SIRGE - Strengthen an Innovative System for the Reduction of Greenhouse Gas Emissions and Environmental Impacts of the Nascent Beef Industry in Uganda in Support of Rural Sustainable Transformation

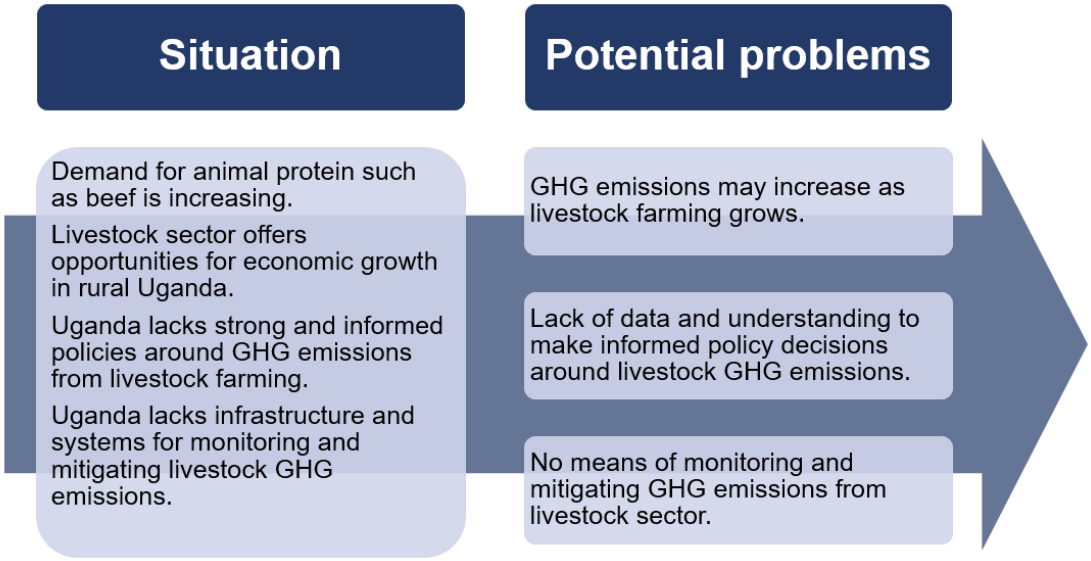
Project Objectives

Contribute to the climate-relevant, productive, and sustainable transformation of agriculture and food systems in Uganda. Specifically, foster innovation and rural communities' and institutions' access to new technologies for reduction of greenhouse gas (GHG) emissions and environmental impacts of the nascent beef industry in Uganda.

Background

The international beef industry faces a challenge. How can it meet growing and changing consumer demands for animal proteins while minimizing negative environmental and social impacts?

Increases in per capita meat consumption are predicted in the coming decades, led by a growing population, increased incomes, and changes in dietary preference. Demand for meat and dairy products is expected to grow more than 60% globally, and more than 70% in sub-Saharan Africa. In Uganda, where the beef industry is an important contributor to the national food system, it is crucial to identify economically and environmentally sustainable methods of production that can make a sustainable contribution to long-term food security. Therefore, the beef industry in Uganda was identified to represent a priority value chain that can contribute towards food security and enhance economic development and employment. However, livestock farming contributes both directly and indirectly to climate change through GHG emissions. The in-country infrastructure for monitoring and reducing GHG emissions is still in its formative stages.

