study with 60_ decibels (2021) observed that utilization of digital products and advisory services has a positive

impact on farmer livelihoods, with 73% reporting increased farm production, 70% increased income and 53% reported being more resilient to climate shocks. Digital innovation has delivered real impact even during the pandemic - impact studies of AgriFin's partner DigiFarm, which provides a bundle of services via mobile phone to more than 1.4 million registered farmers, showed growth of income and productivity over the pandemic, linked to support on digital channels.

These investments in digital innovation prove the ability to build farmer productivity, income, and resilience, even under challenging conditions. As economies and societies worldwide become more connected through data and digital technologies, ICT4D solutions can help us deploy massive, agile, personalized, cost-effective, digitally-enabled agricultural services that reach even the most vulnerable populations. Below is a brief summary of the potential scaling pathways that the Project will use and/or explore:

- ? **Scaling of iShamba and Shamba Shape Up delivery models from Kenya to Uganda and Zambia:** Component 1 and part of Component 2 will functionally scale out the tried and tested delivery models of iShamba, Shamba Shape Up-style TV programming and public education, digital platform, and bundling of digital agro-advisories with CWS information and ARM products and services, to two new ESA countries with high levels of agricultural and climate risk.
- ? National TV stations in Uganda and Zambia will be given the option to use their own agricultural advisory TV shows to provide the farmer education component rather than import the Kenyan Shamba Shape Up show wholesale (with the understanding that the Shamba Shape Up model of delivery is followed for optimal education outcomes). The Shamba Shape Up show has a 6-8 million viewership in Kenya. The alternative vehicle in Uganda, for example, would be the equally popular 'Seeds of Gold' agro-advisory TV program, which has a viewership reach of 6,721,236 people. In Zambia, though much smaller in reach, the *Zambian Farmer* - a Zambia National Farmer Union- sponsored program aired every Monday and Thursday on the ZAMBIA National Broadcasting Corporation, ZNBC TV1, is also an option.

The long run benefits for the private sector including farmers are more difficult to predict. However, the current smallholder insurance and in SSA are valued at 1,300-2,500 M USD per year despite spotty enrollment of about less than 3% of farmers . Scaling up appropriate and acceptable products has the potential to positively influence the trajectory of this market, radically increase participation and help it build adaptive capacity and productivity growth for the rural poor.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

Coordinates Zambia: Latitude 29.58 to 35.04 / Longitude -1.44 to 4.25

Coordinates Uganda: Latitude 21.89 to 33.49 / Longitude -17.96 to -8.24

The project will operate in Uganda and Zambia.



2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

Bilateral discussions have been initiated with farmer organizations (World Farmers Organization, representing the Uganda National Farmers Federation and the Zambia National Farmers? Union), public (governmental/non-governmental) research alliances (Pan-Africa Bean Research Alliance, HarvestPlus), as well as with private sector actors in the AgriFin/AgriFinTech and farmer advisory services sectors which are active in the project countries (Mediae Inc., ACRE Africa, Sprout Insurance, ECLOF International, and Financial Access Consulting Services). Additional virtual stakeholder meetings in each country are currently being planned for the project preparation phase in 2022, during which additional consultations with other stakeholders, including civil society and indigenous peoples, will be engaged in during the project preparation phase.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement

