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Uganda Climate Smart Agricultural Transformation Project (P173296)

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Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 27-Oct-2022 | Report No: PIDA33817

**BASIC INFORMATION****A. Basic Project Data**

Country Uganda	Project ID P173296	Project Name Uganda Climate Smart Agricultural Transformation Project	Parent Project ID (if any)
Region EASTERN AND SOUTHERN AFRICA	Estimated Appraisal Date 03-Oct-2022	Estimated Board Date 15-Dec-2022	Practice Area (Lead) Agriculture and Food
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance, Planning and Economic Development	Implementing Agency Ministry of Agriculture Animal Industry and Fisheries	

Proposed Development Objective(s)

To increase productivity, market access and resilience of select value chains in the project area and to respond promptly and effectively to an eligible crisis or emergency.

Components

Strengthening Climate-Smart Agricultural Research, Seed and Agro-Climatic Information Systems

Promoting Adoption of Climate-Smart Agriculture Practices and Value Chains

Market Development and Linkages for Selected Value Chains

Contingency Emergency Response

Project Coordination, Management, Monitoring, Evaluation and Learning

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	350.00
Total Financing	350.00
of which IBRD/IDA	350.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**



International Development Association (IDA)	350.00
IDA Credit	325.00
IDA Grant	25.00

Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

B. Introduction and Context

Country Context

1. **Uganda's GDP (Gross Domestic Product) growth has been declining and poverty has been increasing.** GDP growth averaged close to 8 percent per annum the decade prior to 2012 but has since slowed to around 5 percent and is further projected to decline partly because of the COVID19 crisis. The latest poverty data shows that poverty has moderately increased since 2012/13. According to the Uganda National Household Survey (UNHS), between 2012 and 2016 Uganda's poverty rate stopped declining and instead deteriorated moderately to 21.4 percent; a 1.7 percentage point increase that resulted in around 1.4 million Ugandans slipping into poverty. A sizable portion of Uganda's population remains vulnerable to poverty and significant welfare setbacks in the wake of a shock. In addition to the 21.4 percent Ugandan households classified as poor, about 44 percent - largely rural poor - are considered vulnerable and susceptible to falling into poverty because of climate and other shocks. The Uganda Bureau of Statistics UBOS reported that in 2021, while 8.4 percent of households moved out of poverty, 10.2 percent slipped into poverty demonstrating the country's fragile gains in addressing poverty.
2. **Low agricultural productivity is a major driver of poverty and is exacerbated by climate shocks.¹** Severe climate shock affected the productivity and income of agricultural households, who accounted for about three quarters of the poverty increase. Low commercialization rates and poor adaptation capacities to cope with climate related hazards exacerbated the impacts of droughts and floods in 2016/17. In Uganda, especially North and Eastern Uganda, flood events associated with heavy rainfall are often followed immediately by droughts in the form of long dry spells. Households have also struggled to cope with external shocks such as price shocks. Headline inflation rose to 5.6 percent, and food crop price inflation rose to 13 percent in 2017. Widening regional inequality and natural resources degradation also contributed to poverty increases. The ongoing COVID19 crisis is predicted to further increase household vulnerability to poverty and poverty levels are expected to increase by 7.9 percentage points. A recent study (2021) on the impacts of COVID19 in Uganda predicted that 3.3 million people will fall into poverty because of the COVID19 crisis².

¹Between 2012/13 and 2016/17 there was drought, crop and livestock pest and disease outbreaks, floods and storms that resulted to sharp changes in prices. These events were more prevalent among the rural areas except for sharp changes in prices of commodities that was highly ranked in the urban areas. The prevalence of drought was almost universal except in the sub-regions of Elgon and Kigezi. Sharp changes in prices were most common in the sub-regions of Lango, Central II, and Karamoja. Bukedi sub-region was most hit by crop pests and diseases followed by Lango, while Karamoja was most affected by livestock diseases (100%). Teso sub region was affected by storms and floods.