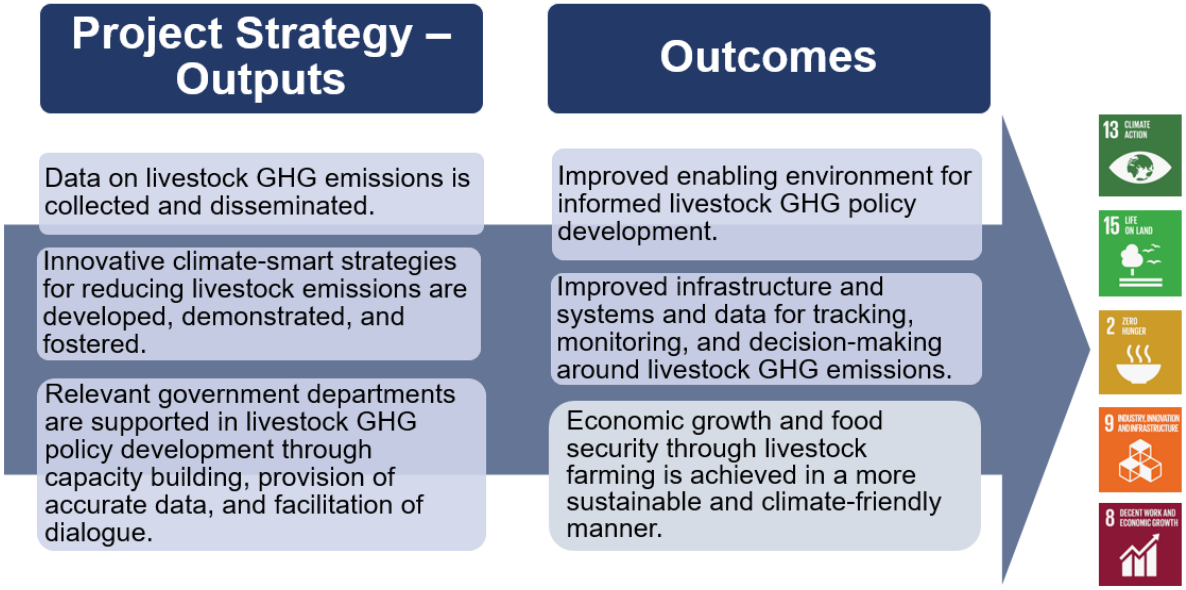


Model of the Current Situation and Potential Ensuing Problems

Development of models for monitoring GHG emissions – in addition to developing environmentally sustainable measures for control – are essential for addressing climate change. Such measures will support identification of negative impacts of the growing beef industry in Uganda. The SIRGE project aims

to complement and supplement existing interventions. It will do so by collecting data and generating information that will in turn improve the accuracy of livestock emissions accounting, inform national climate change mitigation and adaptation policies, improve climate-smart interventions, promote environmental conservation actions, and supporting Uganda's national reporting processes to the United Nations Framework Convention on Climate Change (UNFCCC).

Theory of change



Project Strategy to Achieve Outcomes

The project will bring about positive change in several ways, and will support the achievement of rural economic growth and food security with minimal impacts on the environment. The project recognises the existing situation with livestock farming in Uganda and responds to potential problems that may result from the expansion of such farming. In particular, the project responds to the following problems: 1) the possible increase in livestock-related GHG emissions, 2) the present lack of data around livestock-related GHG emissions, and 3) the lack of strong government policy around livestock-related GHG emissions.

The project's theory of change holds that these problems will be addressed through 1) collection, analysis, and dissemination of data relating to GHG emissions from beef farming in focal districts of Uganda (and development of systems and processes for continuation of such activities after the project completion in collaboration with farmers, local governments, and Uganda's Ministry of Water and Environment); 2) development and demonstration of innovative climate-smart strategies for reducing such emissions, including modelling best practices in collaboration with selected farmers at climate-smart farming sites (such practices may include altering cattle feed to minimise emissions and climate-smart methods of rangeland management to increase rangelands' carbon-sequestration potential); and 3) supporting national agencies' (such as the Climate Change Department) for the development of fit-for-purpose policy and reporting frameworks (NCD, BUR, NCs) through capacity building, provision of accurate data, and facilitation of dialogue with relevant international and regional agencies.

Wherever possible, activities will be participatory in nature and will involve representatives of farmer groups as well as representatives from local government and Uganda's Climate Change Department within the Ministry of Water and Environment. The project logic further holds that these strategies and activities will improve the enabling environment for relevant policy development and foster the development of strong policy and that the strategies will also bring about more sustainable and climate-friendly long-term economic growth in rural Uganda.

The main risks for the SIRGE project are 1) insufficient institutional coordination and capacity, as agriculture is one of the biggest sectors in Uganda and it faces challenges in terms of coordinating of activities across over 13 ministries and agencies; 2) limited recognition of the need for climate action by stakeholders in the livestock beef industry; 3) lack of political will to address the need for a holistic approach in addressing and/or guiding the agricultural modernization process.