The smallholder farmers are primary beneficiaries of the project, as end users of the adaptation market services. Representatives of the smallholder farmer sector will be included in project design and implementation throughout the project lifecycle. Engagement with the farmers is planned via a range of service provides from public and private sector organizations. Bilateral discussions have been initiated with farmer organizations (World Farmers Organization, representing the Uganda National Farmers Federation and the Zambia National Farmers? Union), public (governmental/non-governmental) research alliances (Pan-Africa Bean Research Alliance, HarvestPlus), as well as with private sector actors in the AgriFin/AgriFinTech and farmer advisory services sectors which are active in the project countries (Mediae Inc., ACRE Africa, Sprout Insurance, ECLOF International, and Financial Access Consulting Services). We will work closely with active farmers unions in both countries, involving them in discussions at the design phase, and work closely with them throughout implementation to ensure their voices are being heard and their needs are being met. PABRA and HarvestPlus will facilitate connection with the network of their farmers as well provide content for agro-advisory and improved seed varieties for the bundled solution. Mediae will be responsible for the filming and airing of TV episodes focusing on climate change awareness and microfinance solutions. ACRE Africa will coordinate insurance product rollout; Sprout Insurance will develop the digital tools for end-to-end management and monitoring of financial transactions and ECLOF will conduct market assessment to support design of credit products. Stakeholder meetings in each country are currently being planned for the project preparation phase in May-June 2022, during which additional consultations with other stakeholders, including civil society and indigenous peoples, will be engaged in during the project preparation phase. We aim to confirm strong support from the respective government organizations (agricultural and/or environmental ministries) during the consultation process. We have identified key in-country as well as HQ contacts for most of the stakeholders we have currently engaged with. In the process we have developed a strong consortium where members are not only engaged with the lead executing agency (the Alliance), but also linked among themselves.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

A better understanding of gender differences while assessing agricultural risk can allow for more comprehensive and effective agricultural resilience, avoiding disruptions in rural livelihood strategies. The Alliance will engage a Gender Specialist to conduct a Gender Analysis (GA) in the baseline-gathering phase of start-up. Understanding the root causes of gendered differences when households are facing risk is essential if risk mitigation investments and risk coping programs are to reduce rather than reconstruct people's risk in future risk events. Recent evidence (World Bank

(2017) indicates that women farmers are more highly exposed to agricultural risks than men for many of the same reasons that farm productivity is lower for women than men – namely, women have fewer endowments and entitlements, they have less access to information and services, and they are less mobile. Likewise, women and men tend to cope with risk differently given their asset endowments, their use of income and wealth, and the responsibilities they adopt within the house and the community. Unlike in other parts of the world, most producers, consumers, and operators along the food value chain in Africa have limited access to government or market-based risk management tools. Agricultural risks can trigger poverty traps as they often influence decisions of smallholders in favor of subsistence farming with low risks but also low returns, rather than expanding investment into high-return farming enterprises (FAO, 2016). Poor net food buyers – which tend to be women – are often forced to draw down on their capital (distressed sale of assets, such as land or livestock) to maintain food intake in the event of high food prices, but other coping mechanisms include reducing food intake for the family (especially for women and children), reducing payment for school fees, and cuts in spending on primary healthcare. In brief, agricultural risks, when left unaddressed, can act as the driver for increased poverty, which at the level of farming families tends to disproportionately affect the women and young people in the household.

Reduced income levels have differentiated impacts on rural women and female-headed households, as they are less likely to be net sellers of food and have less access to land and other resources. Gender matters in explaining differential effects, in terms of both the direct (or first-round) effects of an economic shock and of households' response strategies (or second-round effects). Moreover, these effects vary across countries and stages of development. Ironically, although women make up 50% of the agricultural labor force in Africa (as farmers, livestock owners, workers, and entrepreneurs) and produce between 60 and 80% of the continent's food, they consistently experience limited access to productive resources (including insurance, financial products, information) compared to their male counterparts (AFDB, 2015).

