Food and Agriculture Organization of the United Nations

FEBRUARY 2022

SCALING UP CLIMATE AMBITION ON LAND USE AND AGRICULTURE THROUGH NDCS AND NAPS (SCALA)

Inception Report | UGANDA

ACKNOWLEDGEMENTS

The UNDP-FAO Global Support Programme on Scaling up Climate Ambition on Land Use and Agriculture through NDCs and NAPs (SCALA) is a five-year programme funded by Germany's Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) through its International Climate Initiative (IKI).

This report was prepared by FAO and UNDP focal points: Ben Busizori (consultant), Sarah Mujabi (UNDP), Gloria Namande (UNDP), Sheku Davowa (UNDP), Samuel Tumwesigye (UNDP), Joseph Mudiope (FAO) and Krystal Crumpler (FAO). It summarizes the inception phase and launch of the SCALA Programme in Uganda.

The inception phase was characterized by multi-stakeholder consultation, including: FAO and UNDP technical officers and representatives from key stakeholder groups involved in climate change, environment, agriculture, land and rural development planning in Uganda; including government Ministries and Departments at the central and district levels (Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Ministry of Water and Environment (MWE), Ministry of Local Government (MoLG), Ministry of Gender, Labour and Social Development (MGLSD), National Planning Authority, National Environment Management Authority, Uganda National Meteorological Authority (UNMA), Uganda Coffee Development Agency); Non-government organizations and Civil society, including farmers' groups, women's groups and youth organizations (eg. Uganda National Farmers Federation, Climate Action Network Uganda, International Women's Coffee Alliance); Research institutions (eg. National Agriculture Research Organization (NARO), National Coffee Research Institute (NACORI), Consultative Group for International Agricultural Research (CGIAR); Academia (Makerere University); and private sector foundation and actors (eg., Private Sector Foundation Uganda, Sunshine Agri-Foods Ltd.); Financial institutions (eg. Centenary Bank, Stanbic Bank).

The SCALA team is grateful for all comments and suggestions received from the sector stakeholders. Their advice and guidance remain invaluable!

Table of Contents

ABBREVIATIONS AND ACRONYMS

AEZs	Agro-Ecological Zones
AFOLU	Agriculture, Forestry and other Land Use
AR5	Fifth Assessment Report
ASSP	Agricultural Sector Strategic Plan
BMZ	Germany's Federal Ministry of Economic Cooperation and Development
CBOs	Community Based Organizations
CCA	Climate Change Adaptation
CCD	Climate Chance Department
CDKN	Climate and Development Knowledge Network
CDM	Clean Development Mechanism
CSA	Climate Smart Agriculture
CSOs	Civil Society Organizations
DDA	Dairy Development Authority
DDPs	District Development Plans
DFR	Directorate of Fisheries Resources
DLG	District Local Government
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund

GCMs	Global Climate Models
GDP	Growth Domestic Product
GHG	Greenhouse Gases
GOU	Government of Uganda
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MoFPED	Ministry of Finance Planning and Economic Development
MoGLSD	Ministry of Gender, Labor and Social Development
MoLG	Ministry of Local Government
MTEF	Medium Term Expenditure Framework
MWE	Ministry of Water and Environment
NAADS	National Agricultural Advisory Services
NAP	National Adaptation Plan
NAPA	National Adaptation Programmes of Action
NAP-Ag	National Adaptation Plan for the Agriculture Sector
NARO	National Agricultural Research Organization
NCCP	National Climate Change Policy
NDC	Nationally Determined Contribution
NDP	National Development Plan
NPA	National Planning Authority
UCDA	Uganda Coffee Development Authority
LULUCF	Land-use, land-use change and forestry
UNFCCC	United Nations Framework Convention for Climate Change

LIST OF FIGURES AND TABLES

1. INTRODUCTION

1.1 PURPOSE OF THIS REPORT

This Inception Report complements SCALA Uganda project documentation with the outcomes of the inception activities. It specifies the SCALA inception activities undertaken by UNDP and FAO, in close collaboration with Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and Ministry of Water and Environment (MWE) to determine the scope and areas of SCALA programme implementation in Uganda. The report highlights in-country consultations that were conducted to take stock of existing data availability, institutional and technical expertise, national and sector development and climate change strategies and plans, to determine country priorities and needs. The inception report also defines the theory of transformative change that describes a process by which implementation of the identified priority actions will contribute to transformative change in the Uganda's cattle corridor landscape and in the agriculture and land use sectors in general.

1.2 OVERVIEW OF THE GLOBAL PROGRAMME

The Support Programme on Scaling up Climate Ambition on Land Use and Agriculture through NDCs and NAPs (SCALA) is a multi-year initiative funded by Germany's Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) through its International Climate Initiative (IKI). The programme is designed to support transformative climate action in the land use and agriculture sectors to reduce GHG emissions and/or enhance removals, as well as strengthen resilience and adaptive capacity to climate change in participant countries. Its specific objective is for **countries to have translated their NDC and/or NAPs into actionable and transformative climate solutions in land-use and agriculture with multi-stakeholder engagement**. It emphasizes collaboration between the public and private sectors to drive implementation.

This will be achieved through three outcomes:

- Outcome 1: Information and assessments used by national stakeholders to identify and appraise transformative climate actions to advance NDC/NAP priorities in land-use and agriculture.
- Outcome 2: Climate risk-informed land-use and agriculture sector priorities integrated into national and sectoral planning, budgeting and monitoring.
- Outcome 3: Private sector engagement in climate action in land-use and agriculture increased.

SCALA supports **12 countries in Africa, Asia, and Latin America** (Argentina, Cambodia, Colombia, Costa Rica, Cote d'Ivoire, Egypt, Ethiopia, Mongolia, Nepal, Senegal, Thailand, and Uganda). It works directly with key government stakeholders (i.e., Ministries of Agriculture, Environment, Finance and Planning and Climate Change Coordination bodies), as well as representatives of civil society organizations, private sector, research, and academia. To reach a wider selection of countries, it also promotes sharing knowledge and lessons learned through a technical facility set up under the programme focused on private sector engagement and public-private collaboration.

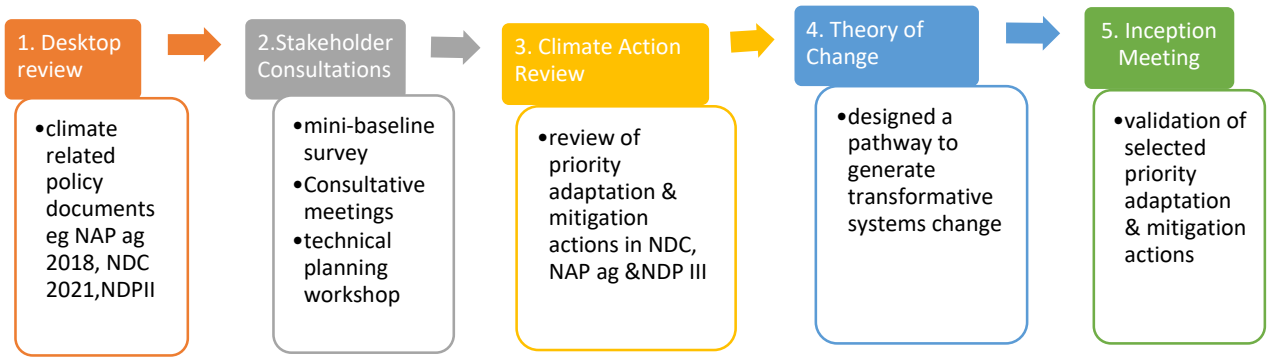
SCALA is implemented through a joint e ort between the Food and Agriculture Organization and the United Nations Development Programme, building on lessons learned from the IKI-funded Integrating Agriculture in National Adaptation Plans (NAP-Ag) Programme. SCALA taps into the technical knowledge and experience of both agencies, working through the respective Regional O ces, Regional Centers of Expertise and Country O ces in support of country programming frameworks. Both agencies have sub antial global, regional and national initiatives which is leveraged for knowledge exchange and complementary activities.

1.3 INCEPTION PHASE PROCESS

The inception process followed 5 eps (Figure 1): desktop review, stakeholders' consultations, climate actions review and assessment for transformation potential, designing theory of transformative change and validation inception meeting. The inception process led to the identi cation of potential priority transformative climate actions that SCALA will work on in Uganda. These are entailed in the workplan activities that will jointly be

implemented by FAO and UNDP in partnership with the line ministries, district government and development partners.

FIGURE 1 : STEP-BY-STEP FLOW OF THE INCEPTION ACTIVITIES



- **Step 1:** Conducted **background research and review** of existing documents (NDC, NAP-Ag, National Climate Change Policy 2015, Climate Change Act 2021, 3rd NDP, Climate Change Vulnerability Assessment Reports (USAID, 2013; MWE, 2014a; Irishaid, 2018; WB, 2021; UNDP, 2021) among others to provide baseline information to support climate actions review and assessment for systems transformation potential.

- **Step 2: Consultations** with **key stakeholders** through a **mini-baseline survey** involving 32 purposively selected stakeholders from SCALA participating Ministries, FAO and UNDP Country Officers, as well as civil society organizations and private sector actors to inform identification of priority transformative climate actions. This was complemented by **a one-day multi-stakeholder technical planning** meeting convened to gather inputs from key stakeholders on the proposed SCALA programme workplan in Uganda.

- **Step 3: Climate Action Review Matrix.** Review of the priority adaptation and mitigation actions for their transformative potential based on seven dimensions of transformation: climate rationale; systems-thinking; private sector engagement; gender equality and social inclusion; sustainable development; whole-of-government approach; technological and financial innovation.

