FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Global Food Security Strategy (GFSS)

Uganda Country Plan

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Acronyms

AfDB	African Development Bank
AGI	Agro Industrialization
AGRA	Alliance for a Green Revolution in Africa
AHA	Anti-Homosexuality Act
CAADP	Comprehensive Africa Agriculture Development Program
CBOs	Community-Based Organizations
CC IR	Crosscutting Intermediate Result
CGIAR	Consortium of International Agriculture Research Centers
COMESA	Common Market for Eastern and Southern Africa
DFC	United States International Development Finance Corporation
DO	Development Objective
EAC	East African Community
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FEWS NET	Famine Early Warning System Network
FTF	Feed the Future
FY	Fiscal Year
GDP	Gross Domestic Product
GFSS	Global Food Security Strategy
GOU	Government of Uganda
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IR	Intermediate Result
LGBTQI	Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDAs	Ministries, Departments, and Agencies
MoFPED	Ministry of Finance, Planning, and Economic Development
MoH	Ministry of Health
MPI	Multidimensional Poverty Index
MSMEs	Micro, Small and Medium Enterprises
MTIC`	Ministry of Trade Industry and Cooperatives
MWE	Ministry of Water and Environment
NAADS	National Agricultural Advisory Services
NARO	National Agricultural Research Organization
NDC	Nationally Determined Contribution
NDP	National Development Plan
NGOs	Non-governmental Organizations
NPA	National Planning Authority
OPM	Office of the Prime Minister
OWC	Operation Wealth Creation

PDM	Parish Development Model
PHL	Postharvest Losses
PSE	Private Sector Engagement
REFS	Bureau for Resilience, Environment, and Food Security
RFZ	Resilience Focus Zone
SACCO	Savings and Credit Cooperative Societies
SMEs	Small and Medium Enterprises
U.S.	United States
UBOS	Uganda Bureau of Statistics
UGX	Ugandan Shilling
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
USADF	United States African Development Foundation
USAID	United States Agency for International Development
USD	United States Dollars
USDA	United States Department of Agriculture
USG	United States Government
VACS	Vision for Adapted Crops and Soils
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization
ZOI	Zone of Influence

A. Country Context

A.1 Government of Uganda Priorities

The U.S. government's Feed the Future (FTF) initiative aims to reduce poverty, hunger, and malnutrition. In 2016, the U.S. Congress passed the Global Food Security Act which required the President to implement a whole-of-government Global Food Security Strategy (GFSS). The Uganda GFSS Country Plan that incorporates principles in the Vision for Adapted Crops and Soils (VACS) to agricultural systems in African countries is a country-specific plan that seeks to:

- Increase agricultural productivity and profitability.
- Improve access to markets.
- Promote sustainable food systems from production to consumption.
- Raise communities' resilience.
- Strengthen food and nutrition security.

The GFSS objectives are further aligned with the Comprehensive Africa Agriculture Development Program (CAADP), Africa strategy for agriculture reform and food system transformation goal of reducing poverty and hunger in African countries through agriculture led economic growth. The CAADP outline four priority areas to achieve this goal including extending the area under sustainable land management and reliable water control systems; improving trade related capacities for market access; increasing food supply, reducing hunger and improving responses to food emergency crises; and improving agricultural research, technology dissemination and adoption.

The GFSS objectives align with the Government of Uganda's (GOU) Third National Development Plan (NDP III) 2020/21-2024/25 that aims to increase household incomes, improve the quality of life of Ugandans, and help Uganda transform into a modern, prosperous nation (NPA 2020). Similar objectives are outlined in Uganda's Vision 2040, the GOU's overall development strategy (NPA 2012).

The NDP III outlines ambitious targets, such as reducing poverty rates by 2.9 percent over the five-year plan period, ensuring at least 90 percent of households are food secure by 2025, and reducing the rate of stunting of children under five from 29 percent in 2016 to 19 percent in 2025. These targets also align with the CAADP and global Sustainable Development Goals (NPA 2020).

To strengthen the agricultural sector, the NDP III aims to transform agriculture from subsistence to commercial production through the promotion of agro-industrialization, key agricultural enterprises, and good agricultural practices and by connecting smallholder farmers to value chains. It seeks to increase the annual rate of growth of the agricultural sector from 3.8 percent to 7 percent and reduce the proportion of households that are dependent upon subsistence agriculture from 69 percent to 55 percent over the five-year period from 2020/21 to 2024/25 (NPA 2020).

The NDP III Agro-Industrialization (AGI) Program, which aims to transform the agricultural sector and is implemented by the Ministry of Agriculture, Animal Industry, and Fisheries (MAAIF), comprises six sub-programs, namely: agricultural production and productivity; postharvest handling and storage; agro-

processing and value addition; market access and competitiveness; agricultural financing; and institutional strengthening and coordination. The Program has 17 indicators contributing to 10 outcomes. During the first year of implementation's performance review conducted in December 2021, the Program achieved targets for ten indicators (53 percent), made progress on one indicator (6 percent) and did not make progress on six indicators (41 percent). During an assessment of the first two years, agriculture production growth stagnated at 4.3 percent, while the program aimed for 7 percent growth. Performance has been affected by the COVID-19 pandemic restrictions, low budgetary allocations, constraints in land acquisition, inadequate technical staff, and lack of critical facilities such as laboratories (MAAIF 2021).

The Government of Uganda is currently developing the National Development Plan IV (NDP-IV) (2025-20300 with a goal of accelerating household incomes growth to improve quality of life and sustainable socio-economic transformation through five strategic objectives: 1) Accelerated sustainable production, productivity and value addition, 2) Strengthen private sector capacity to drive growth and create jobs, 3) Increase productivity, inclusiveness and well-being of the populations, 4) Increase stock and quality of productive infrastructure, and 5) Strengthen the role of state in development.

The GOU has several other interrelated plans and programs that are relevant to the FTF objectives. Regarding agriculture, the AGI Program Investment Action Plan is key. Of relevance to resilience are the National Adaptation Plan for Agriculture, Local Economic Development Strategy, the agricultural insurance scheme, the Amendment of the Land Act, and the Social Protection Policy.

The GOU updated its Nationally Determined Contribution (NDC) in 2022 supported by the National Climate Change Act, 2021, and developed an agriculture sector National Action Plan in 2018. The priority sectors identified for adaptation include environment and ecosystems, water and sanitation, agriculture, and forestry. However, climate adaptation efforts are constrained by inadequate local climate adaptation financing, low human and institutional capacity, limited access to international climate finance, and low capacity to develop or acquire climate adaptation technologies (Ministry of Water and Environment 2022).

Uganda has recognized the importance of addressing malnutrition and undernourishment and was one of the first countries to join the Scaling-Up Nutrition movement. The country rolled out its second multisectoral nutrition plan, the Uganda Nutrition Action Plan II, 2021-2025, which focuses on improving use of nutrition-specific and sensitive services, while strengthening the enabling environment (OPM 2020a). Through the Nutrition Secretariat at the Office of the Prime Minister (OPM), multisectoral nutrition programming is coordinated by the Policy Coordination Committee on Nutrition and the Multi-Sectoral Nutrition Technical Coordination Committee (OPM 2020a).

A.2 Poverty

Poverty has been a persistent problem in Uganda. The country took enormous strides in reducing poverty during the 1990s and 2000s, with the proportion of the population living below the national poverty line declining from 56.4 percent in 1993 to 19.7 percent in 2013 (World Bank 2016a). Unfortunately, since 2013 there has been a reversal with poverty increasing in many parts of the country, especially the rural areas.

The GOU started implementing the Local Economic Development Strategy as an approach to poverty reduction in 2014, but progress has stalled, with the proportion of the people living below the poverty line now standing at 20.3 percent using the same national poverty line of USD $1 (UBOS 2021b; NPA 2023). Poverty has been aggravated by lower economic growth and further worsened by the COVID-19 pandemic (NPA 2023).

Additionally, while 38.2 percent of Ugandans are currently in the middle-income category, many above the poverty line are at risk of falling into poverty (MoFPED 2023). In 2019/20, 41.5 percent of Ugandans were vulnerable to slipping back into poverty, with rural areas having a higher vulnerability rate (59 percent) compared to their urban counterparts (26 percent). The poorest households in the northern and eastern regions have the highest vulnerability rates of 66 and 64 percent, respectively (World Bank 2022).

Whereas the aforementioned poverty rates are based on a poverty line of USD $1 per capita per day poverty line, a revised per capita poverty line of USD $1.77 was introduced in 2019/20 to reflect recent changes in the consumption basket. Based on this figure, the rate of poverty in 2019/20 was 30.1 percent, with the rural poverty rate being 33.8 percent, compared with 19.8 percent for the urban centers (World Bank 2022).

Poverty By Geographic and Rural/Urban Area

Poverty rates vary based on geographic region. Despite the many government strategies and initiatives targeting economic recovery in the Eastern and Northern regions of the country, the regions have the highest poverty rates at 42 and 40 percent respectively. Sub-regions also experience different household poverty rates, such as 72 percent of the Acholi and 70 percent of Karamoja households experiencing monetary poverty. The Western and Central regions have lower poverty rates compared to the Northern and Eastern regions, 27 percent and 15 percent respectively. However, there is variation amongst the Western sub-regions. For example, Kigezi has a poverty rate of 41 percent, Tooro 27 percent, Ankole 24 percent, and Bunyoro 21 percent (World Bank 2022).

Additionally, while absolute poverty rates are higher in rural areas (23.4 percent) than in urban areas (11.7 percent), urban poverty increased between 2012/13 and 2019/20 due to rural-urban migration, the informal nature of many jobs, and poor working conditions (MoFPED 2023; World Bank 2022).

The Multidimensional Poverty Index (MPI) considers monetary poverty, education, health outcomes, asset ownership, housing, employment, and financial inclusion. The MPI was mostly stagnant, decreasing only slightly from 44.3 in 2016/17 to 42.1 percent of households nationally in 2019/20. The results also indicated an increase in the MPI in urban areas and a slight decrease in rural areas (UBOS 2022).

Poverty Among Women, Youth, and Refugee Populations

Poverty rates and MPI are also often higher among marginalized people.[1] For example, 50 percent of female-headed households are poor according to the MPI compared to 39 percent of male headed households in 2019/20. Poverty is also more prevalent among younger households with those households headed by persons aged 11 - 19 years of age having a higher incidence of monetary and multidimensional poverty than households where the head is older than 19 years of age (UBOS 2022). Due to cultural norms and practices, women and female-headed households generally lack access to the capital, finance, resources, and markets needed to fully participate in the economy and lack control and decision-making power over household finances and productive assets (USAID 2023). These constraints are exacerbated by the gender-based violence facing many women at home, work, school, and other locations.

[1] The U.S. government Global Food Security Strategy 2022–2026 takes an inclusive approach to development. It includes marginalized groups which it defines as including, but not being limited to "women and girls; persons with disabilities; LGBTQI+ people; displaced persons; migrants; Indigenous peoples and communities; youth; older persons; religious minorities; ethnic and racial groups; people in lower castes; and people of diverse economic classes and political opinions. These groups often suffer from discrimination in the application of laws and policy and/or access to resources, services, and social protection and may be subject to persecution, harassment, and/or violence" (USG, 2022 p. 13).

The Ugandan population is growing at a rate of more than 3 percent, the 8th fastest in the world, a rapid pace, which strains public service provision (NPA 2023). Furthermore, with a median age of 16.1 years old, Uganda's population is the second youngest in the world (CIA World Factbook 2023). Every year a larger number of youths are entering the workforce, and the rate at which they are entering the labor market is outpacing the rate of job creation. Furthermore, the investments made in education are not sufficient to ensure young people's needs are met (NPA 2023). The unemployment rate among youth is 16.5 percent and prevalence of youth engagement in the informal sector is 90 percent (9 out of 10 youth). While 37 percent of youth are employed, 41 percent are neither employed nor enrolled in school. Of the 37 percent of youth who are employed, 66 percent are engaged in agriculture, 25 percent in the service industry, and 8 percent in production (UBOS 2021a). The NDP III aims to increase the number of green jobs in the Ugandan economy, with a particular emphasis on employment and entrepreneurship among marginalized youth (NPA 2023).

Uganda also hosts over 1.6 million refugees, nearly half of whom are poor (UNHCR 2024). The refugee population continues to grow, exerting pressure on dwindling humanitarian assistance and natural resources. Access to agricultural land is a challenge amongst refugees, along with above average food prices and lack of livelihood opportunities. Due to instability in neighboring countries, Uganda expects an ongoing influx of refugees, exacerbating the drivers of poverty for this already marginalized group (FEWS NET 2023).

A.3 Hunger and Malnutrition

Uganda has made progress in reducing malnutrition. Between 2006 and 2022, Uganda demographic health surveys indicated stunting prevalence rates in children under five decreased from 38.7 percent to 24.4 percent, and the 2019/2020 Uganda Nutrition Panel Survey indicates that stunting prevalence dropped to 25 percent, with half as many girls as boys being stunted (OPM 2020b). The recent findings from the 2022 Uganda demographic health survey also indicated that between 2016 and 2022, there was a further decline in wasting from 4 to 3.2 percent and underweight from 11 to 9.7 percent (UBOS, 2023). According to the Ministry of health, undernutrition is a key contributor to 1 in 4 deaths in children under 5 years of age. Additionally, the exclusive breastfeeding rate in Uganda for children six months and below has also increased to 66 percent, which is above the World Health Assembly's global target of 50 percent (WHO 2022).

Despite these achievements, food insecurity and malnutrition are pervasive. Food insecurity has increased in recent years. Moderate and severe food insecurity increased from 66.3 percent in 2014/16 to 74.2 percent in 2020/22 of which 24.9 percent are experiencing severe food insecurity, albeit with regional variation (FAO, et al. 2023). Food insecurity is expected to spike among refugees given recent reductions in food rations coupled with rising prices (FEWS NET 2023). Only 8.7 percent of children aged 6-23 months consumed a minimum acceptable diet in 2018/19, and 26 percent of women aged 15-49 suffered from anemia in 2019/2020 (OPM 2020b).

The drivers of hunger and malnutrition are multisectoral; they include high illiteracy, poor water, sanitation, and hygiene practices, inadequate infant and young child feeding practices, detrimental gender and cultural norms, high poverty rates, low agricultural productivity, increasing climate change vulnerability, rising conflicts, increasing food prices, and high prevalence of pests and diseases. Lack of money and increased prices led to significant difficulties in accessing essential goods such as cooking oil, fuel, beef, bread, and rice by the poorest Ugandan households that participated in the June to August 2022 phone surveys conducted by the World Bank (Atamanov et al 2022). For example, poor water, sanitation, and hygiene (WASH) practices and food safety standards contribute to food and water borne diseases, resulting in repeated episodes of diarrhea, frequent and intense enteric infections, and poor gut health. The Ministry of Health (MoH) estimates that 1.3 million people suffer from food-borne diseases

annually, with children under five years of age accounting for 40 percent of that disease burden (USAID 2021).

Knowledge transfer on nutrition, WASH, and food safety best practices is also undermined by poor education and low literacy rates. In 2021, only 74 percent of females and 84 percent of males over 15 years of age were literate, although that is a dramatic improvement from the early 90s when only 45 percent of women and 68 percent of men were literate (World Bank 2023). Given the synergistic and multifaceted nature of nutrition, all of these challenges must be addressed simultaneously in order to improve nutrition well-being.

A.4 Agriculture

The agriculture sector contributed 24 percent to the national gross domestic product (GDP) while employing 63 percent of the economically active population in 2021 and contributing more than half of the country's export earnings (UBOS 2020a; World Bank 2023). While the majority of the economically active population in Uganda were engaged in agriculture, 9 percent were engaged in industry, and the remaining 28 percent worked in services.

Agricultural Labor

Labor productivity in agriculture was stagnant at about $700 per person from 1991 to 2019. Over the same time period, labor productivity in both services and industry increased from $1500 and $2000 per person in 1991 to more than $5000 per person in 2017 (World Bank 2023). The agro-processing sector (categorized as part of industry) has made remarkable strides with labor productivity in agro-processing, increasing by nearly 40 percent from 2009/10 to 2016/17. Agricultural productivity was stagnant over the same time period (Guloba et al. 2021). Indeed, the GOU has made agro-processing a key area for development in its NDP III, which sets a target of increasing labor productivity in the agro-industrial value chain from USD $2,212 in fiscal year (FY) 2016/17 to USD $3,114 in FY 2024/25 and achieving the same level of growth experienced by the services and industrial sector (NPA 2020).