To truly capture and address agricultural risk, incorporating gender-based impacts and responses, assessment of those differences must be an integral part of the agricultural risk assessments and the findings incorporated in corresponding ARM strategies. This Project will maximize the voices, agency, and participation of women in the following ways: (I) the climate and agricultural risk profiles developed under Component 1 will be designed and conducted specifically to scan for how the main risks identified differently affect women, with several interviews taking place to discuss the issue of agricultural risk with women farmers, entrepreneurs, and livestock owners, with the purpose of identifying the main constraints and opportunities (entry points) experienced by women in accessing ARM products and services, including credit, microloans, and insurance, as well as agro-advisories targeting risk management, (II) women (and young people) will be encouraged to participate actively in the gamification strategy and iShamba activities, so that we capture their ARM needs, demand for products and services, and their perception of agricultural, financial, and climate risk on-farm (the experiences and perceptions of risk of men and women are likely to be different, thus it is important to capture and account for these differences in the design of bundles based on their feedback, to ensure that the bundles offered through the Platform reflects the real needs and constraints of women and youth) and finally, (III) the Project team will explore the potential for scaling the delivery model (bundling of selected ARM products and services with agro-advisories around risk management) in the future via the Pan Africa Bean Research Alliance (PABRA), a network of 32 countries, which holds women and youth empowerment through the bean value chain as a core concern. The PABRA team has (co-) produced several methodologies and tools at the nexus of gender and value chains, climate change, restoration, pests and disease management, seed systems, scaling of agricultural innovations and more that could add tremendous value to the scaling portion of this Project, including those used in the global comparative study GENNOVATE: Enabling gender equality in agricultural and environmental innovation.?

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

Engagement with the private sector in the development of services that support adaptation is a core objective of this project. In both countries, we will work with Mediae, a private for-profit social enterprise, to address the informational needs of smallholders. Other potential partners and their roles include ACRE Africa (insurance portfolio management), ECLOF International (credit services), Financial Access Consulting Services (credit score development) and Sprout Insurance (operation digitization backed by blockchain). Finally, smallholder farmers are primary beneficiaries of the project, as end users of the adaptation market services. Representatives of the smallholder farmer sector will be included in project design and implementation throughout the project lifecycle. We will work closely with active farmers unions in both countries, involving them in discussions at the design phase, and work closely with them throughout implementation to ensure their voices are being heard and their needs are being met.

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

The biggest foreseeable risk to the project has to do with the uncertainties of field activities given the ongoing Covid-19 pandemic. Qualitatively similar risks may include civil unrest or political disturbances that prevent field activities from taking place as planned.

These risks, and associated mitigation measures, are detailed in the table below.

Risk	Mitigation measure
------	--------------------

Government priorities change in such a way that this project is less directly relevant to governance, policy targeting or investment decisions in the short term	Partnership with governmental and non-governmental stakeholders will ensure continuity of dialog and broad consensus on the core objective and operational strategy of the project. The project is well aligned with medium-term policy documents, which should mitigate concerns with policy commitments by partner governments.
Field activities are compromised (by Covid-19 or similar public health concern, or civil or political conflict)	Alternative project implementation strategies, including potential adjustments to scheduling and activities, will be further discussed with the Government during the planning and early stages of implementation to ensure that contingency plans are available and as minimally disruptive as possible. An activity-specific evaluation of this set of risks will be part of this strategy.
Project co-funding sources are compromised (due to Covid-19 or similar public health concern, civil or political conflict, or any other reason)	Thorough discussion with co-financiers during planning stages to seek alternative options for co-financing and maximize chances of continuity of resources. However, the identified co-financing has already been confirmed by financial partners, and with a retreating threat from Covid-19, are not believed to change.
Capacity and willingness of private sector and other key stakeholders	The implementation will follow a market-led approaches focused on creating and strengthening existing links within the market are inherently dependent on the relationships with key market actors.
Risk to program implementation from crop loss, natural disaster, etc.	There will be strong focus on carefully select and help partners engage across a range of value chains and geographies to diversify risks, linking to the fullest extent possible to farmer resiliency tools including microinsurance and strong technical inputs to reduce risk.
Operating Environment (natural disasters, political factors, market factors)	Both Uganda and Zambia have relatively stable governance structure that will help to address operating environment risks. In addition, leveraging on Consortium partner offices/presences in each country, Flexible business model will be developed that will allow move operations to new regions.
Regulatory change of mobile, financial, agricultural subsidy and other types of relevant interventions	The project will engage governments (particularly via CGIAR/FAO/GEF country representatives) actively around delivery of agricultural transfer payments, insurance and subsidies via digital channels. Further product development will be conducted only in areas with clear regulatory approvals in place.
Operational complexity due to the number of actors involved there is potential for inefficiencies in information flow, implementation and decision-making	Partners will draw on the shared robust project management structure and make proactive use of data through program dashboards to govern implementation. Weekly check-ins with HQ, regional and in-country staff in charge of managing the project to oversee implementation will ensure clarity in information flow, partner support, strategy and implementation.