- **Step 4:** Designing **Theory of Change (ToC).** A theory of change was designed to demonstrate how agricultural systems transformation will occur in Uganda's cattle corridor. It outlines a narrative around transformative pathways and provides a rationale behind SCALA's planned activities. The ToC considers the interconnected drivers, risks and outcomes that will be considered and addressed in the cattle corridor landscape, including the underlying vulnerabilities and impacts of climate change on smallholders and socially marginalized groups. The theory of change offers an overarching narrative that ties together workplan activities as mechanisms of transformation. The Uganda SCALA Programme aspires to contribute to the medium and long-term goal of supporting **transformative** climate actions in the land-use and agriculture sectors that reduce GHG emissions and/or enhance removals, as well as strengthen climate risk reduction, resilience, and adaptive capacity in the cattle corridor. In terms of the programme-specific objective, SCALA aims for Uganda to have translated NDC and/or NAPs into actionable and transformative climate actions in land-use and agriculture with multi-stakeholder engagement.

- **Step 5: Inception Meeting** was organized to present the SCALA Programme baseline assessment, Theory of Change and multi-annual work plan for stakeholder validation and finalization.

2. CONTEXT

2.1 COUNTRY PROFILE

Geography and climate:

Uganda is a land-locked country in East Africa (lies 800 kilometers inland from the Indian Ocean), located in at latitude 1.373333 and longitude 32.290275, with a 241,139 square kilometers land surface. Uganda is bordered by Tanzania and Rwanda to the south, DR Congo to the west, Southern Sudan to the north, and Kenya to the east. Uganda lies in both the northern and southern hemispheres and is located at the Great African Plateau marked by the mountainous plains and fertile valleys. The country has a diverse geography, consisting of volcanic hills, mountains, and lakes. In terms of climate, Uganda has an equatorial climate, with average annual temperature ranges between 16ºC and 26ºC and sometimes exceeding 30ºC in the northeast. Rainfall occurs regularly, the south and central has two rainy seasons. In the north however, it rains regularly between April and October, but is dry from November through March.

Demography and economy:

Uganda has one of the world's highest population growth rates, at an annual average of 3.2 percent since 2000. Uganda's population has continued to grow over time. To date, (2021), total population is 44.3 million people and is predominantly rural (74 percent). Over 76 percent of this population depends on natural resources and agricultural – based livelihoods. Several sectors, including the AFOLU sectors depend on these natural resources and their services. However, the environment and natural resources are under threat from both natural and manmade drivers of social and economic change including poverty, rapid population growth, unplanned urbanization, expansion of informal settlements, industrialization and the impacts of climate change and variability among others. Pollution levels are also on the increase and the country is contending with new and emerging environmental issues arising from e-waste, unsound use of (agro-) chemicals, oil and gas development. Uganda is still classified as a low-income country, with a US$ 817 (in 2020) GDP per capita, (UBOS, 2020). The country's GDP is primarily generated from the agriculture and land use sectors, representing a 23.1 percent share, whilst the industry sector (including mining, construction, electricity, water, oil and gas), export of goods and services and tourism sectors contribute 26.3 percent, 17.2 percent and 6.6 percent in 2020, respectively (World Bank, 2021). Uganda's development agenda is articulated by the Uganda Vision 2040 to become a middle income and prosperous country, through a low emission green growth pathway.

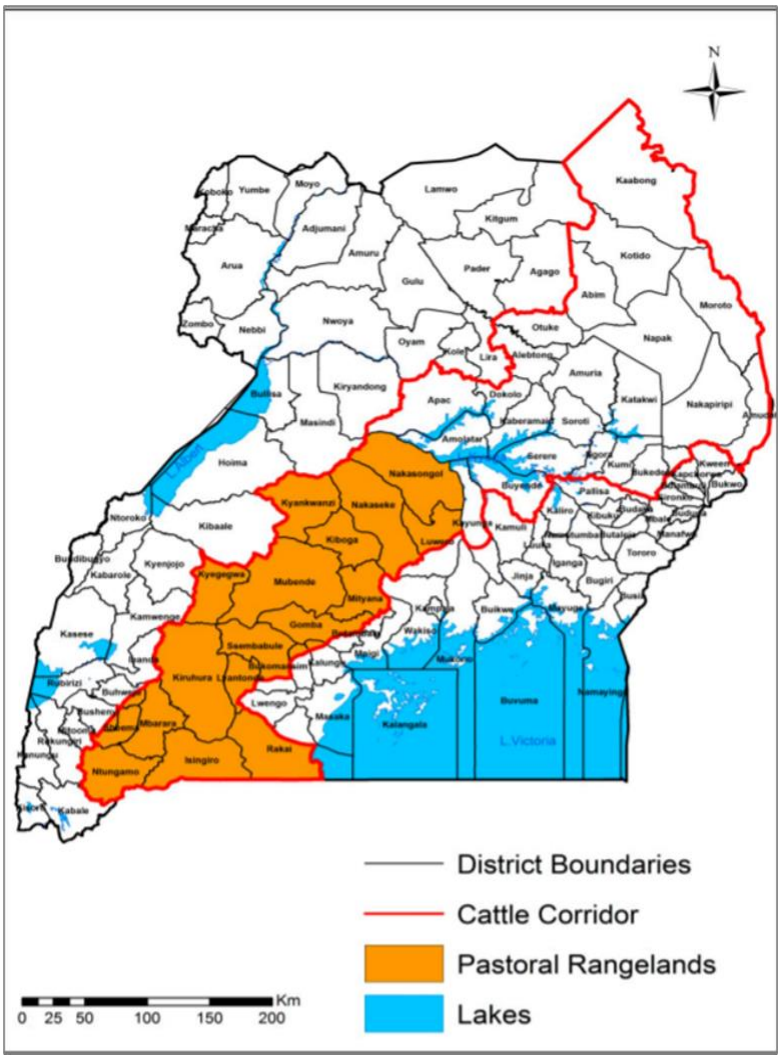
Agriculture and land use sectors:

Agriculture and use sectors account for about a quarter of Uganda's GDP and a great proportion of exports. The agriculture sector is a priority sector for the achievement of Uganda's development targets as highlighted in the National Vision 2040, the global commitments in Agenda 2030 Sustainable Development Goals and the updated National Determined Contributions (NDCs) to the Paris Agreement, and yet is highly vulnerable to climate change. Although the AFOLU sectors being a prioritized for the social and economic transformation targets, there are low levels of production and productivity, mainly driven by poor agronomic practices and the impacts of climate change. The sectoral focus therefore is to strengthen technologically sound, nature positive production through climate change resilient technologies, practices and commodity value chains; and this is to be promoted according to the agricultural production zones.

The cattle corridor:

One of the agricultural zones that is vulnerable to climate change is the Uganda's cattle corridor. The cattle corridor agricultural landscape stretches from south-western to north-eastern Uganda, covering the districts of Isingiro, Kiruhura, Ntungamo, sheema, Mbarara, Rakai, Lyantonde, Bukomansimbi, Lwengo, Masaka, Mpigi, Mubende, Kiboga, Kyankwazi, Luweero and Nakaseke, Gomba, Nakasongola, Katakwi, Moroto, Nakapiripirit, Kotido, and parts of Kitgum, Kasese, Bundibugyo, Hoima, Masindi, Nebbi, Moyo, and Adjumani, Kyegerwa, serere, and Kyankwanzi (Figure 2).

FIGURE 2 : UGANDA MAP SHOWING THE CATTLE CORRIDOR LANDSCAPE



The boundaries and names shown, and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

(Source: Kisaalita and Sempiira, 2017)

Cattle corridor is formed by rangelands covering 84,000 km^2 representing 43 percent of the country's total land area, with about 12 million people and 90 percent of cattle population. This landscape is characterized by an agro-pastoral socio-economic structure that is highly dependent on livestock and crop production. It faces challenges related to the ecosystem fragility; climate hazards and impacts, including erratic rainfall and prolonged droughts, increasing temperatures, floods, frequent outbreak of crop and livestock diseases, competition (for land, feed and water), forest and land degradation and cases of Gender Based Violence (GBV) are expected to worsen.

Despite being vulnerable to climate change, the cattle corridor is one of the main food baskets for the country that must be protected and better managed. It accounts for 4.5 percent of Uganda's GDP and contributes substantially to the 70 percent employment generated by the agricultural sector[1]. Nonetheless, most of the cattle corridor districts are poor with most households maintaining a fragile asset base and increasingly relying on natural resources for their livelihoods. There are noticeable supply-side and access to productive inputs constraints such as poor agriculture production practices. The corridor still faces high gender inequality in terms of access to productive assets (e.g., land) and services (e.g., credit), as well as participation in household, community and policy-level decision making. Observed economic development in the area has also been a driver of increased resource use and environmental degradation (competition for productive inputs

[1] Uganda Bureau of Statistics report 2014.

starting with land, forests, and water) yet the private sector participation in climate action is low. There are also noticed public health and environmental threats that result from frequent interactions between humans and animals, as well as wildlife at water points – this is a major driver of outbreaks and spread of emerging and re-emerging of shared livestock and human zoonotic infectious diseases.

Uganda has good and relevant climate policies and plans, including the updated NDC and the agricultural NAP. These plans - described in detail in section 2.3.2 - entail the sectoral short-, medium- and long-term transformative climate actions. These plans are not fully implemented, partly due to the technical, financial, and technological innovations capacity challenges.