Agriculture and the Private Sector

The challenges of developing the private sector, including agriculture and agro-processing businesses in Uganda, are systemic. In 2019, the World Bank ranked Uganda 116th of 190 countries in terms of the ease of doing business (in any sector of the economy) and 60th out of 101 countries in terms of its enabling the business of agriculture index (World Bank 2020 and World Bank 2019a). The United States Agency for International Development's (USAID) experience shows that governance problems are persistent, with tax laws and policies unpredictably or unlawfully applied to businesses. High interest rates coupled with unattainable collateral requirements restrict access to capital and inhibit entrepreneurism.

Successful private sector engagement (PSE) in Uganda requires USAID to partner with organizations, associations, and commercial entities that can navigate complex and extensive challenges. To address private sector constraints, USAID/Uganda elevated the importance of the private sector and takes a whole-of-Mission approach to support the private sector through the PSE working group, coordination on interagency initiatives such as Power Africa, Prosper Africa and the Embassy Deal Team, and implementing activities which support improved PSE in Mission programming. PSE intervention includes creating an enabling investment policy environment for the private sector to thrive, mobilizing private capital to improve access to finance for private businesses, supporting business development services to improve productivity and efficiency, supporting the adoption production and marketing technologies such as those that support productive use of energy, and providing competitive and performance-based incentives to businesses to increase direct partnership with the private sector.

Crops

Uganda's agricultural potential is anchored on the country's favorable temperatures, fertile soils, and biannual rainy seasons over much of the country, leading to multiple crop harvests per year. The key staple crops produced in Uganda are maize, beans, bananas, cassava, and sorghum, while coffee, tea, vegetable oil, and fish products are the key export commodities (UBOS 2020b). There has been a decline in banana, cereal, root crop, and pulses yields attributed to declining soil fertility, climate change, pests and diseases, and there is a 50-75 percent yield gap between actual on-farm and research station yields; however, the potential for higher yields exists (World Bank 2019b). By one estimate, agricultural yields could increase by 45-90 percent depending on the location within the country, taking into account the country's abundant land and water resources, weather patterns, soil fertility, adapted crops, and seasonality (FAO et al. 2023).

Livestock

Livestock is also a major source of livelihoods for households living in the cattle corridor districts and Karamoja. In 2019/2020, livestock products contributed four percent to the GDP and 16 percent to the agricultural sector's GDP, and demand for livestock products is increasing (MoFPED 2021). Milk production increased by 193 percent from 2.81 to 5.4 billion liters between FY 2020/21 and FY 2021/22, and the export value increased from USD $98.8 million in 2021 to USD $103 million in 2022. Beef exported was 247,234 kg valued at USD $782 million (UGX 2.944 trillion) as compared to USD $270 million (UGX 1.018 trillion) fetched in the year 2021 (State of Nation Address 2023).

In the Karamoja sub-region, cattle, goats, and sheep provided owners with benefits valued at USD $444 million in, particularly for milk, blood, live and dead animal offtake, and plowing (Behnke and Arasio 2019). Despite the value and potential of livestock, the Karamoja region has struggled to fully profit from the sector. Herd sizes in Karamoja have decreased in recent years due to lack of pasture, grazing lands, and water resources, commercialized cattle rustling, and pests and diseases (World Bank 2019b).

Smallholder Farmers

Smallholder farmers lack access to the services needed to boost production. Although agriculture extension services[2] exist, public and private sector extension services have limited staff, poorly trained staff, inadequate funding, and limited private-public partnerships (Barungi et al. 2016). In 2020, only 5 percent of farmers have access to government extension services (UBOS 2020b).

Access to finance is also a major constraint. Nationwide, only 12.2 percent of overall credit goes to the agricultural sector and the uptake of credit by farmers is 11 percent. Of the 46 percent of all adults who borrowed money for any purpose, only 3 percent of borrowers borrowed from formal lending institutions. Informal channels account for 57 percent of loans, banks account for 16 percent, and 24 percent are from other formal financial institutions (World Bank 2019b). Additionally, despite the boom of mobile money platforms and financial technologies in Uganda, these services are limited in rural areas and the lack of information, communication, and technology networks impede smallholder farmers' access to these types of financial services (World Bank 2018a).

Women and Youth in Agriculture

Women and youth face unique challenges within the agriculture sector. Sixty eight percent of working women are engaged in the agricultural sector compared to 58 percent of working men (World Bank

[2] A wide range of institutions provides agricultural extension in Uganda. The institutions can be categorized into (a) public extension institutions, (b) public research and education institutions, (c) private sector firms, (d) non-governmental organizations, and (e) farmer-based organizations and cooperatives.

2018a; Merotto 2020). Despite the demographic composition in the sector, men continue to control sales, pricing, and marketing, while also enjoying higher value land, higher value livestock (such as cattle), and higher value crops (such as coffee). Although a large share (31.2 percent) of households is female-headed (UBOS 2021a), women lack many fundamental rights, including those related to land inheritance (Among et al. 2021). A 2018 survey estimated that 31.1 percent of women owned or held rights over the land that they cultivated, compared to 48.7 percent of men (UBOS 2019a). Additionally, land ownership and land use decisions are made by men on their own or by men and women jointly in the same household, respectively 41 and 34 percent of households. Women make decisions on their own only 25 percent of the time (Hill et al. 2018).

Youth also face barriers to employment in agriculture; they are unable to own or access land and lack finance as well as technical skills needed for successful agribusiness startups; these problems are more pervasive among young women than young men. (MAAIF 2017).

Water for Agriculture

Water is critical both for domestic consumption and production, and national resources are plentiful. In Uganda, water resources are estimated to be 66 km^3 per year, corresponding to about 2,800 m^3 per person, per year; however, there is uneven spatial and temporal distribution (Nsubuga 2014). For example, the Karamoja subregion has only one rainy season and fewer renewable water resources, while the remainder of Uganda has a biannual rainy season.

In 2006, the GOU began promoting participatory Integrated Water Resources Management and subsequently developed a policy strategy to deconcentrate it at the catchment level. This catchment-based water resources management approach seeks to protect the catchments which sustain water recharge, storage, and flows for various uses, including farming livelihoods. Often these catchments are characterized by forests or wetlands, and agriculture production threatens these ecosystems. For example, 22 percent of wetland areas are used as sources of water for agricultural production. Uganda's ratio of cultivated area under irrigation to the irrigation potential is only 0.5 percent. This compares lowly to 3.6 percent for Tanzania, 2.0 percent for Kenya, and 1.6 percent for Burundi.

Many smallholder farmers depend on rain as a source of water for production. However, to boost agricultural production and productivity, it is important that smallholder farmers embrace small-scale irrigation where it is feasible.

Constraints to Boosting Agriculture Yields and Productivity

In order to harness Uganda’s agriculture growth and commercialization potential, constraints across the value chain and food system must be overcome. Agricultural research is one of the areas critical to addressing complex factors including climate change, emerging pests and diseases, and malnutrition affecting food systems and human well-being (Beddington et al 2012 and Fanzo et al 2020).

At the farm gate, there are significant constraints to boosting yields.

- First, more than 97 percent of Ugandan farmers depend on rainfed agriculture, with less than one percent using irrigated systems (UBOS 2020b).

- Second, smallholder farmers are unable to achieve economies of scale, with 67 percent of households farming less than one hectare total, and only 41 percent of adults owning land or having land tenure rights (UBOS 2020a). Most of the smallholder farming households use their own lands for production and fewer than two percent of smallholder households rent land (World Bank 2019b).

- Third, only 4 percent of Uganda farmers use fertilizers and seeds of improved crop varieties and supportive services (NPA 2020).

- Fourth, most farmers, the private sector, and others, especially small and medium enterprises (SMEs), have inadequate or no knowledge regarding production of safe and high-quality products, low compliance with quality control and quality assurance systems, and poor storage facilities. Additionally, the lack of adequate policies and poor implementation of quality control and quality assurance principles hampers enforcement of standards (Habasa 2018).

Further down the value chain, lack of agro-processing product standards and postharvest losses (PHL) are a major constraint. Although Uganda lacks data on the volume and value of PHL, studies have found that many agricultural commodities in Uganda and throughout Sub-Saharan Africa have 25 percent or more PHL (Affognon et al. 2015; Strecker et al. 2022). PHL leads to inefficient food systems, wasted production costs, increased consumer prices, and food and nutrition insecurity (Strecker et al. 2022).

Agro-processing accounts for approximately 60 percent of Uganda's total manufacturing sector output (Fowler and Rauschendorfer 2019). Agro-processing is a crucial sector for value addition, reducing PHL, smoothing seasonal price and supply fluctuations, increasing market stability for producers and consumers, and diversifying product markets (Jenane et al. 2022). Unfortunately, limited data on gross margins, prices, production volumes, and local consumption makes planning difficult, and many Ugandan farmers lack knowledge and ability to meet sanitary and phytosanitary standards. If data availability and quality standard issues were overcome, Uganda would be well placed to take advantage of regional and global exports (Fowler and Rauschendorfer 2019).

A.5 Risk and Resilience Context

The importance of resilience is critical as Uganda faces many natural and anthropogenic hazards, including landslides, mudslides, flooding, prolonged dry spells, drought, crop and livestock diseases and pests, conflict, and food prices (World Bank 2021). Recently, Uganda has suffered from COVID-19 movement restrictions, food price spikes associated with Russia's War in Ukraine, and unpredictable weather patterns, and the impact was evident. When the GOU imposed COVID-19 movement restriction, poverty rates increased and agriculture value chains were disrupted, affecting household incomes and forcing value chain actors to transition to other livelihoods. When Russia invaded Ukraine, the price of imported fuel increased by 85 percent, affecting the price of goods and services. Although increased prices of oilseed and maize benefited certain farmers and businesses which lessened the impact of the war on the Ugandan economy as a whole, the price of staple foods and farm inputs continued to rise to levels that became unaffordable to many (Diao et al. 2022). Such shocks, particularly variable weather patterns, are likely to increase.

Risk Due to Conflict

Another challenge facing Ugandan households is that of multiple, overlapping forms of conflict. Each type of conflict may be limited to a single region, or it may affect multiple regions. Such conflicts are related to governance and corruption, health, politics, and elections as well as armed conflict. Other types of conflict are more obviously related to agriculture and food security; these include conflict over land and other natural resources as well as conflicts between pastoralists and crop producers. Each type of conflict has its own drivers and impacts on the population. Regarding land and other natural resources for instance, conflict often arises as a result of decisions to extract natural resources without consulting affected communities. Better communication and involvement of locals in decision-making may be helpful in such cases. Conflict sensitivity in programming is crucial for successful development outcomes.

Risk Due to Climate Change

Climate change is expected to impact Uganda, affecting its agriculture and other parts of daily life. A USAID assessment predicted that by 2030 temperatures will increase by more than 2°C in Uganda. The northern and southwestern regions are projected to have the highest temperature increases, between 2.5 and 3°C by the 2050s. Rainfall projections are uncertain, ranging from a decrease of seven percent to an increase of up to 14 percent by the 2030s compared to the 1970-1999 observed average. Overall, there is consensus that unpredictable rainfall and the higher likelihood of extreme weather events leading to floods, landslides and droughts will reduce the extent of arable land, shorten growing seasons, and alter the occurrence and distribution of pests (MWE 2022).

As Uganda depends on rainfed agriculture for production, climate change could lead to a reduction in yields of food crops such as cassava, maize, millet, and groundnuts as well as those of export crops such as coffee and tea. The rising temperatures and erratic rainfall patterns may increase soil erosion and shorten growing seasons; create conditions for increased crop pests and diseases; and increase postharvest losses. Communities' adaptation options for addressing climate change include improved water capture and storage, efficient irrigation structures, improved pasture management practices, adoption of drought tolerant crops, improved fisheries resource management, and improved weather forecasting and dissemination of information (USAID 2013; World Bank 2021). Increasing temperatures and warming is expected to alter the feed/water access and intake, mortality, growth, reproduction, maintenance and production of animals—all of which have a negative impact on livestock productivity (Kipkoech, et al. 2015).

The economic costs of the impact of the changing climate on agriculture are substantial. According to the World Bank estimates, Uganda lost USD $44 million annually to drought-related crop losses as well as suffered a 70 percent decline in livestock population from 2009 to 2019 due to degraded pasture and water resources, cattle rustling, and livestock diseases and pests (World Bank 2019b). The findings of another study of the economic impacts of climate change reveal that the largest impact of climate change on agriculture is on food crops. The loss on food crops is estimated at about USD $1.5 billion per year by 2050 (considering eleven crops: cassava, groundnuts, maize, millet, pigeon peas, potatoes, rice, sorghum, soybean, sugar cane and sweet potato) (MWE 2015). Prolonged dry spells and drought will cause severe water shortage, leading to loss of animals, low production of milk, food insecurity, increased food prices, and a general negative effect on the economy (MAAIF 2018).

In addition, increased temperature and changes in rainfall intensity, distribution, and patterns are likely to have a direct effect on ecosystem functions, services, and species distribution and survival throughout Uganda. Projected climate change is likely to adversely affect the hydrological cycle of forested water catchments by weakening their capacity to maintain water cycles and recharge groundwater. This impact is likely to lead to a significant shift in flora and fauna distribution, disturb the ecological balance between species, cause habitat degradation due to increased prevalence of invasive species, and increase the occurrence of wildfires. The geographic hotspots likely to be affected by climate change include Bwindi Impenetrable Forest; Rwenzori Mountains; Queen Elizabeth, Kidepo and Kibale National Parks; Echuya, Budongo and Mount Kei Forest Reserves; and the Pian-Upe-Bisina-Opeta wetlands complex.

Increases in average temperatures and the frequency of extreme weather events threaten fisheries and aquaculture. Sustainable aquaculture can offer an alternative to production of other protein sources that emit more carbon and when done responsibly can support climate change mitigation. Changes in production and harvesting are necessary to further improve the sustainability of fisheries and aquaculture, such as reducing overfishing, lowering fuel use in capture fisheries on Lake Victoria, using fishing gear types that are less destructive to the environment, and sourcing more sustainable insect or plant-based feed for aquaculture. Effective management plans, proper location siting and regulatory

regimes are essential to reducing the potential negative impacts of aquaculture production on the environment.

Risk Due to Lack of Adaptive Capacity

Individuals, households, communities, and systems have varying ability to adapt and mitigate shocks and stressors. Poverty, poor education, low literacy rates, and limited access to financial and productive assets limit their resilience. The Ugandan agriculture system, and the farmers working within the system, are particularly vulnerable to the growing threat of shocks and stressors. The resilience of smallholder farmers to risks can be enhanced by adoption of climate smart technologies, including water conservation for irrigation when there is drought and irregular rainfalls as well as access to climate and disaster risk information through early warning systems (World Bank 2018a).

At system level, the vulnerability is exacerbated by limited capacity for the Uganda National Meteorology Authority to generate and disseminate reliable and accurate weather and climate information (MWE 2015). The meteorological information is necessary to understand current and future climatic risks to food systems and develop appropriate adaptation strategies. Farmers and decision makers have limited access to reliable and accurate weather and climate information. The existing weather observation network is inadequate, characterized by outdated observation instruments and inadequate coverage. Most of the important weather equipment is either grounded or not reliable (MWE 2015).

System and Governance Risks

At the national system level, there are overlapping mandates between sectors, resulting in conflicting goals and outputs, missed synergies between sectors, and lack of accountability. There is limited technical capacity among national and local government staff to mainstream climate change and Disaster Risk Reduction issues in planning and budgeting. Some of the policies and plans from the various governmental sectors are not aligned or coordinated. The coordination faces a challenge of limited equipment and low staffing by the Climate Change Department, which is the lead agency for climate change issues. Climate change related sectors, including agriculture, natural resources and land management received the least proportions of the budget, partly demonstrating limited government commitment to sectors highly vulnerable to climate change. As a result, a number of climate initiatives at the national and local levels remain unimplemented (MAAIF 2018).

Uganda has a Disaster Risk Reduction policy that aims to establish institutions and mechanisms that will reduce the vulnerability of people, livestock, plants, and wildlife to disasters in Uganda (OPM 2010). However, the policy recognizes that the high magnitude of the disasters is more a result of the country's inadequate planning and preparedness and patchy uncoordinated responses. It acknowledges that efforts to reduce disaster risks must be systematically integrated into policies, plans and programs for sustainable development and poverty reduction, supported through bilateral, regional, and international cooperation and partnerships.