B. Risks from the project ? ESS screening. This is a technical assistance project only, focusing on capacity development. The project has been rated low risk based on the ESS screening.

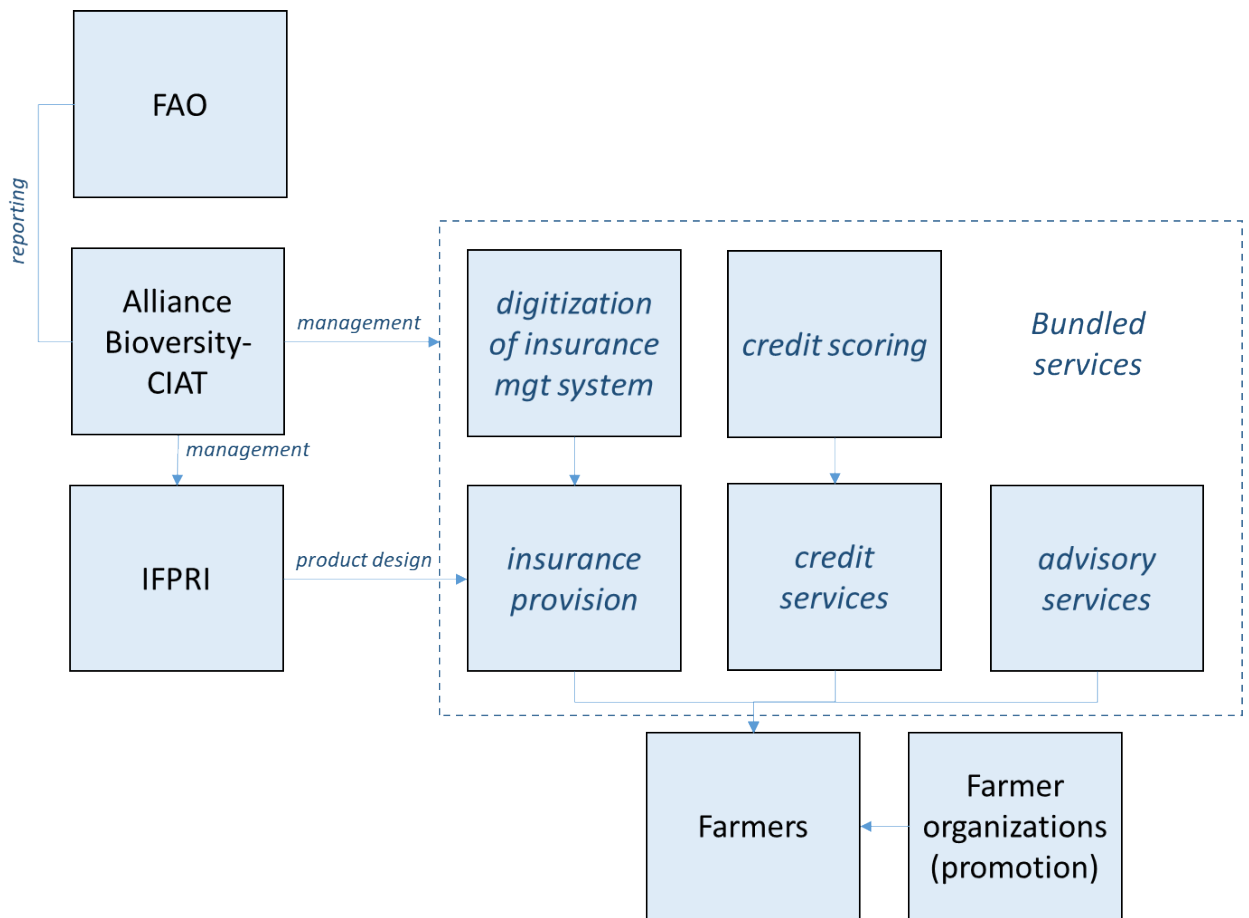
6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The main executing partner for the proposed project is the *Alliance of Bioversity International and CIAT*, a CGIAR centre. The Alliance is very active in the current reformulation and consolidation of One CGIAR, playing a key role in several of the new initiatives that are poised to make significant contributions to the urgent goals of the next decade in sub-Saharan Africa and globally, including the areas of: food system transformation, climate action, biodiversity conservation, and sustained progress on poverty and inequality. The Alliance is already involved in implementing projects on climate smart agriculture, climate information services, insurance, climate risk management in several African countries. The current project will benefit from the existing investments as well as the partnerships developed in the past/ongoing projects. The cross-country learning will also benefit from the engagement of the consortium members across projects and geographies. A good example of that is the Shamba Shape Up TV program in Kenya that has recently been launched in Uganda. The experiences and knowledge generated for Kenya played a key role in the Uganda expansion. Similar structure will be followed for the roll out of the program Zambia that is currently under way. Another example is the involvement of PABRA and HarvetPlus that are working towards the development and scaling up of locally relevant agricultural solutions but learning from different contexts.