² Estimating Income Losses and Consequences of the COVID-19 Crisis in Uganda: <https://www.theigc.org/wp-content/uploads/2020/11/Younger-et-al-2020-Final-report.pdf>



3. **As the largest refugee hosting country in Africa, Uganda has seen a significant increase in refugees since 2016, which has been adversely affected by COVID19 impacts.** By the end of July 2022, the country hosted 1.53 million refugees and asylum seekers from various countries (South Sudan, Democratic Republic of Congo (DRC) Somalia, Burundi, Rwanda, Eritrea, Sudan, Ethiopia and 23 other countries)³, representing 3.3 percent of Uganda's total population. 94 percent of refugees live in settlements across 12 Refugee Hosting Districts (RHDs) while the remainder live among communities predominantly in urban areas. The refugee presence has added to existing pressures on the environment leading to an increase in the rate of degradation and tree loss and accelerated land cover changes in bushland and woodlands. An assessment⁴ has shown that the inflow of refugees in northwestern Uganda has exacerbated a range of ongoing environmental impacts and associated challenges including land degradation and woodland loss leading to inadequate access to energy for cooking and increased competition with local people for wood fuel and other natural resources
4. **Rapid natural resource degradation has contributed to economic loss and poverty due to negative impacts on agriculture and the reduction of valuable goods and services like wood and hydro energy, construction materials, and ecosystem services derived from natural capital.** Between 1990 to 2015, Uganda's forest cover loss accounted for an economic loss worth US\$ 1.2 billion. Wetland degradation accounted for an average of US\$ 1.5 million of value of wetlands and soil nutrient loss from erosion was US\$ 625 million per year. Poverty has mainly been linked to massive natural resource degradation through unsustainable exploitation. The reduction in agricultural productivity is worsening poverty especially among agriculture-dependent people and in areas where degradation of land is highest with limited interventions. As Figure 1 below shows, areas of Busoga, Elgon, Bukedi, Kigezi and Teso have continued to experience extreme and increasing poverty levels largely attributed to land and natural resource degradation. There have been limited or inadequate interventions in natural resource management and adaptation to impacts of climate change in these regions. While poverty levels in Karamoja, West Nile and the North remain high, they are declining due to investments in poverty reduction, natural resource management and climate change adaptation. Without adequate action, social and economic losses are expected to be more pronounced in the marginalized regions of the country where declining resilience of rural households would have devastating impacts on agricultural productivity, food security, incomes, and poverty reduction.

Sectoral and Institutional Context

5. **Agriculture accounts for approximately 22 percent of Uganda's GDP, 46 percent of its export earnings, 60 percent of the labor force and is the main source of income for the bottom 40 percent of rural households.** Despite its important role, the agriculture sector performs far below its potential. According to a World Bank Report (2018)⁵ national agricultural output has grown at only 2 percent per annum over a five-year period (UBOS 2017a) compared to about 3 to 5 percent output growth in other EAC members over the same period. This is primarily due to stagnating crop yields of smallholder farmers caused by low uptake of improved agricultural inputs and over reliance of traditional methods of practices by most farmers. Low rates of commercialization and inadequate capacity to invest in adapting to climate related hazards are ongoing threats to productivity enhancement and poverty reduction. Further, productivity of both female-headed farms and female-managed plots is lower compared to male managed farms and plots, largely due to lower access to and application of improved inputs by the former. The

³ Office of the Prime Minister/UNHCR. 2022. Uganda Comprehensive Refugee Response Portal.
<https://data2.unhcr.org/en/country/uga>.

⁴ World Bank, FAO 2019: Rapid Assessment of Natural Resources Degradation in Areas Impacted by the South Sudan Refugee Influx in Northern Uganda. Washington DC, World Bank Group

⁵Closing the Potential-Performance Divide in Ugandan Agriculture, World Bank Report (2018)



Uganda National Panel Survey (2016) found that land productivity of female managed plots was about 30 percent lower than for men within the same household. Male managed plots were on average 60 percent larger in size and 11 percent more likely to be planted with cash crops. Both use and application of improved inputs and materials were lower among female managed plots than the overall national average.