Potential Contributions to Adapting To and Mitigating Impacts

In addition to adapting to climate change, the Ugandan agricultural sector can contribute to mitigation efforts. Agriculture is the second largest contributor to Uganda's greenhouse gas emissions, contributing 26.9 percent, followed by energy (10.7 percent) and waste (2.3 percent). The major sources of emissions from agriculture and food systems are livestock manure, cultivation of lowland paddy rice and dairy livestock value chains. Uganda has committed to halt and reverse forest loss and land degradation by 2030 and to increase forest cover from an estimated 12.5 percent in 2020 to 15 percent in 2025 and 21 percent in 2030.

In the updated NDC, examples of proposed mitigation actions include Climate Smart Agriculture, sustainable fuelwood and commercial charcoal production, large scale commercial timber plantations, restoration of natural forests in the landscape, energy efficient fuelwood and charcoal stoves, climate-smart livestock management, and wetland and peatland management (MWE 2022). As an example of a mitigation effort, the country launched a 40 million tree planting campaign in 2021, focusing on forest restoration using indigenous trees, important for maintaining the native ecosystem genetic diversity, which supports development of more diverse, climate-adapted trees and crops.

GFSS programs have the potential to make important contributions to adaptation and mitigation of impacts.

- For communities living adjacent to the protected areas, GFSS programs can support agro-based livelihood options that promote conservation of natural resources, thereby reducing pressures on protected areas while reducing poverty and improving nutrition.

- To mitigate damage to crops and property when wildlife moves to private lands looking for water and pasture during prolonged dry seasons, GFSS programs can support interventions to address resulting human-wildlife conflicts which affect agriculture, food security, and nutrition.

- To contribute to emission reductions, GFSS programs could support Climate Smart Agriculture, energy efficient fuelwood and charcoal stoves, climate-smart livestock management in the cattle corridor, and wetland conservation and management.

A.6 Partnership Landscape

USAID Uganda engages with a range of development partners: the GOU, USG interagency, development organizations and institutions, non-governmental and civil society organizations, the private sector, and research organizations and institutions. The Mission also strengthens the partnership landscape, particularly in supporting the GOU in improving its systems and supporting national policies and regulations.

Government of Uganda

The U.S. government (USG) aligns with GOU priorities and works closely with the relevant line ministries, including the OPM, MAAIF, MoH, the Ministry of Education, the Ministry of Local Government, the Ministry of Trade, Industry and Cooperatives (MTIC), Ministry of Tourism, Wildlife and Antiquities (MTWA), and Ministry of Water and Environment (MWE). Uganda also has a decentralized system, requiring the USG to engage district governments to provide agriculture, food security, and nutrition services.

USG Interagency Partners

The USG interagency including Peace Corps, USAID, USDOS, USDA, USADF, and DFC agriculture development programs implemented in Uganda are aligned with the Agency GFSS and GOU priorities. For example, through the Peace Corps, FTF supports Volunteers to build grass-roots capacity to reduce food insecurity in Uganda through an integrated response to specific, locally identified organizational, technical, financial and communication needs. The Peace Corps role and strategy is to narrow down the focus area to implement a project that focuses on economic development and less on agriculture to allow greater outcomes and impact.

Development Organizations and Institutions

Numerous development partners actively invest and work in Uganda to achieve similar objectives in food security, agriculture, and nutrition, and they coordinate through Development Partner (DP) Groups. The DP Groups, in which the Mission is an active participant, include Agriculture, Karamoja, Private Sector, Development Economists, Nutrition, Health, Access to Finance, Water, and Environment and Climate Change. Meetings are held each month. These coordination structures help streamline advocacy with the GOU, facilitate exchange of information on programming, identify areas for collaboration, ensure close collaboration, avoid overlap of interventions, and facilitate exchange of documentation and data. Their effectiveness varies both between the DP Groups and over time, depending on the make-up of the individual groups and the way in which their operations are managed. However, the possibility of using the DP groups to provide meaningful support for individual development partners' development strategies and country programs may be limited.

The major development partners supporting agricultural development programs in Uganda include the World Bank, International Fund for Agricultural Development (IFAD), African Development Bank (AfDB), European Union (EU), USAID, DFC, German Agency for International Cooperation (GIZ), Japan International Cooperation Agency (JICA), and Danish International Development Agency (DANIDA). The 2020 Uganda Agriculture Development Partners' Group assessment report indicated that donor contributions to agriculture programs in Uganda in the 2020-2025 period is about USD 1 billion. See Table 1 for a list of major contributions from the major development partners as well as the Netherlands and South Korea. This contribution list does not include USAID.

The World Bank, IFAD, the African Development Bank (AfDB), Denmark, Japan, Germany, EU and Netherlands work in the Karamoja, West Nile, Lango, Western, Southwestern, Acholi, and Elgon sub-regions, which will provide opportunities for collaboration and complement USG-funded programs in the Zone of Influence (ZOI) (Uganda Agriculture Development Partners' Group 2020).

Non-Governmental and Civil Society Organizations

USAID also works with International and local non-governmental organizations and civil society organizations actively engaged in the agriculture, food security, WASH, and nutrition sectors. These include the Centre for Food and Adequate Living Rights, Civil Society Budget Advocacy Group, Alliance for a Green Revolution in Africa (AGRA), Soroti Rural Development Agency, Uganda Women's Network, National Association for Women's Action Development, Participatory Ecological Land Use Management, Slow-Food Uganda, Hunger Fighters Uganda, Food for the Hungry, Volunteer Efforts for Development Concerns, Feed the Children, Slow Food Uganda Youth Network, Youth Go Green, and Action Against Hunger and the International Institute of Rural Reconstruction.

Table 1: Major Development Partners and Their Estimated Contributions to Agricultural Development, 2020-2025

Major Development Partners and Countries	Contribution 2020-2025
World Bank	$377,100,000
International Fund for Agricultural Development (IFAD)	$140,000,000
African Development Bank	$130,800,000
Danish International Development Agency (DANIDA)	$91,000,000
Japan International Cooperation Agency (JICA)	$50,000,000
German Agency for International Cooperation (GIZ)	$49,000,000
Food and Agriculture Organization of the United Nations (FAO)	$48,000,000
The Netherlands	$28,000,000
South Korea	$22,000,000

The Private Sector

The majority of the private sector in Uganda are family-owned micro, small, and medium enterprises (MSMEs) with low capital investment and inefficient technologies. Most of the private sector interests are well-represented on commodity-based stakeholder platforms and through the Private Sector Working Group. Among the larger private sector actors engaged in food purchases, processing, or distribution are Aponye, Mandela Millers, Egypt Uganda Limited, Grain Pulse, Rawat Food Industries, and Reco Industries. Numerous smallholder farmers and SMEs including women and youth are also involved and sometimes organized through farmers' associations and cooperatives. Farmers' organizations could be strengthened to operate as viable business entities.

Research Institutions and Universities

Research institutions and universities generate significant evidence for the FTF program. Makerere University's College of Agriculture and Environmental Sciences (CAES) and Department of Food Technology and Nutrition, the National Agricultural Research Organization (NARO), and Serere Agricultural Institutes in Eastern Uganda all invest in generating new agricultural innovations. The Consultative Group on International Agricultural Research (CGIAR), including the International Livestock Research Institute, the International Institute of Tropical Agriculture, and the International Food Policy Research Institute (IFPRI), all operate within Uganda.

Strengthening the Partnership Landscape

Despite the commitment to sustained agricultural growth and increased food security in Uganda, there are constraints in the partnership landscape. Ministries and Agencies of the GOU remain critically under-funded and under-staffed, creating a disconnect between the many well-conceived strategies, plans, and working groups, and their operationalization and implementation. USAID/Uganda's Multisectoral Nutrition Country Plan notes that, although the government has made commitments to improving nutrition, it has not set aside adequate funding and relies mostly on donors and development

partners to finance nutrition programming. At the country level, efforts for multi-sector nutrition coordination through the nutrition secretariat at the OPM exist but remain inadequate. Additionally, basic mandates concerning the agriculture sector are dispersed across GOU Ministries and other GOU institutions and programs—including National Agricultural Advisory Services (NAADs), the military-affiliated Operation Wealth Creation (OWC), and the Parish Development Model (PDM)—working on advisory services and other socio-economic transformation interventions. The uncoordinated nature of these programs is a challenge for MAAIF's leadership to effectively deliver on its mandate. Further compounding these challenges is a lack of coordination among donors and between donors and the government, especially during implementation.

USAID/Uganda FTF programs supported the development and implementation of several policies and regulations in the past ten years to create an enabling environment for agricultural growth. The interventions strengthened various Ministries, Departments, and Agencies (MDAs) to deliver on their mandates. For example, some interventions enabled MAAIF to get additional government budget allocation to establish the National Food and Agriculture Statistics System (NFASS) database. Another intervention helped establish public-private sector dialogue platforms for the coffee, maize, and bean value chains.

However, several challenges still affect the implementation of policies and regulations. The challenges include weak capacity and the failure of the GOU to allocate resources for implementation and enforcement of the regulations; the inability of the traders and businesses to conform to the East African Community (EAC) product quality standards; and the imposition of non-tariff barriers by EAC member states on Ugandan products such as sugar, dairy, and grains.

Additionally, Uganda has passed laws, established policies, and implemented programs to improve the regulatory framework, gender equity and some aspects of social inclusion, including one of the most progressive refugee policies in the world (World Bank 2016b). The GOU recently passed the Anti-Homosexuality Act (AHA). The AHA imposes harsh penalties, including life imprisonment, or, in some instances, the death penalty for Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex (LGBTQI+) related activity. The Act will formalize persecution of LGBTQI+ individuals and limit their ability to access services and freely participate in society and the economy. However, the USG programs are open to all Ugandans without discrimination, funding is always channeled through local organizations and nongovernmental organizations, and inclusion issues will be handled on a case-by-case basis by the programs to ensure participation of marginalized and underrepresented populations.

Coordinated donor efforts in the development and implementation of specific policies and regulations and working with policy champions at the GOU MDAs and the private sector are key to successful policy development and implementation (USAID 2020).

B. Targeting

B.1 Map of Zone of Influence

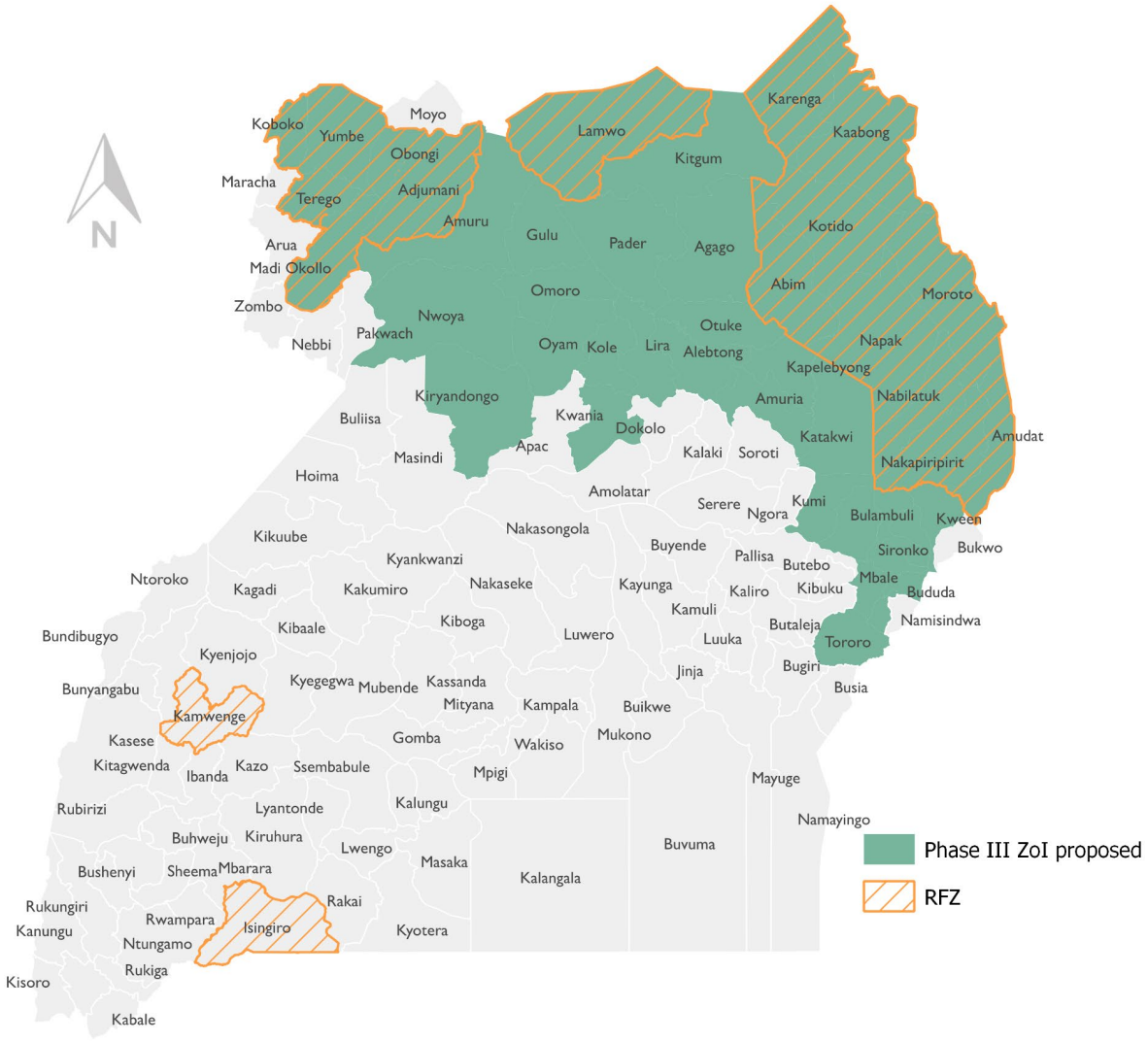


Figure 1: FTF Phase III Zone of Influence, overlaid with the current Resilience Focus Zone

B.2 Description of Zone of Influence

The ZOI guides where the USG targets and measures the success of FTF investments from FY 2023 to 2027. In order to determine the next ZOI iteration, the FTF agencies, led by USAID, reviewed past ZOIs (Figure 2) and analyzed where there was a balance between need and the potential for agriculture-led growth.

The Phase I ZOI (from 2011 to 2017) focused on districts that: (i) recorded the highest production volumes of at least one of the three focus agricultural value-chains (coffee, maize, and beans); and (ii)

suffered from high rates of poverty and malnutrition. The Phase I ZOI covered 38 districts[3] and 14.3 million people, representing roughly 41 per cent of the country's population as of 2014.

During Phase II (from 2018 to mid-2023), FTF agencies continued to promote agriculture-led growth, with a shift away from commodity value-chains to a broader focus on the food system. The Phase II ZOI also prioritized areas with high vulnerability, high stunting rates, significant private sector and partnership potential, close proximity to protected areas and biodiversity hotspots, and potential to build on USG investments. The ZOI covered 38 districts, which increased to 41 districts as the GOU gazetted new districts over the five-year period. The USG believed that targeting areas where there was a confluence of vulnerability, need, and partnership represented the best opportunity for reducing poverty, improving nutritional outcomes, and increasing the resilience of the population.

In order to select the Phase III ZOI, FTF agencies, led by USAID, assessed poverty, malnutrition, and agriculture opportunity indicators and trends. Using a USAID Bureau for Resilience, Environment and Food Security (REFS) model, USAID identified areas with both high need and agriculture opportunity, and proposed target areas based on population density and budget availability.[4] The FTF team also considered the presence of other USG and Mission activities (i.e., education, health, etc.), location of development partner and GOU programming, the location of protected areas and biodiversity hotspots, basic sanitation coverage, and regions with protracted crises and humanitarian needs. The impact of climate change was also considered; however, the projections indicate that Uganda as a whole will be affected, albeit differently. Therefore, climate change was not integrated into the ZOI selection criteria but will be a critical factor when designing activities for specific ZOI districts.

