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

Sector
AFOLU

Taxonomy

Focal Areas, Climate Change, Influencing models, Type of Engagement, Stakeholders, Gender Mainstreaming, Gender Equality, Gender results areas, Capacity, Knowledge and Research, Climate Change Adaptation, Innovation, Climate resilience, Least Developed Countries, Private sector, Climate finance, Climate information, Deploy innovative financial instruments, Demonstrate innovative approache, Local Communities, Information Dissemination, Participation, Private Sector, Capital providers, Individuals/Entrepreneurs, Access to benefits and services, Gender-sensitive indicators, Beneficiaries, Sex-disaggregated indicators

Rio Markers

Climate Change Mitigation

No Contribution 0

Climate Change Adaptation

Principal Objective 2

Biodiversity

No Contribution 0

Land Degradation

No Contribution 0

Submission Date

3/31/2022

Expected Implementation Start

6/1/2023

Expected Completion Date

6/30/2025

Duration

24In Months

Agency Fee($)

99,360.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCA-1	Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation	LDCF	1,045,890.00	9,560,000.00
		Total Project Cost($)	**1,045,890.00**	**9,560,000.00**

B. Project description summary

Project Objective

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

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
C1. INFORM More effective use of farmer-generated data for dissemination of climate and weather information and as market development tool	Technical Assistance	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 Indicators: I1.1.a Reach of extension information via Shamba Shape-up (or Shamba Shape-Up-style) model in Uganda and Zambia (Target: Audience of 200,000 viewers for agro-advisory TV programming across Uganda and Zambia by end Year 2) I.1.2. Agro-climate risk profiles (maps)	O1.1. Shamba Shape Up and iShamba delivery model (including Let-it-Rain game) functionally scaled out from Kenya to Uganda and Zambia O1.2. Risk maps, report detailing risk profiles, prioritized risks by district & value chains created using iShamba data O1.3. Service providers given access to the iShamba farmer-created data O1.4. Platform to offer and support new bundles of agro-advisory and ARM products and services built	LDCF	239,935.00	2,660,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
		created using downscaled climate data and crop models (Target: risk maps created by month 6)				
		I.1.3.a. Service providers (advisory, lenders, extension) accessing and using iShamba service-generated data) (Target: At least 2 major service providers using data)				
		I.1.3.b. Smallholder farmers/participants in the Let-it-Rain game for which detailed data on farm size, climate risks, agricultural risks, economic activity, etc. now exists. (Target: Market intelligence data on 20,000				

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
		farmers generated via participation in Let-it-Rain game by end of project)				
		I.1.4 Existence of support platform, # of bundles on offer (Target:1 platform in place by end of year 1, bundled package on offer through platform in Uganda and Zambia)				

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
C2. BUNDLE Offer farmers bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles	Technical Assistance	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	O2.1 Framework and approach for financial product development established	LDCF	229,490.00	3,200,000.00
			O2.2 Risk scoring system integrating multiple risks made available to financial companies (credit scoring, insurance)			
		Indicators: 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)	O2.3 Gender-responsive insurance bundles, including CSA advisories, designed			
			O2.4 Gender-responsive credit product bundles, including CSA advisories, designed			
		I.2.2 Existence of risk scoring system (Target: Risk scoring system in place and offered to financial service	O2.5 Farmer registrations and transactions digitized			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
		providers by month 3)				
		I.2.3 # of gender-responsive insurance bundles offered (Target: gender-responsive insurance bundles on offer to farmers by month 8)				
		I.2.4 # of gender-responsive credit bundles offered (Target: gender-responsive credit bundles on offer to farmers by month 8)				
		I.2.4 Extent to which farmer registrations and transactions are digitized (Target: 50% farmer registrations				

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
		and transactions digitized by M12, 100% by M24)				

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
C3. STIMULATE Improved uptake and use of agricultural risk management products and services by farmers	Technical Assistance	Outcome 3: Increased supply (by providers) and uptake (by smallholder farmers) of climate risk management products and services Indicators: I3.1. Evidence on financial risks, costs and benefits of combined credit and insurance to (a) the credit provider, (b) the credit recipient (smallholder farmer), and (c) any technical assistance provision or advisory agents in the middle (Target: Proof of concept evidence assessed and reported by IFPRI by end of year 1) I3.2 # of new or improved	O3.1. Proof of concept for risk-contingent credit provision in Uganda and Zambia O3.2 New or improved bundled insurance/loan/advisory products and services made available to farmers (including women and youth) through Platform	LDCF	265,050.00	2,430,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
		insurance, advisory, or credit bundles accessed by smallholder farmers via Platform (disaggregated by gender and age) (Targets: Insurance coverage available to 10,000 farmers (60% women) Credit (incl. risk-contingent) available to 6,000 farmers (60% women) Agro-advisory services available to 30,000 farmers (60% women) via iShamba suite and Platform)				

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
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	216,334.00	400,000.00
			Sub Total ($)		**950,809.00**	**8,690,000.00**
Project Management Cost (PMC)						
			LDCF		95,081.00	870,000.00
			Sub Total($)		**95,081.00**	**870,000.00**
			Total Project Cost($)		**1,045,890.00**	**9,560,000.00**

Please provide justification

C. 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($)
Other	Alliance Bioversity & CIAT	Grant	Investment mobilized	7,900,000.00
Private Sector	The Mediae Company	Grant	Investment mobilized	1,660,000.00
			Total Co-Financing($)	**9,560,000.00**

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; ? aBi Trust limited, MECA, ILRI; ? 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). ? Accelerated Intervention Delivery Initiative (AID-I) funded by the USAID.

D. 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($)
FAO	LDCF	Regional	Climate Change	NA	1,045,890	99,360	1,145,250.00
			Total Grant Resources($)		**1,045,890.00**	**99,360.00**	**1,145,250.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. 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($)
FAO	LDCF	Regional	Climate Change	NA	50,000	4,750	**54,750.00**
			Total Project Costs($)		**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	**50.00%**
Natural resources management	**0.00%**
Climate information services	**50.00%**
Coastal 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

Coastal 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

276,000

135,400

140,600

50.94%

CORE INDICATOR 2

Area of land managed for climate resilience (ha)

220,500.00

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

50,000

25,000

25,000

50.00%

To calculate the core indicators, please refer to Results Guidance

OBJECTIVE 1

Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaption

OUTCOME 1.1

Technologies and innovative solutions piloted or deployed to reduce climate-related risks and / or enhance resilience

View

OUTCOME 1.2

Innovative financial instruments and investment models enabled or introduced to enhance climate resilience

View

OBJECTIVE 2

Mainstream climate change adaption and resilience for systemic impact

OUTCOME 2.1

Strengthened cross-sectoral mechanisms to mainstream climate adaption and resilience

View

OUTCOME 2.2

Adaptation considerations mainstreamed into investments

View

OUTCOME 2.3

Institutional and human capacities strengthened to identify and implement adaptation measures

View

OBJECTIVE 3

Foster enabling conditions for effective and integrated climate change adaption

OUTCOME 3.1

Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.2

Increased ability of country to access and/or manage climate finance or other relevant, largescale, pragmatic investment, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.3

Institutional and human capacities strengthened to identify and implement adaptation measures as a support to NAP process and/or for enabling activities in response to COP guidance

View

Part II. Project Justification

1a. Project Description

Summary:

Eastern African rainfed production systems face a high and increasing uncertainty of seasonal weather outcomes, which gives rise to unpredictable seasonal rainfall amounts and onset dates, erratic distribution, and increased frequency of crop failure. Smallholder farmers in Uganda and Zambia currently lack the resilience to manage the agricultural disruptions caused by climate change and variability, as well as other disasters such as Covid-19. 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 identifies three main barriers which are preventing Ugandan and Zambian smallholder farmers from effectively managing on-farm agricultural and climate-related risks: (1) access to reliable and actionable climate data is poor; (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; and (3) financial service providers are not supplying smallholders with insurance or credit at levels required to trigger growth because smallholder farming is considered to be risky.

In response to these challenges and barriers, the project?s rationale is that :

- **if** we help (**component 1**) several actors (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 for more effective dissemination of climate and weather information (via public education and outreach) and for more targeted financial product or market development,

- and working with (**component 2**) 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,

- while also taking measures to (**component 3**) 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 changes in knowledge, attitudes, skills, and practices of both our stakeholder groups (smallholder farmers and service/product providers).

The project?s three components will lead to the following outcomes:

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,

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,

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, 60% of which are women, across Uganda and Zambia using increased access to bundled digital agro-advisory services and ARM products and services to manage on-farm climate and agricultural risk more effectively.

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 committed to addressing the informational needs of East Africans smallholders through sustainable and research-based media productions. Other partners and their roles include ACRE Africa for insurance portfolio management, ECLOF International for credit services, Financial Access Consulting Services for credit score development, and Sprout for operation digitization backed by block-chain.

The Alliance of Bioversity International and CIAT, a CGIAR center, will have the overall executing and technical responsibility for the project, with FAO providing oversight as GEF Agency. The Alliance will act as the lead executing agency and will be responsible for the day-to-day management of project results entrusted to it in full compliance with all terms and conditions of the Operational Partnership (OP) Agreement signed with FAO. As OP of the project the Alliance is responsible and accountable to FAO for the timely implementation of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements.

At the international level, the project is aligned with Paris Agreement?s climate change adaptation goals and contributes 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. At the national level in Uganda, the project contributes to the National Climate Change Policy?s objectives of a harmonized and coordinated approach towards a climate-resilient and low-carbon development path for sustainable development. The project also contributes to the Agriculture Sector Strategic Plan?s objective of generating and up-scaling the use of sound agricultural research and climate change resilient technologies. Finally, it contributes to the National Agriculture Policy?s goals of enhancing the resilience in livelihoods and production systems to climate variability and other shocks. At the national level in Zambia, the project contributes to the National Climate Change Policy?s objectives of supporting climate change adaptation, with special consideration towards vulnerable groups such as poor rural women, children, and the youth. It will also generate information resources related to adaptation strategies for scaling, a key objective of the National Climate Change Learning Strategy. It will contribute to sustainably increase agricultural productivity in line with the National Agricultural Policy (2012-2030). Finally, the project will contribute to Vision 2030?s objective of gender responsive sustainable development in agricultural economies and rural areas.

1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

1.1 Overview of the challenge

Eastern African rainfed production systems face a **high and increasing uncertainty of seasonal weather outcomes** (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. By 2050 in East and Southern Africa (ESA), 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). Smallholder farmers in ESA currently lack the resilience to manage the disruptions caused by climate change and climate variability, as well as other disasters such as Covid-19. Smallholders face difficulties accessing basic inputs such as fertilizers, seeds, tools and the knowledge provided by agricultural extension services to increase their yields. They also suffer from significant post-harvest loss because of lack of proper storage. Further, they are frequently isolated from markets because of a lack of basic infrastructure that would enable them to bring their goods to the markets. These challenges make it difficult for farmers to obtain the best price for their crops creating pressure to sell as soon as they harvest (Savoy, 2022). 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. A myriad of strategies exist to mitigate agricultural risks, they include investments in infrastructure (e.g., irrigation facilities), technologies innovations (e.g., drought-resistant cultivars), crop management practices (e.g., changes to the timing of production activities), and financial instruments (e.g., credit or insurance). Unfortunately, most of these strategies are often either not available or not feasible for most resource-constrained farmers in ESA (Adu Ankrah et al., 2021). Finding ways to improve smallholder farmers? production is becoming critical and financing is another barrier for smallholder farmers to invest in infrastructure and access novel instruments, technologies, and inputs they need to increase crop yields and income.

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). The main barriers, identified by literature, to agricultural finance on the demand-side are (1) limited business management and investment planning skills, which is also interlinked with lack of choice of financial products tailored to smallholder farmers and (2) limited financial management and record keeping. Indeed, smallholder farmers are largely outside the formal economic sector and frequently do not have the means (e.g., collateral) to secure loans and other financial support. Furthermore, there also exist cultural barriers among farmers making them reluctant to take on loans or other financial exposure (Savoy, 2022). 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. The main barriers, identified by literature, to agricultural finance on the supply-side are (1) the lack of skills to appraise loan applications and to build risk management systems so that a variety of collateral forms are accepted and (2) the lack of skills to develop a range of agricultural finance products that serve smallholder farmers, and to market them successfully. Indeed, local financial institutions in these geographies generally do not want to provide financing to smallholders. This is because they either see farmers as too risky or they do not offer the specialized financial products needed in the sectors. Financial institutions also frequently do not have physical presence near where smallholder farmers work (Savoy, 2022). Thus, lenders 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 combined credit and insurance need to be further scaled-up in Africa if they are to have a significant impact on production under climate change-affected conditions.

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. It 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 risks (ongoing restructuring of the extension system has created many challenges for farmers to access advisory and other support services).

1.2 Estimated impacts of climate change in Zambia and Uganda

According to the World Bank?s 2021 Climate Risk Profile for Uganda, which synthesizes 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.

According to the GIZ?s Climate Risk profile for Uganda (2021), under most climate change forecast model scenarios, Uganda will experience future dry and wet periods that are likely to become more extreme, which will increase the incidence and intensity of flooding as well as drought conditions in many parts of the country. Indeed, in response to global warming and depending on the low or medium to high emissions scenario, temperature is projected to rise between 1.5 and 3.5?C by 2080 compared to pre-industrial levels, with higher temperatures and more temperature extremes projected for the north and east of the country. The population affected by at least one heatwave per year is projected to rise from 0.2% in 2000 to 9.5% in 2080, which relates to 39 more very hot days per year over this period (GIZ, 2021). Precipitation trends, although highly uncertain, project an increase of 67 mm in annual precipitation by 2080. Futhermore, the number of days with heavy precipitation events is expected to increase and these events are expected to become more intense in Uganda, which would escalate the risk of disasters such as floods and landslides. While under the low emissions scenario, the number of days with high precipitation is not projected to change, under the medium to high emissions scenario, median climate model projections show an increase in the number of days with heavy precipitation from 8 in the year 2000 to 10 in the year 2080.

Agriculture in Uganda is highly vulnerable to climate change and the need for adaptation in this sector has been stressed in Uganda?s NDC targets. In response to climate change, models project regionally varying changes in species richness and tree cover resulting in shifting agro-ecological zones affecting ecosystems, biodiversity, and crop production. 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.

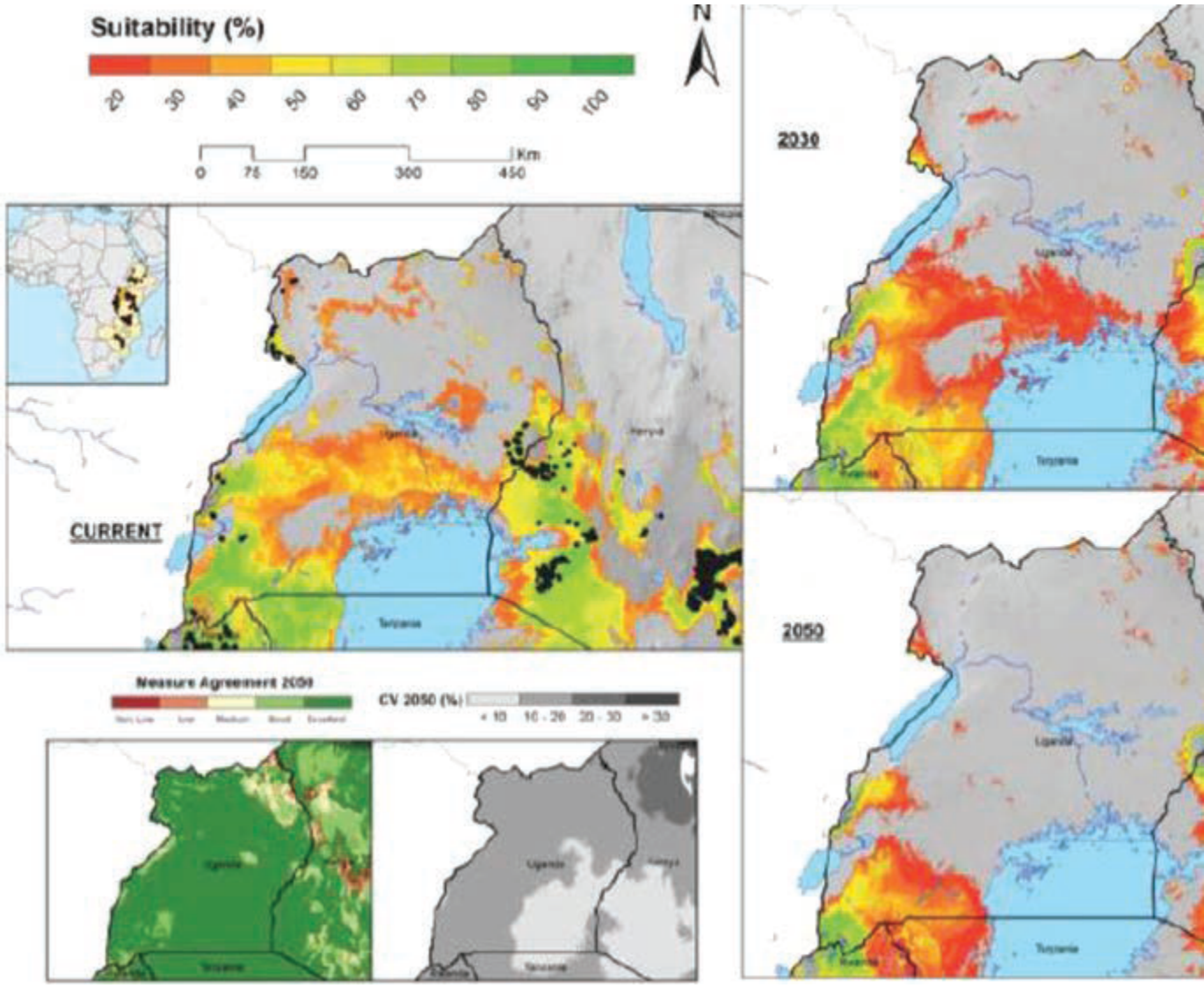


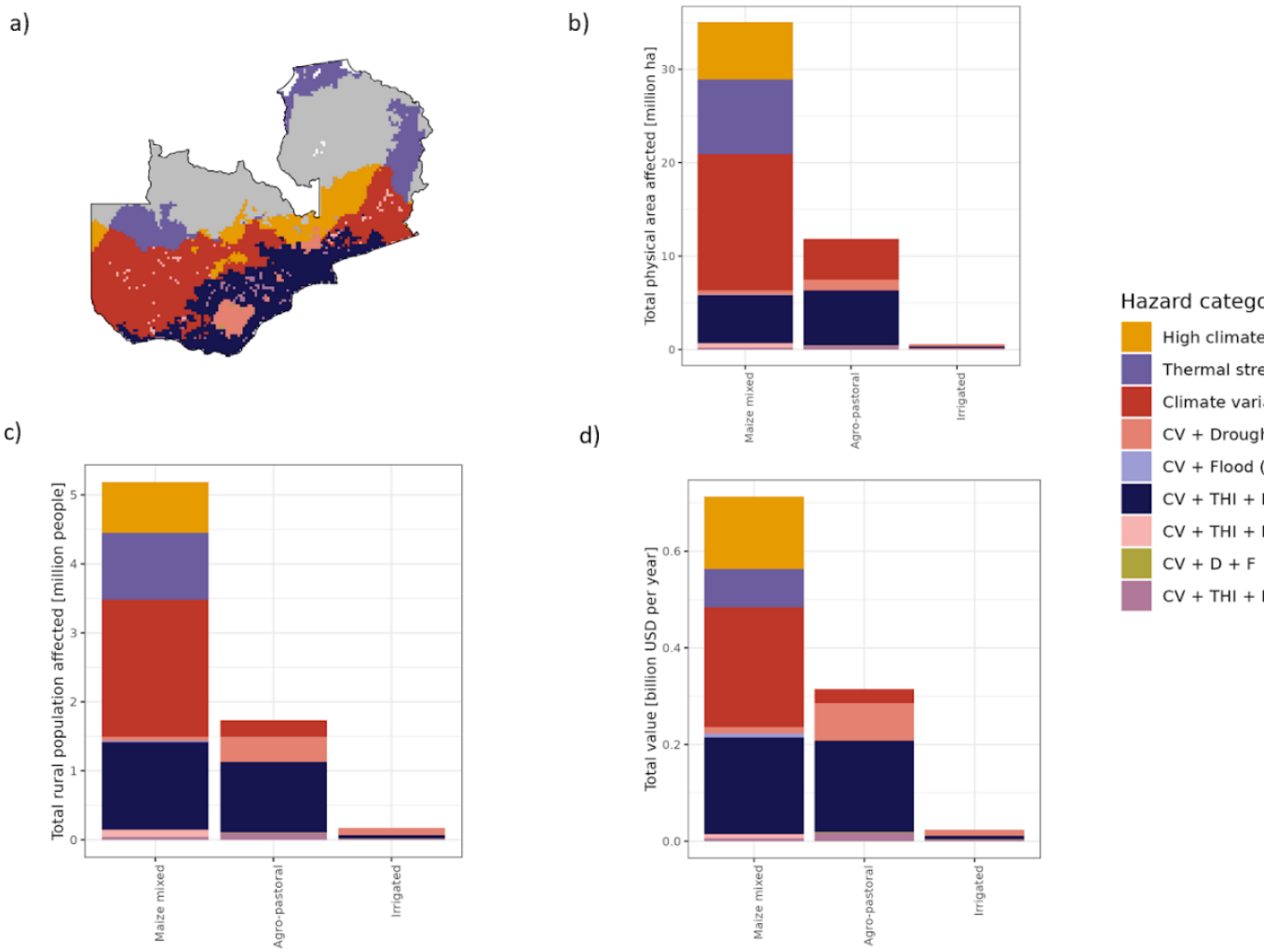
Figure 1: Predicted suitability for Arabica coffee production in coffee-producing zones in Uganda for current, 2030 and 2050 (Source: Uganda Ministry of Water and Environment (2015). https://cdkn.org/wp-content/uploads/2015/12/Uganda_Agricultural_Sector.pdf)

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. USAID?s Climate Change Risk Profile for Zambia (2016) projects an increase between 1.2 to 3.4?C in mean annual temperatures by 2060, with warming occurring more rapidly in the south and west of the country, an increase in frequency of hot days and nights and a decrease in cold days and nights, a decrease in rainfall between September and October and an increase in rainfall between December and February, particularly in the northeast, and an annual increase of the proportion of heavy rainfall events. 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. The main climate risks for agriculture production are increased temperatures, increased rainfall variability, increased intensity of rainfall and drought. Their potential impacts on agriculture production are less predictable growing seasons, increased pests, weeds, and pathogens affecting crop and livestock, increased soil erosion, limited field operations due to waterlogging, decreased productivity and crop failure, reduced water and feed for livestock, increased incidence of mortality and heat stress in livestock. 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.