2.2 CLIMATE CHANGE IMPACTS, RISKS AND VULNERABLITIES

Temperature:

Observed: Mean annual temperature is observed to have increased across a southeast (~0.02°C/year) to northwest (~0.03°C/year) gradient in the period 1950 to 2002, by about 1.3°C since 1960 (UNDP, 2012). The greatest observed increase in temperatures has occurred during the months of March to May. Between 1960 and 2003, the average number of hot days per year increased by 74 (an increase of over 20 percent); the average number of hot nights per year has increased by 136 (an increase of over 37 percent). Annually, average monthly temperature peaks in February-March. For the period 1960-1990, the average temperature in those months was 23.5°C; for the period 1990-2009, it had risen to 24.7°C. The annual average monthly minimum temperature occurs in July; during 1960-1990, it was 21.5°C. During 1990-2009, it had risen to 22.3°C (CCKP)[2].

Projected: The mean annual temperature in the country is projected to increase by 0.35°C, 0.90°C, and 1.41°C by 2030 for the 10th, 50th, and 90th percentiles for the RCP4.5 model ensemble runs, and by 0.56°C, 1.01°C, 1.48°C for the RCP8.5 10th, 50th, and 90th percentile model ensembles, respectively. Maximum temperatures are projected to increase by 0.90°C to 1.02°C, and minimum temperatures by 0.96°C and 1.04°C for the RCP4.5 and RCP8.5 median model ensemble [CCKP]. All projections indicate substantial increases in the frequency of days and nights that are considered "hot" in current climate. Annually, projections indicate that "hot" days will occur on 10- 27 percent of days by the 2030s (UNDP, 2012).

Precipitation/Rainfall:

Observed: From 1960-1990, Uganda's average annual rainfall was 1160.5 mm, with a peak of 150 mm in April. It experiences two distinct wet periods: the short rains in October to December and the long rains in March to May. Statistically significant decreases in annual average rainfall have been observed since 1960, at an average rate of 3.4 mm (3.5 percent) per month per decade, but this trend is strongly influenced by particularly high rainfall totals in 1960-61. This trend is most pronounced in March to May, with a decrease of 6.0 mm (4.7 percent) per month per decade (USAID, 2015).

Projected: 2030 (generally 2020-2049). The median ensemble runs for RCP4.5 and 8.5 indicate an average annual rainfall increase of 0.2 mm/day by the middle of the 2030s. There is significant variability across months (some months indicate increases in rainfall, and others indicate decreases). There is significant variability across months (some months indicate increases in rainfall, and others indicate decreases). The proportion of rainfall falling in heavy events is projected to increase, with increases in annual rainfall ranging from 0 to 15 percent by the 2090s, with the greatest increases occurring in the rainy seasons of March to May and October to December [ibid.]. Consistent with increasing rain, increases in runoff and annual high flow are projected by mid-century. The Upper Nile Basin region of Uganda could see an increase in runoff through 2039, but a decrease in the second half of the 21st Century [IPCC, AR5]. They also predict a slight decrease in total annual rainfall in most of the country, with slightly wetter conditions over the west and north-west under both RCP 4.5 and RCP 8.5. Rainfall totals might drop significantly over Lake Victoria (-20 percent from present) (UNDP, 2012).

[2] World Bank Climate Change Knowledge Portal (CCKP)

Climate Hazards:

The two main climate hazards are expected changes in temperature and rainfall. Changes in rainfall seasonal patterns, increased temperatures, and aridity put additional pressures on the fragile ecosystem. Fragile ecosystems including the mountainous areas, forests, river and lakes catchment areas, wetlands and rangelands are identified as climate change hot-spot areas. Extreme events leading to disasters such as floods, droughts, and landslides have increased over the last 30 years. Flooding has become more frequent, largely due to more intense rainfall (MAAIF, 2018). Overall, the country experiences extreme weather events; for example, short and heavy rainfall leads to mudslides, landslides and flooding, particularly for the country's mountain regions and related districts such as in the Mt Elgon region (Mbale, Bududa and Sironko) and Kasese and Bundibugyo in Mt Rwenzori region (IFRC, 2021). The impacts of climate change such as droughts, floods, storms and landslides that have had serious effects on agricultural production, food security, nutrition, farmer incomes, and their livelihoods. These climate change impacts are experienced by all the sectors, though agriculture and other land use sectors are the most vulnerable sectors. Climate change is contributing to the observed reduction in the national production of food crops such as cassava, maize, millet and groundnuts by the 2050s, resulting into a total loss value of up to USUS$ 1.5 billion. Trends, such as reduced water availability and watershed re-charge is likely to stress fisheries, resulting in disrupted livelihoods and significant economic losses (FAO, 2015).

The cattle corridor (agricultural rangeland) is prone to floods, drought/dry spells, and pests and diseases amongst climate related risks. The northern half is most affected by both floods and droughts. These climate related impacts and risks are negatively impacting the yields of both livestock and the crops grown, including coffee, rice, cocoa, maize, cassava, and sweet potatoes among others. The livestock sub-sector is sensitive to the experienced negative impacts from the changing climate and yet such weather conditions are projected to worsen over time. There is projected increase in flooding magnitude, frequency in drought, and diseases and pests' outbreak. Increased disease and pests, water stress, and degraded pasturelands negatively impacting both meat and dairy value chains and negatively impact the productivity of the fishery and aquaculture (MAAIF-NAP Ag, 2018).

In terms of gender and social inclusion, women and youth are more vulnerable due to the underlying societal structural power dynamics, including barriers to access to and control over production assets, resources and services. For example, related to land access and ownership, customary land ownership is largely gained through a patriarchal system. Moreover, some cultural norms limit women and youth from participating in decision making processes and participation in community level (climate change adaptation planning) meetings. Indigenous men pastoralists are also more vulnerable to conflicts over grazing land and water points due to their traditional pastoral roles which include moving for a long-distance grazing animal.

All these vulnerabilities combined lead to loss of biodiversity, poor agriculture productivity, low incomes, unsustainable livelihoods, food insecurity and increased GBV in the cattle corridor.

Greenhouse gas emissions:

In 2015, Uganda's total emissions were estimated at 77,381 Gg. The AFOLU sector was the most significant source of emissions for the three gases (i.e., CO_2, CH_4 and N2O), accounting for 86.4 percent of the total emissions. The energy sector was the second most important source (accounting for 10.9 percent). The contribution from the waste sector and IPPU was 2.1 percent and 0.6 percent respectively. At GHG level, most of the CO_2 were from land, CH_4 emissions were mainly from livestock and bush burning and N_2O emissions were from direct and indirect emissions from managed soils. At sub sector level, forest degradation, enteric fermentation from ruminant animals, deforestation (conversion of forest to cropland and grassland) and N_2O emissions from managed soils are significant sources[3].

[3] 2019. Uganda's First Biennial Update Report, including 2015 national GHG inventory report

2.3 CLIMATE CHANGE PLANNING AND IMPLEMENTATION

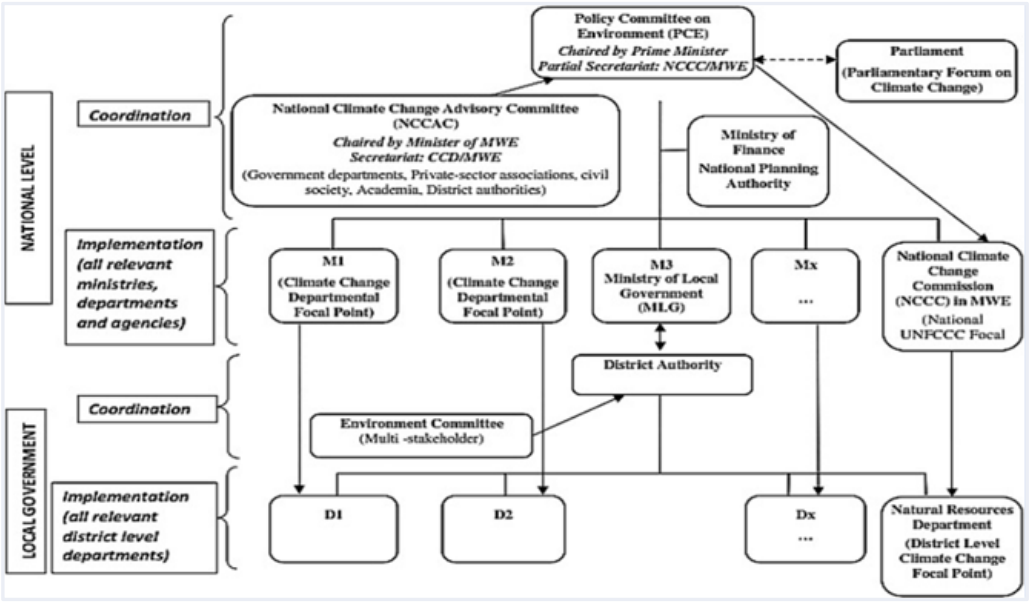
2.3.1 Institutional arrangements

Climate Change Department (CCD) in the Ministry of Water and Environment (MWE) is responsible for the coordination of climate change activities in Uganda. CCD is the National Focal Point for the United Nations Framework Convention on Climate change (UNFCCC). CCD works with climate change coordination units in different Ministries, Departments and Agencies (MDAs) to ensure the mainstreaming of climate change in the respective sectors of the economy.

CCD also works with the National Planning Authority (NPA) and MoLG to ensure the integration of climate change in the National Development Plan and Sectoral Development Plans, and in District Development Plans (DDPs) (Figure 3). The MWE is the National Implementing Entity (NIE) for the Adaptation Fund, while the Ministry of Finance Planning and Economic Development (MoFPED) is the National Designated Authority (NDA) for the Green Climate Fund (GCF). CCD also coordinates the implementation of the updated NDC, which aims at reducing the vulnerability of the population, environment, and economy to the impacts of climate change by implementing measures and policies that build resilience.