The GEF Implementing Agency for the proposed project is the Food and Agriculture Organization of the United Nations (FAO). FAO will be responsible for overall project accountability, and play a critical role in project monitoring and evaluation. This project contributes to all Four Betters in FAO's 2022-2031 Strategic Framework, with particularly strong relevance to Better Production (via Programme Priority Areas 'Innovation for sustainable agriculture?', 'Small-scale producers' equitable access to resources' and 'Digital agriculture?') and Better Environment (via Programme Priority Areas 'Inclusive rural transformation?' and 'Resilient agri-food systems?'). Since the 1980s, FAO interventions in Uganda and Zambia have addressed many aspects of agriculture and rural development, including extensive technical cooperation efforts in climate change adaptation, risk management and access to financial services for smallholder farmers. This work has been carried out in partnership with a multitude of national and international development actors, and FAO maintains strong working relationships with the national governments of Uganda and Zambia.

During the PPG phase, the operational capacity of the Alliance will be assessed and execution arrangements defined in detail. The Alliance will be the Operational Partner managing the project funds, engaging other execution partners where required. Pending the outcome of the micro HACT assessment, the potential role of FAO or another execution partner in project execution, however limited and punctual, as per GEF policies, will be costed within the project management cost (PMC), and further contribute to operational capacity development of the Alliance via provisions taken in the institutional arrangements.



Other partners will be involved as appropriate in project steering and execution, including (but not limited to) the following:

Government:

- ? Ugandan [Ministry of Agriculture, Animal Industry and Fisheries](#)
- ? [Zambian Ministry of Agriculture and Cooperatives](#)
- ? Decentralised authorities in Uganda and Zambia

Civil society:

- ? Ugandan National Alliance of Agricultural Cooperatives ([NAAC](#))
- ? Uganda National Farmers Federation ([UNFFE](#))
- ? [Zambian National Farmers Union \(ZNFU\)](#)
- ? [World Farmer Organization \(WFO\)](#)
- ? [Conservation Farming Unit \(CFU\)](#)
- ? NGOs (located in target landscapes)
- ? Radio broadcasters (located in target landscapes)
- ? Women and youth associations (in target landscapes)

Private sector:

- ? credit providers
- ? microfinance providers
- ? related agriFinTech actors
- ? agricultural advisory service providers

During the PPG phase, partnerships with local and international institutions will be identified. Local partners such as civil societies will be involved in a co-creation process for solution development. The Alliance has strong experiences in implementing such models in different geographies across the world (for more details see <https://ccafs.cgiar.org/resources/tools/participatory-integrated-climate-services-agriculture-picsa>). In both countries this will be achieved through multiple participatory design workshops. Further engagements with the local actors will be ensured via the involvement of their network of farmers as the primary beneficiary of the developed solutions. Potential private sectors partners include those with proven expertise in relevant adaptation markets.