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.

Zambia


a)
b)
c)
d)
Total physical area affected [million ha]
Total rural population affected [million people]
Total value [billion USD per year]
Maize mixed
Agro-pastoral
Irrigated
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High climate
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Uganda

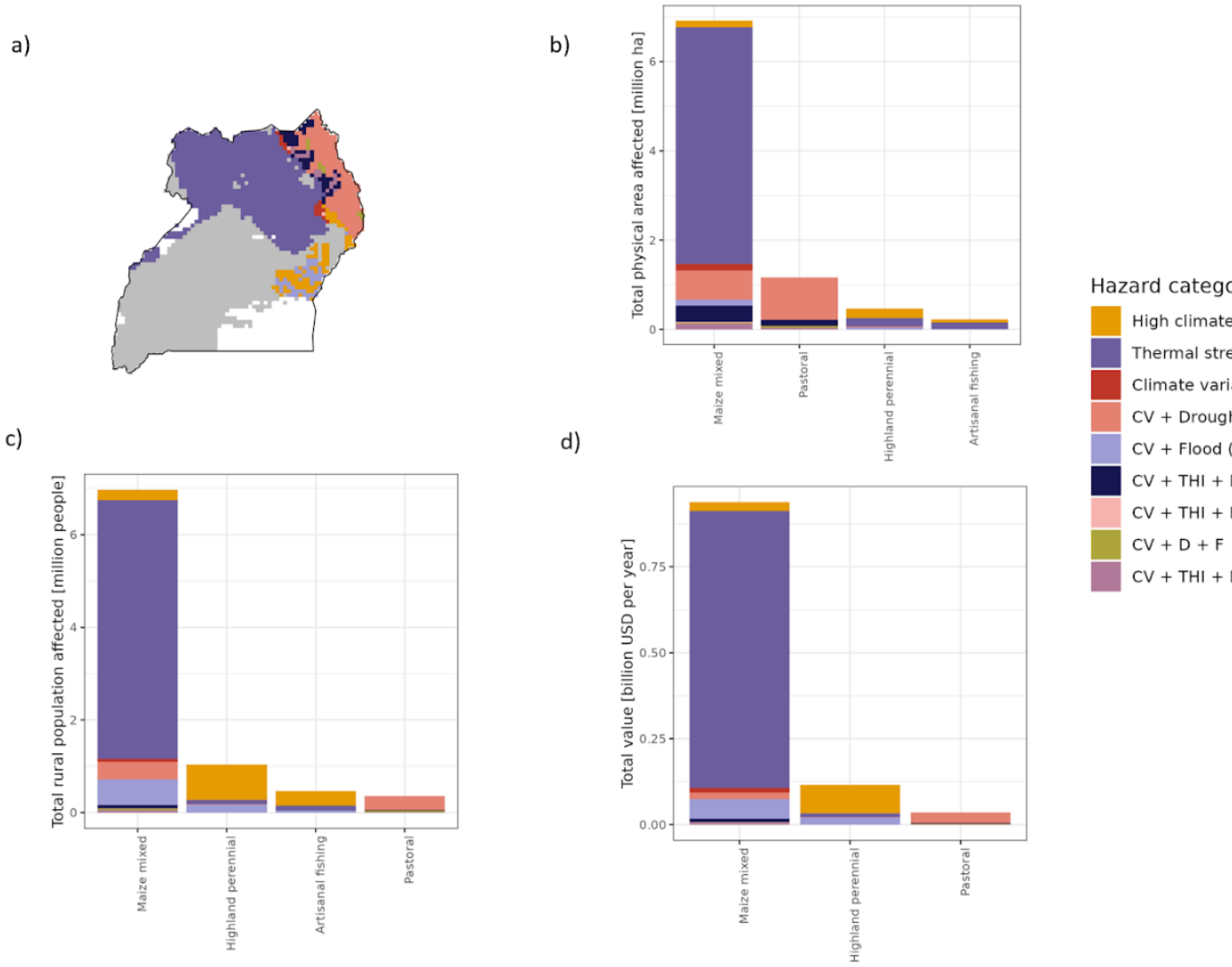


Figure 2 and 3: Climate change risk profiles of Zambia and Uganda (Source: A. Ghosh, Alliance of Bioversity-CIAT)

Both Uganda and Zambia are extremely vulnerable to different sources of risks 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 200,000 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 disincentives 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. **Results from empirical research show that, for smallholder farmers in ESA, gender and age are significant factors influencing the adoption of agricultural and climate-risk mitigation strategies** such as financial products (credit, insurance) and ARM tools. Indeed, studies show that the younger farmers, the more likely they are to adopt these strategies compared to older farmers (Abiodun, 2022; Adeagbo et al., 2021; Islam et al., 2021). Similarly, it is indicated that the adoption of agriculture and climate-risk mitigation strategies are more likely to be practiced by female farmers compared to male farmers. This could be ascribed to the fact that women are more risk-averse and therefore find interest in adopting strategies that could help to avoid the risks associated with climate change in agriculture (Abiodun, 2022; Fosu-Mensah et al., 2021). In addition, the perspectives and significant interest of women to adopt climate mitigation strategies could be linked to the fact that they are more vulnerable to the consequences of climate change risks such as floods, droughts, and storms. However, women have been reported to have inadequate access to resources, limited rights, and insufficient mobility and voice in household decision-making. 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 gender-responsive bundles of agro-advisory, ARM tools, and financial products and services that will be delivered through the same ICT platform that is also digitizing farmer registrations and transactions.

4. **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), contingent line of credit, 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%. However RCC products tend to protect the lenders portfolio and the insurance benefit do not reach smallholders. More recently, a new model for combining insurance with credit is introduced as a contingent line of credit[1][1]. Instruments linking insurance and credit 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 pilot of the linked insurance and credit products under **Component 3** (**Stimulate**: Improve both the supply and uptake of risk management products and services) will generate evidence for the effectiveness of combined credit and insurance 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) Baseline scenario and any associated baseline projects

2.1 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.

2.2 Associated baseline projects

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

1. ***Mediae***?s activities in Uganda funded by USAID Development Innovation Venture. Founded in 1997, Mediae is a small private for-profit social enterprise that?s committed to addressing the informational needs of East Africans through sustainable and research-based media productions that are educative, entertaining, and help improve livelihoods by supplying vital knowledge in forms that can be widely accessed and understood. Mediae?s flagship program, Shamba Shape-Up, is a practical, make-over style farmer TV series aimed at East Africa?s rapidly growing rural and peri-urban television audience. It aims to give both farmers and audiences the practical tools and knowledge they need to improve productivity and income on their farms. It covers farms in a range of ecological zones, provides practical demonstrations on improved farming practices and approaches covering a range of topics. and tackles issues surrounding livestock, poultry, crops, soil fertility and the home, using experts from each sector. Contrary to other people farmer TV series, Shamba Shape-Up is not entertainment focused but research-based, which ensures the show consistently serves and sustains large,

diverse audiences while delivering high-quality and relevant media productions. For the past 5 years, Shamba Shape-Up has been successfully airing in 3 countries, viewed by 12 million people, benefitting 428,000 households, and contributing to dairy farming profits of over $24 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 it 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.

2. One CGIAR initiative: ***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.
3. ***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 validate 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.
4. **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.

5. **Accelerated Innovation Delivery Initiative** (AID-I) (2023-2025, USD 1,000,000), led by CIAT in partnership with Mediae (Zambia Shamba Shape Up/Munda Make Over, iShamba), WFP, Microsoft (Agribot digital advisory service), National Agriculture and Research System (NARS) partners. The project aims to provide timely access to reliable agricultural information and other risk-reducing practices that are important for farmers to improve their resilience and maintain farm income during erratic or abnormal seasons. However, the uptake of these services has remained low due to insufficient resources, lack of suitable smallholder-centric products, and low trust on services coming from a top-down process. The investment aims to increase the scale and adoption of climate information within the extension and advisory services. The specific objectives are:

? Support delivery of timely climate-informed advisory to private sector partners in three countries to provide advisory to at least 2 million smallholder farmers;

? Setup local technical working groups in Zambia for distribution of climate information and increasing climate awareness using a participatory approach;

? Scale up bundled advisory and finance products in Zambia to reach at least 25,000 farmers; and

? Facilitate bi-directional learning to integrate farmers? local knowledge to improve and localize the agro-advisory system.

CIAT was invited to be a part of this project based on the alignment with the GEF activities, and the in-country partnership and stakeholder engagement conducted as part of the GEF project preparation.

3) Proposed alternative scenario with a brief description of expected outcomes and components of the project and the project?s Theory of Change

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 further 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.

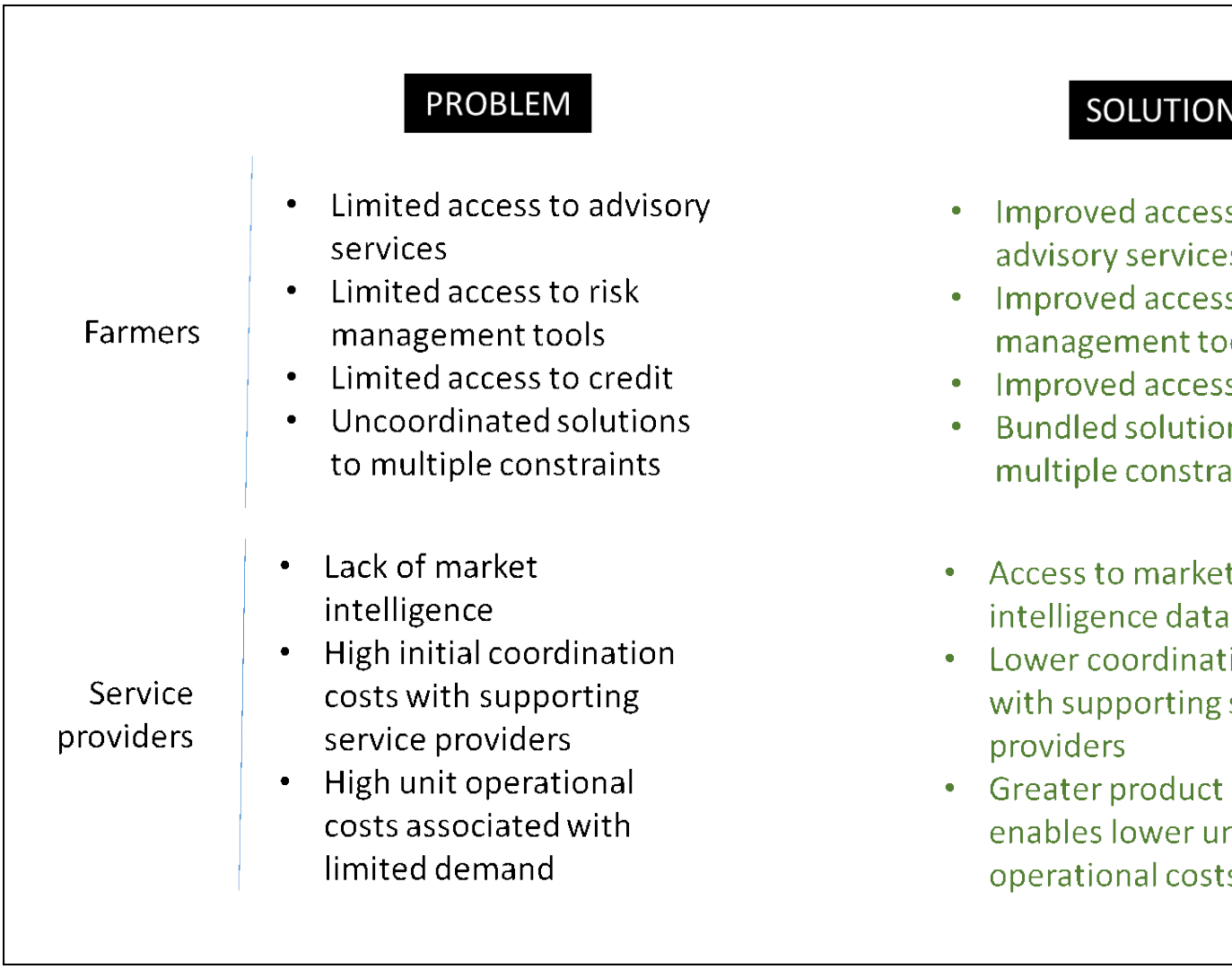


Figure 4: Identified problems and suggested solutions for main project interest groups

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 *200,000 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.

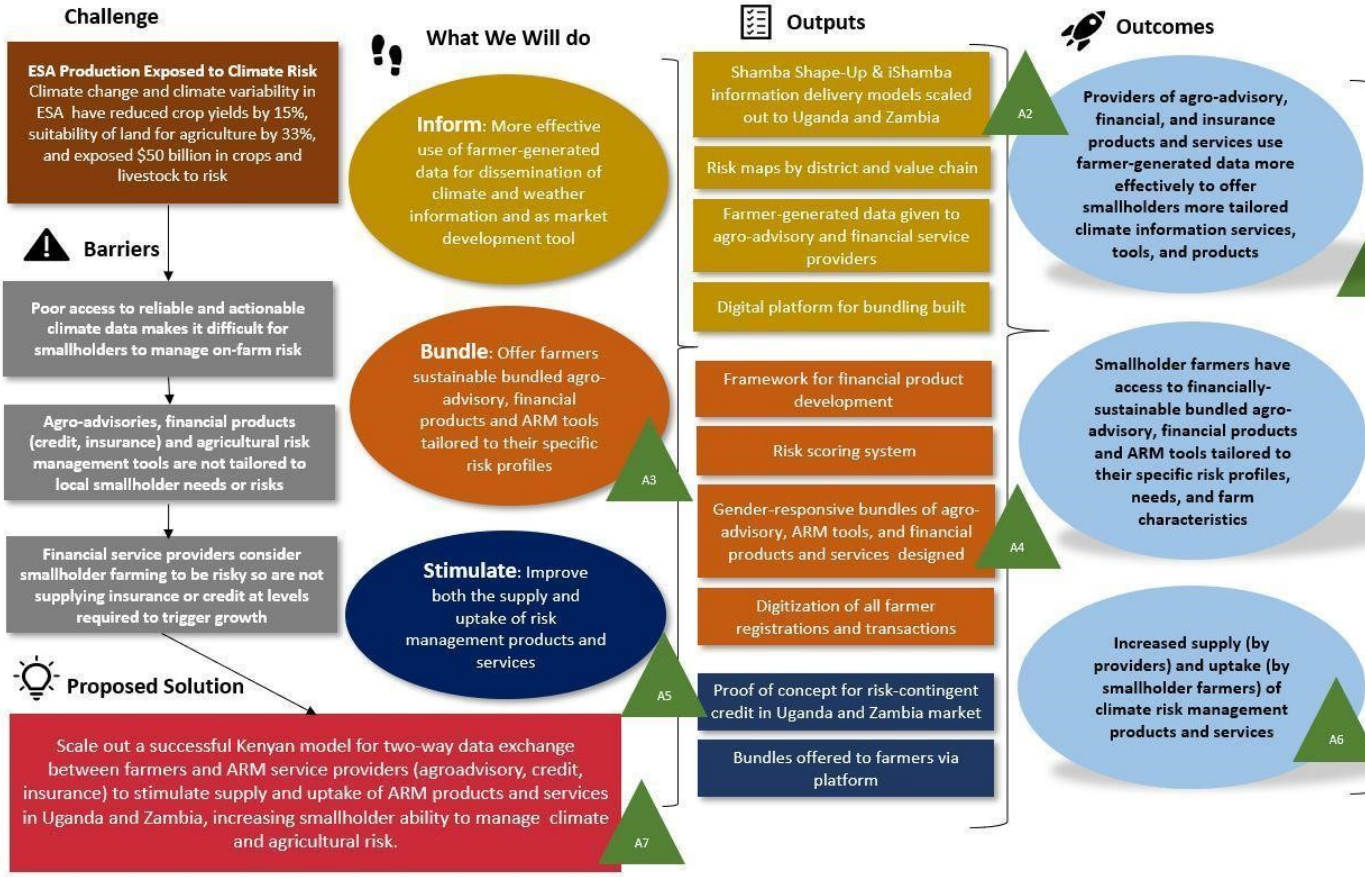


Figure 5: Project Theory of Change Diagram

The Theory of Change is underpinned by several key **assumption**s. 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* translate to more effective on-farm management of climate and agricultural risk (the project will do small-scale user testing of information interpretation).

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. It is also more efficient for providers as it collapses last-mile customer acquisition and delivery costs, even if delivery is digital.

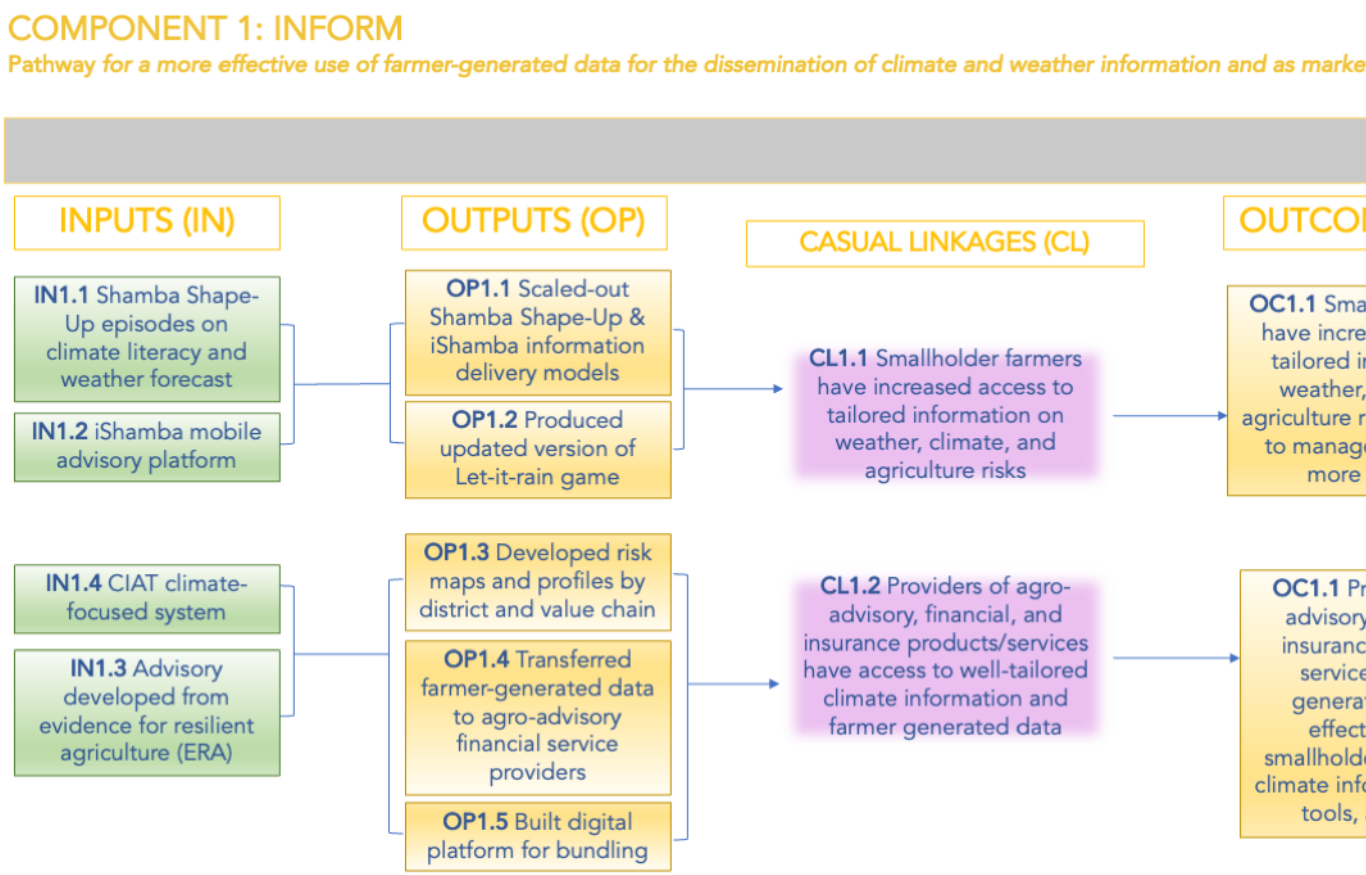
A4. Women and men have different needs, priorities, and access to climate information, products, and services, hence the need for a bundle design architecture that incorporates the results of Gender Analysis to ensure that bundles are composed of the most appropriate services and that they reach their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

A5. Proof of concept for combined credit and insurance such as blended indexed financial tools *will* generate the evidence base needed for banks, MFIs, and other financial services providers to start developing and rolling out blended indexed financial 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. Financial service providers will ultimately identify the most risk-reducing components of advisory services which will allow service providers to iteratively optimize them.