6. **Uganda is one of the most vulnerable and least adapted countries to climate change, ranking 166 out of 181 countries on the ND-GAIN Country Index⁶.** Increasing climate variability as well as extreme weather events such as droughts or floods hit the economy hard, reduce food production, increase food prices, and contribute to an already vulnerable food security situation. Extreme weather phenomena are projected to become more frequent and intense, worsened by unsustainable land use practices and the expansion of agricultural land into other ecosystems such as forests. Soil degradation and erosion, caused by unsustainable land management, has further reduced agricultural productivity and increased vulnerability. Due to reduced soil fertility and moisture stress, crop and livestock yields in Uganda have remained low, registering only about 30 per cent of biological potential. In recent years, the lack of resilience has resulted in huge losses in livestock and crops. For instance, due to the 2010/11 drought, Uganda lost US\$470 million in food crops, cash crops and livestock – the equivalent of approximately 16 percent of the total annual value of crops (OPM 2012)⁷. It is estimated that by 2025, the economic cost of climate change to agriculture will be in the range of US\$2.3 to 4.2 billion, due to crop damage, loss of export crop revenue, loss of livestock, and unmet water demand for plant and livestock production. By 2050, productivity of key staples like cassava, potato, and sweet potato could decline by 40 percent.ⁱ Yields of cash crops such as Arabica coffee are also projected to decline by 50–75 percent in the coming decades as land becomes unsuitable for its production.ⁱⁱ Yields for crops like coffee and tea could reduce drastically, leading to combined economic losses of about US\$1.4 billion (per annum) in the 2050s. The impact of climate change on livestock production via drought, water availability, floods, and diseases, is quite small – estimated at about 2 percent.ⁱⁱⁱ However, livestock production, which contributes about 15 percent of agricultural GDP, contributes most (19 percent) to the agricultural greenhouse gases (GHG) emissions in Uganda thus necessitating investments in climate smart livestock practices.^{iv} The recent desert locust invasion amplified by climatic conditions led to millions of losses in staple crops production. Similarly, pests and diseases are becoming more prevalent due to abnormal climate variations, and hence will increasingly affect crops and livestock.
7. **Climate-induced drought and flood in Uganda is shrinking Uganda's lakes and fish population due to increasing temperatures and sedimentation/siltation from erosion caused by changes in land use and land cover.** Poor agronomic practices in the catchment areas and siltation have affected the quality and quantity of waterbodies such as lake Kyoga, which has continued to decline^v. This has greatly impacted capture fisheries like aquaculture considered to be indispensable to meeting the fish supply deficit and to driving economic and social growth while serving as an adaptation strategy to climate change impacts. Diversification to aquaculture has immense potential in ensuring food and nutrition security and is gradually becoming the hope for fish production in the face of dwindling capture fisheries. However, the subsector is also vulnerable to the impacts of climate change, which can be addressed by leveraging socioeconomic and technical adaptive capabilities and practices^{vi}.
8. **Households in RHDs are especially vulnerable to rising poverty rates, food insecurity, and mental health challenges.** For refugees, reduced humanitarian assistance and fewer food rations coupled with the lockdowns and economic

⁶The Notre Dame Global Adaptation Initiative (ND-GAIN) country index summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. It aims to help governments, businesses and communities better prioritize investments for a more efficient response to the immediate global challenges ahead. The Country Index uses 20 years of data to rank 180 countries annually (<https://environmentalchange.nd.edu/resources/nd-gain/>).

⁷Closing the Potential-Performance Divide in Ugandan Agriculture, World Bank Report (2018)



recession has further reduced their incomes and increased their vulnerability – exacerbated by COVID-19 pressures and the Ukraine crisis. Refugees have been more adversely affected by COVID-19 shocks than their Ugandan counterparts and are slower to recover – with high levels of food insecurity and aid dependency on limited food rations⁸ Refugees face limited access to productive land. There are no soil conservation interventions in refugee settlements and settlements are often allocated less productive areas resulting in agriculture taking place in degraded lands with lower productivity than host communities. Extension services have not been expanded to settlements and interventions are fragmented across different funding partners making it difficult to ensure sustainable use of natural resources for restoration, preservation of environment and improvement in agricultural productivity. Informal arrangements for sharecropping and refugees working in host community land provides vulnerability and protection challenges, as does the contestation of some land around refugee settlements. This has implications for peaceful co-existence of refugee and host communities.