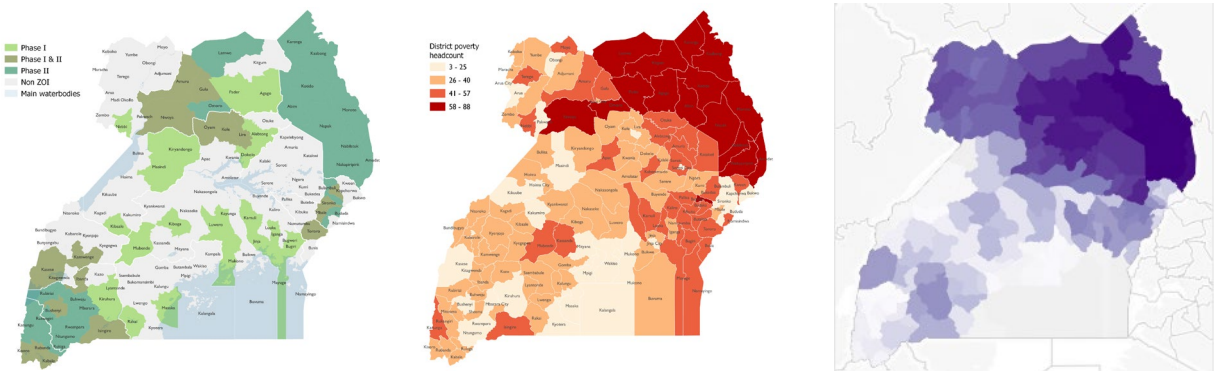


Figure 2: (i) Phase I and Phase II ZOI locations; (ii) District poverty headcount data (MoFPED, 2021); (iii) REFS model priority districts when need and agricultural potential are equally weighted (where darker purple is higher priority, and white is low priority).[5]

The Phase III ZOI selection is based upon three priorities: (i) concentrating FTF resources in contiguous areas where there is high need and agriculture opportunity; (ii) building on past investments from previous ZOIs; and (iii) graduating districts with lower poverty rates. The Phase III ZOI will cover 42

[3] The Government of Uganda gazetted new districts since 2014, and the Phase I ZOI would now be in 53 districts using the new administrative boundaries.

[4] The REFS model integrated population data, aggregate yield achievement ratio (FAO GAEZ), priority farming systems, multidimensional poverty (UBOS, 2019/20), DHS stunting prevalence (UDHS, 2016), agriculture trade opportunity (generated using COMTRADE regional trade flows, major road, and domestic trade hub data).

[5] The REFS model integrated population data, aggregate yield achievement ratio (FAO GAEZ), priority farming systems, multidimensional poverty (UBOS, 2019/20), DHS stunting prevalence (UDHS, 2016), and agriculture trade opportunity (generated using COMTRADE regional trade flows, major road, and domestic trade hub data).

districts, spanning the West Nile, Acholi, Lango, Karamoja, Teso, and Bugisu sub-regions (see Annex 3). Based on UBOS 2021 population projections, the ZOI population is 10.4 million people, with approximately 5.3 million people living below the poverty line (see Annex 3). The ZOI spans different agriculture livelihood zones. Thus, FTF will design interventions based on the primary livelihood zone(s) in targeted districts (Annex 3).

The Phase III ZOI has graduated the southwest districts. Based on the REFS model and the 2022 Population Based Survey (PBS) data, the southwest is not the priority area for investment and is on a more positive development trajectory compared to other regions. For example, the midline PBS[6] found the prevalence of poverty in the southwest Phase II ZOI decreased by 7.2 percent compared to baseline, with the lowest poverty rate compared to the eastern, Karamoja and northern ZOI regions. Additionally, the percentage of households in the lowest asset-based wealth quintile was 4.6 percent, compared to 23, 84, and 46 percent respectively in the eastern, Karamoja and northern regions. The southwest also appears to have made progress on nutrition and water indicators. Forty-eight percent of women of reproductive age achieved minimum dietary diversity compared to the 31 percent at baseline, and only 30 percent of respondents experienced water insecurity compared to 47, 59, and 34 percent in the eastern, Karamoja, and northern regions respectively. There are southwestern districts with high poverty rates, needs, and agriculture potential; however, FTF has strategically decided to concentrate investments in a contiguous area in the north and east, rather than single out a few districts in the southwest and potentially dilute the impact of USG investments. Nutrition (HL.9) funds are programmed and implementation is through integration with other GH funds such as MCH at regional level including the southwest, Lango and Acholi regions.

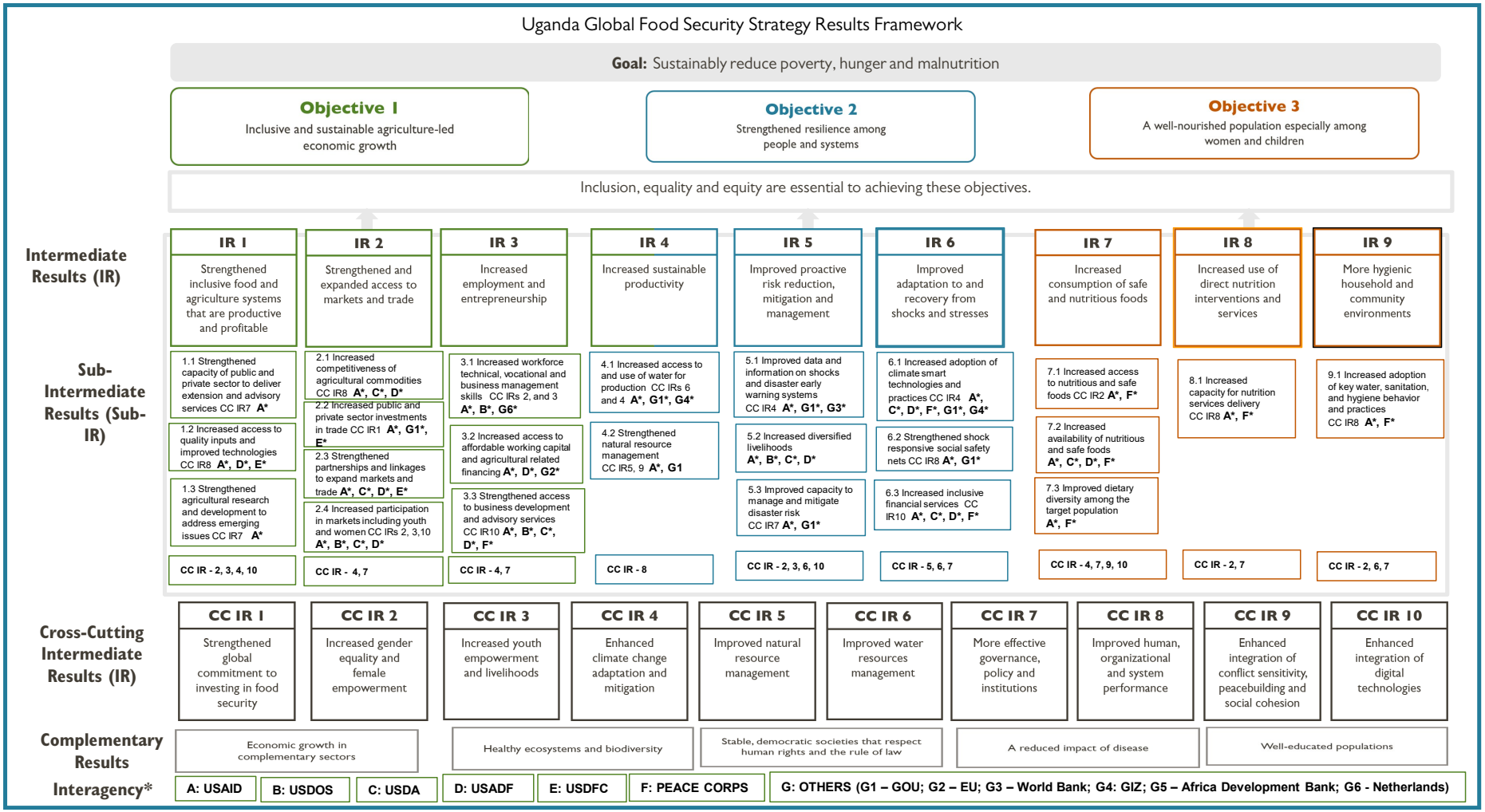
Currently, there is significant overlap between the Resilience Focus Zone (RFZ) and the Phase III ZOI. The RFZ will continue to cover a total of 18 districts, with nine districts in the Karamoja sub-region and nine refugee-hosting districts. The Phase III ZOI will overlap with 16 of the RFZ districts (excluding Kamwenge and Isingiro in the southwest), thus allowing for intentional intervention sequencing, layering and integrating to improve the transition from humanitarian to development programming.

Overall, the ZOI and the expanded approach supports the objectives outlined in Uganda's NDP III, to reduce poverty from 20.3 percent in FY 19/20 to 18.5 percent by 2025 and for the country to achieve middle-income status by 2040.

[6] The Phase II Population Based Survey (PBS) baseline assessment took place in 2019 and the midline assessment in 2022. The PBS is a population-level survey within the FTF ZOI to track progress on key FTF indicators.

C. Results Framework

C.1 Results Framework Figure



C.2 Results Framework Summary

Uganda's GFSS Country Plan and Results Framework for FY 2023–2027 uses a food systems approach to reduce global poverty, hunger, and malnutrition. In partnership with the GOU, development partners, the private sector, and civil society, FTF investments aim to improve natural resource management, strengthen agricultural markets, increase the consumption of nutritious food, and promote resilience of households and communities. Investments also complement adoption of healthy sanitation and hygiene behaviors and address crosscutting issues, including a systems approach to food and water security, equity and inclusion of marginalized groups, climate change mitigation and adaptation, local solutions, shock responsiveness, conflict mitigation, and integration of humanitarian-development approaches.

The plan also incorporates principles included in the Vision for Adapted Crops and Soils (VACS) which seeks to adapt agricultural systems in Uganda and other African countries to the anticipated challenges of climate change. As part of FTF, VACS aims to improve soil health and fertility, identify nutritious and climate-resilient indigenous African crops, and marshal the necessary resources to scale up production and provide a sustainable source of nutrition.

By supporting inclusive and sustainable agriculture-led growth, strengthening resilience among people and systems, and investing in a well-nourished population, the poverty, hunger, and malnutrition rates in Uganda are expected to decrease significantly. The Uganda GFSS Country Plan and Results Framework aligns with and complements the overall objective of the USAID Uganda Country Development Cooperation Strategy (CDCS) 2022–2027 to support Ugandans to achieve their Vision 2040. The GFSS Country Plan also aligns with the Uganda Multi-Sectoral Nutrition Action Plan, the Climate Change Analysis of the USAID/Uganda CDCS 2022–2027, and the USG Global Water Strategy High Priority Country Plan.

C.3 Rationale for Specific IRs

Objective 1: Inclusive and sustainable agriculture-led economic growth

Intermediate Result (IR) 1: Strengthened inclusive food and agriculture system that is productive, profitable and sustainable

To strengthen the inclusive food and agriculture system so that it is more productive, profitable and sustainable, FTF aims to address the key bottlenecks facing actors in Uganda's food and agriculture system.

One of the sub-IRs of IR 1 includes strengthening the capacity of the public and private sector to deliver inclusive extension and advisory services (sub-IR 1.1). This will not only increase the number of agricultural extension agents, but also improve agents' communication capacity and technical know-how so that the information and support they provide to farmers is timely and more effective. To achieve sub-IR 1.1, there will be a need to "retool" agricultural extension agents by strengthening their capacity to deliver services that respond to emerging issues (such as climate stressors) and harness private sector models that embed advisory services to farmers.

There is a need to improve farmers' access to quality inputs and improved technologies (sub-IR 1.2) to increase production and productivity. This includes a strategic need to focus on technologies that increase on-farm productivity, such as high-quality inputs (seeds and fertilizers), disease and drought tolerant varieties, and solar-powered irrigation systems that can be deployed by farmers. An important part of improving the quality of agricultural inputs is addressing the issue of counterfeit inputs through enhanced enforcement of existing regulations.

Furthermore, there is a need to strengthen agricultural research and development to address emerging issues (sub-IR 1.3), specifically improving the human resource and institutional capacity of the national agricultural research systems, including the NARO and universities, and improving collaboration with other global and regional research organizations. A successful transformation of Uganda's food system will require a focus on dissemination and adoption of existing technologies and agricultural research to produce new crop varieties and animal breeds that are high yielding and resistant to pests and diseases, improve technologies and practices, address emerging threats to crop and livestock production, and develop other productivity-enhancing practices.

IR 2: Strengthened and expanded access to markets and trade

A key factor in the success of the three sub-IRs of IR 2 is the increased competitiveness of Ugandan agricultural commodities (sub-IR 2.1) in the domestic, regional, and international markets. Improved competitiveness can be achieved through increased private sector investments in postharvest handling techniques and technologies for processing and value addition, including access to productive use of energy. Competitiveness can also be strengthened through better enforcement of product quality standards, regulations, and certifications. For improved competitiveness to be achieved, it is important that the value addition processes use modern technologies and energy-efficient equipment to attain better quality products for the market. The implementation of effective policies and regulations will complement competitiveness and attract investments in the trade sector.

Improvement in the distribution of agricultural commodities and products through increased public and private sector investments in trade (sub-IR 2.2) is also important. Such investments will improve the production and movement of food and agricultural products from parts of the country with a surplus to areas where food is scarce, thereby improving resilience and food security countrywide, while increasing exports to the regional markets. Improved distribution also provides opportunities for youth and women to engage in food trade and distribution, which will reduce household income inequality in the country.

Poverty reduction depends on improved economic opportunities, including strengthened partnerships and linkages to expand markets and trade (sub-IR 2.3). This is especially critical for women, youth, and marginalized populations who face significant barriers to full economic participation.

Increased participation of women and youth in trade and market activities (sub-IR 2.4) might include work in produce aggregation, value addition, and cross-border trading. Such work might provide employment for many young Ugandans who enter the labor market every year.

IR 3: Increased employment and entrepreneurship

Increasing employment and entrepreneurship opportunities in agriculture is key to inclusive and sustainable agriculture-led economic growth. Increased employment and entrepreneurship opportunities provide income and livelihood opportunities, especially for the landless, extreme poor, marginalized groups, youth, and women. In Uganda, the agricultural, fisheries, and forestry sectors employ nearly 70 percent of the workforce and have the potential to employ more, especially in rural areas.

The agricultural sector and agriculture-related jobs require a workforce with improved technical, vocational, and business management skills (sub-IR 3.1). This may include aligning the training courses offered with the skills demanded by the private sector and job market; linking trainees with programs that offer entrepreneurial opportunities, job placements, and internships; and establishing mutually beneficial relationships with private sector enterprises to coach and mentor startups on business processes.

Strengthening the capacity of GOU to develop and implement policies that create an enabling environment for private sector investment and access to affordable working capital and agricultural-related financing (sub-IR 3.2) will enhance business expansion and entrepreneurial opportunities to create employment.

Strengthening access to business development and advisory services (sub-IR 3.3) by the agricultural small and medium enterprises (agri-SMEs) is key to attaining investment readiness, achieving sustainability, and increasing employment opportunities in the agricultural and related sectors. Much progress can be made in improving access to affordable finance by training farmers and business owners on bookkeeping, and streamlining business systems and processes that may help them qualify for agricultural credit and insurance. Microfinance and lending institutions can also benefit from capacity building that enables them to better understand the needs of borrowers in order to tailor loan products that reflect the needs of agri-SMEs and their own institutions.

Objective 2: Strengthened resilience among people and systems

IR 4: Increased sustainable productivity

Increased sustainable productivity that is more efficient, environmentally sustainable, and resilient to shocks and stresses such as climate change, pests, and diseases is key to reducing poverty, hunger, and malnutrition. Increased adoption of soil conservation practices, and improved water availability to crops is key to sustainable productivity. FTF recognizes the need to increase access to water for production and consumption in order to mitigate the risk of conflict.

Increased access to water for production (sub-IR 4.1) addresses common natural shocks and stresses including prolonged dry periods, floods, and erratic rainfalls that lead to crop failures and lack of pasture for livestock, negatively affecting sustainable productivity. FTF will support smallholder farmers and other food system actors in the adoption of integrated approaches to water and land resource management that increases resilience and availability and affordability of water for production.

By strengthening natural resource management (sub-IR 4.2), FTF interventions can improve the sustainability of agricultural productivity, reduce greenhouse gas emissions, and help mitigate climate risks. Unsustainable practices lead to increased carbon emissions, soil degradation, water pollution, and habitat destruction, and negatively impact agricultural productivity. Identifying climate risks and adapting to those risks minimizes negative environmental impacts that may undermine sustainable productivity.

IR 5: Improved proactive risk reduction, mitigation, and management

Common disasters faced by communities in Uganda include floods, drought, landslides, outbreak of human diseases, crop and livestock diseases and pests, cattle raids, economic shocks, and land use conflicts. These shocks and stressors can occur simultaneously or sequentially, further undermining the ability of households, communities, and systems to respond. Multivariate shocks are likely to increase in the future given Uganda has been rated the 14th most climate change-vulnerable country in the world (Notre Dame 2023). Therefore, building resilience that empowers households, communities, and systems to mitigate, adapt, and recover from disasters is crucial.