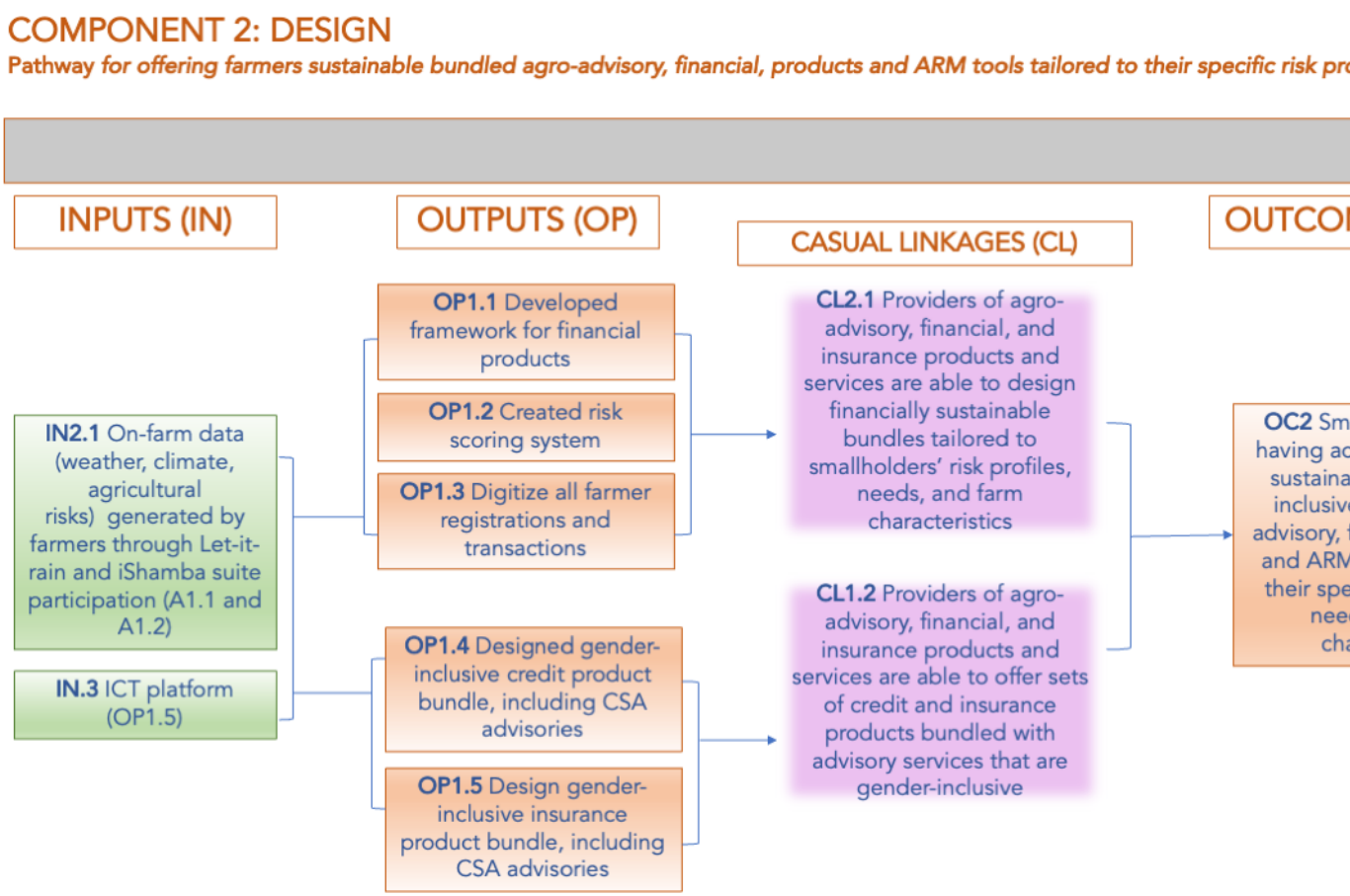
A7. All the pre-conditions, delivery mechanisms, and enabling environment for outscaling the Kenyan delivery models (iShamba suite, Shamba Shape-Up publication education and outreach) are in place in Uganda and Zambia, and favorable to success.

Component 1 - Inform



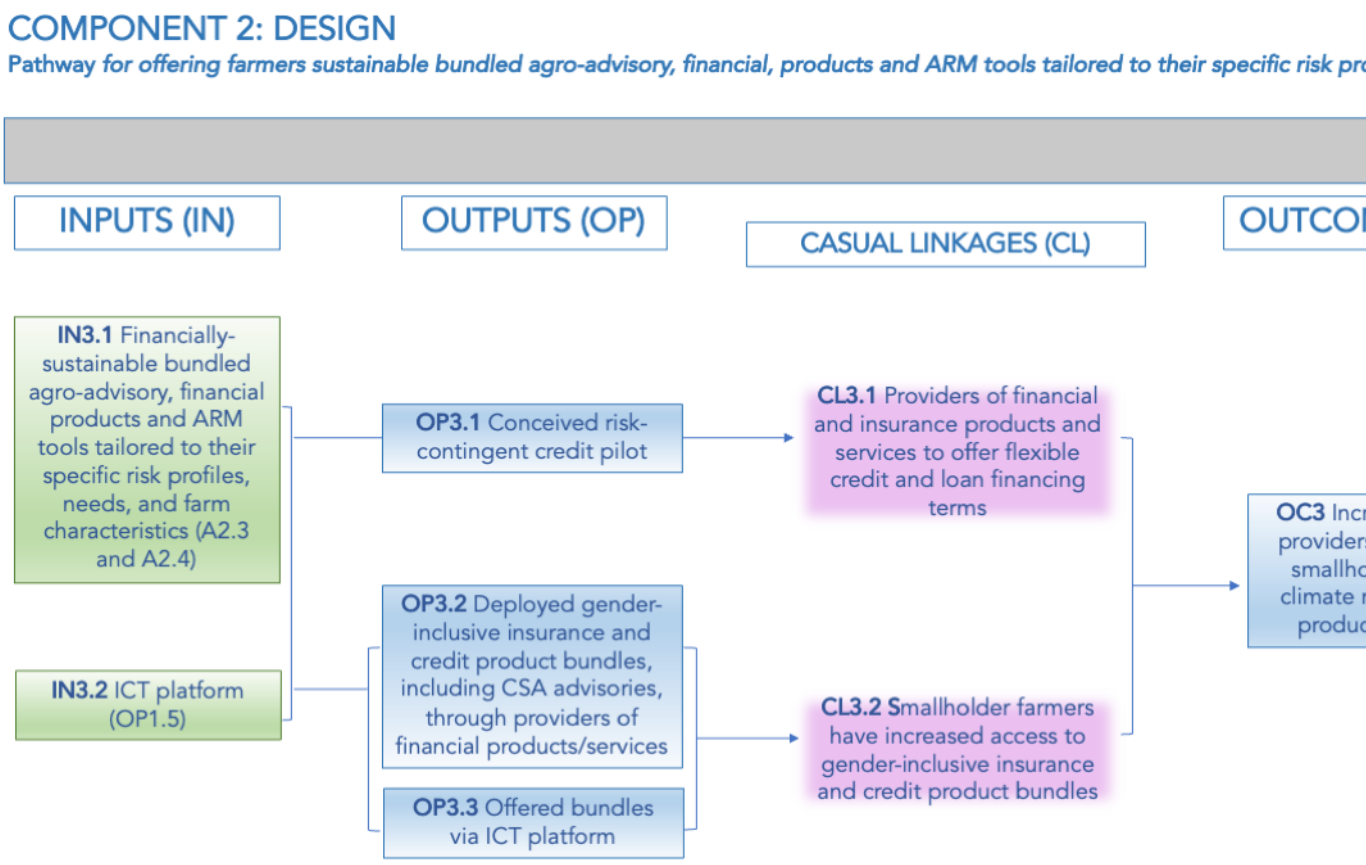
This component seeks to generate a more effective use of farmer-generated data for the dissemination of well-tailored climate and weather information and to be used as a market development tool. With the preexisting Shamba Shape-Up episodes on climate literacy and weather forecast (IN1.1) as well as the iShamba mobile advisory platform (IN1.2), in this first component, we will be scaling-out Shamba Shape-Up and iShamba information delivery models (OP1.1) as well as producing an updated version of the Let-It-Rain game (OP1.2) in target locations. This will lead to smallholder farmers having increased access to tailored information on weather, climate, and agriculture risks (CL1.1), thus allowing them to manage on-farm risks more effectively (OC1.1). Moreover, leaning on the CIAT climate-focused system (IN1.3) and the advisory developed from Evidence for Resilient Agriculture (ERA) (IN1.4), we will also be developing risk maps and profiles by district and value chain (OP1.3), transferring farmer-generated data to agro-advisory financial service providers (OP1.4) and building a digital platform for bundling (OP1.5). By allowing providers of agro-advisory, financial, and insurance products/services have access to well-tailored climate information and farmer generated data (CL1.2), they will be able to use farmer-generated data more effectively to offer smallholders more tailored climate information services, tools, and products (OC1.2).

Component 2 - Design



This component aims to offer farmers sustainable bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles. Pulling from the on-farm data (weather, climate, agricultural risks) generated by farmers through the Let-it-rain and iShamba suite participation (IN2.1 from OP1.1 and OP1.2) and the digital platform (IN2.2 from OP1.5), both emerging from component 1, in this second component, we will be developing a framework for financial products (OP2.1), creating a risk scoring-system (OP2.2) and digitizing all farmer registrations and transactions (OP2.3). This will allow providers of agro-advisory, financial, and insurance products and services to design financially sustainable bundles tailored to smallholders? risk profiles, needs, and farm characteristics (CL2.1). Furthermore, in collaboration with providers of agro-advisory and financial products and services, we will also be designing gender-inclusive insurance (OP2.4) and credit (OP2.5) products that are bundled with CSA advisory services, which will enable these providers of to successfully offer sets of credit and insurance products bundled with advisory services that are gender-inclusive (CL2.2). Ultimately, this will lead to smallholder farmers having access to financially sustainable and gender-inclusive bundled agro-advisory, financial products, and ARM tools tailored to their specific risk profiles, needs, and farm characteristics (OC2).

Component 3 - Supply



This component?s objective is to improve both the supply and uptake of risk management products and services. Building on the financially-sustainable bundled agro-advisory, financial products, and ARM tools tailored to smallholders specific risk profiles, needs, and farm characteristics designed in component 2 (IN3.1 from OP2.4 and OP2.5) and the ICT platform built in component 1 (IN3.2 from OP1.5), in this third and last component, we will be conceiving a risk-contingent credit pilot (OP3.1) and its effectiveness will allow providers of financial and insurance products and services to offer flexible credit and loan financing terms (CL3.1), which will result in an increased supply by providers of climate risk management products and services. We will then be deploying the gender-inclusive insurance and credit product, bundled with CSA advisory services, through providers of financial products and services (OP3.2) and offering these bundles via the ICT platform (OP3.3), which will increase smallholder farmers? access to gender-inclusive insurance and credit product bundles (CL3.2) thus resulting in an uptake by smallholder farmers of climate risk management products and services (OC3).

4) Alignment with GEF focal area and/or Impact Program strategies

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 female and male producers 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 blended indexed financial products.

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, 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 200,000 new viewers in Zambia and Uganda) and iShamba platforms (adding another 30,000 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.

The grant co-financing to the GEF project amounts to $9,560,000:

Amount	**Source**	**Contribution to project component**
1,660,000	Mediae, funded by USAID DIV and other funding sources (aBi Trust limited, MECS, ILRI) for supporting Shamba Shape Up broadcasting in Uganda during 2021-2024	C1

4,000,000	One CGIAR initiatives: *Building Systemic Resilience Against Climate Variability and Extremes* (ClimBeR) and the *Eastern and Southern Africa Regional Initiative* (2021-2024)	C2, C3 and PMC
1,400,000	*Accelerating Impacts of CGIAR Climate Research for Africa* (AICCRA) funded by the World Bank (2020-2023; with a possibility of extension to 2024)	C2 and PMC
1,500,000	*Crop insurance project in Kenya (aMaizing)* funded by the InsuResilience Solutions Fund (ISF; 2022-2024)	C2, C3 and C4
1,000,000	*Accelerated Intervention Delivery Initiative (AID-I)* funded by the USAID in Southern Africa with specific focus on Zambia (2023-2025) for delivery of agronomic advisory services	C1

6) Global environmental benefits (GEFTF) and/or 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	150,000	50,000	200,000
Participation in Let-it-rain game	10,000	10,000	20,000
Delivery of iShamba phone-based extension	15,000	15,000	30,000
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 50,000 persons will be trained on climate risk management strategies, smallholder financial products, and use of digital tools. In addition, an estimated 220,500 hectares of

production land will be under climate resilient management as a result of the project. During PPG, the number and nature of policies and plans mainstreaming climate change adaptation will be identified.

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) Innovativeness, sustainability, potential for scaling up and capacity development[2]2

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 blended indexed financial 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 13).

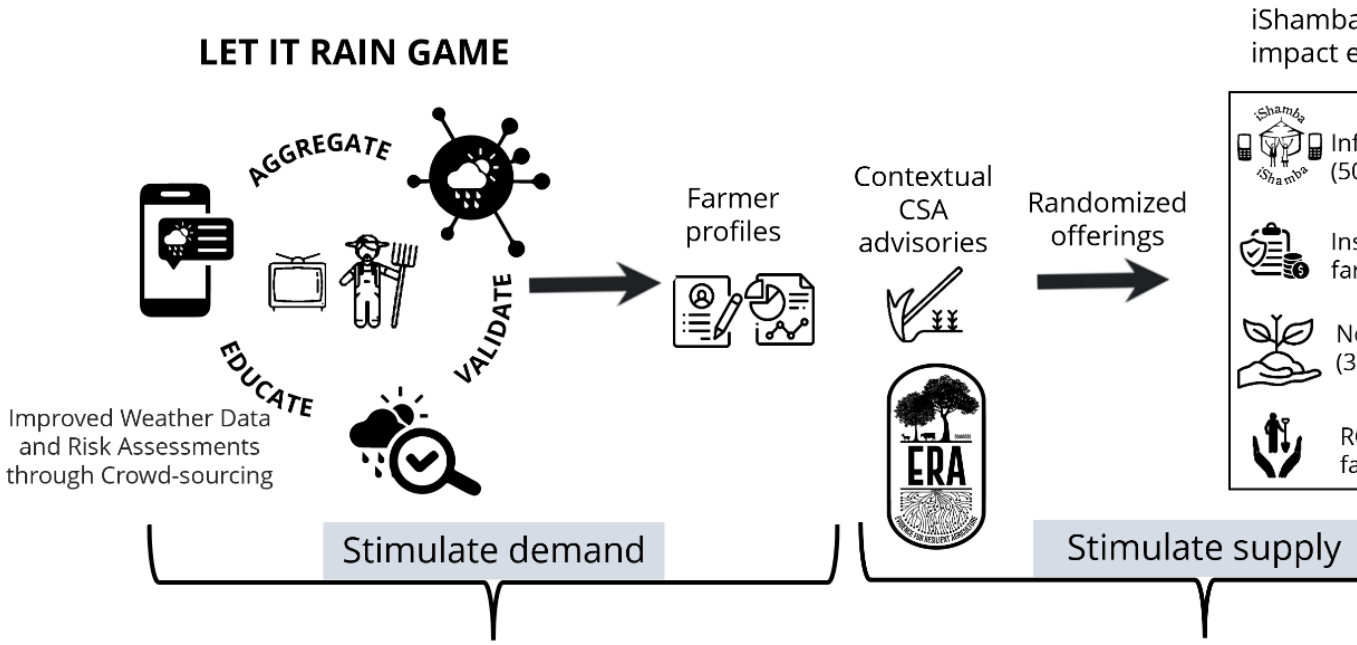


Figure 13: Design of the proposed activities*

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 the 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, RCC, and blended indexed financial products 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. Media?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 (operation digitization backed by block-chain) and FAO (monitoring, evaluation and impact assessment of the program).

Innovative bundled ARM products:

The project considers ways to increase the value proposition for farmers accessing micro-finance products and reduce extraneous risk. The proposed solution is to bundle the product with access to finance, access to certified inputs, and access to advisories for smallholder farmers at the same cost of distribution. This will enable smallholder farmers to access insured credit and inputs, while getting access to free, crop, location, and season-specific advisories. The project also proposes adapting the co-created enhanced crop insurance product for various value chains and including ideal digital solutions in the design, delivery, monitoring, and management of claims of the adapted insurance contracts. Lastly, the project adopts co-created product distribution models, such as village-based farmer champion models, disaster coping mechanisms, outgrower schemes, and credit insurance bundling options with ideal incentive structures.

Insurance:

Product summary: The proposed crop insurance solution involves an enhanced satellite derived index product that covers farmers for drought and excessive rainfall, and Picture Based Monitoring (PBM) technology to promote uptake of other risk management solutions through agronomic advisories. The satellite-based index is based on high spatial resolution dataset and provides coverage for deficit or excess of expected value throughout the crop cycle, with losses computed based on pre-defined triggers. To increase uptake and satisfaction of the product, the solution proposes exploration of an accurate and high spatial resolution soil moisture-based index insurance product that enables near-on field rating and monitoring of smallholder farmers. This product, based on Planet soil moisture data, provides actual losses at farm scale level and covers drought and excessive rainfall, which are the two key causes of loss among the target smallholder farmers in Uganda and Zambia. The PBM tool involves the use of smartphones by insured farmers to monitor and submit pictures of their insured

farms, and expert agronomists will assess the pictures to determine claim quantum at the end of the season. The solution also includes a picture-based insurance monitoring system that allows for the identification of other sources of losses, such as pests, diseases, and floods.

Distribution channels: A champion farmer model has been successfully used to distribute insurance and advisory services to farmers. The model involves a combination of high and low touch peer-to-peer distribution, digital tools, and training for champion farmers to reach smallholder farmers at scale. The champion farmers are responsible for mobilizing, signing up, training, and selling or distributing insurance to a pre-specified number of farmers within a certain geography/distance. The model is self-sustaining as champion farmers earn a commission on gross premiums they collect. Agri-service providers such as financial institutions and input providers are also involved in purchasing insurance to cover their investments and contracted farmers. This approach makes distribution cheaper and enables quick scaling.

Credit products:

Uninsured conventional loans: These loans for smallholder farmers are loans that are not linked to any insurance product and are based on traditional lending criteria such as collateral, credit history, and repayment capacity. These loans can be flexible and tailored to the specific needs of farmers, as well as cheaper and more accessible than insured or interlinked loans. However, they can expose farmers to high risks of default and debt distress in case of crop failure or price shocks, limit their ability to invest in improved inputs and technologies, and exclude those who lack collateral, credit history, or repayment capacity. Since uninsured conventional loans are an important source of credit for smallholder farmers, we plan to use this product as a control. At the same time, we will aim to address some of the limitations and risks using the following improved and bundled approach.

Uninsured conventional loans with climate risk: Several Fintech companies offer IT solutions to assist financial institutions and investors to scale their agrifinance operations. In this project we will partner with Financial Access as a Fintech service provider. One of their digital shared services platforms is LendXS, which provides credit scoring, data collection, loan monitoring, and workflow management tools for agricultural lenders. To overcome the challenges with climate risk in the uninsured loans, we aim to factor in climate risk in credit scoring for smallholder finances, we aim to test the following models:

- ? Incorporating climate-related variables, such as rainfall patterns, temperature trends, soil moisture levels, drought indices, etc. into the cash flow projections and risk profiles of borrowers
- ? Adjusting loan terms and conditions based on climate risk assessments, such as offering lower interest rates, longer repayment periods, or flexible repayment schedules for borrowers in high-risk areas
- ? Linking credit with insurance products that can protect borrowers against climate shocks, such as index-insurance or weather-based insurance

While the first two options are possible to implement from the lenders end only, for the third option we will bring in the insurance and credit service providers together. The combined credit and insurance product options are provided below:

Risk contingent credit (RCC): One of the partner organization, IFPRI, offers an innovative financial product called RCC that combines credit and insurance to support smallholder farmers in accessing affordable credit and managing weather risk. RCC leverages satellite-based rainfall data to determine loan eligibility and repayment conditions. By applying for RCC before planting, farmers can receive funds to purchase inputs and repay only if rainfall is sufficient for crop production. This approach reduces farmers' exposure to weather risk, eliminates the need for collateral, and lowers lenders' credit risk and transaction costs. Through IFPRI?s pilot project in Kenya, we have seen positive impacts on farmer behavior, input use, crop yield, income, food security, and resilience. We plan to expand RCC in Zambia and, subject to funding availability, in Uganda.

Interlinked credit and insurance product: We aim to investigate the potential benefits of combining index insurance with joint liability agricultural loans. Specifically, we plan to explore two different approaches. The first approach involves coupling index insurance with offers to farmer groups, with the insurance contract assigned to the farmers. The second approach involves offering meso-insured loans, where loans are also provided with insurance, but the contract is assigned to the banks. Our objective is to assess the impact of providing insuring agricultural loans on the credit access of smallholders, while ensuring full loan repayment even during a poor crop year. By testing these two approaches, we hope to better understand the implications of this financial product for smallholder farmers and identify ways to improve its effectiveness.

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 30,000 new farmers in Uganda and Zambia that will generate additional annual revenues, 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: The Alliance has incorporated thinking on sustainability in the fundamental design of our approach to this project, including but not limited to the following pathways for scaling-up activities:

Pathway 1: Rapid digital assessment (understanding the context): The Alliance will utilize scanning tools, due diligence processes, and investment fund design guidance already developed through pre-existing programs (such as the USAID scaling scan, Alliance due diligence, the Alliance ethical screening tool for assessing private sector partners prior to partnership, etc.), to build on, and not duplicate tools and systems that already exist. In this way, we are mainstreaming best practices and

efficiencies into the project rather than reinventing the wheel or wasting time/resources. Embedding already developed tools and processes in the project will foster more operational and financial sustainability for the future product and solution design.