The project will work closely with, learn from and build upon results of other GEF and GCF investments in the region, through participation of project management units in key multi-stakeholder events organised by the LDCF project. During PPG, frequency and modality of collaboration will be confirmed with the PMUs of the following projects at least:

- ? Acceleration of financial technology-enabled climate resilience solutions (GEF ID 10927)
- ? Reviving high quality coffee to stimulate climate adaptation in smallholder farming communities (GEF ID 10432)
- ? Integrating Climate Resilience into Agricultural and Pastoral Production in Uganda, through a Farmer/Agro-Pastoralist Field School Approach (GEF ID 7997)
- ? Promoting the adoption and upscaling of proven climate-resilient agricultural practices and technologies by smallholder farmers in Zambia (GEF ID 10101)
- ? Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia (GCF ID FP072)
- ? Acumen Resilient Agriculture Fund (ARAF) (GCF ID FP078)

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions?

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

Uganda: The proposed interventions are aligned with Uganda's digital strategy ([Digital Uganda Vision](#)) and will support efforts to accelerate progress on the delivery of Uganda's strategic plan for agriculture, the Agriculture Sector Strategic Plan (ASSP), as implemented via the National Agriculture Policy (NAP). Specifically, the project will contribute to adoption of climate smart practices and other forms of adaptation by farmers, through supporting the development of private-sector led service provision in insurance, credit and advisory services.

Key policy documents to which this work is aligned include:

? National Climate Change Policy (NCCP) ? This project will contribute to the policy's objectives of a harmonized and coordinated approach towards a climate-resilient and low-carbon development path for sustainable development.

? Agriculture Sector Strategic Plan (ASSP) ? This project will contribute to the strategic objective of generating and up scaling the use of sound agricultural research and climate change resilient technologies

? National Agriculture Policy (NAP) ? This project will contribute to the NAP's goals of enhancing the resilience in livelihoods and production systems to climate variability and other shocks

? Paris Agreement signatory/ratifying party (UNFCCC) ? This project will contribute to the Paris Agreement's goal of enabling climate change adaptation

? Kyoto Protocol signatory/ratifying party (UNFCCC) ? This project will contribute to the Kyoto Protocol's objective of facilitating the development and deployment of technologies that can help increase resilience to the impacts of climate change.

Zambia: The proposed interventions are consistent with Zambia's National Agricultural Policy (NAP), which identifies building climate resilience as critical for inclusive and sustainable development. The NAP also recognizes the importance of supporting and engaging private sector actors in the provision of financial and insurance services to meet the adaptation needs of farmers. The NAP also recognizes the need to support public and private sector engagement in the development and transfer of technology for adaptation. The planned activities of this project are fully aligned with these objectives and priorities.

Key policy documents to which this work is aligned include:

? National Climate Change Policy ? This project will contribute to the policy's objectives of supporting climate change adaptation, with special consideration towards vulnerable groups such as poor rural women, children and the youth.

? National Climate Change Learning Strategy ? This project will generate information resources related to adaptation strategies for scaling, a key objective of the strategy.

? National Agricultural Policy (2012-2030) ? This project will contribute to sustainably increasing agricultural productivity; This project will contribute to strengthening ?private sector institutional capabilities to improve agricultural policy implementation, resource mobilization, agriculture research, technology dissemination, and implementation of regulatory services?; This project will contribute to promoting environmentally friendly farming systems and land management practices; will help farmers to address rainfall-related production constraints

? Vision 2030 ? This project will contribute to gender responsive sustainable development in agricultural economies and rural areas; This project will contribute to an agricultural economy which is ?resilient to any external shocks?, and which ?supports stability and protection of biological and physical systems? This project will contribute to sustainably increasing labor productivity in agriculture; This project will contribute to effective utilization of natural resources; will address agricultural performance challenges imposed by fluctuations in rainfall patterns.