USAID/Uganda aims to improve data and information availability on shocks as well as disaster early warning systems (sub-IR 5.1), increase livelihood opportunities that are diversified (sub-IR 5.2), and improve the capacity of households and communities to manage and mitigate risks from disasters (sub-IR 5.4). FTF interventions will support institutions to plan for and respond to shocks and build the capacity of key institution staff to gather and share data. For example, FTF will support district disaster response coordination with the National Emergency Center and relevant government entities that are

critical for effective service delivery (such as the Uganda National Meteorological Authority for weather forecasts).

FTF will also support interventions that reduce and mitigate risks to smallholder farmers including investments in formal and traditional early warning systems, crop and livestock insurance, rainwater harvesting and solar-powered irrigation technologies, abiotic and biotic-stress tolerant crops, rangeland management, and integrated water resource management.

Finally, FTF will support households to diversify their livelihoods both on- and off-farm, which will minimize the risks associated with relying on agricultural production alone as a source of income.

IR 6: Improved adaptation to and recovery from shocks and stresses

To improve adaptation to and recovery from shocks and stress, FtF aims to strengthen sources of resilience amongst households and communities. These sources are classified as human capital, diversified livelihoods, relationships/networks, and effective systems. This intermediate result is intertwined with the other FtF objectives.

FTF will invest in improving the individual and institutional capacity to engage in or access inclusive financial services (sub-IR 6.3). For example, FTF will promote informal group savings while also linking them to the formal financial sector. Thus, members will be able to borrow money for daily life or in response to emergencies.

FTF will continue to support households to engage in more diversified livelihoods, such as promoting on- and off-farm livelihoods and increasing access and adoption of productivity-boosting and climate-smart technologies and practices (IR 6.1). Relevant climate-smart technologies and practices include, but are not limited to, improved crop varieties and livestock breeds (i.e., drought-tolerant, disease-resistant, etc.) and soil and water conservation techniques. FTF will also promote shock-responsive safety nets (sub-IR 6.2), such as crop and livestock insurance, to protect livelihoods and allow households to recover faster.

FTF aims to build social capital in targeted communities, thus strengthening relationships and networks. Risk perception, self-efficacy, aspirations and empowerment all contribute to households and communities' ability to break cycles of intergenerational poverty. Therefore, FTF will continue to work to support and promote group-based programming to build networks, such as Village Savings and Loans Associations, farmer cooperatives, and producer organizations.

FTF will also support and promote effective systems, including food and water systems, cross-border trade, market systems, and governance systems. Individuals, households, and communities are a part of and benefit from these systems. Therefore, FTF will work to build the resilience of these systems so that services and products, such as climate-smart agriculture assets (i.e., solar-powered irrigation, etc.), financial products, and others are available prior, during, and after a shock or stressor.

Objective 3: A well-nourished population, especially women and children

IR 7: Increased consumption of safe and nutritious food

To reduce malnutrition in the population, particularly among women and children, FTF aims to use a food systems approach to increase access to nutritious food (sub-IR 7.1) through home production and purchase from markets. FTF will also increase availability of nutritious food (sub-IR 7.2) through local production and trading across regions within the country and improve dietary diversity, especially among women, children, and marginalized populations (sub-IR 7.3).

FTF will encourage the production and consumption of nutrient-dense and bio-fortified food, such as vegetables, fruits, legumes, animal source foods, orange-fleshed sweet potato, and iron-rich beans. FTF will also promote fortification of grain and other products through the private sector. Any surplus production will be made available on the market for other consumers to purchase, and these sales will increase household incomes. FTF will promote backyard gardening, poultry and small ruminant rearing, and food preservation techniques in order to increase the availability of nutrient-dense food in all seasons, either for household consumption or for the market.

To improve food safety, FTF will strengthen regulatory and management systems for food safety and quality and build local capacity to implement food safety and improved postharvest handling practices. To help ensure that households consume a diverse diet, FTF will use social and behavior change communication to provide nutrition-related information and education and build the capacity of community-based women's groups and heads of households to improve feeding practices. FTF will also support income-generating activities to enable households to purchase food from markets.

IR 8: Increased direct use of nutrition interventions and services

Together with the USAID/Uganda Office of Health and HIV/AIDS, FTF will support and coordinate interventions that strengthen the capacity of the health system including the public and private institutions to increase the delivery of nutrition services (sub-IR 8.1), especially to children under five years of age, women of reproductive age and marginalized populations in the FTF ZOI. This can save lives within populations experiencing severe food insecurity, for example through the referral of malnourished children and adults to health care facilities for treatment. The nutrition interventions and services will be delivered in coordination with the implementation of the Country Multi-Sectoral Nutrition Action Plan and USAID/Uganda Office of Health and HIV/AIDS priorities that includes direct nutrition specific programs as part of maternal and child health and nutrition services.

IR 9: More hygienic household and community environments

The increased adoption of key WASH practices (sub-IR 9.1) by households and communities in the FTF ZOI will improve health and nutrition status by reducing incidences of diarrhea and infectious waterborne illness, especially among children. Sustainable access to clean and safe drinking water depends on improved water resources management aligned to Crosscutting (CC) IR 5. FTF will create awareness among targeted participants, such as smallholder farmers and farmer groups, on the importance of adopting key hygiene behaviors, access to clean and safe drinking water, food safety, and improved sanitation at the local markets, household, and community level. Improved sanitation will be achieved in coordination with implementation of the USG Global Water Strategy Uganda High Priority Country Plan.

C.4 Rationale for IRs Not Selected

The suggested IRs are essential for achieving the GFSS three objectives. USG investments in Uganda prioritize IRs 1–9 of the Uganda GFSS Results Framework for 2022–2026. The first eight IRs are funded through FTF activities. IR 9 emphasizes WASH, which is addressed by USG programs other than FTF. The USG Global Water Strategy includes programming that can help to achieve IR 9. FTF does have an important role to play by sharing key WASH messages with its program participants, such as smallholder farmers or farmer groups.

C.5 Alignment with the CDCS

This GFSS Country Plan directly contributes to CDCS Development Objective (DO) 1: Increased Health Security by strengthening health systems (IR 1.2) and to DO 2: Resilient Growth Enhanced more broadly. The GFSS Country Plan contributes to the intermediate results under DO 2, which are: economic opportunities, incomes, and assets increased (IR 2.1); food and nutrition security of vulnerable households improved (IR 2.2); natural resources and biodiversity sustainably and inclusively managed (IR 2.3); and education and social support for children and youth delivered (IR 2.4).

C.6 Assumptions and Risks

Table 2: Key assumptions and risks for achieving Feed the Future impact pathways in Uganda

Assumptions
• Good relations between USG and the GOU. • Continuity of government operations, including relatively peaceful transitions of power. • Consistent government policies related to sustainable economic growth and sustainable agriculture and development. • The GOU will create an enabling environment for the private sector to invest in the economy. • No major civil unrest or conflict that will disrupt operations in the country for a prolonged period. • The GOU and other partners will provide complementary funding and support in the GFSS focus areas. • There is no resurgence of pandemics and emergencies which substantially affect the economy.
Risks
• Public investments in infrastructure are inadequate, hindering access to markets by smallholder farmers and electric power for value addition by agri-SMEs. • Civil unrest due to changes in public policies, such as the removal of subsidies or increased prices for basic needs items. • Poor coordination among stakeholders (donors, government, private sector, civil society, etc.), both within each stakeholder group and across stakeholder groups. • Continued lack of enforcement of laws and regulations that govern the quality of agricultural inputs and outputs. • Prolonged disruptions in global trade and increased commodity prices affecting domestic and regional agricultural markets and access to agricultural inputs. • Occurrence of crises and climate-related natural hazards (e.g., droughts, floods, storms).

C.7 Relevance for the Five GFSS Priorities

- **Equity and Inclusion:** This is integrated across all IRs and is the core of Uganda's CDCS and GFSS Country Plan approach. Given Uganda has the second largest population of young people in the world and that the youth population is struggling to participate in the economy, it will be important to actively engage young people in programming. Women are engaged in agriculture but lack access to many key resources for success; they are also an important population to target for FTF interventions. Refugees, indigenous groups, persons with disabilities, and LGBTQI+ persons are also among those prioritized by the FTF programs.

- **An Ambitious Approach to Climate Change:** Programming will address both adaptation and mitigation to climate change, so that agricultural production continues despite droughts and floods, natural resources are used sustainably, and climate-related production risks are reduced.
- **Pro-actively Counter the COVID-19 Pandemic's Long-Term Effects:** FTF's efforts will continue to focus on economic growth and poverty reduction being achieved through sustainable agriculture development and livelihood resilience. This approach supports economic recovery from numerous shocks, including the COVID-19 pandemic and the spike in global food prices caused by the war in Ukraine.
- **Work Across Relevant Areas of Food Systems:** Uganda's GFSS Results Framework uses a food system approach. It addresses issues along the value chain from production to consumption, starting with input markets and continuing to address farmer needs, distribution and transport, trade, processing and manufacturing, retail, food services (including public procurement), and the consumer.
- **Integration of Conflict Mitigation, Peacebuilding, and Social Cohesion:** Given ongoing conflict concerns in Uganda especially in the Karamoja sub-region and parts of the western region, as outlined earlier in this document, it is crucial to apply a conflict-sensitive and do-no-harm lens across all IRs and programming that is part of the GFSS.

The GFSS Country Plan considers the overarching inclusive approaches including food systems, market facilitation, and layering of interventions to improve resilience integrated into the six program components. These are key pathways for transforming the Ugandan food system to achieve the three objectives in the Uganda GFSS Results Framework (RF). The program components were informed by the food systems' cross-market functions and the key constraints and opportunities highlighted in the stakeholder consultation workshop (Annex 1) and outlined in the country context described earlier in this document. The program components may be addressed as an activity or will be included as key objectives for the activities contributing to the IRs, Crosscutting (CC) IRs, and sub-IRs to achieve expected outcomes of the three GFSS objectives in reducing poverty, hunger, and malnutrition in the ZOI. The overarching approaches (D1) and six program components (D2-7) are discussed in the next section entitled "Program Components".

D. Program Components

D.1 Programmatic Approach

The Uganda GFSS Country Plan has adopted various approaches to achieve the three high-level and ambitious objectives described earlier (agriculture-led economic growth, strengthened resilience, and a well-nourished population).

- **Food systems approach.** The food systems approach takes into account the integrated parts of the food value chain from production to consumption to achieve the three high level objectives to reduce poverty, hunger and malnutrition in the ZOI. The approach involves a range of actors and systems engaged in the stages of food production, processing, distribution, and consumption. This also includes partnerships with regional and global actors to ensure sustainability, cost-effectiveness, and resilience of GFSS food security and nutrition programs in Uganda. Partnerships also enhance the production, productivity, affordability, and marketing of nutritious foods; they comprehensively address climate change, water, and natural resources management, as well as other environmental considerations associated with food.

  Within the food systems approach, FTF interventions pursue opportunities under three broad value chain categories. The interventions select categories depending on the region(s) of interest, the population targeted, and the objectives of the intervention. The value chain categories are:

  - ***Commodity value chains:*** These are value chains for the crops and livestock that are primarily produced for trade and markets. They have high income-generating potential, particularly those traded regionally and internationally. Investments in commodity value chains, particularly the downstream segments of the value chain (agro-processing, export, etc.), stand the greatest chance of driving changes in regulation, trade, and income generation at the enterprise and household levels.

  - ***Staple value chains:*** These are value chains for crops and some livestock that are a large share of the diet for households, especially those that are lower income. They are also produced for the market. The end-markets for staple value chains are local and regional. Advances in staple value chains will generate increased household incomes and improved food security for many Ugandans.

  - ***Nutritious foods value chains:*** These are value chains for crops and livestock that are produced primarily for the market and that have high nutritional benefits to the producing household and end consumer. Investments in these value chains strengthen the marketplace to enable sufficient variety and quantity of nutritious foods available to meet consumer demand year-round.

- **Market facilitation approach.** In the market systems approach, the USG leverages the roles and behaviors of current actors within the marketplace to strengthen the market system and the relationships among the various actors, including farmers. To leverage the current roles and behaviors, the USG supports actors to continue doing what they are doing either more productively or to change what they are doing. The USG mitigates market risks and provides incentives for efficient, inclusive, and resilient market behaviors to occur, which ultimately leads to a strengthened system that can sustainably deliver goods and services to all market players.

- **Integrated resilience approach.** An integrated resilience approach ensures that FTF investments help achieve and sustain human well-being and, in the extreme, avert crisis and poverty due to shocks and stresses, such as pandemics, conflict, and climate change. Through the integrated resilience approach, the USG intends to reduce humanitarian assistance needs, especially in areas of recurrent crises, and improve and protect well-being outcomes from shocks and stresses. Resilience programming focuses on the RFZ, which has complete overlap with the GFSS ZOI; however, resilience is relevant for activities across the ZOI.

D.2 Program Component 1: Increase access to high-quality agricultural inputs

The adoption of soil conservation and soil-health improving practices following models that are well established internationally; and an improved agricultural input system will contribute to the GFSS Country Plan goal (sustainably reduce poverty, hunger, and malnutrition). This will enable smallholder farmers to adopt soil-health improving practices such as crop residue retention and minimum tillage to enhance soil organic matter content; and access to improved seeds, fertilizers, farm tools, pesticides for controlling pests and diseases, and equipment and products for crop management and reducing PHL. Program Component 1 contributes to Objective 1, specifically IR 1, sub-IR 1.2 "Increased access to quality inputs and improved technologies" through farmers accessing quality inputs to increase crop and livestock production, implementation of anti-counterfeit input policies, adoption of fertilizer use efficiency, and facilitating adoption of EAC and Common Market for Eastern and Southern Africa (COMESA) farm input policies. It also contributes to IR 2, sub-IR 2.2 "Increased public and private sector investment in trade" through SMEs agro-dealers/agro-vets engaged in marketing and distribution of agro-inputs. It also contributes to crosscutting IRs (CC IRs) 2, 3, 4, and 10 through women and youth owned agro-input and veterinary businesses, adoption of climate-resilient crop varieties and livestock breeds, and use of mobile money and other digital technologies by farmers to access inputs and output markets.

The areas of investment may include:

- Enabling importers, manufacturers, traders, dealers, and other actors to buy and sell high-quality, certified agricultural inputs to farmers.
- Promoting access to equipment that supports production, such as tractors, plows, and solar-powered irrigation systems.
- Generating demand for high-quality inputs and enhancing the capacity of farmers to identify and avoid counterfeits and adulterated inputs.
- Supporting the harmonization of Ugandan agricultural input policies with the standards and regulations set by the EAC and COMESA, especially in seed policy and fighting counterfeits.
- Building the capacity of private sector partners and financial institutions to work with food system stakeholders to facilitate access to quality farm inputs.
- Providing incentives to the private sector to improve supply chain and distribution networks for agro-inputs in hard-to-reach areas, especially initiatives targeting marginalized groups.
- Supporting capacity building of farm input providers and end-users (farmers) on pesticide safety and business operations.

This program component will work in all ZOI districts and will target smallholder farmers, especially women and youth farmers as well as other marginalized populations. To achieve the three GFSS

Country Plan objectives, FTF will partner with the GOU, agro-dealers, agro-vets, and SMEs providing financial and value addition services. Risks and constraints in this program include smallholder farmers' inability to access or afford inputs such as fertilizers; lack of quality inputs in the market; lack of access to adequate land especially by refugees; lack of farm tools; inability of farmers to purchase tractors, ox-drawn plows and small irrigation equipment; poor extension and advisory services to farmers regarding use of agricultural inputs; unpredictable weather patterns leading to low yields and crop losses; and outbreak of crop and livestock pests and diseases.

D.3 Program Component 2: Promote effective and inclusive service delivery

The capacity building of public and private sector institutions is key to improving service delivery to smallholder farmers and agri-SMEs. This enhances effective and inclusive extension, financial, business development, and other service delivery critical to transformation of the food system to achieve the GFSS Country Plan goal and ensure the sustainability of the program interventions. Program Component 2 is linked to other program components, including increased access to high quality agricultural inputs; increased trade and competitiveness of agricultural products; investments in agricultural research, development, and dissemination; improved nutrition, sanitation, and hygiene for marginalized populations; and integrating climate smart approaches to improve natural resource management and community resilience.

This program component contributes to the three GFSS Country Plan objectives. Under Objective 1, it contributes to sub-IR 1.1 in the provision of extension and veterinary services; sub-IR 2.2 on increased investments on trade; sub-IR 2.3 on strengthened partnerships and linkages to expand markets and trade; sub-IR 3.2 in the access to affordable working capital and agriculture-related financing by developing policies and regulations that enable farmers and agri-SMEs to access finance; and sub-IR 3.3 in enhanced access to business development and advisory services.