Pathway 2: User Centred Design (understanding the direct beneficiaries): Through the application of user-centred and inclusive design methodologies that account for the needs of the final users of the solutions and tools, the Alliance will make sure that solutions are fully adapted to their context of use and have the highest usability. The Alliance has significant experience leveraging agile, human-centred design and user experience testing methodologies, as well as data analytics, to support both design and iterative improvement of services to build inclusive services and draw on experience with more than 20 partners in Africa and Asia providing proven digital literacy content and approaches.

Pathway 3: Capacity building (enhancing knowledge and skills): A key aspect of successful scaling up is about building the capacity of local stakeholders to go to scale and engage in policy dialogue themselves. The project will therefore invest substantial efforts in developing sustainable business models with the selected projected partners and other key stakeholders to ensure that their services will continue after the project ends.

Pathway 4: Setting and disseminating the learning agenda (actively sharing lessons learned widely): Lessons from the Monitoring & evaluation and knowledge management components will be synthesized and shared across the Alliance network in Africa to identify key stakeholders such as: Government, Financial Institutions, Agribusinesses, FinTechs and AgriTechs in the region with the potential for uptake of the results of this project. This process of identification will capitalize from the lessons learned in earlier phases.

Pathway 5: Monitoring impact on ?end users? (what difference have we made to. Rural populations): We also acknowledge that sustainability does not only depend on the beneficiaries who have been trained and received technical assistance but also on the economic capacity of smallholder farmers to engage with such services. We will also invest efforts in fostering alliances with other organizations like Telecoms to lower the accessibility costs for such services.

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, blended indexed financial tools, 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.

8) Summary of changes in alignment with the project design with the original PIF

There have been no amendments to the core elements of the project since the PIF was designed.

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[1] https://basis.ucdavis.edu/publication/mrr-concept-note-blending-indexed-financial-tools-rural-households-across-their-journey

[2] System-wide capacity development (CD) is essential to achieve more sustainable, country-driven and transformational results at scale as deepening country ownership, commitment and mutually accountability. Incorporating system-wide CD means empowering people, strengthening organizations and institutions as well as enhancing the enabling policy environment interdependently and based on inclusive assessment of country needs and priorities.

? Country ownership, commitment and mutual accountability: Explain how the policy environment and the capacities of organizations, institutions and individuals involved will contribute to an enabling environment to achieve sustainable change

? Based on a participatory capacity assessment across people, organizations, institutions and the enabling policy environment, describe what system-wide capacities are likely to exist (within project, project partners and project context) to implement the project and contribute to effective management for results and mitigation of risks.

? Describe the project?s exit / sustainability strategy and related handover mechanism as appropriate.

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

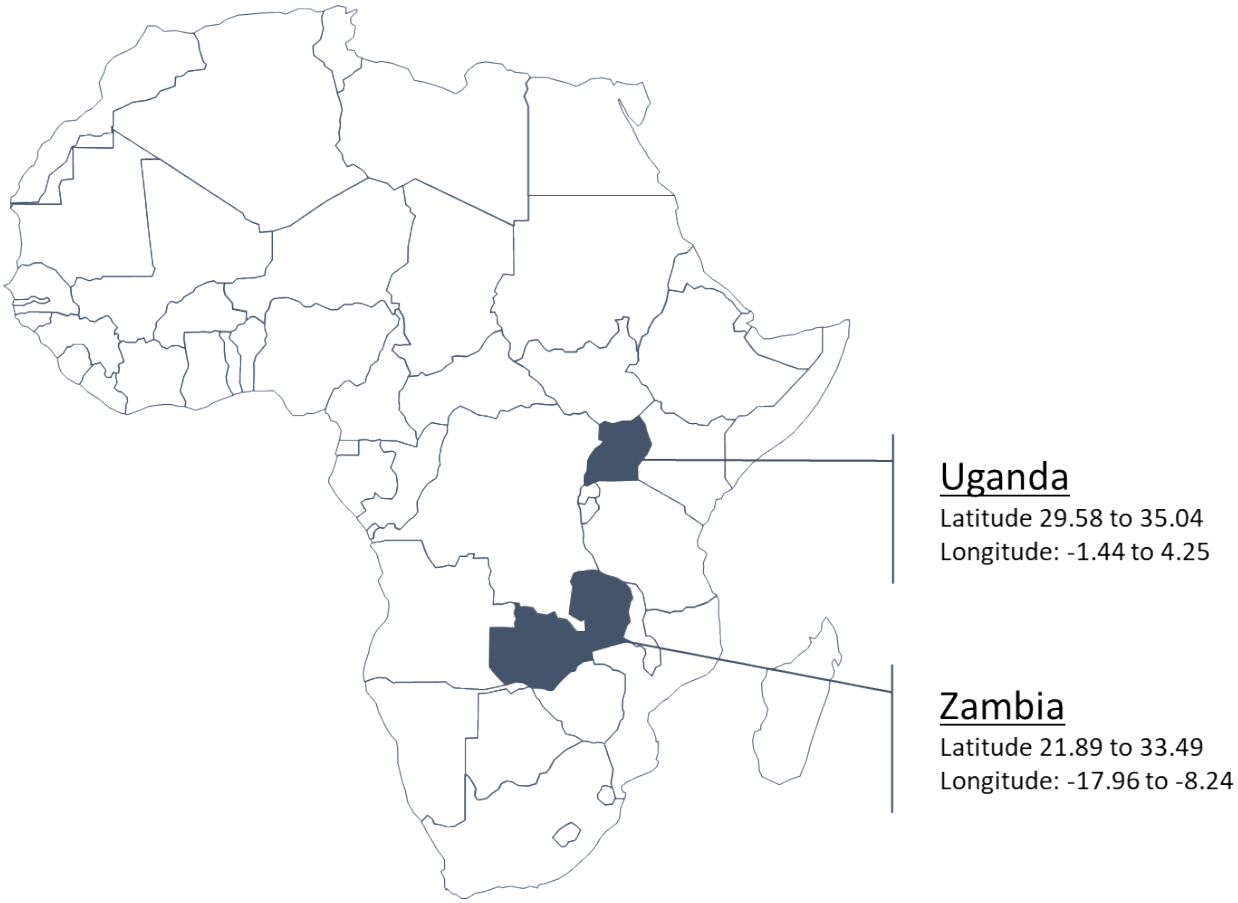


Figure 6: Location of project intervention areas

The project seeks to target rural localities in Uganda and Zambia where agriculture-based livelihoods are the most vulnerable to climate change and the environment, leading to low crop-yields and resulting in income loss and food insecurity, further exacerbating poverty levels and vulnerabilities. The project will target the Karamoja sub-region in Uganda and the Northern, Western and Southern provinces in Zambia.

Uganda is divided into four regions, 10 sub-regions and 111 districts. The regions of Uganda are known as Central, Western, Eastern, and Northern. These four regions are in turn divided into districts. There were 56 districts in 2002, which expanded into 111 districts plus one city (Kampala) by 2010. The sub-regions include, but are not necessarily limited to: Acholi, Central, East Central, Elgon, Karamoja, Lango, South Western, Teso, West Nile, and Western.

Figure 7: Subregions of Uganda (Source: UNHCR, 2020)

Uganda has a high environmental vulnerability because most of Uganda's population is rural and relies on the environment for their livelihood. The vulnerability map indicates higher vulnerability in the semi-arid areas of Uganda and generally the cattle corridor, dominated by pastoralists and agropastoralists. Indeed, extreme drought has been most prevalent in the Karamoja sub-region, which has resulted in frequent agricultural losses and significant food insecurity concerns. Furthermore, mapping of the most recent extreme poverty data reveals that northern and eastern parts of Uganda have higher poverty headcounts than the other parts of the country, confirming its population?s extreme vulnerability.

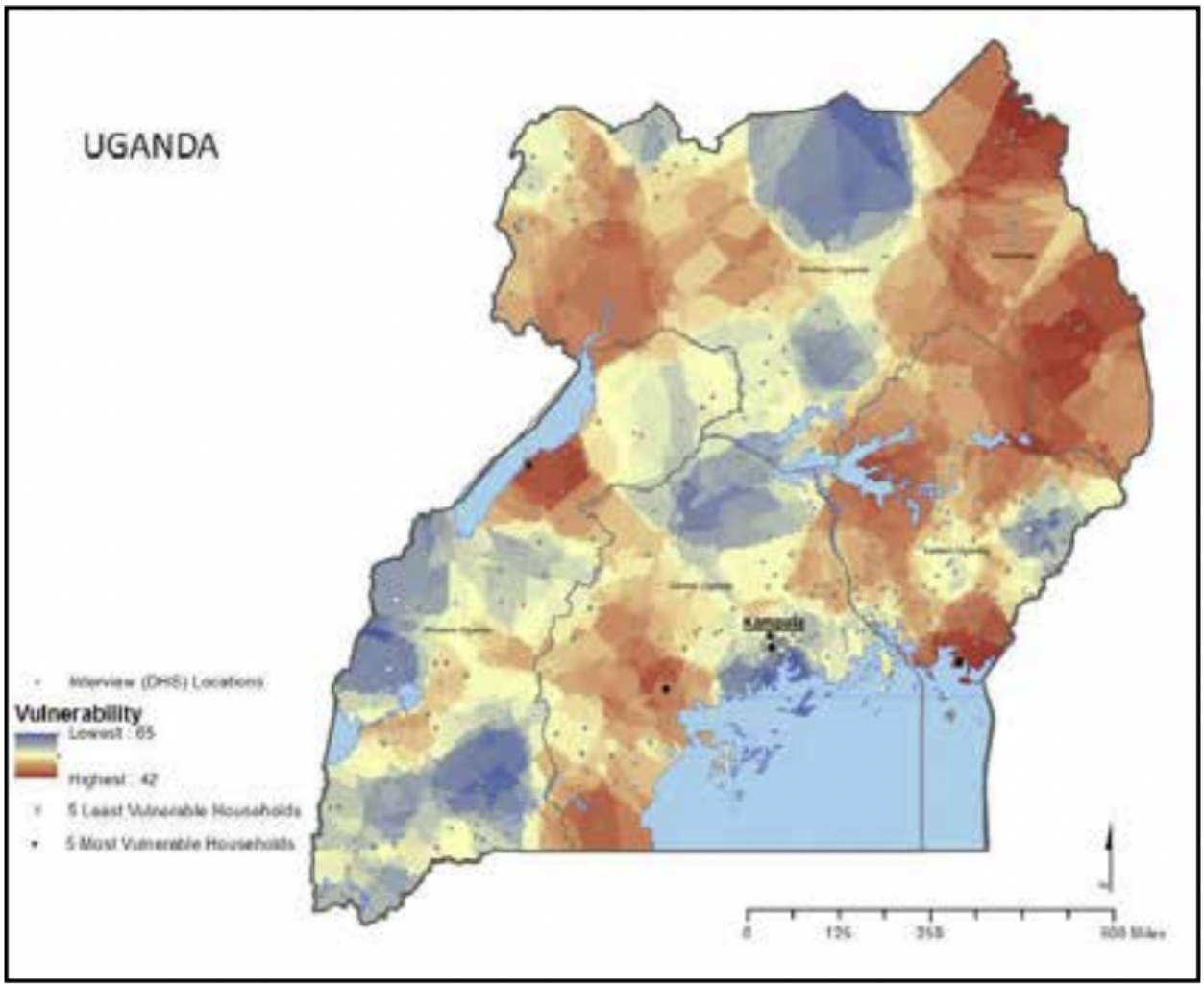

UGANDA
Interview (DHS) Locations
Vulnerability
Lowest : 65
Highest : 42
5 Least Vulnerable Households
5 Most Vulnerable Households
Kampala
0
125
250
500 Miles

Figure 8: Least to most climate vulnerable households in Uganda (Source: World Bank)

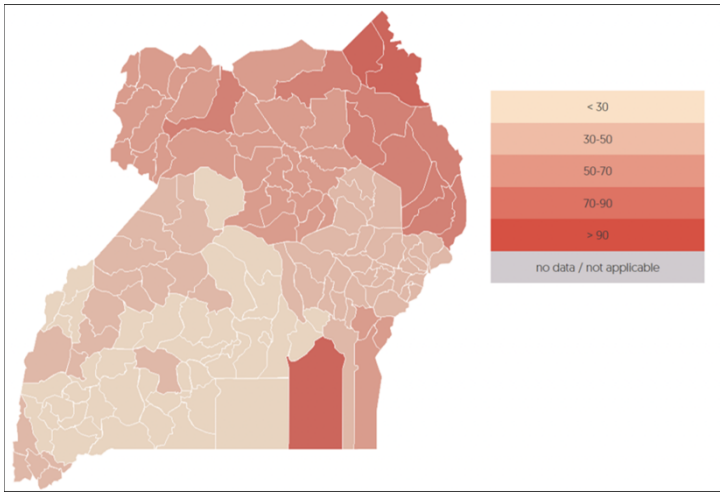


Figure 9: Percentage of people in poverty, in relation to the total population in a given area, based on the 2011 international poverty line (Source: Devinit)

Human welfare, living conditions and quality of life of the people in Karamoja have declined considerably due to various factors linked to environmental issues, but also insecurity, marginalization, illiteracy, poor health, and poor infrastructure. Moroto and Nakapiripirit have the lowest Human Development Indices (HDI) of 0.183 and Kotido has 0.194 as compared to an average of 0.4491 for Uganda. The districts of Karamoja have the highest Human Poverty Indices (HPI) with Nakapiripirit and Moroto Districts having 63.5% and Kotido has 53.8%, compared to the national average of 37.5%, Central region of 31.5%, Northern region 46.1%, Western region 39%, and Eastern region 37.1%. Poverty is increasing and according to the Karimojong, the main factors responsible for poverty include persistent poor harvest as a result of dry spells and droughts, cattle rustling and insecurity, animal death, lack of water, poor farming practices, ill health and disability, high bride price for marriage, lack of skills and unemployment, limited sources of income, poor governance, and landlessness. Droughts and dry spells affect farmers and the population, causing economic hardship for farmers and food shortages for the population and their livestock. Droughts can be accompanied by a heat wave, causing deaths and illness.

Zambia is divided into 10 provinces for administrative purposes (figure 10), and provinces are further divided into 116 districts.

Figure 10: 10 provinces of Zambia

There are considerable and increasing poverty divides among provinces. Northern, Western, and Luapula Provinces, which already had very high poverty incidence rates in 2010, became the poorest in the country by 2015 (figure 11). By contrast, the Copperbelt, Southern, and Lusaka Provinces, where many of the gainful economic activities in the country are concentrated and where the main cities in the country (Lusaka, Ndola, Kitwe, Kabwe, Chingola, Mufulira, and Livingstone) are located, experienced drops in poverty over the same period. Lusaka Province, where the incidence of poverty was already the lowest in 2010 at 25%, experienced the second largest reduction in poverty. The pattern of extreme poverty by province is like that of moderate poverty.

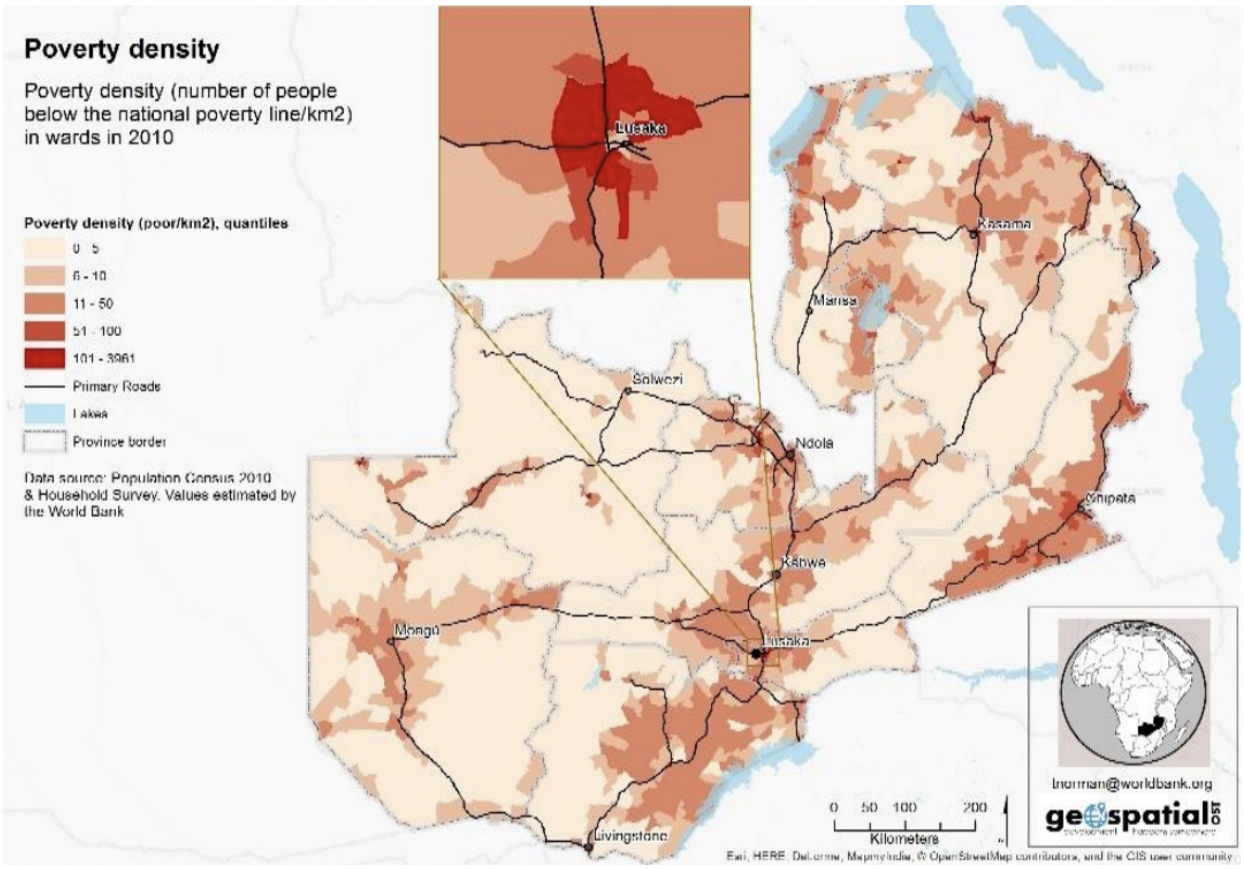


Figure 11: Poverty density in Zambia (Source: World Bank)

On the other hand, analyses indicate that by 2050, Zambia is expected to experience increases in temperature of up to 2.2?C with the greatest increases expected in the southern parts of the country, while rainfall is expected to increase by up to 4% in the northern parts of the country, but may reduce by as much as 5% in the southern parts of the country (figure 12). Increases in rainfall may result in waterlogged agricultural fields, destruction of crops (in both pre- and post-harvest), contaminated water supplies and increases in incidence of crop and livestock disease. Reductions in rainfall are likely to reduce water availability for both crops and livestock and also affect the quantity and quality of pastures.

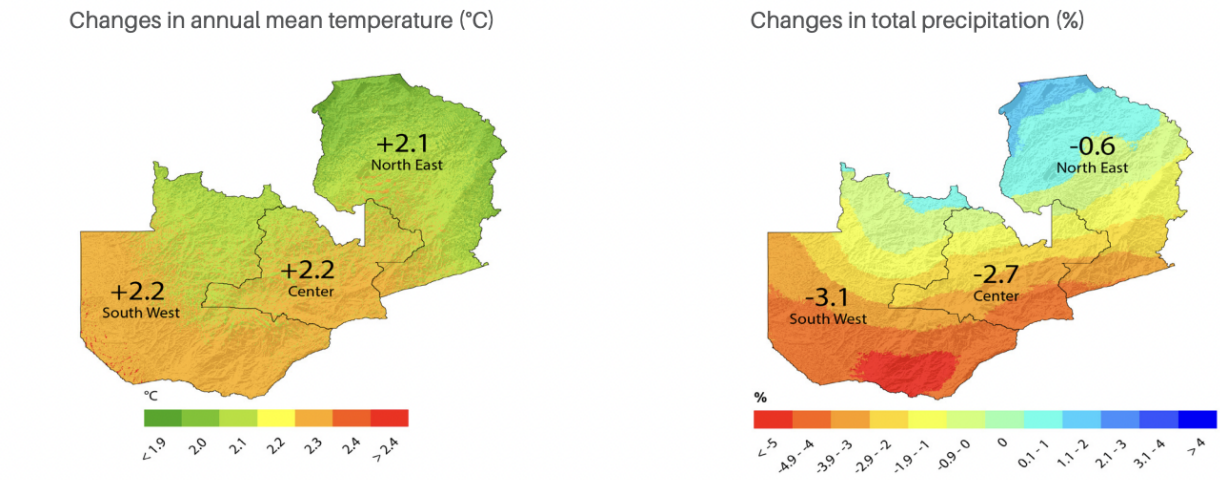


Figure 12: Projected change in Temperature and Precipitation in Zambia by 2050, source: CIAT

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

2. Stakeholders

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

Civil Society Organizations

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

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 providers 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, 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 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 took place in May-June 2022, during which additional consultations with other stakeholders, including civil society and indigenous peoples, were engaged. Strong support from the respective government organizations (agricultural and environmental ministries) was secured during the consultation process. During the process a strong consortium was created where members are not only engaged with the lead executing agency (the Alliance), but also linked among themselves.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder name	**Stakeholder type**	**Key function within mandate/activity related to the project**	**Consultation methodology & date of consultation**	**Comments**
World Farmer Organization/ Young Farmers' Federation of Uganda (UNYFA) - Affiliate body of UNFFE/National Alliance of Agricultural Cooperatives in Uganda (NAAC)	Public sector	Facilitate access to farmer network in Uganda	Online meeting, Feb 2022	All the partners interacted showed interest to participate in the project and support connection with targeted smallholder population in Uganda
HarvestPlus	NGO/ program	Facilitate access to farmer network in Uganda & Zambia	Online & in-person meeting, July, 2022	Described current network farmers, especially the women farmers involved the bio-fortified crops across the value chain; described lack of financial services for them and also the challenges with variable climates

Zambia National Farmers Union	Public Sector	Facilitate access to farmer network in Zambia	In-person meeting, Aug 17-19, 2023, Lusaka	Interest to participate in the project and support connection with targeted smallholder population in Zambia; follow-up required at the project inception.
Zambia Meteorological Department	Public sector	Facilitate access to weather information and extension services	Online interview on Jan 11th 2023	**Target locations to consider in Zambia**: ecological zone 1 - drylands. **Disadvantaged/vulnerable groups**: women, youth, and the elderly. **Climate risks and other risks**: low uptake of climate knowledge and reluctance to accept scientific information compared to indigenous knowledge, climate unpredictability, political barriers.