9. **The low resilience of rural households in Uganda to climatic and other shocks emanates primarily from the absence of infrastructure, weak linkages to market opportunities, inadequate financial resources and low investment into CSA technologies and improved practices.** Households' inability to anticipate or recover from shocks that impact agriculture and food security in a timely manner underscores their high vulnerability with potentially longer lasting impacts on the economy. Farming households typically work at a subsistence level with inadequate financial resources, access to markets and infrastructure, information, and knowledge, which further exposes them to climate and market-related risks. Even though a range of CSA technologies including Sustainable Land Management (SLM) have been promoted and implemented across farmer typologies and agro-ecological zones in Uganda, the rate of adoption is less than 30 percent. The low level of adoption of CSA and SLM practices is attributed to: (i) limited direct commercial value of these practices; (ii). high initial costs of adoption of the CSA technologies and establishment of necessary structures to undertake SLM practices; (iii) misalignment and absence of incentive mechanisms that influence smallholder farmers' ability to address immediate or short-term climatic risks; and (iv) Limited investments in technology and mechanization. More broadly, poor policy harmonization, weak or absent institutional arrangements, inadequate land use plans, limited support to local governments, weak farmer groups, poor mindset of the farmers and institutions, and limited investments in CSA friendly value chains are factors that have all contributed to increased vulnerability to climatic shocks.
10. **Poor logistics, high post-harvest losses and limited market access create disincentives to adopt and sustain more productive approaches.** Agricultural supply chains linking smallholder farmers to output markets remain underdeveloped and fragmented. Smallholder farmers not only face challenges of production but also in maintaining quality produce while aggregators face challenges of limited working capital to expand post-harvest processes and scale up. Off-takers on the other hand face challenges of low volumes and poor-quality produce due to limited farmer organization for bulking produce and working capital to invest in improved agro-processing technologies. This results in an inconsistent supply of produce to agro-processing industries, which increases inefficiencies and reduces investment incentives. Furthermore, limited value addition and poor market access for agricultural commodities curtail sustainability of adoption of climate smart technologies and management practices.
11. **In order to address poverty and reverse the impacts of land degradation, promote the adoption and scale up of appropriate land management practices and climate smart technologies for sustained productivity and poverty reduction, the Government of Uganda would need to:** (i) invest in strengthening institutions at varying levels -

⁸ World Bank. 2021. *Monitoring Social and Economic Impacts of COVID-19 on Refugees in Uganda: Results from the High-Frequency Phone - Third Round*. World Bank, Washington, DC. © World Bank



communities and local governments - to promote economies of scale and mindset change among policy makers and communities regarding the benefits of promoting climate smart technologies, innovations and management practices (TIMPs), (ii) facilitate institutional arrangements that effectively resolve challenges of informal arrangements within farmer groups as well as between farmers and other value chain actors; (iii) invest in institutional building to enhance community resilience to climatic shocks; (iv) invest in climate smart technology generation and adaptation to facilitate sustainable promotion and uptake of appropriate TIMPs; (v) provide and apply appropriate incentives or instruments to enhance adoption of climate smart technologies and SLM practices and have these adapted to different typologies based on their cost effectiveness and suitability; (vi) address market access and infrastructure challenges to incentivize increased investments into climate smart technologies, innovations and management practices and enable a shift from subsistence farming to commercial oriented production; (vii) improve land administration, land use planning and land use rights by empowering local governments and community institutions as well as harmonization of institutions; (viii) promote value addition and agro-processing while addressing poverty and land degradation nexus; (ix) Include customized interventions that address the unique characteristics of refugee and host community districts to promote sustainable use of natural resources and balance relations between refugee and host communities; (x) improve and strengthen knowledge management and; (xi) invest in early warning systems, surveillance and forecasting by establishing and strengthening the institutional architecture that can effectively respond and make adjustments in real time.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

To increase productivity, market access and resilience of select-value chains⁹ in the project area and to respond promptly and effectively to an eligible crisis or emergency.