Under Objective 2, it contributes to sub-IR 4.1 and 4.2 on improved management of natural resources to reduce conflicts, especially in the Karamoja sub-region and increased access to water for production; sub-IR 5.1 on data and information services for early warning systems; sub-IR 5.3 on improved capacity to manage and mitigate disaster risk; and sub-IR 6.2 on strengthened shock-responsive social safety nets.

Under Objective 3, it contributes to sub-IR 7.1 on increased access to nutritious and safe foods and sub-IR 7.3 on creating awareness about dietary diversity among targeted populations. It also contributes to CC IRs 2, 3, 4, 5, 6, 7, 9, and 10, which are linked to provision of services by the government and other stakeholders, especially to women and youth, in support of water and natural resources conservation, peacebuilding and social cohesion, as well as the integration of digital technologies into financial, business development, and extension service delivery.

The areas of investment may include:

- Strengthening the delivery of public and private agricultural extension and veterinary services, especially strengthening the capacity of private veterinary service providers.
- Strengthening the provision of production, harvest, and postharvest services to all farmers, particularly women and youth. Services shall include farm mechanization, spraying, postharvest handling information, storage, value addition, and marketing.
- Supporting access to modern production, marketing, and processing technologies.
- Increasing access to financial services that promote economic empowerment of women, especially through women groups and women-owned enterprises.

- Improving the availability of and access to business development services, especially by women, youth, refugees, indigenous populations, LGBTQI+ people, and other marginalized groups.
- Supporting the development and dissemination of information services, including those for weather, climate, markets, and early warning systems, to households and communities.
- Strengthening livestock value chains, including the establishment and rehabilitation of livestock markets, and organizing vaccination campaigns to control emerging livestock diseases.
- Improving access to infrastructure services, such as ICT, and improving market facilities and services, including food hygiene and related services.
- Strengthening the capacity of GOU to update and implement policies, regulations, and programs for resilience, food systems, water systems, and nutrition.
- Supporting bottom-up, data-driven, and evidence-based policy development by the GOU to ensure the voices of grassroot populations are heard.
- Supporting legal and regulatory reform, advocacy, and civic engagement on policies for agriculture, nutrition, trade, investment, and resilience.
- Addressing the binding constraints to private sector investments, such as lending policies, interest rates, institutional bureaucracies (business licenses, levies, fees, permits), patenting and intellectual property rights.
- Promoting conflict-sensitive programs and strengthening social cohesion to minimize insecurity, conflicts, and cattle raids.
- Strengthening the human resources and institutional capacity of GOU agencies to improve their ability to deliver better extension services and weather forecasts, manage disaster risk, respond to and prevent human-wildlife conflicts, and implement policies and regulations.
- Strengthening informal, traditional, and formal governance systems that support sustainable food and water systems.
- Strengthening the governance, business management, and service delivery capabilities of cooperatives and farmer associations.
- Facilitating investments that deepen energy-efficient innovations and technologies to support efficient agro-processing and value addition.

This program component will work in all the ZOI districts, with some services provided beyond the ZOI. The intended beneficiaries are smallholder farmers, including refugees, marginalized populations, and farmer groups. To achieve the three objectives, FTF will partner with national and district local governments; public and private sector extension and veterinary service providers (e.g., community animal health workers); private sector financial service providers, including Savings and Credit Cooperative Societies (SACCOs) and microfinance institutions (MFIs); agricultural mechanization service providers; business development service providers; and district-level local government structures, such as village health teams.

The risks and constraints of this program component include the inability of participants to repay loans or pay for services and products; limited agricultural extension services coverage; ability to pass but not to implement policies to address constraints; government lacking resources to fund infrastructure, such as farm-to-market roads and electric power grids; lack of political will for the development and passage

of policies; GOU lacking funds to implement policies at the district level; human-wildlife conflict; cattle rustling and insecurity; limited knowledge about the best agricultural practices; limited internet connectivity and penetration of mobile money technology; insufficient GOU financial resources for public services; and inadequate services in hard-to-reach areas.

D.4 Program Component 3: Increase competitiveness and trade of agricultural products

Increased processing and value addition by SMEs is key to supporting the GOU's Agro-Industrialization Program, reducing postharvest losses, reducing food loss and waste, and transforming agricultural commodities into high-value products for both domestic consumption and export to the regional and international markets. Program Component 3 is linked to other program components, including service delivery, quality agriculture inputs, and agriculture research and development.

The program component contributes to the GFSS Country Plan goal of reducing poverty, hunger, and malnutrition through Objectives 1 and 3. Under Objective 1, it specifically contributes to sub-IR 2.1 "Increased competitiveness of agricultural commodities," and sub-IR 2.2 "Increased public and private sector investment in trade" by supporting development of infrastructure and technologies that promote domestic, regional, and international trade and implementation of the EAC and COMESA commodity quality standards.

It also contributes to IR 3, on creating employment and entrepreneurship opportunities through processing and value addition. Under Objective 3, it contributes to sub-IR 7.1 and 7.2 by increasing access to and availability of nutritious food through markets, food processing and food fortification. It also contributes to CC IRs 1 (strengthened global commitment on investing in food security), 2 (increased gender equality and female empowerment), 3 (increased youth empowerment and livelihoods), 7 (more effective governance, policy, and institutions), and 10 (enhanced integration of digital technologies).

The areas of investment may include:

- Supporting the domestication and dissemination of EAC and COMESA agricultural product quality standards and policies to help farmers, traders, and exporters effectively participate in local, regional, and international markets.
- Transforming and upgrading agricultural commodities through logistics, value addition, and processing.
- Creating an enabling environment to attract private sector investment in agro-processing, including through engaging existing agro-processors and exporters.
- Promoting value addition for crop and livestock products in the Karamoja and refugee-hosting districts.
- Supporting postharvest management interventions (including practices that avoid contamination of grains with aflatoxins) with actors at different levels, including households; MSMEs; traders and aggregators; and large-scale industrial actors.
- Building the capacity of MSME processors to meet the GOU quality standards for staples, fortified food, and other crop and livestock products.
- Facilitating the development of product stewardship and traceability systems for agricultural products reaching local and regional markets.

- Identifying, creating, and supporting opportunities for private sector investment in the agricultural sector, especially in food processing and distribution to ensure food is available in areas with food scarcity, including through the establishment of regional staple food storage facilities in the ZOI.
- Strengthening the capacities of MAAIF, MTIC, and other government entities to implement the Agro-Industrialization Program and other relevant programs to enhance processing and value addition in the ZOI.
- Supporting youth, women, marginalized populations, and refugees to venture into processing, value addition, marketing, and distribution of agricultural products.
- Promoting initiatives that address food loss and waste through product transformation, diversification of value-added products, and food utilization.
- Supporting the implementation of the African Continental Free Trade Agreement (ACFTA) and leveraging other trade treaties to access international markets.
- Improving trade facilitation, trade capacity building, and border management to strengthen regional economic policies, remove trade barriers, and build well-functioning institutions.
- Enhancing the simplification, standardization, and harmonization of procedures, and their associated information flows, required to move goods.
- Supporting private sector-led quality standards certification and consumer protection schemes.

This program component will work in all ZOI districts and, indirectly, outside ZOI districts in locations where commodities for processing are available. The target participants are agri-SMEs including traders, millers, agro-processing equipment fabricators, aggregators, and processors; and farmer groups and cooperatives engaged in aggregation, collective marketing, and value addition. To achieve the three objectives, FTF will partner with targeted SMEs, the Uganda National Bureau of Standards, cross-border trader associations, and farmer cooperatives.

The risks and constraints associated with this program component include poor postharvest management technologies, inadequate storage space, lack of new technologies for processing, competition from imported products, inability of domestic processors to meet the product quality standards for the regional and international markets, lack of adequate working capital to purchase produce from farmers, price fluctuations, lack of markets and agro-processing facilities, and competition with regional produce buyers sourcing directly from farmers.

D.5 Program Component 4: Invest in agricultural research, development, dissemination, and adoption

Agricultural research contributes to the development, innovation and adoption of new products, technologies, and soil-health and soil conservation practices that increase agricultural production and productivity. The innovations include consumer products for commercialization by the private sector and those that enhance postharvest loss reduction and improve processing and value addition techniques.

Program Component 4 contributes to Objective 1, specifically to sub-IR 1.3 "Strengthened agricultural research and development to address emerging issues" by supporting the production of breeder seeds for improved and adapted crop varieties, and breeding stock for improved livestock breeds; improving

soil-health; improving soil fertility and fertilizer use efficiency; and the creation of new production practices, including pest and disease control techniques and new innovations in processing and value addition. Under Objective 2, it contributes to sub-IR 5.1 "Improved data and information on shocks and disaster early warning systems" to enhance climate change adaptation and mitigation. Under Objective 3, it specifically contributes to sub-IR 7.3 "Improved dietary diversity among the targeted populations" by developing fortified crop varieties and new techniques for producing affordable nutritious foods by the marginalized populations.

The areas of investment may include:

- Investing in the research, development, incubation, commercialization, and adoption of new agricultural technologies and innovations.
- Developing practices that help manage and reduce the impact of pests, diseases, climate change, and other threats to food and nutrition security.
- Supporting the development of drought-tolerant, disease-resistant, and nutrient-enriched crop varieties and livestock breeds to improve food and nutrition security among marginalized populations.
- Promoting the adoption of innovative technologies and practices, such as biotechnology and improved soil and water conservation practices.
- Supporting the development of evidence-based Science, Technology, and Innovation policies for the commercialization and utilization of new innovations.
- Building the capacity of GOU, universities, and other entities to collect, manage, and use data for evidence-based decision-making.

This program component will focus on ZOI districts but recognizes that the outcomes of the research will benefit stakeholders beyond the ZOI. The targeted beneficiaries are smallholder farmers and private sector enterprises, such as seed companies. To achieve the three GFSS Country Plan objectives, FTF will partner with the NARO, NAADS, local universities, farmer organizations, private enterprises interested in research and development, the CGIAR research centers operating in Uganda, and U.S. universities.

The risks and constraints of this component include failure to adopt new technologies and practices due to inability to purchase improved seeds and inputs, such as fertilizers; farmers' inability to buy shellers and other new postharvest handling equipment; emerging pests and disease problems; fluctuating market prices; unforecasted changes in climate; seeds not available at the local agro-dealer outlets; and lack of working capital for the private sector to commercialize new innovations.

D.6 Program Component 5: Integrate climate smart approaches to improve natural resource management and community resilience

FTF activities aim to enhance adoption of climate smart technologies and improve natural resource management, including increasing soil and water conservation, improving soil-health, promoting farmer-managed natural regeneration and complementary tree planting on crop land, encouraging adoption of climate adapted and improved nutritious crop varieties, and supporting diversified livelihood opportunities in and around protected areas that support biodiversity conservation. FTF pays particular attention to the impacts of climate change on the environment and livelihoods of smallholder farmers. Program Component 5 will address common shocks and stressors, such as prolonged dry spells, soil degradation, erratic rainfalls, floods, crop and livestock pests, agricultural and human diseases, and global

economic crises. Shocks and stressors may expose households and communities to food insecurity and malnutrition and cause some households to fall back to poverty.

This program component contributes to Objective 2, specifically to sub-IR 4.1 "Increased access to and use of water for production," and sub-IR 4.2 "Strengthened natural resource management." It also contributes to IR 5 "Improved proactive and risk reduction, mitigation, and management" and its sub-IRs 5.1, 5.2, and 5.3, and to IR 6 "Improved adaptation to and recovery from shocks and stresses" and its sub-IRs 6.1, 6.2, and 6.3. Under Objective 3, it specifically contributes to sub-IRs 7.1 and 7.2 on access and availability of safe and nutritious foods especially during extended dry periods. This program component also contributes to CC IR 4 (enhanced climate change adaptation and mitigation), 5 (improved natural resource management), 6 (improved water resources management), 7 (more effective governance, policy, and institutions), 9 (enhanced integration of conflict sensitivity, peacebuilding, and social cohesion), and 10 (enhanced integration of digital technologies).

The areas of investment may include:

- Identifying climate risks in agricultural value chains and supporting farmers and the private sector to adapt to those risks
- Supporting integrated watershed management planning and governance to conserve and rehabilitate soil and water resources and reduce land degradation.
- Promoting the use of digital technologies in early warning systems, financial inclusion, disaster management, and access to weather information.
- Supporting reductions in carbon emissions especially through the agricultural value chains.
- Partnering with the private sector to promote crop, livestock, and other types of insurance.
- Supporting interventions that reduce greenhouse gas emissions in the food system, including reducing food loss and waste; and exploring opportunities for getting climate finance.
- Promoting the adoption of rainwater harvesting and irrigation to boost crop and livestock yields.
- Supporting the establishment and rehabilitation of resilient water infrastructure, with the requisite operation and maintenance plan, in collaboration with GOU and other donors.
- Identifying and seeking solutions for the barriers facing women and youth in adopting climate-smart practices and technologies.
- Supporting the capacity building of local organizations on the operation and maintenance of climate-resilient water infrastructure.
- Developing on- and off-farm livelihood opportunities.
- Promoting income diversification opportunities to decrease the risks associated with climate and weather shocks, increased pests and diseases, price fluctuations, and other market changes.
- Supporting financial literacy education and promoting a saving culture among marginalized populations and households.
- Supporting the passage and implementation of resilience policies, such as the GOU Disaster Risk Management Policy.

- Supporting institutional and community-based early warning systems to help reduce the vulnerability of people, livestock, crops and wildlife to disasters and stressors.
- Building the capacity of watershed management governance and water point management structures.
- Increasing supply of water for agriculture production and human consumption.
- Strengthening water sector governance and the capacity of water management institutions.

This program component will work in the ZOI districts. The target beneficiaries include marginalized populations, refugees, and host communities as well as smallholder farmers. To achieve the three objectives, FTF partners will work with the UN agencies, GOU, nongovernmental organizations (NGOs) working with refugees and host communities, cooperatives, SACCOs, Village Savings and Loan Associations, and community-based organizations (CBOs).

The risks and constraints of this program component include land ownership issues, lack of adequate land for production especially by refugees, unpredictable weather patterns leading to low yields, lack of irrigation equipment, lack of pasture and water for production for livestock during the dry seasons, poor weather forecasts, lack of crop and livestock insurance programs, and lack of technical skills in agricultural production and business management.

D.7 Program Component 6: Improve nutrition, sanitation, and hygiene for marginalized populations

Program Component 6 contributes to the GFSS Country Plan goal by addressing access to, availability of, and utilization of nutritious foods and nutrition interventions including social and behavior change related to the importance of recommended maternal, infant and young child feeding practices such as diversifying diets at household level, and maintaining a clean home environment. This program component contributes to Objective 3, specifically to sub-IR 7.3 "Dietary diversity among the target populations improved", sub-IR 7.1 "Increased access to nutritious food" and sub-IR 7.2 "Increased availability of nutritious food." FTF will also support the government with coordination of nutrition programs at the national and district levels, including with food safety and food fortification policies and regulation. This program component is also linked to IR 8 "Use of direct nutrition intervention and services increased," which is addressed through the Uganda Multi-Sectoral Nutrition Action Plan, and IR 9 "More hygienic household and community environments," which is addressed through the USG Water Strategy High Priority Country Plan.

Under Objective 1, this program component contributes to sub-IR 2.3 "Strengthened partnerships and linkages to expand markets and trade" and sub-IR 2.1 "Increased competitiveness of agricultural products" on fortification of processed food and food safety. Under Objective 2, this component contributes specifically to sub-IR 5.3 "Increased diversified livelihoods" through own food production and off-farm income generating opportunities to get money to purchase food; sub-IR 6.2 "Strengthened shock responsive social safety nets," and sub-IR 6.3 "Increased inclusiveness for financial services" to enable food insecure households access food assistance during emergency. It also contributes to CC IR 2 (increased gender equality and female empowerment), 3 (increased youth empowerment and livelihoods), 5 (improved natural resource management), 6 (improved water resources management), 7 (more effective governance, policy and institutions), 8 (improved human, organization, and system performance), and 9 (enhanced integration of conflict sensitivity, peacebuilding, and social cohesion).