Financial Access	Private sector	Credit score development	Multiple online and in-person meetings	**Main constraints experienced by women and youth accessing ARM products**: lack of collateral, lack of land ownership, the individual applying is not always the one using the loan. **Major challenges behind scaling-up**: scaling is always slow, scaling-partners needed to be selected carefully. **Potential socio-economic benefits**: enhanced livelihoods and increased sustainable income, self-funding, pathway towards ownership, food security, employment.
Mediae	Private sector	Develop TV/radio and mobile based outreach materials	Multiple online and in-person meetings	**Risks to the project implementation**: Broadcasting issues, filming in different languages, delivery information on time, public health concerns (i.e,Ebola in Uganda), cultural lens for climate risks, cultural barriers, infrastructure, access to power, access to funding. **Scaling-out potential barriers**: lack of funding.

ACRE Africa	Private sector	Insurance product design and distribution	Multiple online and in-person meetings	**Main constraints experienced by women and youth accessing ARM products**: traditional gender-roles, cultural norms, ownership of property and land. **Scaling-out potential barriers**: limited timeframe, limited funding, and raising awareness.
PABRA (Pan-African Bean Research Alliance)	NGO/ Program	Advisory development for bean farmer network in Uganda and Zambia	Multiple online and in-person meetings	Mainly interested to develop advisory contents for the bean value chains, particularly based on a co-financing project supported by USAID
IITA/IWMI	NGO	Climate risk profiles and advisory co-development	Multiple online and in-person meetings	These are sister CGIAR centers that are not formally part of the GEF project but has demand for developing agro-advisories and climate risk profiles in both countries
Ministry of Agriculture, Zambia	Public	Improvement of the current services provided by the Government	Multiple online and in-person meetings	Interested in some of improved micro-finance product designs and explore opportunities for synergizing the effort with the National Farm Input Subsidy Program (FISP)
WFP	NGO	Linking with current services that WFP offers, including the R4 program	Multiple online and in-person meetings	Explore potential linkages with the WFP R4 program components in advisory and insurance, leading to scaling up

	Private	Scaling advisory with Radio	Multiple online and in-person meetings	In Zambia, access and use of radio over a 4 weeks period is 6.3 million. To more effectively reach the large number of smallholders that might not have access to TV or mobile services, the advisory content will be adjusted for broadcasting over the radio network
SWABO	Public/Private	Scaling advisory	Multiple online and in-person meetings	Current model of good agricultural practices (GAP) related of SWABO is based on various social media that requires certain level digital literacy. Interested in partnering to increase the reach of the GAP materials
Zambia Agriculture Research Institute	Public	Insights into smallholder information and financial service demand	Multiple online and in-person meetings	As the leading institute on agriculture in Zambia, ZARI will be engaged to provide expert support on various aspects of this project
Catholic Relief Services	NGO	Scaling advisory	Multiple online and in-person meetings	CRS has a large network of farmers across Zambia with increasing demand for advisory and financial products. The current project will support CRS to address some of it.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Introduction

The Stakeholder Engagement Plan (SEP) is designed to ensure effective engagement between various stakeholders throughout the lifecycle of the Scaling Financial Information Services for Smallholder Adaptation (SFISSA) project. This plan will build on any other work which is being undertaken with regard to planning and impact assessment processes. The SFISSA project will aim to maintain dialogue

with the relevant government ministries and parastatals, country governments and selected local community groups and NGOs and international community.

Definitions

Consultation: Consultation involves information exchanges among the government, the Implementing Agency, the project executing agencies, and other stakeholders. Although decision making authority rests with the government, the Implementing Agencies, and the project executing agencies, periodic consultations throughout the project cycle help managers make informed choices about project activities. More importantly, it provides opportunities for communities and local groups to contribute to project design, implementation, and evaluation.

Public Involvement: Public involvement consists of three related, and often overlapping, processes: information dissemination, consultation, and stakeholder participation. Stakeholders are the individuals, groups, or institutions which have an interest or "stake" in the outcome of a GEF-financed project or are potentially affected by it. Stakeholders include the recipient country government; project executing agencies; groups contracted to carry out project activities and/or consulted at various stages of the project; project beneficiaries; groups of people who may be affected by project activities; and other groups in the civil society which may have an interest in the project.

Stakeholder participation: Where stakeholders collaboratively engage in the identification of project concepts and objectives, selection of sites, design and implementation of activities, and monitoring and evaluation of project outcomes. Developing strategies for incorporating stakeholder participation throughout the project cycle is particularly necessary in projects which have impacts on the incomes and livelihoods of local groups, especially disadvantaged populations in and around project sites (e.g., indigenous peoples, women, poor households).

GEF guidelines

All GEF funded projects are required to meet best international practice and specifically the requirements for stakeholder engagement and public consultations, as specified in the GEF Policy on Public Involvement in GEF Projects.

The project's stakeholder engagement activities should be robust and enough disclosure on information should be made in order to promote better awareness and understanding of its strategies, policies and operations. During this disclosures, the project requires to:

? Identify people or communities that are or could be affected by the project as well as other interested parties;

? Ensure that such stakeholders are appropriately engaged on environmental and social issues that could potentially affect them, through a process of information disclosure and meaningful consultation; and

? Maintain a constructive relationship with stakeholders on an on-going basis through meaningful engagement during project implementation.

The stakeholder consultations are an on-going process taking place during the project life and during this process it is necessary to ensure that stakeholders are informed about environmental and social consequences of the project implementation and ensure the opportunity for feedback.

Identification of stakeholders for engagement and methods of communication

In order to ensure inclusive participation and consultation, the following stakeholders have been identified for consultation on on-going basis. The list includes the identified social groups and persons that are associated with the project in different ways at all stages:

? people and social groups affected directly or indirectly by the outcomes of the Project implementation,

? people and social groups that participate in the project directly or indirectly,

? people and social groups who are able to influence and decide the outcomes and the manner of the Project implementation or make decisions based on the outputs of the project.

Stakeholders have been identified in accordance with the above classification as shown below.

Stakeholders to be affected, directly or indirectly, by the outcomes of the Project implementation	Stakeholders that participate in the Project implementation	Stakeholders being able to influence and decide on the Project implementation or use project outcome for decision making
The primary stakeholders are smallholder farmers in Uganda and Zambia in target locations Other direct stakeholders include financial service providers, insurance companies, and technology companies partnering with the project Indirectly, the project will benefit government entities, NGOs, and other organizations working to promote sustainable agriculture and economic development in both countries	Project Staff GEF Secretariat and GEF Agency FAO Mediae ACRE Africa FACS Sprout Uganda National Meteorological Authority Zambia Meteorological Department	Uganda and Zambia State Government Uganda and Zambia State Departments Uganda and Zambia County Governments Uganda Ministry of Water and Environment Uganda Ministry of Agriculture, Animal Industry, and fisheries Uganda National Meteorological Authority Zambia Ministry of Green Economy and Environment Zambia Ministry of Agriculture and Livestock Zambia Meteorological Department

Stakeholder Concerns Analysis

The project will aim to collect and analyze stakeholder expectations and concerns as well as to take appropriate responsive measures throughout the Project life in order to ensure that there is enough support for the project. The project has identified the following interests and concerns of the key stakeholder groups as presented in table below.

Stakeholder group	Key expectations	Key concerns	Recommendation
National and county governments	Project will improve on data collection and reporting quality Data used for national reporting and decision making Data used for weather and climate related predictions Project will improve understanding of credit and loan products	Data quality and control Budgetary constraints Channels of data sharing	Put in place measures for sharing data PMU to budget for data collection Data reporting to be transparent
Climate and financial service providers	Improvement of climate and weather information dissemination Improvement of access to financial products and services		

Vulnerable groups (women, youth, elderly)	To be given more opportunity to interact with project and air their con cerns	Impacts on their lifestyles brought about by project Not being given chance to participate in the project	Ensure that there is clear communication with these groups and project impacts on marginalized groups if any are identified and addressed
NGOs and other CBOs	Using data collected for development project planning and analyzing impacts of their initiatives	Transparency of the decision-making and communication processes Transparency in data reporting	Ensure there is free access for information about the project to various groups whenever they request for it
Autonomous government bodies	Key source of data Data storage	Data quality Data volume and analysis procedures	Ensure data reported is QA/QC checked and involve KBS in designing data reporting tools Secure enough space for data storage
PMU staff	Project implementation as planned Retention of employment	Project failure / closure Job security and transparency of recruitment policy	Continue with consultations and dialogue. Communicate the labour policy early in the process; Establish incentives

Engagement methods

The project will engage or communicate to various identified stakeholders as outlined below.

Stakeholders group	Means of engagement	Rules for communication
Stakeholders to be affected, directly or indirectly, by the outcomes of the Project implementation	Project website	Communication to be done by people authorized to communicate, public communication can be done through national reporting rules
Internal stakeholders who are involved in project implementation	Meetings, exchange of minutes, memos and official letters	In accordance with the rules for internal communication, meetings and the grievance mechanisms for workers (employees and contract labor suppliers)
Particularly vulnerable social groups (women, children, marginalized societies)	Consultation meetings - providing information, exchange of documentation and correspondence associated with projects	In accordance with the rules for internal communication and the accepted customs, direct communication, indirect communication through announcements issued do the public
External stakeholders who participate in the Project implementation	Exchange of correspondence, meetings, training courses, design supervision, data collection templates and procedures	In accordance with laid down government procedures for information exchange
County governments and state corporations	Progress reporting, project decision, official letters	In accordance with administrative procedure requirements
Government ministries	Official letters	In accordance with administrative procedure requirements
Non-governmental organizations (NGOs) interested in the Project	Direct meetings, official letters	During public meetings and on demand

Making Information Available

The project will endeavor to make information available to the public to allow stakeholders to get to know and understand both the environmental and social risks and impacts associated with the project, as well as opportunities provided by the project. This will enable them to utilize the project data to make informed decisions in areas associated with digital agro-advisory and ARM products and services.

On an ongoing basis, the project will have routine disclosure and consultation on the project?s socio-economic and environmental performance including grievances and other new emerging issues on the project. The disclosures will be done to all stakeholders through project briefs or annual reporting through brochures. While providing this disclosure, the project will also provide:

? An update on the Project achievements and how its contributing to enhancing transparency in reporting for NDC implementation in the country;

? An overview of the stakeholder engagement process and how affected parties can participate and provide feedback through meeting or other avenues;

? Project impacts on development and how the government is using the project data to enhance the livelihoods of the people at the same time conserve the environment and report and forecast on weather and climate change related events.

Monitoring and Reporting

Monitoring is an integral component of project management as it tracks and assesses progress towards achieving tangible development results associated with the project being implemented. It is an essential management tool which provides an opportunity to know whether results are being achieved as planned, what corrective actions are needed to ensure delivery of the intended results and how they are making positive development contributions. This helps to detect problems earlier and come up with appropriate measures to address them. Therefore, monitoring usually provides data used for analysis and synthesis prior to reporting for decision making.

	Parameter	**Monitoring and reporting responsibility**	**Reporting period**
1.	Number of government agencies, civil society organizations, private sector, indigenous peoples and other stakeholder groups that have been involved in the project implementation phase	PMU	Annual basis

2.	Number persons (sex disaggregated) that have been involved in project implementation phase	PMU	Annual basis
3.	Number of engagement (e.g. meeting, workshops, consultations) with stakeholders during the project implementation phase	PMU	Annual basis
4.	Percentage of stakeholders who rate as satisfactory the level at which their views and concerns are taken into account by the project	CI-GEF Agency (external hire consultant)	Annual basis
5.	Grievances handling mechanism ? how grievances are received and results communicated to all stakeholders	PMU	Annual basis

Stakeholder engagement program

Stakeholder group	**Engagement Method**	**Materials to be used**	**Location**	**Responsible organization, person**	**Date**
External stakeholders: **County governments, vulnerable groups, NGOs, CBOs, etc.**	Inform on the project implementation status, collect opinions and concerns during public meetings or other contacts; Register, analyze and address grievances or comments submitted	Presentations; Booklets and progress leaflets; Website posting	PMU Offices	Company Project head of PMU, Stakeholder liaison office or communications Department	Annually
State ministries and parastatals	Inform on the project implementation status	Presentations/ reports	PMU offices	Company Project head of PMU, Stakeholder liaison office or communications Department	Annually during operation

County governments	Inform on the project implementation status	Presentations/ reports	PMU offices	Company Project head of PMU, Stakeholder liaison office or communications Department	Quarterly
Local communities and vulnerable groups	Consultation meeting and holding climate and weather related seminars; Grievance redress avenues and feedback Holding targeted group meetings, as necessary.	Surveys and Public grievance forms	Local administrative centers	Representative of the project Stakeholder liaison officer	Bi-annually
PMU employees	Inform of the Company Project plans in relation to labor issues; actual impacts on the local communities; Inform on the internal Project development issues, success and difficulties	Surveys and Public grievance forms	Project site, Company office	Project team and communication	Quarterly during construction and operation
Contractors/ programmers	Inform via direct meetings and reporting	Monitoring and Evaluation System configuration reports	Head office	Head of IT	Monthly

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Although women in Uganda and Zambia are respectively providing 77% and 70% of the agricultural labour, they control less than 20% of the agricultural outputs (UN Women, 2018a, CIAT-World Bank, 2017). Ugandan and Zambian women working in agriculture continue to face more challenges than their male counterparts, in part due to discriminatory gender norms that limit their access to productive resources (such as land, labour, equipment, and economic resources), their greater involvement in unpaid care and domestic work and their exclusion from leadership and decision-making positions at all levels (FAO, 2020). Women are often engaged in work that is insecure, poorly paid or not covered by formal social protection, forcing some into child marriage as an exit from economic insecurity and poverty (ODI, 2021). It is estimated that if ESA women accessed the same productive resources as men, they could increase yields on their farms by 20%?30% (FAO, 2011). By closing this ?gender gap?, governments and decision?makers can produce significant gains for society, improving agricultural productivity, reducing poverty and hunger, and promoting economic growth (ODI, 2021). For example, According to The Cost of the Gender Gap in Agricultural Productivity, a study conducted by UN Women in 2015, the gender gap in agricultural productivity is estimated from 13% to 28% in Uganda at an annual cost of $145 million. It is predicted that closing this gender gap in agricultural productivity can bring about a $126 million increase in agricultural GDP and a $145 million increase in total GDP annually in Uganda. The study estimates that increasing GDP by closing the gender gap in agricultural productivity has the potential to lift as many as between 119,000 and 260,000 people in Uganda out of poverty.

In Uganda and Zambia, as elsewhere in the ESA region, women and men farmers do not always face the same production conditions, nor do they always make the same production choices. As a result they may not have identical levels of agricultural productivity. Social norms ? often reinforced by gender-based violence ? assign women responsibility for providing household maintenance. This produces ?time poverty? for most women relative to their own agricultural activities. The productivity of Ugandan and Zambian women is diminished by a host of factors, but not limited to:

? The burden of uncompensated time women are expected to devote to gathering firewood and fetching water

? The burden of uncompensated time women are expected to devote to caring for the young, the ailing, and the aging

? The burden of uncompensated time women are expected to devote to maintaining their home and their community

? The burden of uncompensated time women are expected to devote to working on plots owned by their husbands

? Women?s lesser likelihood of being engaged in raising cash crops and their associated lesser control of financial resources

? Women?s lower level of awareness of or access to improved seeds and other agricultural inputs, including practices that might counter the effects of climate change

? Gender-based violence, which maintains the social benefits of being a man

Household structures

Rural Uganda and Zambia have a diversity of household structures, with male- and female-headed households, polygamy, early marriage, wife inheritance, divorced and widowed women and men, and rural-urban labour migration being common. On balance, however, farming is an increasingly feminized occupation. This underscores the importance of the role of gender-based factors in shaping agricultural productivity. In every household, cleaning and cooking must be done; water and firewood must be fetched; the young, ill and old must be cared for. Such work is characteristically uncompensated, and draws on the time available for tasks that are economically rewarded. In rural communities, this work ? for reasons tied to gender-based roles and expectations ? falls heavily on women (UN Women, 2018b). Of course, these responsibilities result in women having less time to engage in productive activities such as farming, waged labour, or enterprise development. In some instances even it is not acceptable for women to interact with men beyond their family members, and so this can make it difficult and often impossible to engage in informational sessions regarding financial institutions or market (Fletschner, 2009). Importantly, these challenges can vary significantly by region and even village, as social norms may govern the traditional behaviors of a given place or the accessibility for women to credit and other resources (Carranza and Niles, 2019).

Access to land

A significant factor in rural poverty in Uganda is that the most important rural resource ? access to land ? is subject to different forms of tenure. Here, women?s rights are mainly restricted to usufruct, derived mostly from their relationships with men as wives, mothers, sisters or daughters and the land which they do use is commonly fragmented. In Uganda for example, while 79% of agricultural households

own land, only 20% is solely managed by women (Ali et al., 2015). When land is jointly owned by a husband and wife, most decisions are made by the husband (UBOS, 2012).

Climate change

Women in Uganda and Zambia are less likely to have knowledge and experience with climate-related hazards to productivity. Men, through land ownership and control of resources, are likely better able to adapt to climate variation and natural disasters. Women characteristically manage more fragile land, subject to floods, landslides, degradation, and erosion. Their limited financial resources prevent purchase of soil-replenishing fertilizers, and their low level of access to extension workers affects their general knowledge of what measures they may take. Due to unequal bargaining power, men are more likely to influence the adaptation strategies within male-headed farming households (UN Women, 2018b).

Agriculture risks

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.

Access to financial products and services

In terms of barriers to access finance, both supply and demand-based factors contribute to the gender gap for female smallholder farmers in ESA, with risk, liquidity, privacy concerns, trust in and ease of use of financial systems, and access to technology emerging as important gender-related elements. Lack of formal identification is another limiting factor for women farmers, hindering their ability to access even basic services. Financial institutions also continue to be gender blind or have gender-biased practices. Additionally, social and cultural norms, which dictate men?s and women?s economic roles, behaviors, choices, and preferences and affect intra-household dynamics, are at the root of many issues that women face (Correia, 2022).

The amount, type of credit, and who obtains credit all play an important role on the impact of the financial resource. Women however are more likely to be excluded from formal access to credit, leaving them to more often rely on family and friends for types of financial resources, and will more often begin businesses with fewer resources. These sources of lending can influence overall capacity for women. For example, women in ESA with lower incomes tended to have larger social networks, but which included other women with low incomes. Conversely men reported having smaller social networks, but their networks more often included wealthier men with access to agricultural resources (Magnan et al., 2013). In addition to having a social network that is more financially advantageous, men also value different organizations in the community (e.g., government agencies, community-based organizations, and international organizations) when compared to women (e.g., community-based organizations), which may affect utilization of certain types of financial resources (Carranza and Niles, 2019; Cramer et al., 2016).

Additional research has considered how gender may influence allocation of financial resources. Women's credit access is known to increase household and child food security, while men's access to credit has shown fewer effects on nutrition and food-security for the family (Hazarika and Guha-Khasnobis, 2008). This may be because women tend to be in control of food preparation in the house including tasks but not limited to, collecting water, gathering wood and the physical cooking of the food. Furthermore, there is a positive correlation between female empowerment and a higher dietary diversity for both women and children (Malapit et al., 2013). This may be related to women more often spending their personal income on food, healthcare, and education for their children. Spending patterns among women, however, relies on the fact that women must have direct access to financial resources and they cannot be mediated through their husbands. In many cases, women are required to hand over the received loan to their husband, or have little say in income spending, potentially eliminating positive benefits seen with women's access to financial capital (Fletschner, 2009). For example, 75% of women surveyed in Nyando, Kenya were able to decide on how to use crops, yet only 50% of the

women reported that they were able to then make decisions on how the income from those crops was spent (Bernier et al., 2015). Thus, female empowerment, that enables women to work or access credit and allocate their earnings as they wish, or which enable women to be involved in household decision-making, may be an important strategy to improve household nutrition outcomes (Carranza and Niles, 2019).

SIFFSA?s contribution to gender equality and women?s empowerment

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:

1) **Component 1**: 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).

2) **Component 1**: Women (and young people) will be encouraged to participate actively in the design and conception of the ICT platform to ensure that the product is designed from a gender and intrahousehold perspective, with several interviews taking place to discuss some of the digital finance inclusion barriers faced by women smallholders, including access, bargaining power, privacy, opportunity cost of time, timeliness of financial transfers, safety, mobility, as well as cultural and social norms. This gender-transformative approach will seek to address the root causes of digital finance gender gaps by dealing with the underlying gender inequalities embedded in the systems and enabling environments in which women farmers operate.

3) C**omponent 1**: The climate and agricultural risk profiles developed 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.