Key Results

12. The outcome indicators to measure achievement of the PDO are as follows:

- (i) Number of beneficiaries adopting sustainable land management practices disaggregated by gender, refugee, host communities and non-refugee host communities
- (ii) Land area under sustainable land management including climate smart practices in Hectares (Disaggregated by refugee, refugee hosting, and non-refugee host communities)
- (iii) Percentage increase in yields of selected value chains in MT (Metric Tons) per Hectare (disaggregated by commodity/value chain)
- (iv) Percentage increase in volumes of agricultural products of selected value chains marketed by targeted beneficiaries (disaggregated by gender, refugee, host communities and non-refugee host communities)

D. Project Description

13. The project consists of five (5) components:(i) Strengthening Climate Smart Agricultural Research, Seed and Agro-

⁹ 13 value chains have been selected for the project – up to 4 value chains will be supported in each sub-region. The value chains have been selected based on the following criteria: (i) Potential to earn income for farmers and create employment; (ii) Potential to support food security and nutrition; (iii) Environmentally adaptable to the region; (iv) Potential for scalability; (v) Marketability – availability of market off-takers, aggregators, processors; (vi) Promoted by at least two-thirds of the district in the sub-region; (vii) Among commodities promoted by the Parish Development Model (PDM). Other considerations included being socially acceptable by farmers – by gender and inclusiveness of vulnerable groups; and potential to use as feedstock for value addition/ability to support other enterprises



Climatic Information Systems; (ii) Promoting Adoption of Climate Smart Agricultural Technologies and Practices; (iii) Investments in Market Development and Linkages to Selected Value Chains; (iv) Contingency Emergency Response, and (v) Project Coordination, Management, Monitoring, Evaluation and Learning.

14. **Component 1. Strengthening Climate-Smart Agricultural Research, Seed, and Agro-Climatic Information Systems (US\$ 65.6 million – IDA; US\$2.3 million - WHR).** This component will support the development, validation, packaging, and dissemination of context-specific CSA Technologies, Innovations & Management Practices (TIMPs) to target beneficiaries. It will facilitate investments in climate resilient seed production, and marketing systems. It will enhance climate risk management through improved prediction of, response to, and planning for climate change at the national, local and community levels. The component will also strengthen technical and institutional capacity to deliver technologies, support the development of the seed delivery systems and provide agro-meteorological information services.
15. **Component 2: Promoting Adoption of Climate Smart Agriculture Technologies and Practices (US\$172 million-IDA; US\$32.5 million – WHR).** The component will support investments for up-scaling and adoption of climate smart agriculture (CSA) technologies, innovations, and management practices (TIMPs). These include sustainable land management (SLM) practices for improved resilience, greenhouse gas (GHG) mitigation, agricultural productivity, and incomes in project areas.
16. **Component 3: Market Development and Linkages for Selected Value Chains (US\$44 million – IDA; US\$ 13.3 million – WHR).** The objective of this component is to improve access to remunerative markets through increased access to climate smart harvesting, post-harvest handling, storage, value addition, and market linkage services, equipment, and infrastructure by higher-level institutions (Producer Associations and Producer Organizations (POs)) established under sub-component 2.3. The project will adopt a framework for climate-smart infrastructure mainstreaming along the value chains.
17. **Component 4: Contingency Emergency Response (US\$0 million -IDA).** This zero-cost component will finance eligible expenditures under the Immediate Response Mechanism (IRM) in case of natural or man-made crises or disasters such as severe droughts, floods, specific pest and disease outbreaks and severe economic shocks in Uganda. This contingency facility shall be triggered through formal notification of an emergency by the relevant government authority and upon a formal request from the Government to the World Bank through the MoFPED. In such cases, funds from other project components will be reallocated to finance the emergency response expenditures to meet agricultural crises and emergency needs. The emergency response would include mitigation, recovery and reconstruction. Implementation of this subcomponent will follow a detailed Contingent Emergency Response Implementation Plan (CERIP) satisfactory to the World Bank that will be prepared for each Eligible Crisis of Emergency.
18. **Component 5: Project Coordination, Management, Monitoring, Evaluation and Learning (US\$18.4million – IDA; US\$1.9 million - WHR).** This component will support the management, monitoring, and evaluation of the project. It will strengthen the planning and coordination of activities supported by the project, as well as the monitoring of their implementation, financial management processes, program communication and knowledge management. The component will finance the baseline, mid-line and end of project evaluations; conduct specialized studies (quantitative, qualitative, and quality of implementation processes) on demand; and support development and operation of an ICT-based Agricultural Information System. The component will also focus on strengthening the Environment, Social, Safety and Health Risk Management in the project and building the knowledge base of effective implementation for refugees and managing risks of social cohesion between refugees and host communities.