The areas of investment may include:

- Promoting production of diverse, safe, and nutrient-dense food, at the household level, from plant, fish, and animal sources.
- Promoting access and utilization of nutrition services through integration and linkages with USAID/Uganda Office of Health and HIV/AIDS and President's Emergency Plan for AIDS Relief interventions and leveraging these overlaps to contribute to maternal and child health and nutrition outcomes.
- Engage trade, industry, and private sector actors to scale up nutrition, such as food fortification.
- Supporting and investing in GOU health and nutrition systems, such as the district health information system and the nutrition panel survey to collect, review, analyze and monitor nutrition programming.
- Strengthen and influence leadership and coordination of nutrition interventions at national and district levels.
- Promoting optimal maternal, infant, young child, and adolescent nutrition through existing community platforms.
- Supporting social and behavior change tailored to nutrition.
- Supporting food production, preservation, and storage at the household and community levels; and minimizing food loss and waste.
- Through complementary WASH funds:
    - Developing and strengthening effective markets to supply sanitation and hygiene products and services that reduce barriers to sustainable behavior change.
    - Supporting the uptake of the four hygiene practices with the greatest impact on health (handwashing with soap, safe disposal of human waste, drinking water management, and safe food hygiene) through social and behavior change communication methods.
    - Strengthening sanitation and hygiene sector governance and the capacity of sanitation and hygiene-related institutions.

This program component will work in the ZOI districts with high malnutrition and poor basic sanitation and hygiene rates. The target participants include women, children, and marginalized populations. To achieve the three objectives, FTF will partner with government policymakers, the private sector, NGOs such as HarvestPlus, CGIAR research centers, other partners engaged in nutrition sensitive programs, and CBOs that can provide training and capacity building on access to nutritious diets and household food storage and preservation techniques.

The participants face numerous shocks, stressors, and constraints, including lack of money to purchase food, inability to grow food during the dry season, lack of food preservation tools and techniques, lack of nutritious foods in the market, insecurity due to cattle rustling, closure of livestock markets due to livestock disease outbreaks, environmental degradation through cutting of trees for firewood and charcoal, and inadequate land, especially among refugees.

D.8 Crosscutting Guiding Principles for Programming

Across all the program components, the Uganda GFSS Country Plan elevates the core crosscutting guiding principles required for sustainable and equitable development. Therefore, the GFSS Country Plan aims to:

- **Promote local ownership and partnerships.** The USG places the Ugandan people and institutions in the driver's seat of their own development and gives them the authority and agency required to define their own development agenda. FTF invests in local systems and learning and engages local organizations and communities in program design and implementation and gathers and incorporates their feedback. By strengthening local ownership, leadership, and capacity, the USG will be better placed to achieve the three ambitious GFSS objectives.
- **Layer, sequence, and integrate humanitarian and development programs.** Across the ZOI, and particularly in the RFZ, FTF activities operating in the same geographic locations layer their interventions and also sequence interventions with humanitarian response to support the transition from humanitarian assistance to development programming.
- **Collaborate, learn, and adapt (CLA).** CLA is key to improving the effectiveness of FTF programming in Uganda. The CLA approach focuses on rigorous data collection, analysis, and use to inform decision-making and to provide a strong basis for adaptive management. CLA requires intentional collaboration among Uganda's FTF activities to share insights, best practices, data, and learning, and it also requires internal collaboration within and across technical teams. The CLA approach prioritizes learning that extends beyond the boundaries of specific activities. It is critical to make information available to key stakeholders, including communities, GOU counterparts, other development partners, and other USAID activities. There is a strong emphasis on utilizing learning for adaptation so that key lessons learned, promising practices, and critical information are translated into action. Utilizing learning for adaptation also includes taking a critical look at what is not working and making changes to continuously and iteratively improve programming throughout the life of the program, rather than only at concrete decision points.

E. Stakeholder Engagement

The GFSS Country Plan adopts inclusive stakeholder engagement by supporting platforms that enable Ugandan citizens to engage with their leaders at local and national levels. The plan also strengthens engagement between citizens and government officials to help ensure effective feedback and accountability in service delivery.

During the GFSS Country Plan development process, the FTF Coordinator, in collaboration with interagency partners, organized a stakeholder workshop on April 27, 2023. The workshop was attended by more than 120 participants representing local as well as central government, NGOs, research/academia, private sector, donors, USAID implementing partners, and USAID Mission staff (see Annex 1). The workshop had three breakout sessions where stakeholders provided their inputs on the challenges, opportunities, and approaches in agriculture-led growth, resilience, and nutrition that should be addressed in the Uganda GFSS Country Plan. To gather more input, direct consultations were conducted with organizations that did not participate in the workshop, including development partners; GOU MDAs; civil society organizations; and private sector entities (see Annex 2). The input from the workshop and consultations was summarized and used as a resource in the development of the Country Plan results framework and program components.

The Country Plan supports the use of existing platforms to engage with stakeholders during its implementation. These platforms include the Agriculture Development Partners Group, Karamoja Development Partners Group, and coffee and other commodity value chain platforms as well as other development partners group platforms. The FTF Coordinator and the EG team members will participate in engagements organized by the existing platforms and can assume leadership roles as needed. The FTF Coordinator will work closely with the USG-funded activities' CORs/AORs to organize program visits to monitor implementation, get feedback from project participants, and discuss course corrections with implementing partners. The GFSS team will organize a one-day workshop for FTF-funded activities' implementing partners to share their previous year's achievements and the upcoming year's work plan with key stakeholders.

The Country Plan team will support stakeholder engagement during population-based surveys and FTF-funded activities' performance evaluations. The GFSS team will continue to reach out to relevant public and private sector actors to validate results and successes and discuss course corrections. This engagement will be done through the continued support of the Agriculture Donors Working Group and through continued engagement with the GOU and private sector players who influence the areas in which we work. In particular, the Country Plan will align and support the implementation of the GOU's National Development Plan III Agro-Industrialization Program and Parish Development Model, to help Uganda achieve Vision 2040. The FTF Coordinator will convene quarterly interagency meetings to share updates on program implementation and review stakeholder engagement, planned evaluations, and survey plans.

F. Annexes

Annex 1: Stakeholders Consulted

The stakeholder consultation held to prepare for Uganda's GFSS country plan was attended by numerous partners as shown in Annex Table 1. Partners included local as well as central government, NGOs, Research/academia, private sector, donors, USAID implementing partners and USAID mission staff.

Annex Table 1: Affiliation of workshop registrants and number of people with that affiliation

Type of stakeholder	**Name of entity**	**Number of registrants**
Central Government	Office of the President, MAAIF, OPM, Ministry of Water and Environment (MWE), UWA, NFA, UNMA (meteorological authority), UCDA (coffee development authority), DDA (dairy development authority), MGLSD (gender, labor and social development), UIA (investment authority), UCA (cooperative authority), NAADS (agricultural advisory services), NARO, UNBS and others.	26
Local Government	District representatives	21
NGOs*	Uganda Development Trust, Uganda Cooperative Alliance (UCA), and YOFCHAN	3
Research/Academia	Ugandan Christian University, University of Tennessee	4
Private Sector**	ZAABTA, Grainpulse Ltd, Mobipay, Lira Resorts Ltd, AFAP, UNCBTA and Equity Bank	10
Donors***	WFP staff, EU, FAO, AGRA, Norwegian Embassy and Danish Embassy	6
USAID IPs (number of projects represented)	SIA, ULA, ERAAC, ISS DF Global, AMS/WFP, B4R, ARA, Biosafety Activity, KRSU II, USFS and others.	30
USG agencies (other than USAID)	USADF, Peace Corps	2
USAID Mission Staff		24
Total		**126**

The stakeholder consultation sought input on Challenges, Opportunities and Approaches related to agriculture and food systems, resilience, and nutrition in Uganda through three breakout sessions. A summary of key points follows:

Objective 1: Inclusive and Sustainable Agriculture-led Economic Growth

Challenges

Inadequate capacity of the government to enforce laws and provide services: Counterfeit inputs, poor infrastructure, weak pests and disease control programs. Lack of quality inputs, poor law enforcement, limited extension services, poor coordination of food system interventions, lack of enforcement of laws and regulations, poor governance. Human wildlife conflict.

Constraints in marketing, trade, and distribution: Unstable prices, poor distribution of agricultural commodities, low quality products, export market challenges, food distribution challenges, dysfunctional markets, lack of phytosanitary standard system, postharvest losses, lack of access to markets, limited access to finance and insurance.

Low agricultural productivity: Poor development and adoption of improved technologies. Land fragmentation, low mechanization, lack of value addition technologies, uncoordinated small scale production units, low technical capacity of smallholder farmers, poor soil fertility management, limited use of postharvest handling technologies.

Lack of climate change mitigation strategies: Climate change. Erratic rainfalls and lack of adaptation strategies, unsustainable production systems, dependency on rainfed agriculture.

Policy and Data: Ignoring staple crops in some regions, limited access to information, policies not implemented, lack of statistical data.

Dependency: Dependency on donor support by some private sector entities.

Opportunities

Enabling Environment (Liberalized economy, Existing GOU programs, enabling policies – PDM, Agro-Industrialization Program (AIP) and evidence-based policy making. Increased interest to invest in agriculture, policies/regulations/institutional frameworks and donor support (support to agriculture sector, more support still coming from donors). Use existing road networks and electricity.

Markets and Trade: Domestic, regional markets, and international markets; continental trade opportunities; establish regional market hubs; high regional demand for food; international trade agreements; private sector partnerships; more private sector engaged in food systems, cooperatives, and farmer groups.

Youth: Predominantly young population, opportunity to engage more youth in agriculture, and youth as a labor force for agriculture.

Climate smart technologies: Integrated watershed/catchment management, rainwater harvesting, adequate water resources for irrigation, use of climate smart technologies.

Agricultural extension system: Strengthen agriculture extension, stronger farmer/university interaction, strengthen the National Food and Agricultural Statistics System (NFASS), agricultural information and indigenous knowledge.

Increase production: Improve usage of uncultivated land such as in Northern Uganda, exploit the favorable climate and good soils for crop and livestock production, and elevate soil health as a priority.

Strengthen institutional capacity: Improve GOU institutions' capacity to conduct research, forecast weather, and promote use of digital technologies; Regional research stations; lack of GOU staff accountability.

Approaches

Strengthening governance, extension service and policy development/implementation: Strengthen agricultural extension; improve the implementation of policies; enforcement of standards and regulations; enhance disease and pest control programs; and strengthen local and traditional governance systems. Align food systems approach with the GOU NDP III (AIP) and PDM; food systems integrated in the GOU development plans; fellowships for graduates on policy development; support mentorship opportunities for new GOU staff; resilience; review university curricular in line with food system policies. Roll out NFASS to the Parish level, use indigenous knowledge, improve GOU data collection and management, support generation and use of evidence.

Strengthen capacity of private sector and cooperatives: Encourage private sector engagement in value addition; ensure profitability of agri-food systems; promote self-regulation by private sector especially on agro-input quality; promote inclusive business models; improve governance of cooperatives; strengthen cooperatives and farmer groups by improving their governance and ability to function as businesses.

Enhance agricultural productivity: Commercialization of agriculture; high value crop production; strengthen seed systems. Access to finance; warehouse receipt system; access to credit. Water for production. Food safety, food quality, postharvest loss reduction

Effective coordination and collaboration: Coordination of projects at the district level; multisectoral coordination; and donor funded projects coordination. Consumer protection; human right approaches; and advocacy for policies and infrastructure at the district level. Integrating agriculture in school programs. Use direct delivery to beneficiaries and market system development approaches based on the beneficiary needs. Human wildlife conflict.

Objective 2: Strengthened Resilience among People and Systems

Challenges

Lack of capacity to respond to shocks and stresses: Natural disasters, epidemic and pandemics; resistance to change cultural norms; weak capacity to adopt rapidly evolving digital technologies; limited capacity to make changes; inadequate knowledge, skills and abilities; and lack of solutions to shocks.

Weak disaster response systems at the district level: Lack of GOU funding. Weak early warning systems, poor planning for natural disasters, lack of individual ethics and integrity, lack of revenues at the district level, poor disaster preparedness at the district level, poor coordination, weak institutions.

Lack of diversified livelihood opportunities: Limited diversification of livelihoods, lack of storage facilities, dependency on donor assistance, lack of storage facilities, lack of access to finance, and weak marketing systems.

Lack of social safety net: Lack of social protection, lack of savings and assets, weakened social cohesion, lack of national agricultural insurance, high levels of poverty, and weak household coping strategies.

Lack of climate change mitigation measures: Limited adoption of drought tolerant crops, disconnect between weather forecast and end users, climate change, and deforestation.

Conflict/insecurity: Cattle rustling, land conflicts due to displacements, instability in neighboring countries.

Dependency: Humanitarian assistance encouraging dependency on food assistance.

Policy: Lack of enforcement of policies on wetlands and cutting down of trees, no clear policy on disaster risk management, high population growth, poor risk forecasting, top-bottom approach, encroachment into forests and wetland areas.

Opportunities

Enabling Environment: Review of policies; expanding saving groups such as VSLAs; economic empowerment through women groups; provide agriculture inputs during emergency assistance; and planned settlements. Government commitment to disaster response, follow up on DRM bill currently in Parliament; pests and disease control programs; and strengthen research capacity. Improve coordination in response to disasters, and joint implementation of programs.

Climate smart technologies: Scale up climate smart agriculture implemented in refugee hosting districts; promote use of digital technologies in early warnings, promote climate smart agriculture, leverage technologies in financial inclusion, disaster management, and access to weather information; conduct climate change vulnerability assessment; and engage in environmental restoration.

Water for production: Learning and scaling up successful practices from MWE programs; indigenous/scientific knowledge used in forecasting rain and drought; using solar water pumps; and monitoring frequent climate change issues. Available land; potential for organic farming; and high agricultural potential in the country.

Learning and Adaptation: Using lessons learned from COVID-19, Russia/Ukraine war, Ebola response to improve resilience; mindset change through social media and radio programs; and sensitize the public on ways to mitigate vulnerabilities.

Approaches

Adoption of Climate Smart Agriculture: Collection of accurate weather information for early warning and forecasting; promotion of climate smart agriculture; restore ecosystem; establish water for production systems; partnerships with research institutions to develop climate smart technologies. Strengthen disaster preparedness team; community visioning on asset ownership; use digital technologies for early warning; agricultural insurance; learning; and knowledge management.

Strengthen governance, policy development and implementation: Expedite enactment of the Disaster Risk management (DRM) bill; bottom-up policy development; program approach adopted by GOU; public/private sector dialogue in policy development and implementation; and bottom-up behavior change communication. Use formal and informal community structures; strengthen systems that support communities to be resilient; and use an integrated, holistic approach. Use a transboundary approach to address insecurity including cattle rustling.

Marketing/private sector engagement: Efficient marketing system for inputs and outputs; using ICT for marketing/market information; livelihood diversification and supporting enterprises; connecting farmers with the private sector; and providing incentives for the private sector to operate in resilience zones and refugee hosting districts. Establish national and regional food storage systems; and community food banks/reserves. Increase the value addition to agricultural commodities and reduce food waste.

Humanitarian/development coherence: Strengthen social protection and integrate gender into development programs. Coordinate humanitarian and development interventions.

Objective 3: A Well-Nourished Population especially among Women and Children

Challenges

Affordability of nutritious diets: Affordability challenges of nutritious food by rural and urban poor; access and affordability of nutritious food due to low purchasing power, poverty, and high cost of food. Unbalanced diets, insufficient food for consumption, cultural issues of food consumption based on tribes/regions, lack of social safety nets, inadequate access and availability of seeds for nutritious crops.

Availability and food safety: Seasonality of food, nutritious food not available, lack of awareness about nutritious diets, postharvest losses, limited knowledge of food preservation, lack of information on food preservation, limited knowledge on food preservation, poor storage and distribution of food, and food safety issues such as aflatoxin. Poor access to cooking fuel leading to use of firewood and charcoal.

Policy on nutrition and fortification: Poor dietary diversity, weak enforcement of policies and laws, government projects focusing on cash crops and ignoring staple crops in some regions of the country, inadequate GOU staff working on nutrition, insufficient nutrition data for decision-making, lack of nutrition data, lack of policy on food fortification for SMEs, policy gaps on use of fortified foods, poor implementation of the national nutrition action plan. Poor coordination of nutrition programs by GOU entities (responsibilities split between OPM and MoH).

Opportunities

Nutrition sensitive programming: Women empowerment through education and livelihood opportunities; investing in WASH to improve nutrition outcomes; promote production and consumption of affordable diversified diets; promote aquaculture; promote production of diversified food for home consumption and income; nutrition education to pregnant mothers and children visiting hospitals; school feeding; creating awareness about nutritious foods; and tailored nutrition programs for different regions.