Main activities

The main activities s of the SIRGE are as follows:

Data Collection

1) Data collection and accurate measurement of Greenhouse Gases (GHG) emissions from cattle under rangeland conditions using gender-disaggregated data; 2) use of historic methane emissions calculations from satellite data to select sites for more accurate methane emission analysis using drones; 3) repeated data collection visits to sites over the course of the initial data capture period and combine the data with cattle population statistics to improve the variable on methane for heat and seasonality.

Data Analysis and Modelling

1) carrying out characterisation and inventorying of GHG emissions from livestock; 2) analysing the role of grassland/rangeland management on carbon sequestration in pastures and animal feed producing areas; 3) developing and disseminating a sustainable and accessible forecasting model for livestock GHG emissions;

Supporting Mitigation and Climate-Smart Practices at the Farm Level

1) Scaling-up and building on MOBIP interventions aimed at mitigating greenhouse gases through improved livestock breeding; 2) modelling climate-smart practices and creating awareness on effective, innovative best practices for ruminant feeding methods and genetic improvement that reduce methane emissions in beef cattle; 3) facilitating linkages with existing projects on the participation and representation of women and youth in climate-smart agricultural practices that lower GHG emissions.

Facilitating Policy Development for Climate-Smart Farming

1) Supporting the participation of government through the Ministry of Water and Environment (MWE) in regional and international dialogues on the implementation of livestock coordination frameworks and livestock MRV systems development; 2) building capacity and raising awareness on GHG livestock emissions among policymakers and key sector players.

Organization:

The project comprises a number of inter-related components, as outlined above. Different partners and service providers within the consortium will be more or less extensively involved in different components of the project, although ACTED will remain the lead agency in coordinating the project implementation,

along with consortium partner AgriTechTalk Africa. The project will be implemented in association with Uganda's Climate Change Department (CCD), which falls under the umbrella of the Ministry of Water and Environment (MWE), and four service providers will be engaged for providing services relating to specific components of the project. For example, a specific service provider with expertise in the area of remote sensing technologies will lead the satellite and drone data collection component of the project. Specialized service contracts are envisaged for these service providers. The four service providers (see below) were intensively consulted during the proposal formulation and contributed to the formulation and development of the project proposal document.

The project steering committee (PSC) will be responsible for making, management decisions by consensus when guidance is required by the project manager(s), including recommendations to the implementing partner(s) and approval of project plans and revisions. PSC will be the governing body of the project and will provide strategic leadership and governance oversight.

The project technical unit (PTU): Technical, research, and scientific coordination will be ensured through the establishment of a tailored project technical unit (PTU) jointly run by the consortium leader and the CCD under the Ministry of Water and Environment (MWE). Joint coordination by the consortium leader and the MWE/CCD will be necessary and instrumental in project delivery. A technical and research link will be created and made operational with the National Livestock Resources Research Institute (NaLIRRI), with Makerere University (MUK) - Centre for Climate Change Research and Innovation, and with CGIAR/CCAFS. Direct collaboration will be sought with the Agriculture Climate Change Task Force.[1]

Implementing Partner:
ACTED

Partners:
Co-applicant: AgriTechTalk Africa (ATTA)
Associate: Climate Change Department, Ministry of Water and Environment (CCD-MWE)

Service Providers:
Environmental Surveys, Information, Planning and Policy Systems (ESIPPS)
Ndege Skies
Global APRI services (u) limited (APRI)
National Livestock Resources Research Institute (NaLIRRI);

Other main stakeholders:
Makerere University (MUK), Ministry of Agriculture, Animal Industries and Fisheries (MAAIF – CCTF), livestock/beef farmers, agro-pastoral communities, community-based associations/organisations including Uganda Meat Producers Cooperative Union (UMPCU), Commercial farmers, community leaders, cattle corridor districts, youth and women.

Localisation: Uganda: Mbarara and Nakasongola Districts.

[1] The **Climate Change Task Force**, established by the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF), with guidance from the Climate Change Department (CCD) of the Ministry of Water and Environment (MWE) and technical support from FAO and UNDP

Funding and co-funding:

EU	€ 2,000,000
Co-funding	€ 200,000
Total budget	€ 2,200,000

Duration:
Three years (1 January 2021–December 31, 2023).