Legal Operational Policies

Triggered?

Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Assessment of Environmental and Social Risks and Impacts

19. The project will support activities involving small-scale civil works that are likely to generate low to moderate environmental risks and impacts. Key environmental risks and impacts are expected to range from low to moderate, and will largely occur during construction phase such as: i) occupational health and safety concerns, including physical (solar radiation and heat) and chemical (fuels, oils, lubricants, paints, solvents) hazards; ii) community health and safety issues, related with road traffic and communicable diseases (e.g., HIV and AIDS, COVID-19); nuisance from noise, vibration and dust, as well as soil and water bodies contamination from hazardous and non-hazardous waste and debris during constructions activities; iii) habitat loss or modification due to vegetation clearing and fauna disturbance resulting from earth movement, expansion of cultivated land resulting in soil erosion, increased pressure on water resources through irrigation that could impact on environmental flows in river and wetland ecosystems, discharge of water from fishponds potentially reduces water quality in the wetlands as may be loaded with nutrients, use of pesticides and inorganic fertilizers could increase and lead to the release of chemicals into water sources and damage soil health.
20. To mitigate the environmental and social risks and impacts, the project has prepared and will implement an Environmental and Social Management Framework (ESMF). The ESMF has included measures for Labor Management Procedures; Health, Safety and Environmental (HSE) plan; Stakeholder Engagement Framework; Pest Management Plan (PMP); "Chance Finds" Procedure and a template for preparing Environmental and Social Management Plans (ESMPs) or Project Briefs (PB) as defined in the national legislation, as necessary for managing risks and impacts related to any civil works. The ESMF also outlines the implementation arrangements, including a capacity building program for adequate environmental and social risk management for various project interventions. Any subproject level civil works will develop and implement an ESMP that will be reviewed and approved by the Bank before the start of construction works. In addition, the client has prepared a Resettlement Policy Framework (RPF) and a Process Framework (PF) to provide guidelines on addressing any potential physical and/or economic displacement but also any restriction of access to ecosystems services for community members that have been benefiting from forests located in the project area. A Vulnerable and Marginalized Groups Framework (VMGF) has also been prepared and will provide guidance on mitigating potential impacts on, but also on inclusion into project benefits for the Iks, Tepeth, Batwa and the Benets. The client has prepared a stakeholder engagement framework and engagements have been part of project preparation and design process. The project will endorse a participation approach that considers different stakeholders and supports significant consultations of all parties. The project will ensure that Terms of Reference for all relevant activities are consistent with the ESF, and this requirement has been reflected in the ESCP.

E. Implementation

Institutional and Implementation Arrangements

21. The implementation of UCSATP will involve several key agencies at the national and local levels. Given the scope of project activities, several government ministries and agencies will be involved in providing guidance and oversight of



the project. Accordingly, the project will require strong coordination of activities and consultation at the national, zonal/regional, district, sub-county and community levels. At the national level, the Ministry of Finance, Planning and Economic Development (MoFPED) will represent the Government of Uganda (“the Borrower”) and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) will be the lead implementing agency with primary operational guidance and implementation functions as well as the overall responsibility for project implementation. At every level, the project will be implemented through existing structures and systems.