For the Agriculture sector, the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is mandated to promote and support sustainable and market oriented agricultural production, food security and household incomes in the country. Across all the sub-sectors, namely Crop, Animal and Fisheries Resources, MAAIF aims to transform subsistence farming into commercial agriculture in the country with increased resilience and high adaptive capacity to the impacts of climate change. MAAIF's climate change agenda is coordinated by a sectoral Climate Change Task Force, which was established in 2012 to collaborate and link with the climate change lead sector - CCD in MWE. The sectoral climate agenda is guided by the Agriculture Sector Strategic Plan (ASSP) and the Agricultural NAP (NAP-Ag). ASSP is the plan for investment and development of the agricultural sector, in line with the third National Development Plan, and contributes to climate action through increasing agricultural production and productivity; increasing access to critical farm inputs; improving agricultural markets and value addition; and improving service delivery through strengthening the institutional capacity of MAAIF and its agencies. The NAP-Ag entails the short-, medium- and long-term climate change adaptation actions for the transformation of the agriculture sub-sectors: crop, livestock, fisheries, and forestry, towards more resilience and sustainability.

FIGURE 3 : ORGANIZATIONAL CHART FOR CLIMATE CHANGE ACTION IN UGANDA



Source: GoU, 2015. National Climate Change Policy, p. 53

2.3.2 Key Policies and Frameworks

In 2015, Uganda agreed to the United Nations Framework Convention on Climate Change (UNFCCC) and as a signatory and party to the Paris Agreement, Uganda submitted its first NDC in 2015 and has subsequently revised it as per Paris Agreement requirements. Uganda has marked incredible progress towards implementing actions that will achieves its NDC. In 2018, Uganda became the first country in Africa to develop an NDC Partnership Plan that sets a results-based framework for coordinating mitigation and adaptation actions toward nation climate and development goals. Several development partners have supported the implementation of the NDC Partnership plan. Uganda has strengthened its enabling environment for NDC implementation and continues to leverage targeted technical and financial support for NDC implementation.

Uganda's **2021 Updated NDC**[4] has considered the ongoing relevant developments in the country, including development of the third National Development Plan 2020/21- 2024/25 and revision of the energy policy. The objective of Uganda's NDC is to pursue a low-carbon development pathway and reduce the vulnerability of the population, environment, and economy to the impacts of climate change; by implementing measures and policies that build resilience. The updated NDC includes a GHG emission reduction target of 24.2 percent by 2030 (108 Mt CO2 eq) compared to a business-as-usual (BAU) scenario (143 Mt CO2 eq). The AFOLU sector is expected to contribute to achieving approximately three-fourths of the economy-wide emission reduction. Other mitigation sectors include energy, transport, and waste. At the sectoral level, it is projected that AFOLU emissions will reach 118.2 $MtCO_2e$ by 2030 in a BAU scenario. With the implementation of the mitigation measures in AFOLU, it is targeted that the net emissions in this sector will be reduced by 22.3 percent to 92.1 $MtCO_2eq$ by 2030.

Adaptation sectors prioritized in the Updated NDC are Agriculture - fisheries, livestock & forestry-, Ecosystems, Water and sanitation, Infrastructure, Energy, Transport, Cities and built environment, Tourism, Manufacturing, and Health. At the sectoral level, enhanced targets are set for agriculture, forestry and fisheries, including 2030 targets on reforestation, CSA, early warning and irrigation.

The revised NDC has been aligned to the Country's Vision 2040, Uganda Green Growth Development Strategy and the Sustainable Development Goals (SDGs), National Climate change policy, Green Growth Development Strategy, the revised Energy Policy 2020 among other frameworks. In addition, Uganda's third National Development plan (NDPIII) highlights climate change mitigation and adaptation as so critical to the achievement of increased household incomes and improvement of quality of life of the population. Uganda's NDPIII calls for continued integration of climate change, gender considerations and disaster risk reduction in planning, budgeting and reporting. Other components of NDPIII include the development of a national Green House Gas Inventory and its Monitoring, Reporting and Verification system. UNDP through the NDC Support Programme has set up an integrated Monitoring Reporting and Verification (MRV) tool that will enhance data collection, tracking and reporting on the greenhouse gas emissions, adaptation actions, mitigation actions, climate finance flows and the contribution of climate actions towards the achievement of the Sustainable Development Goals (SDGs).

The updated NDC is also aligned to the National Climate Change Policy (NCCP). The NCCP (2015) is Uganda's integrated response to climate change. It was prepared and designed within the context of the country's vision and national development priorities; it provides a clearly defined pathway for dealing with the challenges of climate change within the socio-economic context of Uganda and looks ahead to the opportunities and benefits of a green economy. This policy led to new National Climate Change Act 2021 that provides Adaptation and Mitigation Framework as it governs Uganda's national response to climate change. One of the stated purposes of the Act is to give effect to the UN Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement and Section 4 gives these agreements the force of law in Uganda. The Act mandates the creation of a Framework Strategy on Climate Change, as well as a National Climate Action Plan and District Climate Action Plans. It also contains a series of provisions establishing a transparency framework and MRV system. Section 9 of the Act permits the MWE, responsible for Climate Change matters, to develop further regulations regarding participation in climate change mechanisms such as emissions trading mechanisms, and section 23 allows for further regulations regarding the responsibilities of private entities. Part 5 of the Act relates to the institutional arrangements for governing climate change, creating a National Climate

[4] 2021 Updated NDC, Version 3.0 (draft submission)

Change Advisory Committee to provide independent technical advice and clarifying the responsibilities of district and local governments with respect to climate change.

Additionally, the updated NDC is informed by the adaptation strategies mentioned in the **agricultural NAP 2018,** which has an overall sectoral goal to increase resilience of and adaptive capacity to the impacts of climate change, through coordinated interventions that enhance sustainable agriculture, food and nutritional security, livelihood improvement and sustainable development.

Table 1 Summary of Key National Frameworks and Plans for climate change planning and action

Policy/Strategies	**Goal/objective**
1. National Adaptation Plan for the Agricultural Sector (2018)	The overall goal of the NAP-Ag is to increase resilience of the Agricultural Sector to the impacts of climate change, through coordinated interventions that enhance sustainable agriculture, food and nutritional security, livelihood improvement and sustainable development.
2. Guidelines for Mainstreaming Climate Change Adaptation and Mitigation in Agricultural Sector Policies and Plans (2018)	The goal of the guidelines is to ensure that interventions developed and implemented within agricultural sector address climate change issues through activities of mitigation and adaptation. The main objective is to provide practical, step-by-step guidance for all agricultural sector stakeholders including MAAIF, the Agencies of MAAIF and Local governments, on how to mainstream climate change adaptation and mitigation in their planning and decision-making processes.
3. The Uganda Green Growth Development Strategy (UGGDS) 2017/18–2030/31 (2018)	The UGGDS goal is to achieve an inclusive low emissions economic growth process that emphasizes effective and efficient use of natural, human and physical capital while ensuring that natural assets continue to provide for present and future generations
4. Nationally Determined Contribution (2021) revision	Uganda's NDC is to pursue a low-carbon development pathway and reduce the vulnerability of the population, environment and economy to the impacts of climate change by implementing measures and policies that build resilience.
5. Third National Development Plan (NDPIII). 2020/21 – 2024/25.	Aims to implement Uganda Vision 2040 (to transform the Ugandan society from a peasant to a modern and prosperous society). NDPIII is the third in a series of six NDPs that will guide the nation and deliver the aspirations of the people of Uganda, as articulated in Uganda Vision 2040. GOAL: “Increased Household Incomes and Improved Quality of Life of Ugandans” THEME: “Sustainable Industrialization for inclusive growth, employment and wealth creation”
6. Guidelines for the Integration of Climate Change in Sector Plans and Budgets (2014)	These guidelines provide highlights of the approaches that can be used to mainstream climate change in sector plans and budget. The guidelines are designed to provide different sectors with approaches on how to: i) Carry out impact and vulnerability assessments; ii) identify opportunities and entry points for integration of climate change mitigation and adaptation measures; iii) Propose options for integrating

Policy/Strategies	Goal/objective
	climate change adaptation and mitigation into the policy formulation process, financing, implementation and evaluation at national, local and community levels; iv) Assist to improve resilience. The guidelines are targeted at different stakeholders with interest in climate change issues, including policy makers and implementers and their partners and collaborators such as CSOs, Private Sector and Development Partners.
7. Second National Communication (2014)	A national communication is a report that each Party to the UNFCCC prepares periodically in accordance with the guidelines developed and adopted by the Conference of the Parties (COP). National Communication offers Uganda the opportunity to contribute with technically sound studies and information that can be used for designing mitigation and adaptation measures, and project proposals that can and will help increase their resilience to the impacts of climate change. Activities generally include V&A assessments, Greenhouse Gas Inventory preparation, Mitigation Analysis or Education, and awareness raising activities. The ultimate goal of the National Communication process is to support the integration of climate change considerations into relevant social, economic and environmental policies and actions.
8. National Renewable Energy Policy (2019 Draft)	Under national energy policy, Uganda envisions to develop, strategically manage and safeguard the rational and sustainable exploitation and equitable utilization of energy resources for social and economic development. Main Goal is to meet the energy needs of the Ugandan population by providing adequate and reliable energy supply for socio-economic growth and sustainable development.