? Zambia National Adaptation Programme of Action (NAPA) ? This project will contribute to strengthening the resilience and adaptive capacities of vulnerable people.

? Paris Agreement signatory/ratifying party (UNFCCC) ? This project will contribute to the Paris Agreement's goal of enabling climate change adaptation

? Kyoto Protocol signatory/ratifying party (UNFCCC) ?This project will contribute to the Kyoto Protocol's objective of facilitating the development and deployment of technologies that can help increase resilience to the impacts of climate change.

More globally, this project is also aligned with the **Glasgow Climate Pact** arising out of the recent COP26 discussions, under which financial pledges were made to support climate change adaptation in developing countries. The project impact pathways are directly relevant to **SDGs 13** (Take urgent action to combat climate change and its impacts) **and 15** (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss), with the latter impacts operating through improved incentives to longer term sustainability management.

This project is also aligned with a number of regional strategic frameworks for guiding policy and investment in African agricultural and economic development. In particular, this project is fully aligned with the **Comprehensive African Agricultural Development Programme (CAADP)**, an Agenda 2063 continental initiative that aims to help African countries eliminate hunger and reduce poverty by raising economic growth through agriculture-led development. This project will contribute most directly to CAADP's Pillar 1 (Extending the area under sustainable land management and reliable water control systems) via the provision of climate smart advisory services, and to Pillar 4 (Agricultural research, technology dissemination and adoption) via the bundled delivery of advisory services and financial services (insurance and credit) designed to facilitate productive technology investments.

Finally, this project is aligned with the **Africa Union's Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024)** which emphasizes the role of ICT-enabled advisory services enabled by data collection at scale and modern analytics. STISA-2024 emphasizes the role of improved

agronomy and agriculture to eradicate hunger and improve food and nutrition security in the context of climate change and variability in production conditions.

8. Knowledge Management

Outline the knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Knowledge management is a key part of the proposed project. Project outputs include **synthesis of key lessons learned** about how to support private-public partnerships in markets for services that support adaptation in smallholder production systems. This will include lessons learned about innovations in the production technologies being disseminated, as well as the technologies and innovative practices used in their dissemination, and in complementary AgriFinTech services.

One of the ambitions of the proposed effort is to shift away from constant repetition of pilot projects towards scaling of highly viable solutions. This requires fostering a collective 'institutional memory' that is readily accessible and consistently at the front of stakeholder thinking. We will address this need by systematically capturing, documenting, and sharing knowledge products and best practices across different relevant projects (please see the co-financed activities details for more information on this). At the start of the project, a 'learning agenda' will be established to map out a framework for our areas of agreed learning focus in partnership with the key stakeholders.

These lessons will constitute a **set of guidelines** for use by national governments and their development partners for implementing similar strategies in other countries. Such transferable lessons are likely to be particularly relevant for other countries in Eastern and Southern Africa which share similar smallholder-dominated rainfed production systems, and which are characterized by high levels of climate-related production and marketing risks which are expected to increase under most climate change scenarios, and which have limited current levels of both supply and demand of adaptation-oriented advisory services and AgriFinTech products.

The project will **disseminate lessons learned** through workshops/seminars, and electronic and print media for wider impact. An important aspect of the project is the central role of comprehensive and high-quality data generation: the databases created as part of the project will be used to enable analysis and learning by project partners and other stakeholders in both countries and beyond. During the project preparation phase, a specific knowledge management plan will be developed, drawing on the participation from the consulted stakeholder groups in each country. This will help to ensure that knowledge generated from the project will be made accessible to the broadest possible audience.

9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approva I	MTR	TE
Low			

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

No further environmental and social risk analyses or assessments will be needed for this TA/capacity building project.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
ESS CIAT Project PIF	

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And GEF Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Godwin Fishani Gondwe	GEF OFP Zambia	Ministry of Green Economy and Environment	2/15/2022
Patrick Ocailap	GEF OFP Uganda	Ministry of Finance, Planning and Economic Development	4/19/2022

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