22. **National Level:** At the national level, the project will establish the National Project Steering Committee (NPSC) which will be responsible for providing strategic guidance, oversight and policy guidance as well as approve the project's Annual Workplans and Budgets (AWP&B). The NPSC will be co-Chaired by the Permanent Secretaries (PS) of MoFPED and the MAAIF
23. There shall be a National Technical Advisory Committee (NTAC), comprising, among others, Commissioners of relevant line Ministries and departments. Its main roles and responsibilities will be to provide technical guidance on project implementation. The NTAC will also review and advise on selected CRG proposals for approval and financing.
24. A National Project Coordination Unit (NPCU) will be constituted, headed by the National Project Coordinator and supported by a Deputy National Project Coordinator and Component Managers. The NPCU shall be responsible for overall coordination, monitoring and quality assurance of project activities.
25. NARO Secretariat shall coordinate the competitive agricultural research grants under the project adapted from their structures, systems and procedures to suit the requirements of the project. NARO will issue the call for proposals, evaluate, select successful proposals for financing. It will submit successful proposals to the NPCU. The CRGs will also form part of NARO's workplan that will be submitted to the NPCU, which will consolidate all workplans and budgets for the project and submit to the Steering Committee for approval.
26. **Zonal Level:** Considering the demands for effective and efficient project management and coordination five (5) Zonal Coordination offices at the Zonal/regional level will support the NPCU with consolidation, monitoring and reporting on project activities and progress at the Zonal/regional level. The Zonal Coordination support will be housed at the ZARDIs participating in the project
27. Project coordination at the Zonal level will be overseen by a Zonal Technical Committee (ZTC). This committee will provide project coordination oversight and convening authority in the respective zones. The committee will be responsible for supporting adaptive research activities and strengthening the research, development, extension, private sector linkage continuum. The ZTC will also convene the Multi Stakeholder Coordination Platform for planning, dialogue and participatory priority setting among stakeholders for developing selected investments in the zones/regions in an integrated manner.
28. **District Level:** The project will leverage existing district structures to the extent possible. In RHDs, the project will work within the existing structural arrangements for refugee management and protection set up under the Office of the Prime Minister within refugee settlements. A District Project Implementation Committee (DPIC) will be established and will feed into the existing District Technical Planning Committee and the District Executive Committee. In RHDs, the DPIC will also include representation from OPM Department of Refugees, DRDIP, UNHCR and selected implementing partners. The DPIC shall be responsible for: (i) selection of project and demonstration sites in consultation with sub-county extension staff and farmer groups; (ii) undertaking monitoring of project



activities; and (iii) facilitation of research, farmer, extension linkages

29. **Refugee settlement level:** The district coordination structures will work closely with OPM and the OPM DoR camp commandant within refugee settlements. This will build on existing settlement management structures and ensure close coordination with UNHCR and other key OPM partners supporting agricultural livelihoods, water and the environment within the settlements.
30. **Sub-County Level:** At the subcounty level, the project will utilize the existing structures. The Sub-County Technical Planning Committee will support and guide the planning and priority setting process for farmer Organizations. The committee will review and consolidate the work plan and budgets for micro-projects submitted by the farmer Organizations.
31. **Parish Level:** Farmer organizations (FOs) shall be responsible for participation in identification of needs and planning for interventions and investments. The FOs will be responsible for mobilization of new members with support from community-based facilitators and extension staff. Existing FOs will be supported and strengthened to form higher level producer associations. The farmer organizations will be supported to: (i) prepare Community Development Plans (CDPs) and community CSA micro-projects; (ii) implement and manage community grants; (iii) undertake community participatory monitoring and reporting; (iv) ensure compliance to good agricultural practices; and (v) aggregate and bulk agricultural produce.

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ⁱ Ministry of Water and Environment Climate Change Department, “Economic Assessment of the Impacts of Climate Change in Uganda—National Level Assessment: Agricultural Sector Report.” March 2015. https://cdkn.org/wp-content/uploads/2015/12/Uganda_Agricultural_Sector.pdf

ⁱⁱ CIAT; BFS/USAID. 2017. Climate-Smart Agriculture in Uganda. CSA Country Profiles for Africa Series. International Center for Tropical Agriculture (CIAT); Bureau for Food Security, United States Agency for International Development (BFS/USAID), Washington, DC. https://climateknowledgeportal.worldbank.org/sites/default/files/2019-06/UGANDA_CSA_Profile.pdf

ⁱⁱⁱ Ministry of Water and Environment Climate Change Department, “Economic Assessment of the Impacts of Climate Change in Uganda—National Level Assessment: Agricultural Sector Report.” March 2015. https://cdkn.org/wp-content/uploads/2015/12/Uganda_Agricultural_Sector.pdf

^{iv} Ibid²⁸

^v Brown and Sutcliffe 2013. The water balance of Lake Kyoga, Uganda. *Hydrological Sciences Journal*, 58(2)

^{vi} Oyebola et al. 2021; Potential adaptation strategies for climate change impact among food-prone fish farmers in climate hotspot Uganda. *Environment Development And Sustainability* 23:12761-12790