2.3.3 Capacity needs for climate action in land use and agriculture sectors

1. **Coordinating actors for policy implementation:** For long, Uganda has had slow progress in the implementation of the identified climate change policy priorities due to lack of a legal framework governing climate change intervention. However, enactment of the Climate Change Act 2021 is expected to enhance coordination as it governs Uganda's national and subnational climate action plans and gives the force of law. ***National level actors*:** From the baseline undertaken, stakeholders reported that the linkages between MDAs and other actors seemed to be largely unstructured and weak. This in part stems from structural issues inherent in the ministries. Institutional framework for climate change policy action, lists major players and their linkages across governance levels. A total of 14 MDAs are named to have a critical role in implementing the NCCP (GoU, 2015: p.42). Nonetheless, both the NCCP and its implementation strategy do not explicitly describe how the agencies will work together to deliver on their assigned mandates. Most of documents are also silent on how the resources to be used will be generated and distributed. ***District and lower-level actors***: shed light on insufficient links between the central and local governments, which were perceived by some informants to be the cause for limited conceptualization and implementation of policy strategies. In practice, active coordination between the central and local governments was limited to joint donor assisted projects. In this case, districts would more likely report regularly, and the central government would provide the necessary technical backstopping and feedback. However, in the absence of donor funded projects, the actors revert to the status quo and coordination remains largely inactive. At the district level, the Natural Resources and the Production Sectors each develops a workplan with climate adaptation activities but independent of each other, with little or no integration.

2. **Private sector engagement:** There is generally limited involvement of the private sector in national and sub national adaptation efforts, including in developing products and services to reduce costs and impacts of climate change, while many players have limited awareness about the significance of climate

change; and are unaware of their role in influencing the associated climate impacts. The private sector is primarily engaged in crop and dairy value addition and export markets to neighboring districts, international trade of freshwater aquaculture, and investment in tree plantations, and the provision of micro-insurance/finance credit. However, there are several risks and barriers to private sector engagement in climate-resilient agriculture. These relate to uncertainties arising on the supply side, including crop failure as well as risks related to inputs (eg. costs of climate-resilient seeds, land tenure regimes), market access, demand, and prices (eg. difficulty quantifying the 'real' value of forests). Other risks include those arising from limited financial and technical capacity to cope with climate-related losses and to invest in climate-resilient technologies. Participants during the Technical planning meeting and the inception workshop identified the need for policy de-risking measures, including research and provision of climate-resilient varieties and technologies, mechanization, public-private partnerships, and financial de-risking measures, including drought and weather-based insurance, tax incentives, loans and capacity building on green finance mobilization. It is noted that there is interest by the government and European Union to invest in climate-resilient coffee and cocoa value chain development.

3. **Participation of sub-national policy actors** in policy formulation and implementation processes. Discussions held with stakeholders indicated that district level policy actors are inadequately involved in national level policy formulation processes. Usually, a few district representatives are invited to attend national level consultative workshops. The hosting ministries do not often facilitate district representatives to consult with local communities before attending the consultative workshop.

4. **Gender equality and social inclusion:** Women, youths, men and other marginalized groups experience climate change impacts in the cattle corridor differently due to inequalities arising from differentiated gender roles and responsibilities, structural barriers and cultural norms. For example, women and girls are typically responsible for collecting climate-sensitive resources, including water and firewood for household use (e.g., drinking and cooking) and production (e.g., water for livestock). Customary land ownership, especially in Karamoja region is based on a patriarchal system, which often excludes women from owning land and participating in decision-making processes at the household, farm or community level. Participants identified the need for gender mainstreaming into district plans and budgets, improving the access of women, men and marginalized groups to climate information and gender-responsive adaptation technologies, and awareness campaigns to sensitize both men and women on gender equality and social inclusion within the context of climate change. There is also need for research to develop and catalyze access and availability of affordable gender inclusive and climate change responsive technologies for uptake by the private sector.

5. **Technical capacity and human resources**: Ministry and local government officials, Private sector, NGOs, and civil society confirmed that they did not have sufficient skills to enable long term planning in climate change adaptation and mitigation. Inadequate technical capacity coupled with low integration of research evidence leads to, what is perceived as, poor strategic planning and ineffective development plans, mostly at local government levels. Private sector actors exhibit limited knowledge and practice regarding economic valuation of the benefits of adaptation and mitigation and sustainable natural resource management, which limits incubation and implementation of appropriate adaptation and mitigation actions. Related to limited technical capacity is inadequate staff numbers in government offices, a constraint at all policy implementation levels.

6. **Finance, government planning and budgeting**: There was consensus amongst participants that national and sub-national plans and budgets do not adequately address the vulnerabilities and needs of farmers, pastoralists, foresters and fisherfolk in the cattle corridor due to limited financial resources and lack of institutional coordination at various levels and across sectors. While there is a climate change budget tagging system in place, there is a need to evaluate and learn from the current climate change budget allocations and fill resource gaps. Improved local-to-national feedback mechanisms are required to ensure policies and plans respond to local needs. Local government officials referred to insufficient budgets from the central government and limited district revenues. Climate change funds might be available with donors and development partners but accessing these funds requires that climate change issues are clearly articulated. Since such skills are rare, officials fail to secure climate funds from non-government sources. Additionally, from the key informant interviews at the district level, we learned that the government Indicative Planning Figures (IPFs) within which districts limit their funding were rigid. Central government funds are tagged to centrally designated priorities that do not

often reflect local priorities. According to the district officials, the limited flexibility of IPFs for resource allocation to some of the unforeseeable climate change impacts constrains them from innovative climate action planning.

7. **Data and information systems** relevant for climate change planning in the cattle corridor were generally considered outdated, fragmented, or insufficient. Some information lacks locally relevant climate and agricultural content adequate for smallholder farmers. There was a call for greater centralization and operationalization of existing data collection and monitoring systems (e.g., early warning), harmonized and sex-disaggregated indicators, strengthened data collection protocols (e.g., livestock census, climate vulnerability and risks in the fisheries sub-sector) and effective dissemination mechanisms to package and relay information to the sub-national level (e.g., climate information). A limited number of extension service officers are in place to share information and knowledge, moreover, according to UNMA, some extension workers have limited skills to interpret the weather-related information. lack of locally relevant climate and agricultural content is critical to ensuring that the transformative potential of this approach is fully maximized by smallholder farmers

8. **Measurement, Reporting and Verification** (MRV) system has been established by MWE/CCD. However, there is still an urgent need for enhanced institutional coordination across sectors for effective implementation/operationalization of this systems, as well as addressing the current technical capacity and resource gaps (data availability, expertise, equipment, and technology). A new MRV tool has been developed, which will support the tracking of mitigation, adaptation and finance at the national and sectoral level in line with the transparency requirements of the Paris Agreement. Sector-specific capacity building efforts will be required, including in the AFOLU sectors.

9. **Measuring resilience**: it was noted that there was absence of studies and tools that measure resilience. Understanding and measuring the resilience of affected communities is crucial to providing better and more informed climate change solutions. The CCD representative recommended for an initiative that provides a necessary resilience measurement framework to coordinate action and enhance partnerships at national and subnational levels to measure impact of resilience-building interventions. There is a need to systematically measure the returns on investments aimed at increasing the resilience of vulnerable households in Uganda through the application of appropriate tools and by developing local capacities in resilience measurement and analysis. It also implies involving key stakeholders to collect key data and to raise awareness on the measurement findings and their possible use as policy indications and/or impact assessments. M&E framework for adaptation in agriculture was developed for the NAP-Ag but needs to be operationalized.

2.4 RELEVANT PROJECTS AND PROGRAMMES

Table 2 Existing and planned projects and programmes

Project title	Action focus	Areas of complementarity	Location	Project status
1. AfDB, Nordic -The Farm Income Enhancement and Forest Conservation Programme – Project 2 (FIEFOC-2)	Piloting the Empowering Novel Agri-Business-Led Employment for Youth in Uganda's Agriculture (ENABLE): in the water shed areas of Wadelai, Tochi, Mubuku II, Doho II, and Ngenge Irrigation schemes.	Youths' livelihoods and empowerment to participate in climate resilience VCs	Pakwach, Oyam, Butaleja, Kween, and Kasese	Active
2. **GIZ-Germany**: Development Initiative for Northern	Enhancing Climate Resilience through increased Water for Production Capacities	Water for Production in Karamoja district	Karamoja	Active

Uganda (DINU)				
3. The Adaptation Fund EURECCCA Project	Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda. The overall goal of the project is to increase the resilience of communities to the risk of floods and landslides in Maziba, Aswa and Awoja Catchments through promoting catchment based integrated, equitable and sustainable management of water and related resources.	Water catchment - Project is partly in cattle corridor Awoja Catchment is in Kyoga Water Management Zone (KWMZ) and Aswa catchment is in the north-western part of Katakwi District.	National	Closing September 30th, 2023.
4. Government of Denmark SBSRWS project	Construction of water, energy and agricultural infrastructure resistant to the effects of climate change in the country's border regions.		Boarder regions	Active
5. Government of Denmark - Northern Uganda Resilience Initiative (NURI): UPSIDE is a private sector development programme, which aims at creating sustainable and inclusive economic growth based on agricultural development. The total budget for 2018-2022 is EUR 88 million.	Enhanced resilience and equitable economic development in supported areas of Northern Uganda, including for refugees and host communities for more got to: https://nuri.ag/	-	Northern Uganda	Active
	Agricultural Business Initiative (aBi): Increased income and employment through environmentally and socially responsible investments in improved productivity, quality and value addition in agri-businesses and among smallholder farmers in supported agricultural value chains.	Agricultural value chain especially coffee		
6. CBIT is funded by the Global	CCD/MWE Africa Innovations Institute (AfrII) -Capacity Building Initiative for Transparency Project (CBIT),	Partnership on operationalization of MRV system	National	On going