4) **Component 2**: The credit and insurance bundled products will be designed specifically to incorporate identified financial needs and characteristics of women smallholder farmers, with several interviews taking place to discuss the main constraints and opportunities (entry points) experienced by women in accessing financial products and services.

5) **Component 2**: The system that will digitize all farmer registrations and transactions will be specifically designed to identify and track smallholder women clients within the agricultural portfolio (loan performance, loan size, products purchased, profitability, and so on).

6) **Component 3**: Before deploying the gender-inclusive insurance and credit product bundles, on top of having increased access to weather, climate, agricultural risk related information, agro-advisory and financial products and services providers will receive gender training to understand women?s roles and analyze their contributions in the rural household to better target and serve female smallholder farmers.

7) Overall, the Project will contribute to research by building empirical evidence of what works to increase women smallholder farmers? access to ARM products and services, including credit, microloans, and insurance, as well as agro-advisories targeting risk management, so that agro-advisory and financial products and services providers better target women smallholder farmers.

8) Finally, 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.?

A more detailed account of SIFFSA?s contribution to gender equality and women?s empowerment is given in the Gender Action Plan (Annex M of the project document).

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

Generating socio-economic benefits or services or women Yes

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

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

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. Our financial partners include ACRE Africa (insurance portfolio management), ECLOF International (credit services), Financial Access Consulting Services (credit score development), and Sprout (operation digitization backed by block-chain).

- **Mediae** is a small private for-profit social enterprise that?s committed to addressing the informational needs of East Africans through sustainable and research-based media productions (see section 2.2 associated baseline projects). By taking advantage of Mediae?s successes and learnings from the Kenyan context as well as building on the existing USAID investment in Uganda, this project will scale-out the current coverage of Mediae?s flagship program, Shamba Shape Up, and Mediae?s iShamba service with an additional 200,000 new viewers and 30,000 new subscribers respectively, providing public education, digital agro-advisories with CWS information, and ARM products and services in Uganda and Zambia.

Financial partners

- Founded in 2009, **ACRE Africa** is a for-profit licensed insurance intermediary that provides risk management solutions to reduce agricultural and climate risks and aims to protect smallholder farmers against vulnerabilities of climate through technology. Indeed, ACRE Africa has developed, tested, and refined a diverse portfolio of agricultural insurance products to match farmers? widely varying access to inputs, credit, aggregators, and contracts. It has developed insurance products specifically for financial institutions to mitigate risks associated with agricultural production and to improve loan portfolio performance. It currently has offices in Kenya, Rwanda, and Tanzania, and projects in Uganda, Ghana, Malawi, Senegal, and Mozambique, with over 30 professional staff with expertise in Insurance, Agriculture and Veterinary Sciences, Actuarial Science, Marketing, Strategy and Finance. In partnership with ACRE Africa, this project will adapt in target regions of implementation the aMaizing Crop Insurance Project that was led by ACRE Africa in Kenya. The aMaizing Crop Insurance Project is a weather index-based insurance product designed to help smallholder farmers manage the risks associated with weather variability and climate change. It uses satellite weather data to trigger payouts to smallholder farmers based on pre-defined weather parameters, such as rainfall, temperature, and humidity. This means that farmers can receive payouts quickly and efficiently in the event of adverse weather conditions that impact their crops. In addition to providing insurance coverage to smallholder farmers. The aMaizing Crop Insurance Project also provides training and support on climate-smart agriculture practices. This includes training on soil conservation, water management, and other practices that can help farmers adapt to changing weather patterns and mitigate the risks associated with climate change. SIFSSA can benefit from ACRE Africa?s expertise in designing and managing weather index-based insurance products, as well as their experience in working with smallholder farmers in Uganda and Zambia. ACRE Africa can help ensure that the insurance products are designed to meet the needs of smallholder farmers, are affordable and accessible, and have a transparent and efficient claims settlement process. Additionally, ACRE Africa can help attract private sector investment by providing a reliable insurance product that helps reduce the perceived risks associated with investing in the smallholder agriculture sector. This can help unlock new sources of financing for smallholder farmers, promoting economic growth and reducing poverty in the region. Building on already identified and developed insurance solutions as well as previous program partners in Kenya, overall, this partnership can bring significant benefits to smallholder, helping them to manage the risks associated with climate change, promote sustainable agriculture practices, and improve their livelihoods.

- **ECLOF International** is a microfinance organization that provides financial and non-financial services to micro-entrepreneurs and smallholder farmers, thereby enabling self-sustainability. ECLOF International provides services ranging from micro-insurance to capacity-building (e.g., water and sanitation, bookkeeping, financial literacy, organic farming, and civil society development). ECLOF has been working in Africa since 1961 and currently serves over 63.000 clients with 63% living in rural

areas, 56% of them being women and 40% of them being below the age of 30. ECLOF?s loans and non-financial services provide smallholder ESA farmers who are living in rural areas, who are women, and/or who are young with the opportunities to be climate resilient. ECLOF currently operates in Uganda, with an office in the capital city of Kampala and in the central Ugandan town of Kigumba. In Uganda, ECLOF serves urban and rural micro-entrepreneurs and farmers, and most of its clients are women who self-organize into solidarity groups and co-guarantee for each other?s loan to make up for their lack of collateral. Farmers among ECLOF?s clients can also attend the ECLOF-run demo farm where they learn and exercise good agricultural practices. This project will partner with ECLOF and build on their technical and regional expertise to conduct market assessment to support the design of credit products in Uganda and Zambia. ECLOF's experience in providing microfinance services in Uganda, coupled with their knowledge of the local economic and social landscape, can inform the design of credit products that are tailored to the needs of smallholder farmers in the region. The market assessment will involve a careful analysis of the local financial sector, including the identification of potential financial partners and an assessment of demand for financial services among smallholder farmers. By working with ECLOF and leveraging their expertise, the project can ensure that the credit products designed are appropriate, accessible, and affordable for smallholder farmers, while also meeting the needs of local financial institutions.

- **Financial Access Consulting Services (FACS)** is part of the Financial Access group, the ex-ING Bank emerging markets financial sector advisory business taken private by management in 2007. Their main objective is to de-risk smallholder agriculture and to unlock sustainable finance at scale for smallholder farmers in agri-commodity value chains. They use in-depth data analysis, financial modeling, farmer credit and environmental scoring, financial technology, and our long-term operational banking experience to develop easy-to-use smallholder finance tools and investable smallholder investment portfolios for banks, MFIs, credit cooperatives, impact investors and other agri-lenders. Through their approach and financing models, they reduce smallholder climate risks by enabling access to credit at affordable costs to enable uptake of climate-smart agriculture practices across Africa. The partnership with FACS is critical to the success of this project, as it will leverage their expertise in collecting and aggregating alternative and digital datasets to build credit scores for smallholder farmers in Uganda and Zambia. By collecting data from a variety of sources, such as individual, social, agronomic, environmental, economic, and satellite data, FACS can provide a comprehensive view of a smallholder farmer's creditworthiness, which can be used by financial institutions to create tailored loan products. The credit scoring system will help financial institutions reduce the time and resources spent on manually assessing a smallholder farmer's creditworthiness. Instead, they can use the credit score to make more informed lending decisions, which can help accelerate agricultural portfolio growth in our target countries. Moreover, the availability of credit scores for smallholder farmers can help promote financial inclusion and reduce the financial exclusion gap in the region

- The partnership with **Sprout** is a critical component of this project, as it will leverage their expertise in using technology for climate change adaptation and protection. Sprout is an insurtech startup with a mission to build smallholder farmers' climate-resilience, and they do this by using satellite data and machine learning to assess the associated risks of climate change. They also use mobile messages to alert farmers of unexpected weather patterns and provide agronomy tips to help them navigate these changes. In addition, Sprout offers an online distribution software that allows insurance companies to offer climate insurance to farmers quickly and efficiently. This platform streamlines the insurance purchasing process for farmers and reduces the costs associated with traditional insurance distribution models. Building on Sprout's expertise, this project will develop digital tools for end-to-end management and monitoring of financial transactions. These tools will help financial institutions and insurance companies track and manage their transactions with smallholder farmers, reducing the time and resources required for manual record-keeping. The use of digital tools can also help improve transparency and accountability in the financial sector, making it easier to track the impact of financial services on smallholder farmers. Additionally, the digital tools can help reduce

the risks associated with cash-based transactions, as they provide a secure and efficient way to transfer funds. Overall, the partnership with Sprout and the development of digital tools for financial transaction management can help improve the efficiency and transparency of financial services for smallholder farmers in Uganda and Zambia. This can help promote financial inclusion, reduce poverty, and build climate-resilience in the region.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

? Section A: Risks to the project

The biggest foreseeable risk to the project has to do with the uncertainties of field activities given continued Covid-19 pandemic related restrictions, also into 2023. 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.

Description of risk	Impact[1]	Probability of occurrence	Mitigation actions	Responsible party
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	L	L	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.	PMU
Field activities are compromised (by Covid-19 or similar public health concern, or civil or political conflict)	H	M	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.	PMU

Project co-funding sources are compromised (due to Covid-19 or similar public health concern, civil or political conflict, or any other reason)	H	L	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.	PMU
Capacity and willingness of private sector and other key stakeholders	M	L	The implementation will follow market-led approaches focused on creating and strengthening existing links within the market are inherently dependent on the relationships with key market actors.	PMU
Risk to program implementation from crop loss, natural disaster, etc.	H	M	There will be a strong focus on carefully selecting and helping 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.	PMU
Operating Environment (natural disasters, political factors, market factors)	H	M	Both Uganda and Zambia have relatively stable governance structures 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 operations to move to new regions.	PMU
Regulatory change of mobile, financial, agricultural subsidy and other types of relevant interventions	L	L	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.	PMU

Operational complexity due to the number of actors involved there is potential for inefficiencies in information flow, implementation and decision-making	H	L	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.	PMU

? Section B: Environmental and Social risks from the project.

Corresponding to section 9 in CEO Endorsement module of the GEF Portal.

Environmental and Social Risk Classification: low risk

This is a technical assistance project only, focusing on capacity development. The project has been rated low risk based on the ESS screening conducted at PIF development stage, and reconfirmed during PPG by the project?s LTO and FAO?s ESN Unit.

[1] H: High; M: Moderate; L: Low.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The *Alliance of Bioversity International and CIAT*, a CGIAR center, will have the overall executing and technical responsibility for the project, with FAO providing oversight as GEF Agency as described below. The *Alliance* will act as the lead executing agency and will be responsible for the day-to-day management of project results entrusted to it in full compliance with all terms and conditions of the Operational Partnership Agreement signed with FAO[1]. As OP of the project the *Alliance* is responsible and accountable to FAO for the timely implementation of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements.

The Project Steering Committee (PSC) is a key component of the project management structure for this project. The primary role of the PSC is to provide guidance and oversight to the project manager and the

project implementation team to ensure that the project is implemented in accordance with the project proposal and the GEF's guidelines, as well as to approve Annual Work Plans and Budgets on a yearly basis and provide strategic guidance to the Project Management Team and to all executing partners.

Since the project is not led by any national institutions such as the ministries, we will work with FAO as the implementing GEF agency to designate a chair of the PSC located in FAO, Nairobi office.

The PSC will be composed of representatives from:

The Mediae Company (https://mediae.org/)

International Food Policy Research Organization (IFPRI)

International Maize and Wheat Improvement Center (CIMMYT)

Zambia Meteorological Department (ZMD)

National Agricultural Research Organisation (NARO) (Uganda)

Financial Access (FA, https://www.facsglobal.com/)

HarvestPlus (https://www.harvestplus.org/)

Pan-Africa Bean Research Alliance (PABRA https://www.pabra-africa.org/)

The members of the PSC will each assure the role of a Focal Point for the project in their respective agencies. Hence, the project will have a Focal Point in each concerned institution. As Focal Points in their agency, the concerned PSC members will: (i) technically oversee activities in their sector; (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project; (iii) facilitate coordination and links between the project activities and the work plan of their agency; and (iv) facilitate the provision of co-financing to the project.

The National Project Coordinator (see below) will be the Secretary to the PSC. The PSC will meet at least twice per year to ensure: i) Oversight and assurance of technical quality of outputs; ii) Close linkages between the project and other ongoing projects and programmes relevant to the project; iii) Timely availability and effectiveness of co-financing support; iv) Sustainability of key project outcomes, including up-scaling and replication; v) Effective coordination of governmental partners work under this project; vi) Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget;

vii) Making by consensus, management decisions when guidance is required by the National Project Coordinator of the PMU.

In addition, we will also form an advisory group with representatives from the following institutions/programs:

Ministry of Agriculture (Zambia, MOAZ)

Ministry of Agriculture, Animal Industry and Fisheries (Uganda, MOAAFU)

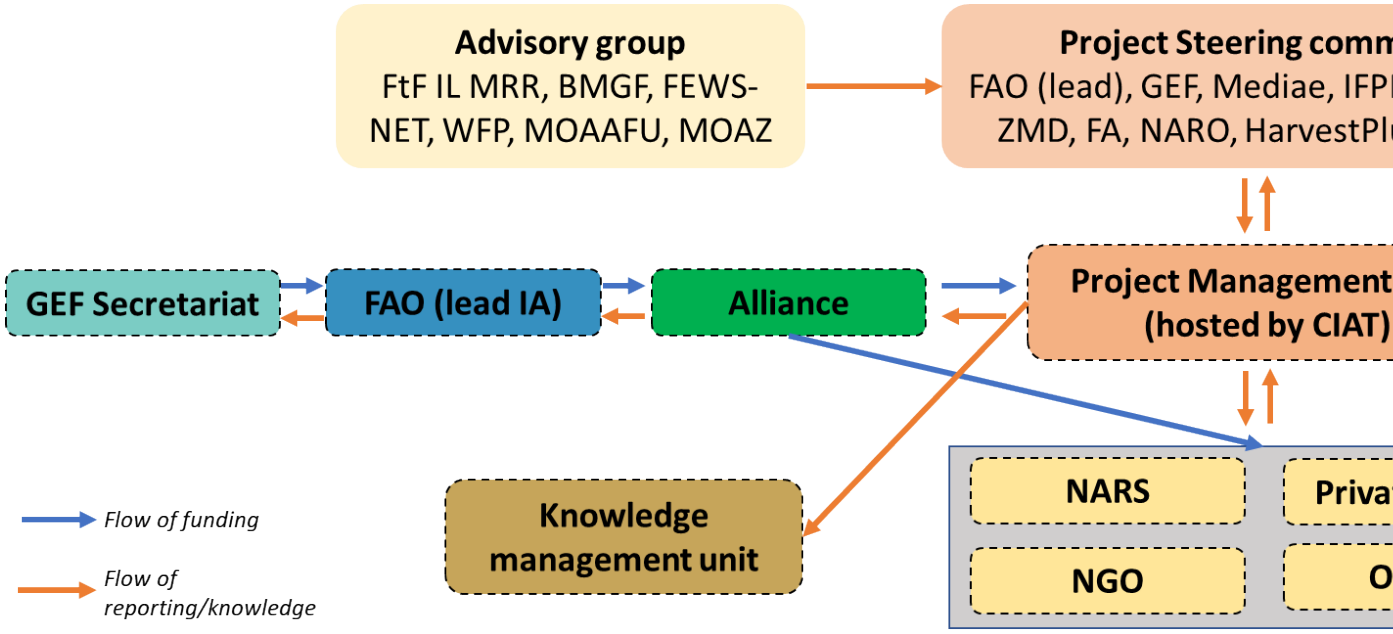
The Famine Early Warning Systems Network (FEWS NET https://fews.net/)

World Food Program (WFP)

Bill and Melinda Gates Foundation (Office of Agriculture Transformation Strategy)

Feed the Future Innovation Lab for Markets, Risk and Resilience (FtF IL MRR https://basis.ucdavis.edu/, director)

In summary, the project organization structure will have the following structure:



A Project Management Unit (PMU) will be established within the Alliance, Nairobi offices. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall efficient management, coordination, implementation and monitoring of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). The PMU will be composed of a

National Project Coordinator (NPC) who will work full-time for the project lifetime, as well as 2 National Project Coordinators. These 3 persons will be entirely co-financed by CIAT and have no bearing on the GEF grant. GEF grant will co-finance a gender expert and MAEL expert.

The National Project Coordinator (NPC) will oversee daily implementation, management, administration and technical supervision of the project, on behalf of the Operational partner and within the framework delineated by the PSC. S/he will be responsible, among others, for:

i) Coordination with relevant initiatives;

ii) Ensuring a high level of collaboration among participating institutions and organizations at the national and local levels;

iii) Ensuring compliance with all Operational Partners Agreement (OPA) provisions during the implementation, including on timely reporting and financial management;

iv) Coordination and close monitoring of the implementation of project activities;

v) Tracking the project?s progress and ensuring timely delivery of inputs and outputs;

vi) Providing technical support and assessing the outputs of the project national consultants hired with GEF funds, as well as the products generated in the implementation of the project,;

vii) Approving and managing requests for provision of financial resources using provided format in OPA annexes;

viii) Monitoring financial resources and accounting to ensure accuracy and reliability of financial reports;

ix) Ensuring timely preparation and submission of requests for funds, financial and progress reports to FAO as per OPA reporting requirements;

x) Maintaining documentation and evidence that describes the proper and prudent use of project resources as per OPA provisions, including making available this supporting documentation to FAO and designated auditors when requested;

xi) Implementing and managing the project?s monitoring and communications plans;

xii) Organizing project workshops and meetings to monitor progress and preparing the Annual Budget and Work Plan;

xiii) Submitting the six-monthly Project Progress Reports (PPRs) with the AWP/B to the PSC and FAO;

xiv) Preparing the first draft of the Project Implementation Review (PIR);

xv) Supporting the organization of the mid-term and final evaluations in close coordination with the FAO Budget Holder and the FAO Independent Office of Evaluation (OED);

xvi) Submitting the OP six-monthly technical and financial reports to FAO and facilitate the information exchange between the OP and FAO, if needed;

xvii) Informing the PSC and FAO of any delays and difficulties as they arise during the implementation to ensure timely corrective measure and support.

The Food and Agriculture Organization (FAO) will be the GEF Implementing Agency (IA) for the Project, providing project cycle management and support services as established in the GEF Policy. As the GEF IA, FAO holds overall accountability and responsibility to the GEF for delivery of the results. In the IA role, FAO will utilize the GEF fees to deploy three different actors within the organization to support the project (see Annex J for details):

? The Budget Holder, which is usually the most decentralized FAO office, will provide oversight of day to day project execution;

? The Lead Technical Officer(s), drawn from across FAO will provide oversight/support to the projects technical work in coordination with government representatives participating in the Project Steering Committee;

? The Funding Liaison Officer(s) within FAO will monitor and support the project cycle to ensure that the project is being carried out and reporting done in accordance with agreed standards and requirements.

FAO responsibilities, as GEF agency, will include:

? Administrate funds from GEF in accordance with the rules and procedures of FAO;

? Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers, Operational Partners Agreement(s)and other rules and procedures of FAO;

? Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned;

? Conduct at least one supervision mission per year; and

? Reporting to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, the Mid Term Review, the Terminal Evaluation and the Project Closure Report on project progress;

? Financial reporting to the GEF Trustee.

? 6.b Coordination with other relevant GEF-financed projects and other initiatives.

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 organized 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)

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[1] *It should be noted that the identified Operational Partner(s) or OP, results to be implemented by the OP and budgets to be transferred to the OP are non-binding and may change due to FAO internal partnership and agreement procedures which have not yet been concluded at the time of submission*

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

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

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

Knowledge management and learning are integral to the design of this project. The Alliance has a long-standing experience in its community of knowledge management practitioners. This project will build on this and make linkages to existing networks. A large part of knowledge management and learning is taken care of through complementary, highly participatory, innovative and creative monitoring, evaluation and learning, and ownership-building mechanisms. 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. This component addresses this need by systematically capturing, documenting, and sharing knowledge products and best practices. One of the major value propositions associated with this project is its integration with a number of other activities in Uganda and Zambia, as well in Kenya, that will enable cross-country learning (please see the co-financed activities details for more information on this).

At the start of the project, a ?learning agenda? will be established which will map out a framework for our areas of agreed learning focus in partnership with the ley stakeholders. Collectively, these components will support an overall improved understanding of climate risk management solutions in support of smallholder farmers. The curriculum materials will draw from established best practice and develop new targeted material to address a range of issues from climate risk identification, design of climate services and agro-advisories, and strategies for implementing inclusive processes in smallholder finances. We will also seek to collaborate with key stakeholders within the community to facilitate multilateral sharing of learning and best practice. While the activities proposed here will directly consider how to develop inclusive processes for targeting women and youth, we also emphasize that these activities will, themselves be inclusive. As part of the project management process, we will ensure that women and youth have the opportunity to participate in different co-creation, training, and implementation activities.

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.

The proposed knowledge management plan will address all dimension of knowledge management, i.e., knowledge generation, knowledge use, and knowledge enabling environment allowing for a stronger and more systematic learning culture. Key knowledge products to be developed through the project include messaging for the project, technical assistance products (both digital and traditional), three public events each year to share all learnings with a broad range of key stakeholders, at least two knowledge sharing events, the promotion of champions and success stories emerging from the project in a social media campaign, and information on the project for public consumption.

Systems for knowledge management

Each of the consortium partners, especially the Alliance, Mediae, IFPRI, CIMMYT and Financial Access, has a proactive communications and knowledge-sharing program and strong track records in creating research uptake pathways, knowledge sharing networks and a broad audience base where none existed before. The proposed effort will use a suite of communication tools and approaches from each of the core partners for disseminating research findings to target audiences. The tools deployed shall include a multiple web presence including search engines, evidence clearing houses, and dashboards. In addition, we will work with journalist training, media outreach, capacity building, social media, and newsletters as appropriate and depending on context.