Processing, value addition and food preservation: Value addition and food fortification; technology for producing fortified foods is available; local processors spread all over the country; using existing structures; value addition; food preservation and storage; private sector investment in food processing and distribution; existing government programs – PDM, NDP III Agro-Industrialization Program (AIP).

Nutrition policies: Track multi-sectoral nutrition investments and outcomes; nutrition planning and budgeting at the district level; use nutrition secretariat established by GOU; utilize good policy enabling environment for nutrition; including nutrition in education curriculum; update food and nutrition policies.

Approaches

Nutrition program delivery through schools: Integrate nutrition in school programs; use multisectoral approach on child development; promoting school gardens; school feeding programs especially in marginalized populations.

Create awareness and nutrition behavior change: Nutrition education for households; promote backyard gardening; advocacy on good nutrition practices; sensitization on nutritious diets; promote alternative energy cooking sources; VSLAs and cooperatives as avenues for creating awareness on nutrition.

Access and availability of nutritious foods: Promote crop and livestock production to enhance nutrition as well as the production of nutrient dense foods and indigenous vegetables. Food preservation, private sector investment in food hubs; innovation in food preservation technologies; and dietary diversity.

Policy and coordination of nutrition programs: Strengthen nutrition data collection; strengthen nutrition Secretariat to collect data from GOU agencies; continuous research on changes in people's diets; track planned and implemented activities to ensure efficient use of funds. Support updating and implementation of nutrition policies; have policies in place to prevent malnutrition.

Annex 2: Stakeholders Interviewed

Follow up interviews were conducted with the stakeholders/ entities shown in Annex Table 2 below. They include six district officials and eleven entities representing nearly all stakeholder groups. This made it possible to gain more detailed input from local government partners from 5 regions as well as the Ministry of Agriculture, Agriculture, Industry and Fisheries. Finally, interviews were conducted with some key stakeholders, such as the Ministry of Finance, Planning and Economic Development that were not represented at the workshop.

Annex Table 2: Type of stakeholder interviewed and name of organization

Type of Stakeholder	**Name of Organization**
Local Government	Districts of Lamwo; Gulu; Masindi; Mbale; Arua and Pakwach
USAID Implementing Partner	Chemonics Strategic Investment Activity
Private Sector	Newman Foods
NGO/ CSO	Young Farmers Champions Network, Uganda Cooperative Alliance, Association of Microfinance Institutions
Central government	National Agricultural Research Organization, Ministry of Trade, Industry and Cooperatives, Ministry of Agriculture, Animal Industry and Fisheries, and Ministry of Finance, Planning and Economic Development
Academia	Makerere University and Uganda Christian University

The six district level representatives interviewed represented Lamwo, Pakwach, Arua, Mbale, Masindi and Gulu districts. They were asked what areas of assistance they would like USAID to provide in their districts. Some types of assistance were suggested by more than one district representative, and these were:

- Engagement of schools in nutrition education
- Engage with and support Village Savings and Loan Associations (VSLAs)
- Donors need to improve coordination. Multiple projects addressing the same problem and coordination will be beneficial. Monthly coordination meetings are held in refugee hosting areas; and it could be useful to implement this in other areas where USAID and other donors are active.

- Post harvest handling, including storage is needed; maize dryers needed at the level of cooperatives.
- Need assistance with value addition – for example in areas where milk is produced, rather than selling raw milk to processors, the milk could be processed at the parish level by involving farmer cooperatives.
- Beneficiary driven rather than donor driven approach is needed. Projects need to be designed based on what the local population needs. Listen to leaders of farmer cooperatives, and local leaders at the district, county, sub county, parish, and village levels. USAID should work with local agricultural officers based at the district local government rather than a Ministry official based in Kampala.

Support requested during the other eleven interviews varied in nature. At least three types of support were mentioned by more than one stakeholder were:

- Training (e.g., bookkeeping) to qualify SMEs and farmers for finance. Capacity building of MFIs so they understand the structure of loans needed by farmers. This was mentioned by USAID SIA; Newman Foods; Young Farmers Champions Network; and the Association of Microfinance Institutions (AMFI).
- Invest in research capacity of Ministry officials: Training as well as sponsoring Masters and PhDs to increase the number of Ugandan experts. This point was made by MAAIF, MOTIC and MoFPED.
- Counterfeit inputs are a huge problem. Input quality is the responsibility of the Uganda National Bureau of Standards, MoH and CCA. Corruption is a problem. There are many counterfeits and UNBS certification marks can be bought by businesses selling low quality inputs. Also, with food quality standards the UNBS quality mark can be purchased. A NARO officer was not allowed to do research on counterfeit. This was mentioned in the interviews of NARO and Makerere staff.

Two other specific requests were as follows:

Regarding extension: MAAIF requested support for the capacity building of extension workers while (Young Farmers Champions Network advocated for the provision of more online extension support as well as using social media for extension.

Support cooperatives: The Uganda Cooperative Alliance (UCA) requested introduction of cooperative education in secondary schools and the university curriculum. They would like to get support for the legal and policy framework reforms on cooperatives (there are currently 3 redundant laws). They also requested help for cooperatives to strengthen their communication (internal and external) and marketing strategies.

Annex 3: Phase III (2023-2027) Zone of Influence: District-level Data

#	District	2021 Population	Est. 2026 Population	2021 Poverty (%)	2021 Population in Poverty	Primary Livelihood Zone (PLZ)	PLZ Area (%)	Other Livelihood Zones
1	Abim	162,900	228,771	66%	107,514	South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone	100	Mid North Simsim Maize Cassava Zone, Karamoja Livestock Sorghum Bulrush Millet Zone, and Eastern Central Lowland Cassava Sorghum and Groundnut Zone (1%)
2	Adjumani	237,400	305,628	34%	80,953	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone	72.51	AlbertiNE West Nile Lowland Cattle Zone (25%); Amuru Gulu Rice Groundnut Sorghum Livestock Zone (2%)
3	Agago	255,000	334,318	70%	179,520	South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone	100	
4	Albetong	272,800	364,941	44%	119,486	Mid North Simsim Maize Cassava Zone	91	Eastern Central Lowland Cassava Sorghum and Groundnut Zone (9%)
5	Amudat	140,400	193,191	81%	113,584	Central and Southern Karamoja Pastoral Zone	54	Eastern Lowland Maize Beans Rice Zone (42%); Karamoja Livestock Sorghum Bulrush Millet Zone (4%)
6	Amuria	232,800	316,818	48%	111,977	Eastern Central Lowland Cassava Sorghum and Groundnut Zone	100	

#	District	2021 Population	Est. 2026 Population	2021 Poverty (%)	2021 Population in Poverty	Primary Livelihood Zone (PLZ)	PLZ Area (%)	Other Livelihood Zones
7	Amuru	222,000	296,256	56%	124,542	Amuru Gulu Rice Groundnut Sorghum Livestock Zone	70	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone (28%); Albertine West Nile Lowland Cattle Zone (2%)
8	Bududa	282,900	360,919	25%	70,725	Rwenzori Mt.Elgon West Nile Arabica Coffee Banana Zone	52	National Park (27%); Mt Elgon Highland Irish Potato Cereal Zone (21%)
9	Bukedea	269,900	371,724	49%	131,981	Eastern Central Lowland Cassava Sorghum and Groundnut Zone	99	Rwenzori Mt.Elgon West Nile Arabica Coffee Banana Zone (0.4%); Eastern Lowland Maize Beans Rice Zone (0.4%)
10	Bulambali	241,600	336,986	17%	41,314	Eastern Lowland Maize Beans Rice Zone	60.95	National Park (24%); Mt Elgon Highland Irish Potato Cereal Zone (9%) Rwenzori Mt Elgon West Nile Arabic Coffee Banana Zone (5%)
11	Gulu	334,500	449,053	50%	165,912	Amuru Gulu Rice Groundnut Sorghum Livestock Zone	85	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone (11%); Urban (3%); Southwest Gulu Beans Groundnuts Shoat Cassava (1%)

#	District	2021 Population	Est. 2026 Population	2021 Poverty (%)	2021 Population in Poverty	Primary Livelihood Zone (PLZ)	PLZ Area (%)	Other Livelihood Zones
12	Kaabong	198,500	167,742	87%	173,092	NE Karamoja Pastoral Zone	39.92	Karamoja Livestock Sorghum Bulrush Millet Zone (27%); NE Sorghum Simsim Maize Livestock Zone (17%); National Park (16%); South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone (1%)
13	Kapchorwa	127,200	170,555	15%	18,571	Eastern Lowland Maize Beans Rice Zone	60	Rwenzori Mt.Elgon West Nile Arabica Coffee Banana Zone (35%); Mt. Elgon Highland Irish Potato Cereal Zone (2%); National Park (3%)
14	Kapelbyong	106600	143,023	50%	52,980	Eastern Central Lowland Cassava Sorghum and Groundnut Zone	100	
15	Karenga*	68,500	91,954	81%	55,622	National Park	56	NE Sorghum Simsim Maize Livestock Zone (42%); South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone (3%);
16	Katakwi	199,500	266,920	43%	84,788	Eastern Central Lowland Cassava Sorghum and Groundnut Zone	99	Karamoja Livestock Sorghum Bulrush Millet Zone, Eastern Lowland Maize Beans Rice Zone, Urban (1%)

#	District	2021 Population	Est. 2026 Population	2021 Poverty (%)	2021 Population in Poverty	Primary Livelihood Zone (PLZ)	PLZ Area (%)	Other Livelihood Zones
17	Kiryandongo	322,300	432,053	31%	98,302	National Park	43	Karuma Masindi Oyam Tobacco Maize Cassava Zone (38%); Bwijanja Pakanyi Sugarcane, Maize, Cassava Zone (11%), and Lakeshore and Riverbank Fishing Zone (8%)
18	Kitgum	226,700	296,569	69%	156,196	South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone	45	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone (35%); NE Sorghum Simsim Maize Livestock (16%); Palabek Tobacco Simsim Sorghum Cattle Zone (2%); Urban (1%)
19	Koboko	267,700	366,228	36%	96,907	West Nile Tobacco Cassava Sorghum Zone	99	Urban (1%)
20	Kole*	284,300	393,339	39%	110,024	Mid North Simsim Maize Cassava Zone	82	Urban (18%)
21	Kotido	210,900	255,012	85%	178,632	Karamoja Livestock Sorghum Bulrush Millet Zone	69	South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone (30%); NE Karamoja Pastoral Zone (1%)
22	Kumi	292,900	394,154	39%	114,817	Eastern Central Lowland Cassava Sorghum and Groundnut Zone	99	Urban (1%)
23	Kwania	222,600	297,574	38%	83,698	Mid North Simsim Maize Cassava Zone	75	Lakes and Open Water (14%); Lakeshore and Riverbank Fishing Zone (11%)

#	District	2021 Population	Est. 2026 Population	2021 Poverty (%)	2021 Population in Poverty	Primary Livelihood Zone (PLZ)	PLZ Area (%)	Other Livelihood Zones
24	Kween	112,300	150,147	43%	47,952	Eastern Lowland Maize Beans Rice Zone	95	National Park (5%)
25	Lamwo	145,400	188,539	69%	100,908	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone	74	Palabek Tobacco Simsim Sorghum and Cattle Zone (25%); South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone (1%)
26	Lira	491,000	657,427	37%	183,634	Mid North Simsim Maize Cassava Zone	70	South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone (28%); Urban (2%)
27	Madi Okollo*	164,200	235,196	34%	55,828	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone	71	West Nile Tobacco Cassava Sorghum Zone (21%); Albertine West Nile Lowland Cattle Zone (8%);
28	Manafwa	179,000	236,996	26%	45,645	Rwenzori Mt.Elgon West Nile Arabica Coffee Banana Zone	99	Southeastern Lowland Cassava Cereal Zone (1%)
29	Mbale	604,100	815,058	27%	162,503	Rwenzori Mt.Elgon West Nile Arabica Coffee Banana Zone	91	Mt Elgon Highland Irish Potato Cereal Zone (3%), Urban (5%),
30	Moroto	121,200	160,892	74%	89,203	Central and Southern Karamoja Pastoral Zone	45	Karamoja Livestock Sorghum Bulrush Millet Zone (26%); NE Karamoja Pastoral Zone (29%)
31	Nabilatuk	93,800	116,400	88%	82,263	Karamoja Livestock Sorghum Bulrush Millet Zone	99	Eastern lowland maize, beans, rice zone
32	Nakapiripirit	118,100	162,911	79%	93,771	Eastern Lowland Maize Beans Rice Zone	74	Karamoja Livestock Sorghum Bulrush Millet Zone (26%)

#	District	2021 Population	Est. 2026 Population	2021 Poverty (%)	2021 Population in Poverty	Primary Livelihood Zone (PLZ)	PLZ Area (%)	Other Livelihood Zones
33	Napak	161,000	211,748	81%	129,927	Karamoja Livestock Sorghum Bulrush Millet Zone	80	Eastern Lowland Maize Beans Rice Zone (17%); South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone (3%)
34	Nwoya	259,800	399,995	73%	190,433	National Park	34	Amuru Gulu Rice Groundnut Sorghum Livestock Zone (33%); Southwest Gulu Beans Groundnuts Shoat Cassava (24%), Lakeshore and Riverbank Fishing Zone (7%); Lakes and Open Water (2%)
35	Obongi*	49,100	31,926	22%	10,998	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone	66	Albertine West Nile Lowland Cattle Zone (34%)
36	Otuke	139,000	191,874	46%	63,940	Mid North Simsim Maize Cassava Zone	91	South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone (9%)
37	Oyam	466,300	626,289	33%	155,744	Karuma Masindi Oyam Tobacco Maize Cassava Zone	43	Mid North Simsim Maize Cassava Zone (41%); Southwest Gulu Beans Groundnuts Shoat Cassava (12%); Lakeshore and Riverbank Fishing Zone (3%); Lakes and Open Water (1%)
38	Pader	200,500	263,257	71%	141,954	South Kitgum Pader Abim Simsim Groundnuts Sorghum Cattle Zone	100	

#	District	2021 Population	Est. 2026 Population	2021 Poverty (%)	2021 Population in Poverty	Primary Livelihood Zone (PLZ)	PLZ Area (%)	Other Livelihood Zones
39	Sironko	279,700	288,220	25%	70,205	Rwenzori Mt.Elgon West Nile Arabica Coffee Banana Zone	63	Mt Elgon Highland Irish Potato Cereal Zone (21%); National Park (16%); Eastern Central Lowland Cassava Sorghum and Ground Zone (1%)
40	Terego*	304,959	369,896	50%	153,394	West Nile Tobacco Cassava Sorghum Zone	64	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone (36%)
41	Tororo	611,600	814,915	42%	254,426	Southeastern Lowland Cassava Cereal Zone	97	Urban (3%)
42	Yumbe	699,300	985,874	39%	275,524	North Kitgum Gulu Amuru West Nile Simsim Sorghum Livestock Zone	60	West Nile Tobacco Cassava Sorghum Zone (39%); Urban (1%)
		10,380,259	12,755,412	51%	5,268,115			

Annex 4: USG Contributors to Uganda's Country Plan

Name	Agency or Office
Lily Asrat	Peace Corps Uganda
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G. Notes and References

Notes

1. The U.S. government Global Food Security Strategy 2022–2026 takes an inclusive approach to development. It includes marginalized groups which it defines as including, but not being limited to "women and girls; persons with disabilities; LGBTQI+ people; displaced persons; migrants; Indigenous peoples and communities; youth; older persons; religious minorities; ethnic and racial groups; people in lower castes; and people of diverse economic classes and political opinions. These groups often suffer from discrimination in the application of laws and policy and/or access to resources, services, and social protection and may be subject to persecution, harassment, and/or violence" (USG, 2022 p. 13).
2. A wide range of institutions provides agricultural extension in Uganda. The institutions can be categorized into (a) public extension institutions, (b) public research and education institutions, (c) private sector firms, (d) non-governmental organizations, and (e) farmer-based organizations and cooperatives.
3. USAID/REFS generated using informal and formal trade data (cross-checked with UN COMTRADE), weighted travel time proximity to border crossings, travel time to internal Uganda trade hubs, and travel time to major road corridors.
4. The REFS modeling uses the methodology outlined in FAO et al. 2019 (pg. 86).
5. UBOS 2019b. Projected Uganda District-level Population Data.
6. Ibid.
7. Primary Livelihood Zones were based on the 2013 Famine Early Warning System Network (FEWS NET) Livelihood Zone Map. The PLZ percentage was rounded up and any zone that covered less than 0.5% of the district was removed. If a single percentage point was important to ensure complete coverage of a district yet multiple zones contributed to that percent, they are all listed.

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