	Environment Facility (GEF)	pilot the GHG Inventory and Monitoring Reporting Verification (MRV) system.			
7.	The CHAI project	CCD/MWE -strengthen the adaptive capacity of individuals and communities in the cattle-corridor to water-related impacts of climate change and variability by improving the quality and timeliness of climate risk and adaptation information through the utilization of ICT tools.	Closed	Soroti, Nakasongola, Rakai, and Sembabule,	Closed
8.	FAO - Global Climate Change Alliance Plus (GCCA+): Scaling up Agriculture Adaptation to Climate Change in Uganda.	Strengthen the inclusive and gender responsive resilience to climate change, of rural populations and agricultural production systems in the central cattle corridor.	Partnership on gender mainstreaming	9 districts in the central cattle corridor:	On going
9.	FAO- Integrating climate resilience into agricultural and pastoral production in Uganda - Farmer/ Agro-pastoralist Field School Approach	Build climate resilience into the agricultural sector, as an effective means of reducing vulnerability and disseminating community-level adaptation measures	Assessing and mapping natural resources and assessing and mapping the main agrarian systems	Cattle Corridor districts:	On going
10.	IFAD - Restoration of Livelihoods in the Northern Region (PRELNOR)	PS-MoLG, PS- MoFPED & IFAD Targets to increase sustainable production, productivity and climate resilience of smallholder farmers and provide increased and profitable access to domestic and export markets.	Outside cattle corridor but could provide lessons especially on the private sector engagement	Northern Uganda -Acholi subregion	Active

3. CLIMATE ACTION REVIEW

3.1 METHODOLOGY

The Climate Action Review Matrix was developed under SCALA Programme Activity 1.1.1 by the UNDP and FAO global team as a screening tool to assess climate actions in land-use and agriculture for their

transformative change potential within the context of NDC and/or NAP implementation. The matrix allows for a comparative analysis of climate actions across seven dimensions of transformation to inform the prioritization of a transformative climate action to take forward under SCALA. 'Transformative' climate action in SCALA refers to a set of interventions that are climate-informed, applies systems-thinking, promotes gender equality and social inclusion, contributes to sustainable development, fosters a whole-of-government approach, incentivizes private sector engagement and applies innovative technologies and financing instruments to achieve national climate change adaptation and/or mitigation goals in land-use and agriculture.

The SCALA country team, including the national consultant, FAO and UNDP SCALA country focal points, with support from the regional back stoppers undertook a step-by-step climate action review of the NDC and agriculture NAP. First, the background materials necessary for filling out the climate action review matrix were compiled. This step included **desktop research** review of the existing relevant data (grey and white literature). This literature review exercise considered the SCALA project related strategies and policies in Uganda, including the updated NDC 2021, NAP-Ag 2018, National Climate Change Policy 2015, Uganda vision 2040 Document/NDPIII, Uganda Green Growth and Development Strategy, vulnerability assessments reports (USAID, 2013; MWE, 2014a; Irishaid, 2018; WB, 2021), among other documents.

Second, the desktop review was complemented by **Primary Data Sourcing** applying a mini-baseline survey, conducting technical and inception meetings respectively. Consultation with key stakeholders such as government officials from sectors related to SCALA project i.e agricultural, forestry, environment, water, land use planning, gender and youth; the private sector; development partners; academia and civil society representatives among others.

Lastly, a **climate actions review matrix** was applied considering the information generated from baseline and desktop reviews. Twenty (20) climate actions with transformative potential were reviewed in key agricultural sub-sectors: crop production, forestry, livestock and fisheries. Synthesis from this matrix screening exercise was presented and validated during the national stakeholders technical consultative/planning meeting. Additionally, a draft theory of transformative change, an overarching narrative describing the pathway through which the prioritized climate actions would contribute to agriculture systems transformation in the cattle corridor (see also ToC in subsection 4.2), was presented. The discussion outputs from the NDC/NAP review process and theory of change were shared and validated at the inception workshop. This also set the basis for the types of systems-level assessment to take place under Activity 1.1.2. and what to focus on for private sector engagement and concept note development under Activities 3.1.1 and 3.1.2.

3.2 ANALYSIS OF THE CLIMATE ACTIONS WITH TRANSFORMATIVE POTENTIAL

The updated NDC for Uganda (2021-2025) identified top ranking economy wide climate actions based on Ugandan policies, cost considerations and non-cost considerations as shown in the tables below.

Table 3 Top ranking economy-wide adaptation actions based on Uganda's policies

No	Sector	Priority Actions	Policy Alignment	Adaptation Pillars
1	Agriculture	Expanding Climate Smart Agriculture (CSA) practices	9	1
2	Forestry	Encouraging agro-forestry	9	1
3	Agriculture	Expanding value addition, efficient harvesting, post-harvest handling and storage and access to markets, including micro-finances	8	1
3	Disaster Risk Management	Expanding climate information and building more effective early warning systems for natural disasters such as droughts, flooding and landslides	7	5
4	Water and Sanitation	Ensuring resilient access to water supply both for domestic and productive purposes, especially in areas most exposed to climate hazards	7	3
5	Ecosystems	Improving water catchment protection	7	4
6	Forestry	Promotion of reforestation, afforestation and sustainable management of forests (including in urban areas)	7	4
7	Ecosystems	Expanding rangeland management	6	4
8	Ecosystems	Promote soil conservation and management at catchment level	5	4
9	Water and Sanitation	Promotion of water conservation, efficiency, and reuse practices in domestic, commercial, institutional and industrial water use	5	3
10	Ecosystems	Improved wetlands and lake management	5	4
11	Fisheries	Promote climate resilient fisheries sector and sustainable fisheries resource management	5	5
12	Energy	Increasing the efficiency in the use of biomass in the traditional energy sector	5	6
13	Energy	Promotion of use of alternative/renewable energy sources and promotion of energy efficient technologies to reduce electricity demand	5	6

Table 4 Top ranking economy-wide adaptation actions (including cost considerations)

No	Sector	Action	Adaptation Pillars
1	Water and Sanitation	Ensuring resilient, safe and reliable access to water supply both for domestic and productive purposes, especially in areas most exposed to climate hazards	3
2	Ecosystems	Improving water catchment protection	4
3	Water and Sanitation	Promotion of water conservation, efficiency, and reuse practices in domestic, institutional and industrial water use	3
4	Agriculture	Expanding Climate Smart Agriculture (CSA) practices	1
5	Disaster Risk Management	Expanding climate information and building more effective early warning systems for natural disasters	5
6	Water and Sanitation	Increasing access to reliable and safe water and sanitation (including wastewater treatment) infrastructure and services, especially in districts of Uganda where climate risks overlap with lower access levels	3
7	Water and Sanitation	Managing water resource systems, including wetlands, through the establishment of an Integrated Water Resources Management system	4
9	Energy	Promotion of use of alternative/renewable energy	

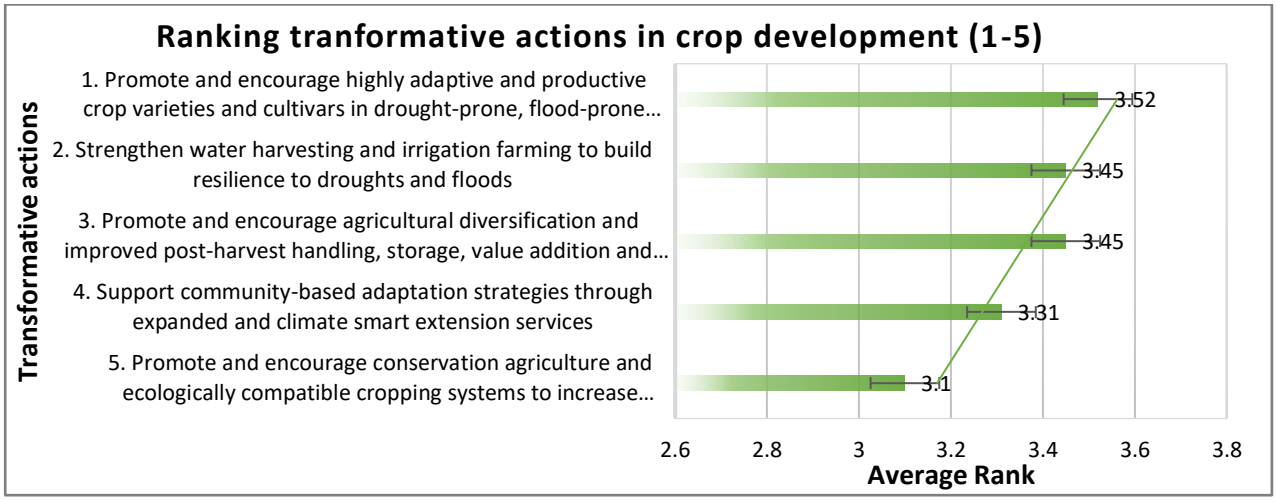
No	Sector	Action	Adaptation Pillars
		sources & energy efficient technologies to reduce electricity demand	

Table 5 Top ranking economy-wide adaptation actions (excluding cost)