Partnerships with Local Actors and farmers

The design of the let-it-rain platform as part of the component 1 will allow us to learn from the farmers and anyone who interact with the platform. We aim to build a virtual farming community to share learning among the peers and in the process improve our understanding of the local demand for the information and financial products. A sample of the local actors and farmers will be consulted on a regular basis to develop strategies for further uptake of the solutions.

Public Awareness will be promoted as a cross-cutting theme to develop an inclusive framework for community engagement and active participation throughout the implementation of the project. We will follow a two-pronged approach to raise awareness about this project as well as the broader issues around the climate change. Nationally this will be done via Shamba Shape Up TV show that will broadcast easy-to-understand information on climate and financial literacies in local language, filmed in a smallholder field. At a local-level, farmers will engage in this process by communicating via the iShamba platform and participating in the let-it-rain game.

Specific knowledge products to be generated

Under Component 1 (INFORM --- Effective use of farmer-generated data for dissemination of climate and weather information and as market development tool), we anticipate development and delivery of the following KM products: (i) Report on the design of the let-it-rain platform to collect farmer generated data from each country (ii) Case Study findings on climate change adaptation, (iii) Capacity Building workshop on climate services with key stakeholders from the project and country of implementation, (iv) knowledge, attitude and practice study (KAPS) to understand what changes in knowledge, attitudes and behaviors have been achieved based on the climate literacy episodes in aired through the Shamba Shape Up tv program and iShamba.

Under Component 2 (BUNDLE DESIGN --- Offer farmers bundled agro-advisory, financial products and ARM tools tailored to their specific risk profiles), we anticipate development and delivery of the following

KM products: (i) training materials and technical support to various national and private sector partners to improve their knowledge and skills in areas such as: agro-advisory, types of digital solutions for dissemination, technologies and their impact on smallholders-case studies, (ii) how to identify relevant financial solutions and technologies, business models for interventions and standard procedures for design and implementation of smallholder facing bundled products.

Under Component 3 (STIMULATE --- Improved uptake and use of agricultural risk management products and services by farmers), we anticipate development and delivery of the following KM products: (i) approximately 4 knowledge products spanning a variety of issues from inception reports to business models to decision support tools to aid in identification of best financial products to be delivered, (ii) approximately 2 to market studies to develop digitalization strategies and business models, (iii) at least 2 knowledge and information sharing events to share all knowledge and learning from the previous year to be hosted in a relevant country.

Channels & Key Deliverables

The project will generate publicly available KM and communications content in line with the objectives and key messages defined at design stage in close cooperation with the partners, using both social media and traditional media as vehicles for dissemination.

The Alliance also has a highly robust set of Knowledge Management approaches such as the CGSpace (https://cgspace.cgiar.org/), Digital Evidence clearing house (https://bigdata.cgiar.org/evidence-clearing-house/) and GARDIAN (https://gardian.bigdata.cgiar.org/) which we will deploy as part of this strategy. Mediae brings considerable expertise in relation to delivering video based learning. Their The Africa Knowledge Zone (https://www.youtube.com/@africaknowledgezone/featured) is an online channel where all the TV shows made by The Mediae Company are stored for viewing online by anyone. These will act as an open access ?repository of knowledge?, so that any stakeholder, whether that is a project staff or partners or other key stakeholders can access these. iShamba specializes in mobile messaging based knowledge delivery services. They will take the lead in this project on engaging with the farmers over different mobile channels such as SMS, WhatsApp, Signal and call centers.

The in-person events will be key public events with which to showcase all the key outputs. We will also seek out opportunities to showcase the impact of the project through any relevant public forums and events.

We will leverage the Alliance digital platform (website/s) and conventional publication routes as key vehicles for publishing and disseminating information to the public: blog posts, articles, and general project updates will be published at regular intervals on the website and promoted through social media channels

available to the project. We will create a project-specific hashtag to allow us to tag and organize our information and public education materials in an efficient and easily-findable manner, all the time cross-referencing the account and hashtags with the more established accounts of CGIAR, FAO and GEF.

Publication Platform

We anticipate a certain number of publications being prepared and published by our experts over the course of the proposed effort. The audience and viewership of the articles, journals, and publications published by the Alliance are as follows:

2021	Research Outputs	Journal Articles	ISI Journal Articles
Total	1079	329	291
Open Access	1018 (94%)	290 (88%)	253(87%)
Downloads	142690	17882	15084
Page Views	231533	65734	58806
2022 *			
Total	880	273	227
Open Access	812 (92%)	227 (83%)	186 (82%)
Downloads	35052	5941	5182
Page Views	82728	23541	20287

* Non-final data

Social Media & Digital Platforms

In service of the project, we will leverage the large social media audiences and digital platforms of combined Bioversity and CIAT accounts. This amounts to (as of 2019 figures): (i) confirmed website users of both centre websites were 297,143 in 2019, and unique website views/hits were over 1.1 million, (ii) combined Twitter followers were 81,974 in 2019 (Twitter accounts were merged) with combined Tweet impressions at over 3.5 million impressions per year, (iii) combined Facebook followers were 52,233 in 2019 (Facebook accounts were merged), with approx. 2k Facebook followers reached with each post, (iv) combined LinkedIn followers were 43,906 in 2019 (accounts were merged), (v) our average social media engagement rate stands at approx. 16,000+ across all social media channels in 2019, and (vi) year-on-year growth of audience per social media channel is strong at 30% YoY growth for Twitter, 15% for Facebook, and 63% for LinkedIn. These figures indicate a vibrant social media and digital platform at the Alliance, an

established and loyal audience, and growing engagement and sign-up. These will all be used to maximize public exposure to, and public engagement in, the project outcomes.

The Alliance will augment outreach of technical learning and impact outputs from this project through the Mediae and its related TV, YouTube and Facebook and other social media channels, as well as the iShamba platform. These learning channels are oriented toward farmer-facing organizations leveraging digital channels to scale services to farmers, including financial institutions, mobile network operators, ag and fintech innovators, investors and agribusinesses. The combined public learning channels are leveraged by more than 10 million viewers on a weekly basis.

Data management

Data management is a critical aspect of any project that involves scaling climate information and financial services for smallholder farmers. With the data being publicly available and open source, there are several key considerations to ensure that the data is properly managed and utilized to its fullest potential. Firstly, the project has a clear data management plan that outlines the data collection, storage, sharing, and dissemination processes. This plan outlines the specific data types that will be collected, including climate data, financial data, and other relevant data related to smallholder farmers' activities, and how this data will be managed over the project's lifespan. Secondly, the project will ensure that the data is collected and stored securely, following established data security protocols to protect the data from unauthorized access and misuse. This includes establishing secure storage systems and access controls to limit who can access the data. Thirdly, the data will be analyzed, processed, and made available in open data formats that are easily accessible to stakeholders, including farmers, financial institutions, governments, and researchers. This includes the development of an online data portal and user-friendly tools that allow stakeholders to easily search, download, and analyze the data. Fourthly, the project will ensure that the data is properly documented and maintained to ensure its long-term usability and accessibility. This includes creating metadata and data documentation, establishing data standards and quality control protocols, and ensuring that the data is backed up regularly. Finally, the project will ensure that all stakeholders are aware of the data's availability and how to access and use it. This will include training programs and outreach activities that promote the use of the data for climate change adaptation and poverty reduction efforts. Overall, effective data management is critical for ensuring the success this project, and for maximizing the project's impact and potential for long-term sustainability.

Key deliverable	Cost*	Timeline**							
		Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Educational videos on climate and financial literacy, good agronomic practices	$20,000	X	X	X	X	X	X	X	X

Technical report on Let-it-rain platform	$3,000				X				X
Capacity building workshop on climate services	$12,000		X				X		
KAPS study	$4,000				X				X
Training materials on agro-advisory, digital solutions for dissemination	$2,000							X	X
Report on financial solutions and technologies, business models for interventions and standard procedures	$6,000							X	X
Four knowledge products on decision support tools to aid in identification of best financial products	$12,000							X	X
Two to market studies to develop digitalization strategies and business models	$6,000				X	X		X	X

** cost of production of the materials are included in the budget of the entities responsible for that particular deliverables; any additional budget requirements will be co-financed*

*** the timeline will follow the program implementation schedule*

9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project results, as outlined in the project results framework *(Annex 1)* will be monitored regularly, reported annually and assessed during project implementation to ensure the project effectively achieves these results. Monitoring and evaluation activities will follow FAO and GEF?s policies and guidelines for

monitoring and evaluation. The M&E system will also facilitate learning, replication of the project?s results and lessons which will feed the project?s knowledge management strategy.

Monitoring Arrangements

Project oversight and supervision will be carried out by the Budget Holder with the support of the PTF, LTO and FLO and relevant technical units in FAO headquarters. Oversight will ensure that: (i) project outputs are produced in accordance with the project results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project adaptation benefits are being delivered.

The FAO-GEF Coordination Unit and HQ Technical units will provide oversight of GEF financed activities, outputs and outcomes largely through the annual Project Implementation Reports (PIRs), periodic backstopping and supervision missions.

Day-to-day project monitoring will be carried out by the Project Management Unit. Project performance will be monitored using the project results matrix, including indicators (baseline and targets) and annual work plans and budgets. At inception phase, the results matrix will be reviewed to finalize the identification of i) outputs ii) indicators iii) targets and iv) any missing baseline information

A detailed M&E plan, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc.) will also be developed during project inception by the Monitoring, Evaluation and Learning (MEAL) expert.

Monitoring and Reporting

In compliance with FAO and GEF M&E policies and requirements, the PMU, in consultation with the PSC and PTF will prepare the following i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report. In addition, the Core Indicators included in *annex* will be used to monitor adaptation benefits and updated regularly by the PMU.

Project Inception Report: a project inception workshop will be held within two months of project start date and signature of relevant agreements with partners. During this workshop the following will be reviewed and agreed:

- the proposed implementation arrangement, the roles and responsibilities of each stakeholder and project partners;

- an update of any changed external conditions that may affect project implementation;

- the results framework, the SMART indicators and targets, the means of verification, and monitoring plan;

- the responsibilities for monitoring the various project plans and strategies, including the risk matrix, the Environmental and Social safeguards and Management Plan, the gender strategy, the knowledge management strategy, and other relevant strategies;

- finalize the preparation of the first year AWP/B, the financial reporting and audit procedures;
- schedule the PSC meetings;
- prepare a detailed first year AWP/B,

The PMU will draft the inception report based on the agreement reached during the workshop and circulate among PSC members, BH, LTO and FLO for review within one month. The final report will be cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FAO?s Field Program Management Information System (FPMIS) by the BH.

Results-based Annual Work Plan and Budget (AWP/B): The draft of the first AWP/B will be prepared by the PMU in consultation with the FAO Project Task Force and reviewed at the project Inception Workshop. The Inception Workshop inputs will be incorporated and subsequently, the PMU will submit a final draft AWP/B to the BH within two weeks after the workshop. For subsequent AWP/B, the PMU will organize a project progress review and planning meeting for its progress review and adaptive management. Once PSC comments have been incorporated, the PMU will submit the AWP/B to the BH for non-objection, LTO and the FAO GEF Coordination Unit for comments and for clearance by BH and LTO prior to uploading in FPMIS by the BH. The AWP/B must be linked to the project?s Results Framework indicators to ensure that the project?s work and activities are contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B should be approved by the Project Steering Committee, LTO, BH and the FAO GEF Coordination Unit, and uploaded on the FPMIS by the BH.

Project Progress Reports (PPRs): The PPRs are used to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the Project Results Framework *in Annex 1*, AWP/B and M&E Plan. Each semester the Project Coordinator (PC) will prepare a draft PPR, will collect and consolidate any comments from the FAO PTF. The PC will submit the final PPRs to the FAO Representation in Uganda and Zambia every six months, prior to 31 July (covering the period between January and June) and before 31 January (covering the period between July and December). The July-December report should be accompanied by the updated AWP/B for the following Project Year (PY) for review and no-objection by the FAO PTF. The Budget Holder has the responsibility to coordinate the preparation and finalization of the PPR, in consultation with the PMU, LTO and the FLO. After LTO, BH and FLO clearance, the FLO will ensure that project progress reports are uploaded in FPMIS in a timely manner.

Annual Project Implementation Report (PIR): The PIR is a key self-assessment tool used by GEF Agencies for reporting every year on project implementation status. It helps to assess progress toward achieving the project objective and implementation progress and challenges, risks and actions that need to be taken. Under the lead of the BH, the PC will prepare a consolidated annual PIR report covering the period July (the previous year) through June (current year) for each year of implementation, in collaboration with national project partners (including the GEF OFP), the Lead Technical Officer, and the FLO. The PC will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission and report these results in the draft PIR.

BH will be responsible for consolidating and submitting the PIR report to the FAO-GEF Coordination Unit for review by the date specified each year after each co-implementing agency?s review for each respective output under their responsibilities (to be included for joint implementation only). FAO - GEF Funding Liaison Officer reviews PIRs and discusses the progress reported with BHs and LTOs as required. The BH will submit the final version of the PIR to the FAO-GEF Coordination Unit for final approval. The FAO-GEF Coordination Unit will then submit the PIR(s) to the GEF Secretariat as part of the Annual Monitoring Review of the FAO-GEF portfolio

Technical Reports: Technical reports will be prepared as part of project outputs and to document and share project outcomes and lessons learned. The LTO will be responsible for ensuring appropriate technical review and clearance of technical reports. Copies of the technical reports will be distributed to project partners and the Project Steering Committee as appropriate.

Co-financing Reports: The PMU will be responsible for tracking co-financing materialized against the confirmed amounts at project approval and reporting. The co-financing report, which covers the GEF fiscal year 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The co-financing report needs to include the activities that were financed by the contribution of the partners.

Tracking and reporting on results across the GEF 7 core indicators and sub-indicators: As of July 1, 2018, the GEF Secretariat requires FAO as a GEF Agency, in collaboration with recipient country governments, executing partners and other stakeholders to provide indicative, expected results across applicable core indicators and sub-indicators for all new GEF projects submitted for Approval. During the approval process of the SFISSA project expected results against the relevant indicators and sub-indicators have been provided to the GEF Secretariat. Throughout the implementation period of the project, the PMU is required to track the project?s progress in achieving these results across applicable core indicators and sub-indicators. At project mid-term and project completion stage, the project team in consultation with the PTF and the FAO-GEF CU are required to report achieved results against the core indicators and sub-indicators used at CEO Endorsement/ Approval.

Terminal Report: Within two months before the end date of the project, and one month before the Final Evaluation, the PMU will submit to FAO *(to specify the unit in charge in HQ)* a draft Terminal Report. The main purpose of the Terminal Report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were utilized. The Terminal Report is accordingly a concise account of the main products, results, conclusions and recommendations of the project. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for ensuring sustainability of project results.

Terminal Evaluation: The GEF evaluation policy foresees that all Medium and Full sized projects require a separate terminal evaluation. Such evaluation provides: i) accountability on results, processes, and performance ii) recommendations to improve the sustainability of the results achieved and iii) lessons learned as an evidence-base for decision-making to be shared with all stakeholders (government, execution agency, other national partners, the GEF and FAO) to improve the performance of future projects.

The Budget Holder will be responsible to contact the **Regional Evaluation Specialist (RES)** within six months prior to the actual completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED and will be responsible for quality assurance. Independent external evaluators will conduct the terminal evaluation of the project taking into account the ?GEF Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects?. FAO Office of Evaluation (OED) will provide technical assistance throughout the evaluation process, via the OED Decentralized Evaluation Support team ? in particular, it will also give quality assurance feedback on: selection of the external evaluators, Terms of Reference of the evaluation, draft and final report. OED will be responsible for the quality assessment of the terminal evaluation report, including the GEF ratings.

After the completion of the terminal evaluation, the BH will be responsible to prepare the management response to the evaluation within 4 weeks and share it with national partners, GEF OFP, OED and the FAO-GEF CU. The BH will also send the updated core indicators used during the TE to the FAO-GEF CU for their submission to the GEF Secretariat.

Monitoring and Evaluation Plan and Budget			
GEF M&E requirements	**Responsible parties**	**Indicative costs (USD)**	**Timeframe**
Monitoring and Evaluation	M&E Expert	$16,500	On going
Annual Work Plan and Budget (AWP/B)	PMU/ FAO Project Task Force (draft) BH, LTO (clearance)	No bearing on GEF budget	To be prepared before Project Inception Workshop
Project Progress Reports (PPRs)	MEAL expert BH, PMU, LTO, FLO (clearance)	No bearing on GEF budget	Every six months - prior to July 31st (covering the period between January and June) and before January 31st (covering the period between July and December)

Annual Project Implementation Review (PIR)	Project coordinator (draft) BH (consolidation and submission) FAO-GEF Coordination (final approval)	No bearing on GEF budget	Annually - covering the period July (the previous year) through June (current year) for each year of implementation
Co-financing Reports	PMU	No bearing on GEF budget	On or before July 31st
Tracking and reporting on results across the GEF 7 core indicators and sub-indicators	FAO	No bearing on GEF budget	At project mid-term and project completion stage
Terminal Evaluation	RES	40,000	Within six months prior to the actual completion date
Terminal Report	FAO	$7,000	Month prior to project closure
TOTAL indicative cost		**$63,500**	

Disclosure: the project will ensure transparency in the preparation, conduct, reporting and evaluation of its activities. This includes full disclosure of all non-confidential information, and consultation with major groups and representatives of local communities. The disclosure of information shall be ensured through posting on websites and dissemination of findings through knowledge products and events. Project reports will be broadly and freely shared, and findings and lessons learned made available.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

Scaling climate information and financial services for smallholder farmers in Uganda and Zambia can have numerous benefits for these farmers and the wider community. Firstly, by providing timely and accurate climate information, smallholder farmers can make informed decisions about planting and harvesting crops, resulting in increased productivity and improved food security. Secondly, access to financial

services such as loans and insurance can provide farmers with the resources they need to invest in their farms and improve their livelihoods. With access to credit and insurance, smallholder farmers can purchase improved seeds, fertilizers, and other inputs, which can increase yields and incomes. Thirdly, improving the agricultural sector through these services can create job opportunities and contribute to economic development in the region. Lastly, the availability of climate information and financial services can contribute to climate change adaptation and mitigation efforts by encouraging the adoption of sustainable practices that reduce greenhouse gas emissions, such as conservation agriculture and agroforestry. Overall, scaling climate information and financial services for smallholder farmers in Uganda and Zambia has the potential to increase agricultural productivity, improve livelihoods, promote economic development, and contribute to environmental sustainability.

Furthermore, the project can provide numerous learning aspects for all involved stakeholders. Firstly, implementing such a project requires close collaboration between various stakeholders, including governments, development partners, financial institutions, and local communities. This collaboration will result in increased knowledge sharing and cooperation among these groups, leading to better understanding of each other's needs and challenges. Secondly, the project will also provide an opportunity to pilot and test innovative climate information and financial services models tailored to the specific needs and contexts of smallholder farmers in Uganda and Zambia. This will include testing the effectiveness of different communication channels for delivering climate information, such as mobile phones, radio, or community-based networks, and evaluating different financial products and services, such as microfinance loans or weather index-based insurance. Thirdly, the project will provide opportunities for training and capacity building for smallholder farmers, financial service providers, and other stakeholders. This will include providing training on sustainable agriculture practices, financial management, and climate risk management. Finally, the project will generate valuable data and evidence on the impact of climate information and financial services on smallholder farmers' livelihoods, resilience, and adaptation to climate change. This evidence could inform policy decisions and investment in climate change adaptation and mitigation efforts, not only in Uganda and Zambia but also in other similar contexts globally. Overall, this project will provide valuable learning aspects for all stakeholders involved, leading to more effective and sustainable solutions for climate change adaptation and poverty reduction.

Agriculture contributes significantly to the welfare of smallholder farmers in ESA, but it has become highly susceptible to climate change due to its reliance on the increasingly erratic rainfall patterns. Increasing the resilience of smallholder farmers in Uganda and Zambia through improving access to and scaling of ARM tools and services, thus enhancing smallholders? capacity to absorb and adapt to agricultural risks, is one important route towards improving the welfare of communities experiencing a changing climate and reduced land for agricultural expansion. Improving smallholders? access to and scaling of ARM tools and services means smallholders become less resource-constrained and risk-averse, making them far more likely to invest in micro-loans and micro-insurance to protect and expand their production. Literature suggests that increased agricultural productivity can improve the welfare of households by increasing their income and improving their food security, by producing their own food. On a broader scale, agricultural productivity through scaling of ARM products and services contributes to food security, economic development, and poverty reduction at the local and national scale.

At the local level, increased access to ARM tools and services impacts agriculture production both in quantity of the output and the kind of crop which is produced. Evidence suggests that, where these tools and services are not available, smallholder farmers tend to protect their production by diversifying their cultures. This often results in a shift from intensive specialized cash crops to more diversified subsistence production since the latter involves too many risks. At the national scale, this may result in a waste of potential natural resources. ARM tools and services, like insurance policies, promote higher specialization in cash crops and, consequently, a more rational use of land, labor, and other resources through modified crop patterns.

Similarly, when the farmer is supplied with ARM tools and services, he may be induced to invest more in his land with new technologies and farming practices, which will increase productivity. Empirical evidence

suggests that the risk aversion of smallholder farmers is larger the closer the incomes are to subsistence level. Farmers will hardly experiment with new technologies or practices that involve a good chance of being superior than the ones they are presenting using if it also carries a small chance of being worse (generally due to improper adoption). Removal of the risks inherent to the adoption of new technologies and practices contributes to higher productivity at the farm-level.

Data shows that in countries with higher agricultural productivity, the agricultural workforce faces a lower probability to be in vulnerable employment. This indicates that decent work gaps in agriculture can be addressed by increasing labor productivity in Uganda and Zambia, particularly in rural areas where agriculture is the dominant trade. Indeed, agricultural growth means more employment on-farm as labor demand rises per hectare, the area cultivated expands, or frequency of cropping increases. It also means more jobs in agriculture and food chain upstream and downstream of farms, as well as more jobs and higher-incomes in non-farm economy as farmers and farm laborers spend additional incomes. Increased jobs and incomes in a rural economy leads to better nutrition, better health, and increased investment in education among the rural population. They also generate more local tax revenues and demand for better infrastructure (roads, power supplies, communications), which leads to second-round effects of promoting the rural economy and rural development.