No	Sector	Action	Adaptation Pillars
1	Ecosystems	Improving water catchment protection	4
2	Cities and the Built Environment	Develop standards and guidelines for climate proofing of urban built infrastructure, through revision of design codes and land use to embed resilience thinking in infrastructure design	8
3	Transport	Building resilience of road and bridge infrastructure to climate change, through design codes and guidelines (climate proof standards for road designs construction and maintenance)	8
4	Water and Sanitation	Promotion of water conservation, efficiency, and reuse practices in domestic, commercial, institutional and industrial water use	3
5	Agriculture	Expanding Climate Smart Agriculture (CSA) practices	1
6	Disaster Risk Management	Expanding climate information and building more effective early warning systems for natural disasters such as droughts, flooding and landslides	5
7	Energy	Promotion of use of alternative/renewable energy sources and promotion of energy efficient technologies to reduce electricity demand	6
8	Disaster Risk Management	Developing vulnerability risk mapping based on better data on climate change impacts at sectoral and regional level	5
9	Energy	Increase access to energy efficient cook stoves and other appliances.	6

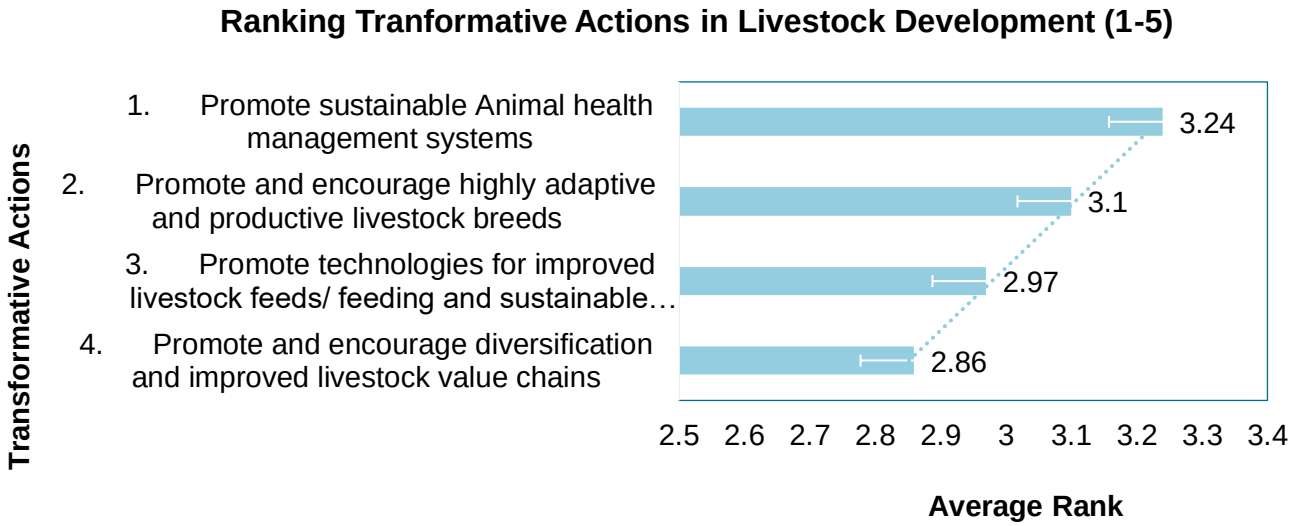
To appraise transformative actions as mentioned in NDC 2021 and NAP-Ag 2018, thirty-two (32) key stakeholders in agriculture and land use were purposively selected to rank what they would consider as transformative actions. The following scoring system was used to assess the transformative action ***(scale of 1-5): 1 - Very low | 2 - Low | 3 - Moderate | 4 - High | 5 – Full* transformation**. Figures 4- 8 show the ranking results.

FIGURE 4 : RANKING TRANSFORMATIVE CLIMATE ACTIONS IN CROP PRODUCTION



As shown in figure 4, participants ranked the promotion of highly adaptive productive crop varieties and cultivars in drought and flood prone and rain-fed crop farming systems as the most transformative climate action in crop production. Coffee and rice value chains were mentioned as the most important and vulnerable commodities in the cattle corridor landscape**.** Value chain analysis of crops most widely grown in Uganda show that many crops are vulnerable to rising temperatures, longer dry seasons and variable rainfall patterns (USAID, 2013); with Arabica coffee being particularly vulnerable. From the vulnerability assessments, most to least sensitive crops are Arabica coffee, Robusta coffee, rice, maize, East African Highland Banana (matoke), beans, sorghum, sweet potatoes, and cassava. The changing temperatures and relative humidity also have a negative effect on the post-harvest management of the crops produce.

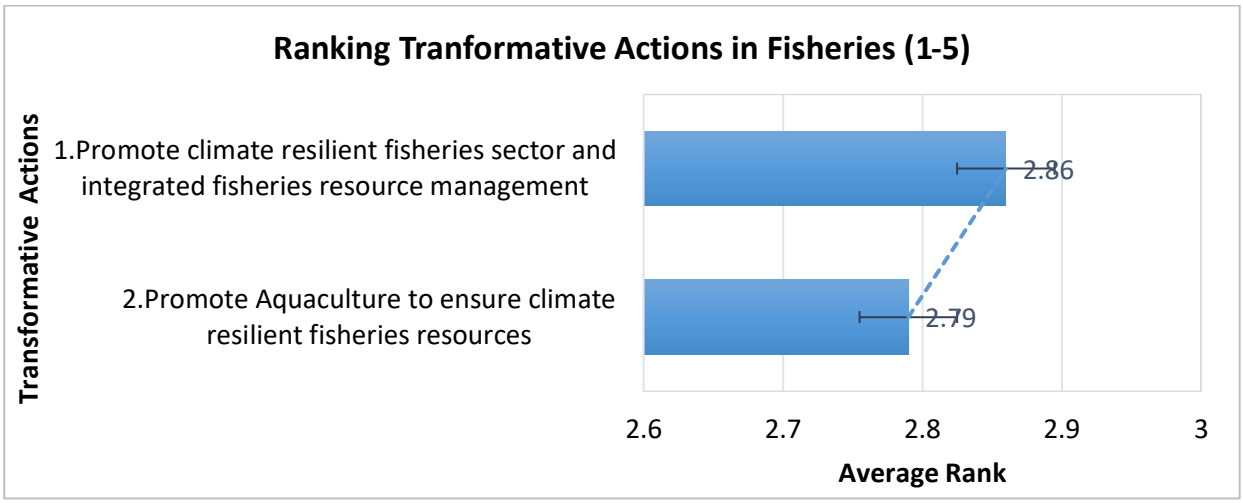
FIGURE 5 : TRANSFORMATIVE CLIMATE ACTIONS FOR LIVESTOCK DEVELOPMENT



In livestock development value chain, promotion of sustainable animal health management systems was ranked as the main transformative climate action. This is justified since 90 percent of Uganda's livestock are kept in the cattle corridor that faces increasing water stress, pasture availability challenge, incidence of livestock pests and diseases. All these challenges have great implications on animal health. Increasing temperatures and warming is expected to alter the feed/water access and intake, mortality, growth, reproduction, maintenance, and production of animals. About US$ 45.35 million of the total damage and losses for agriculture were due to animal deaths. Furthermore, within the livestock sub-sector, 83 percent of the

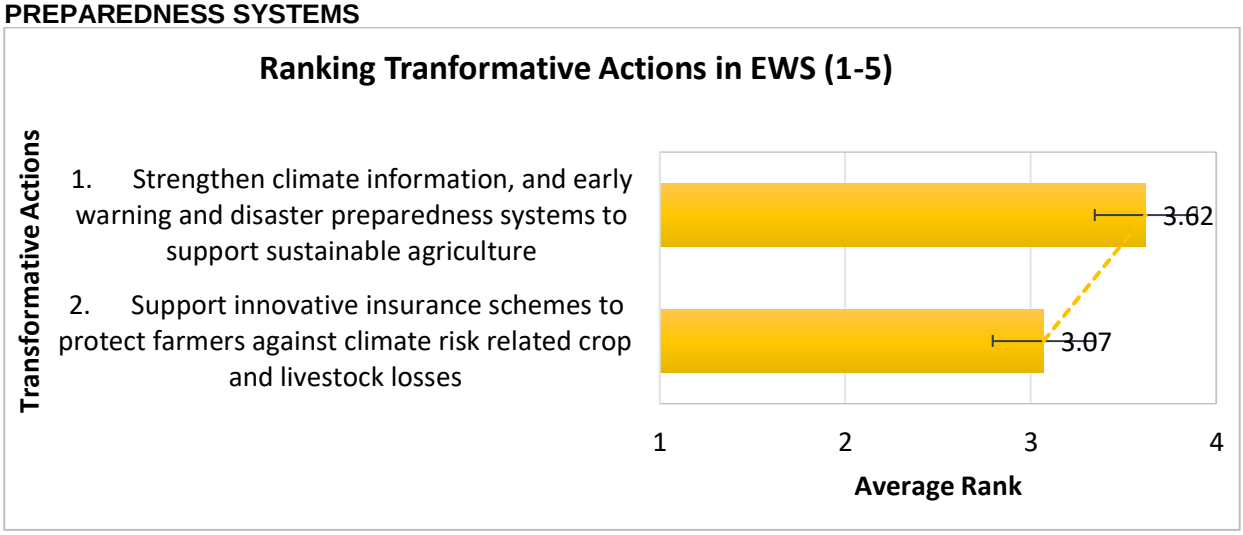
damage and losses for livestock were attributed to production losses, 9 percent due to animal deaths, and the remaining 8 percent due to higher production costs[5].

FIGURE 6 : TRANSFORMATIVE ACTIONS IN FISHERIES DEVELOPMENT



Participants ranked the promotion of climate resilient fisheries sector and integrated fisheries resource management as a priority transformative climate action for fisheries development. Artisanal fish processing in which majority of women and youth are involved is dependent on firewood. Pollution and overfishing are other challenges to fisheries sector.