At the national level, when crops are negatively affected by climate risks, smallholder farmers find their incomes reduced, sometimes to levels which may cause bankruptcy which is accompanied by a loss of assets, interruption of production, and unemployment. ARM tools and services supply the smallholders with resources in difficult times and helps to stabilize the purchasing power, not only of the groups directly linked with agriculture (farmers and their employees) but also a series of indirect dependents of the agricultural sector (suppliers, shopkeepers, transportation industries, etc.). In developing countries, the income stabilizing potential of ARM products and services is vital.

Furthermore, in systems where agriculture risks are not managed properly, farmers severely affected by climate and other agricultural hazards turn to the government for assistance, but these indemnities are usually insufficient to fully indemnify the farmer. By and large, smallholder farmers who lack resiliency anticipate major ups and downs in the future incomes. This often results in a built-in-system of high prices for consumers, without a corresponding profit for the farmers. In systems where agricultural risks are covered, the concept of loss becomes more and more akin to that of regular production costs and this conceptual shift permits losses to be better incorporated into the market prices and to the amount otherwise contributed by the national economy.Therefore, improving access to and scaling of ARM tools and services for smallholder farmers also means price stabilization and a new allocation of resources at the national level.

In summary, the adoption and scaling-out of ARM products and services have many direct and indirect socioeconomic benefits, both at the local level and the national level. They are summarized in the table below.

	At the local level	At the national level

Direct economic benefits of the project (from increased adoption and scaling out of ARM products and services)	? The ability to protect against risks smallholder farmers would not be able to cope with otherwise ? A potentially more cost-effective way to manage risks than diversification or low-risk, low-yielding coping strategies ? Taking on more risk, such as adopting new technologies and farming practices that increase productivity ? More timely access to cash compensation and no need to borrow or liquidate assets, which helps to protect existing assets and speed recovery ? Better access to credit as a substitute for collateral, which enables farmers to purchase modern farm inputs and productive assets to improve productivity and incomes overtime ? Increased access to other financial services (savings account)	? Higher income security ? Creating a habit of understanding financial tools (not just in the agriculture sector) ? Creating a blue-print for ARM tools and services that can be scaled community-to-community ? Reduced government assistance
Indirect economic benefits of the project (from agricultural productivity and growth)	? Higher incomes for smallholder farmers ? More on-farm employment ? More jobs in agriculture and food chain ? More jobs and higher incomes in non-farm economy ? More local tax revenue and demand for better infrastructure ? Reduced prices of food for rural inhabitants ? Increased non-farm related investments (education, dowries)	? Reduced poverty ? Higher investments ? Economic development

Direct social benefits of the project	? Higher social security during crisis periods	? Higher food security and nutrition ? Financial capacity-building
Indirect social benefits of the project	? Improved nutrition and health ? Creating a pathway towards land ownership due to increased income ? Preserving family unity through preventing rural exodus	? Development ? Policy change

11. 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/Approval	MTR	TE
Low	Low		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

N/A for low risk projects

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ESS CIAT Project PIF	**Project PIF ESS**	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Objective: 200,000 smallholder farmers (of which 60% 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							
Component 1: INFORM							
Outcome 1.1: - **Smallholder farmers have increased access to tailored information on weather, climate, and agriculture risks and are able to manage on-farm risks more effectively**							
Output.1.1.1 - Scale-out Shamba Shape-Up based extension system	Number of farmers in target locations with Shamba Shape-Up delivery models	< 20,000 farmers in target locations with Shamba Shape-Up delivery models	Additional 80,000 farmers in target locations with Shamba Shape-Up delivery models	Additional 200,000 farmers in target locations with Shamba Shape-Up information delivery models	Shamba Shape-Up is broadcasted in target locations	Use of mass-media platforms can quickly raise awareness for climate change and adaptation solutions; Farmers will become more resilient to climate and agricultural risks	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 1.1.2 - Produce updated version of Let-it-rain game	Number of farmers in target locations participating in the Let-it-rain game	No farmers in target locations with Let-it-rain game	At least 8,000 farmers in target locations with Let-it-rain game	At least 20,000 farmers in target locations with Let-it-rain game	Let-it-rain game is available and used by key stakeholders	A simple gamified approach can stimulate smallholder awareness for climate change; Farmers will receive information about ARM tools that will make them more resilient to climate and agricultural risks	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output.1.1.3 - iShamba based extension system	Number of farmers in target locations with iShamba information delivery models	No farmers in target locations with Shamba Shape-Up & iShamba information delivery models	At least 8,000 farmers in target locations with iShamba information delivery models	At least 20,000 farmers in target locations with Shamba Shape-Up & iShamba information delivery models	iShamba information delivery models are available, functional, and used by key stakeholders	Use of mobile-based platforms systems can provide better tailored advisories on climate change and adaptation solutions; Farmers will become more resilient to climate and agricultural risks that are predominant in their regions	PMU
Outcome 1.2: - **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**							

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 1.2.1 - Develop risk maps and profiles by district and value chain	% of districts in target locations that have risk maps and profiles, including each value chain	<25% of districts in target locations that have risk maps and profiles, including each value chain	At least 50% of districts in target locations that have 1 risk maps and 1 profile per 3 value chains	At least 90% of districts in target locations that have 1 risk maps and 1 profile per 3 value chains	Risk maps and profiles by district and value chain that are available and used by key stakeholders	Sufficient weather, climate, and agricultural risk related information is available for the generation of risk maps and profiles; There is interest in the part of stakeholders to use these risk maps and profiles	PMU
Output 1.2.2 - Transfer farmer-generated data to agro-advisory and financial service providers	No of agro-advisory financial service providers in target locations who have access to farmer-generated data	No agro-advisory financial service providers in target locations who have access to farmer-generated data	At least 2 agro-advisory financial service products developed in target locations who have access to farmer-generated data	At least 5 agro-advisory financial service products developed in target locations who have access to farmer-generated data	Farmer-generated data is accessible and used by agro-advisory and financial service providers	There is interest in the part of stakeholders to use farmer-generated data; Farmer-generated data is used to better tailor climate information services, tools, and products	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 1.2.3 - Build digital platform for bundling	No of stakeholders in target locations that are able to access the ICT platform	No stakeholders in target locations that are able to access the ICT platform	At least 2 stakeholders in target locations that are able to access the ICT platform	At least 5 stakeholders in target locations that are able to access the ICT platform	ICT platform that is available, functional, and used by key stakeholders	There is interest in the part of stakeholders to use ICT platform; National and local capacity will be fostered sufficiently to manage and use such tools	PMU
Component 2: DESIGN and BUNDLE							
Outcome 2: **Smallholder farmers having access to financially sustainable and gender-inclusive bundled agro-advisory, financial products, and ARM tools tailored to their specific risk profiles, needs, and farm characteristics**							

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 2.1 - Develop framework for bundled financial products	No of agro-advisory and financial service providers in target locations that are using the framework	<10% of agro-advisory and financial service providers in target locations that are using the framework	At least 2 of agro-advisory and financial service providers in target locations that are using the framework	At least 4 of agro-advisory and financial service providers in target locations that are using the framework	Framework that is available, functional and used by key stakeholders	There is interest in the part of agro-advisory and financial service providers to use the framework ; Use of the framework will lead to more financially sustainable agro-advisory, financial products, and ARM tools	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 2.2 - Create a climate credit risk scoring system	Functional, usable and validated credit risk scoring system	No climate based credit risk scoring system available to service providers	Functional prototype of the climate credit risk scoring system	Integration of the credit risk scoring risk scoring system with stakeholders? platforms	Credit Risk scoring system that is available, functional and used by key stakeholders for climate smart lending product development	There is interest in the part of agro-advisory and financial service providers to use the risk scoring system; Use of the framework will lead to more financially sustainable agro-advisory, financial products, and ARM tools	PMU
Output 2.3 - Develop digitized systems for all farmer registrations and transactions	Number of farmer registrations and transactions in target locations that are digitized	No digital systems currently used by stakeholder in target locations	Functional prototype of the digitalization system	Integration of the digitalization system with stakeholders? platforms	Farmers registrations and transactions are uploaded on the ICT platform	Use of digital systems will help to better monitor the uptake of the products, and introduce transparency in financial transactions; promote responsible data sharing policies	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 2.4 - Design gender-inclusive financial (insurance, credit) bundle products	Number of agro-advisory and financial bundled products in target locations that are gender-inclusive	No agro-advisory and financial bundled products in target locations that are gender-inclusive	2 agro-advisory and financial bundled products in target locations that are gender-inclusive	5 agro-advisory and financial bundled products in target locations that are gender-inclusive	Gender-inclusive bundle products are available	There is interest in the part of agro-advisory and financial service providers to design gender-inclusive credit product bundles; These bundles will increase the number of beneficiaries who are women	PMU
Component 3: SUPPLY							
Outcome 3: - **Increased supply (by providers) and uptake (by smallholder farmers) of climate risk management products and services**							

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 3.1 - Deployed regular credit products with borrowers? limit determined through the climate-credit risk scoring system	Number of smallholders s in target locations that have access to the credit for farm input	No smallholders in target locations have access to credit based their ability to repayment	1,000 smallholders s in target locations, 60% of which are women, have access to climate-smart credit product	3,000 smallholders s in target locations, 60% of which are women, have access to climate-smart credit product	Climate smart credit products are used by smallholder farmers	Climate smart credit products minimizes the risk for lenders in case of climate shocks; women have access to higher credits even in the absence of collaterals	PMU
Output 3.2 - Deployed gender-inclusive insurance through providers of financial products/services	Number of smallholders s in target locations that are adopting gender-inclusive insurance bundles	0 smallholders s in target locations have adopted gender-inclusive insurance	3,000 smallholders s in target locations, 60% of which are women, have adopted gender-inclusive insurance	10,000 smallholders in target locations, 60% of which are women, have adopted gender-inclusive insurance product	Gender-inclusive insurance product bundles are used by smallholder farmers	There is interest in the part of smallholders to access insurance products to better manage risk during climate shocks	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 3.3 - Deployed blended indexed credit and insurance product pilot -	Number of farmers in the target locations that have access to the blended indexed product	No farmers in the target locations have access to blended indexed products	1,000 smallholders in target locations have access to this pilot product	3,000 smallholders in target locations have access to this pilot product	Number of bundle product based on blended indexed products that are available, functional and available financial service providers portfolio and accessible to the farmers	There is interest in the part of agro-advisory and financial service providers to offer a credit product that is linked with insurance to avoid losses in the loan amount during climate shocks; This pilot will lead to more financially sustainable financial products and ARM practices	PMU

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

GEFSEC comments at PIF:

1. Question on Point 6. Are the identified core indicators in Table F calculated using the methodology included in the corresponding Guidelines? ? Comment: The intention to further analyze and confirm the high level of impact ambition during project preparation is well noted and appreciated.

   Response: The ambition of the project has remained unvaried with respect to the PIF design phase, but based on experiences of the approach in neighbouring Kenya, it is expected that the

project will reach out to a very large audience, therefore underestimating some targets. During implementation, the indicators will be monitored diligently and reported on as described in the M&E section of the project document.

2. Question: During the PPG phase, please ensure that the project results framework captures the impacts also from ?tailored climate information services etc.?, ?agro-advisory?, and ?financial products?.

Response: The project results framework is shared in Annex 1, and is comprehensive as requested.

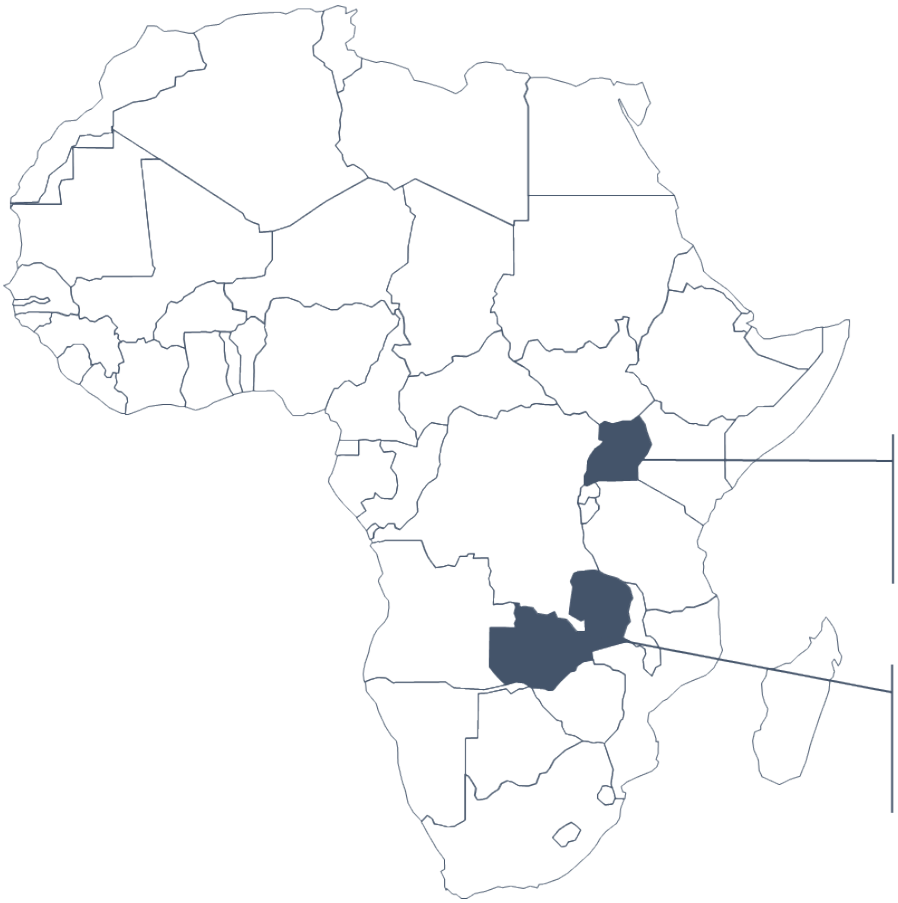
ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: USD 50,000			
Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent to date***	***Amount Committed***
Contracts (OPIM Capacity Assessment + LoA with CIAT)	45,000	0[1]	45,000
International Consultant (Financial management/OPIM Specialist)	5,000	0	5,000
Total	**50,000**	**0[2]**	**50,000**

[1] The full amount was anticipated by the Partner developing the project document and is showing as committed as it is being disbursed by FAO.

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



Uganda
Latitude 29.58 to 35.04
Longitude: -1.44 to 4.25

Zambia
Latitude 21.89 to 33.49
Longitude: -17.96 to -8.24

ANNEX E: Project Budget Table

Please attach a project budget table.

FAO Cost Categories	Unit	No. of units	Unit cost	Component 1		Component 2		Component 3		Component 4		M&E	PMC	TOT GEF	Main EA CIAT	Other EAs	FAO	Total GEF
				1.1	Total	2.1	Total	3.1	Total	4.1	Total							
5011 Salaries professionals																		
														0				0
5011 Sub-total salaries professionals				0	0	0	0	0	0	0	0	0	0	0				0
5012 GS Salaries																		
					0									0				0
5012 Sub-total GS salaries				0	0	0	0	0	0	0	0	0	0	0				0
5013 Consultants																		
Agriculture Risk Data Scientist (Project lead)	day	113	600	16,950	16,950	16,950	16,950	16,950	16,950	16,950	16,950			67,800	67,800			67,800
Climate information services specialist	day	80	550	17,600	17,600	13,200	13,200	8,800	8,800	4,400	4,400			44,000	44,000			44,000
Behavioral economist	day	55	600	3,300	3,300	11,550	11,550	14,850	14,850	3,300	3,300			33,000	33,000			33,000
Agriculture economist	day	61	600	3,660	3,660	12,810	12,810	16,470	16,470	3,660	3,660			36,600	36,600			36,600
Human center design specialist	day	60	550	13,200	13,200	8,250	8,250	8,250	8,250	3,300	3,300			33,000	33,000			33,000
Partnership and coordination	day	30	500	4500	4500	4500	4500	4500	4500	1500	1500			15,000	15,000			15000
Project financial analysis and		co-financed			0		0		0		0		0	0	0			0
Project lead (execution)		co-financed		0	0	0	0	0	0	0	0			0	0			0
Sub-total international Consultants				*59,210*	*59,210*	*67,260*	*67,260*	*69,820*	*69,820*	*33,110*	*33,110*	*0*	*0*	*229,400*	*229,400*	*0*	*0*	*229,400*
National Senior coordinator		co-financed			0		0		0		0			0	0			0
M&E Expert	day	30	550		0		0		0		0	16,500		16,500	16,500			16,500
Country coordinator Uganda	day	160	300	3615	3615	3,615	3615	3,615	3615	3,615	3615		33,540	48,000	48,000			48000
Country coordinator Zambia	day	160	300	3615	3615	3,615	3615	3,615	3615	3,614	3614		33,541	48,000	48,000			48000
Sub-total national Consultants				*7,230*	*7,230*	*7,230*	*7,230*	*7,230*	*7,230*	*7,229*	*7,229*	*16,500*	*67,081*	*112,500*	*112,500*	*0*	*0*	*112,500*
5013 Sub-total consultants				66,440	66,440	74,490	74,490	77,050	77,050	40,339	40,339	16,500	67,081	341,900	341,900	0	0	341,900
5650 Contracts																		
Mediae (develop and boradcast Shamba Shape Up tv episodes on climate/financial literacy)	lump sum	1	80,000	50,000	50,000		0		0	30,000	30,000			80000	80,000			80,000
iShamba (design let-it-rain and delivery of agro-advisory through the mobile platform)	lump sum	1	95,000	40,000	40,000	22,500	22,500	22,500	22,500	10,000	10,000			95000	95,000			95,000
ACRE Africa (distribution of	lump	1	70,000	0	0	20,000	20,000	50,000	50,000		0			70000	70,000			70,000
Financial Access (market analysis, development of climate-smart lending product)	lump sum	1	100,000	0	0	35,000	35,000	65,000	65,000		0			100000	100,000			100,000
Sprout Insurance (digitization of transactions)	lump sum	1	30,000	*7,500*	*7,500*	*7,500*	*7,500*	*7500*	*7,500*	*7500*	*7,500*			30000	30,000			30,000
IFPRI (design financial products)	lump	1	70,000	20,000	20,000	20,000	20,000	10,000	10,000	20,000	20,000			70000	70,000			70,000
CIMMYT (design financial products and support impact evaluation)	lump sum	1	50,000	10,000	10,000	15,000	15,000	10,000	10,000	15,000	15,000			50000	50,000			50,000
Audit (1per year Uganda+Zambia)	lump	1	17,000										17,000	17000			17,000	17,000
Spotchecks (10?, low risk, 1per year Uganda + Zambia)	lump sum	1	11,000										11,000	11000			11,000	11,000
Terminal Evaluation	lump	1	40,000									40,000		40000			40,000	40,000
Terminal Report	lump	1	7,000									7,000		7000			7,000	7,000
5650 Sub-total Contracts				127,500	127,500	120,000	120,000	165,000	165,000	82,500	82,500	47,000	28,000	570,000	495,000	0	75,000	570,000
5021 Travel																		
(Lump sum) International travel	lump	1	15,000	4000	4000	4000	4000	4000	4000	3000	3000			15000	15,000			15,000
(Lump sum) National travel	lump	1	10,000	2500	2500	3000	3000	3000	3000	1500	1500			10000	10,000			10,000
(Lump sum) Travel for training/workshops and meetings	unit	10	3000	8000	8000	12000	12000	6000	6000	4000	4000			30000	30,000			30,000
5021 Sub-total travel				14,500	14,500	19,000	19,000	13,000	13,000	8,500	8,500	0	0	55,000	55,000	0	0	55,000
5023 Training																		
Project inception meeting Zambia	lump	1	8,000	8,000	8,000	0	0	0	0					8000	8000			8000
Project inception meeting Uganda	lump	1	8,000	8,000	8,000	0	0	0	0					8000	8000			8000
Training on Climate Services in Uganda	lump sum	4	4,500	5,000	5,000	8000	8000	5000	5000					18000	18000			18000
Training on Fincial Services in	lump	4	4,500	5,000	5,000	8000	8000	5000	5000					18000	18000			18,000
Final Workshop Zambia	lump	1	8,000							8,000	8,000			8000	8000			8,000
Final Workshop Uganda	lump	1	8,000							8,000	8,000			8000	8000			8,000
5023 Sub-total training				26,000	26,000	16,000	16,000	10,000	10,000	16,000	16,000	0	0	68,000	68000	0	0	68,000
5024 Expendable procurement																		
Data collection survey tools; data storage; publications	lump sum	1	10,990	5,495	5,495					5,495	5,495			10990	10,990			10,990
5024 Sub-total expendable procurement				5,495	5,495	0	0	0	0	5,495	5,495	0	0	10,990	10,990	0	0	10,990
6100 Non-expendable procurement																		
														0				0
														0				0
6100 Sub-total non-expendable procurement				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5028 GOE budget																		
(Lump sum) misc. expenses																		
6300 Sub-total GOE budget				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL				239,935	239,935	229,490	229,490	265,050	265,050	152,834	152,834	63,500	95,081	1,045,890	970,890	0	75,000	1,045,890

SUBTOTAL Comp 1	239,935
SUBTOTAL Comp 2	229,490
SUBTOTAL Comp 3	265,050
SUBTOTAL Comp 4	152,834
M&E Budget	63,500
Subtotal	950,809
Project Management Cost (PMC)	95,081
TOTAL GEF	1,045,890

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

N/A

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

N/A

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

N/A