FIGURE 7 : CLIMATE ACTIONS IN CLIMATE INFORMATION, EARLY WARNING & DISASTER PREPAREDNESS SYSTEMS

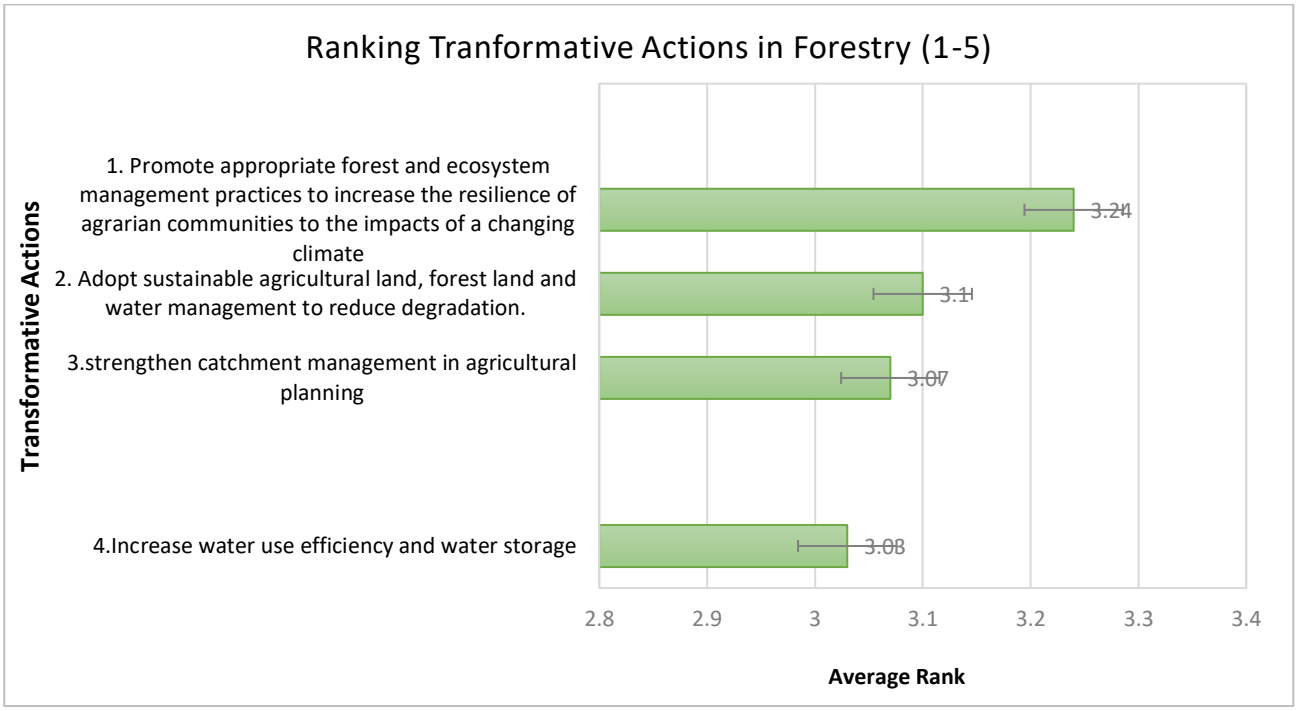


There was a call for the strengthening climate information and early warning early warning systems relevant for climate change planning and disaster preparedness in the cattle corridor. It was noted that climate data are generally considered outdated, fragmented, or insufficient. There was a call for greater centralization and operationalization of existing data collection and monitoring systems (e.g., the early warning systems), harmonized and sex-disaggregated indicators, strengthened data collection protocols (e.g., livestock census) and effective dissemination mechanisms to package and relay information to the sub-national level (e.g., climate information). A limited number of extension service officers are in place to share information and

[5]Government of Uganda 2011. Integrated Rainfall Variability Impacts, Needs Assessment 2010-2011. Office of the prime minister.

knowledge. The current ratio of extension worker to farmer is 1: 1 800 whereas the recommended is 1:500 (the approved structure is 13 officers at district level and 3 extension staff at sub-county level)[6]. Climate information and early warning systems provide critical information to farmers to make anticipatory decisions about where, what and when to plant, and invest in or protect productive assets and infrastructure. Weather-related factors already form the biggest risk to agricultural productivity in Uganda now but projecting this into an uncertain future is complex.

FIGURE 8 : TRANSFORMATIVE ACTIONS IN FORESTRY, LAND AND NATURAL RESOURCES MANAGEMENT



Participants highly rated promotion of appropriate forest and ecosystem management practices to increase the resilience of agrarian communities to the impacts of a changing climate. Uganda relies largely on traditional biomass energy, which is already short in supply due to the high rates of deforestation. The current balance between supply and demand for biomass is fragile, there is a large deficit. Currently there is about 70 percent of the forestland in the country or about 3.5 million hectares or 17 percent of the total land area. This is where most of the deforestation take place. The demand for timber has been accelerating at a rate of 1 percent higher than the population growth (2.9 percent) that is at about 4 percent if this is interpreted to reflect the rate of deforestation, then in 2020 the natural private forest will be reduced to less than 700,000 hectares. This scenario could be worse since the figure does not consider the rate of forestland conversion into agricultural land and the increased demand for biomass fuels (FOSA, 2020).

[6] Budget Monitoring and Accountability Unit (BMAU) report 2019. Uganda Ministry of Finance, Planning and Economic Development, Plot 1-12 Apollo Kaggwa Road P.O. Box 8147, Kampala

4. IMPLEMENTATION OF TRANSFORMATIVE CLIMATE ACTION IN AFOLU

4.1 INCEPTION WORKSHOP

The Inception meeting was virtually held on 16th September 2021. It was participatory and ensured facilitation of open exchange of ideas, opinions and suggestions amongst participants and organizers. Participants included FAO and UNDP technical officers and representatives from key stakeholder groups involved in climate change, environment, agriculture, land and rural development planning in Uganda: these included government representatives from different line ministries at central and district levels, non-government organizations, civil society organizations (with particular emphasis on farmers' groups, women's groups, youth organizations), research and academia and the private sector. The purpose of the workshop was to convene and share SCALA Programme baseline information, the draft Theory of Change and the draft work plan for stakeholder validation and finalization. The overall objective was to ensure that SCALA programme's design and implementation respond to the country's climate change adaptation and mitigation priorities and needs in the agriculture and land use sectors, and in line with national development objectives. The insights, perspectives and recommendations gathered during the inception workshop helped to finalize the Uganda SCALA program baseline information, Theory of Change and work plan.

The **specific objectives** of the inception workshop were:

- To introduce the SCALA programme, including the objectives, approach and expected results; and
- To present for validation the initial findings of the SCALA baseline survey results, the programme Theory of Change and propose workplan activities.

The following **outputs** were generated:

- Participants gained an understanding of the SCALA programme's approach and expected results.
- Participants reviewed and validated the programme baseline information capacities and needs for transformative climate action in agricultural systems within Uganda's cattle corridor, including reflections on current data and information systems, local-to-national planning and reporting mechanisms, gender and social inclusion and private sector engagement.
- Participants reviewed and validated the proposed programme workplan activities and engage various stakeholders to promote inclusive, climate-resilient and low-emission agricultural system transformations in the cattle corridor; and
- Participants discussed the SCALA programme Theory of Change

4.2 UGANDA SCALA THEORY OF TRANSFORMATIVE CHANGE

4.2.1 Scoping and evaluating the system

1. System Selection

Reflecting on the assessed transformative climate actions across all the five agriculture sub-sectors and considering their complementary potential for transformational change of an agricultural landscape, the Uganda's cattle corridor was chosen as a system of focus for SCALA implementation. This landscape encompasses all the agriculture sub-sectors and represents one of the most vulnerable landscapes to climate change. Geographically, it stretches from south-western to northern Uganda and consists of Nakasongola, Katakwi, Moroto, Nakapiripirit, Kotido, and parts of Kitgum, Hoima, Masindi, Nebbi, Moyo, and Adjumani districts. It is formed by rangelands representing 43 percent of the country's total land area, with about 12 million people and 90 percent of cattle population. This landscape is characterized by agro-pastoral socio-economic structure that is dependent on livestock and crop production. The agro-based livelihood face both

environmental and socio-economic challenges. The landscape is characterized by erratic rainfall, prolonged droughts, increasing temperatures, floods, landslides, frequent outbreak of crop and livestock diseases, competition (for land, feed and water), forest and land degradation and cases of Gender Based Violence (GBV), which are all expected to worsen under climate change. Despite being more vulnerable to climate change, the cattle corridor is one of the main food baskets for the country, thus must be protected and better managed. It accounts for 4.5 percent of Uganda's GDP and contributes substantially to the 70 percent employment generated by the agricultural sector[7].

2. Climate Risk Context

The two main identified climate hazards are expected changes in temperature and rainfall. Rainfall is projected to increase from 10mm to 20mm (mostly in the northern half) to 30mm per month (mostly in the south). Average temperature is to increase from +2^{o}C to +5^{o}C by the end of 2100[8]. Changes in rainfall seasonal patterns, increased temperatures, and aridity put additional pressures on the fragile ecosystem. The area is prone to floods, drought/dry spells, pests, and diseases climate related risks. The northern half is most affected by both floods and droughts[9]. These risks are impacting the yields of major crop such as Coffee, Rice, Cocoa, Maize, Cassava, and sweet potatoes among others. Livestock is affected by increased disease and pests, water stress, and degraded pasturelands negatively impacting both meat and dairy value chains, and inland fisheries and aquaculture. Women and youth are more vulnerable due to their reproductive roles (for the former group), inequitable access to productive assets and services and different power and decision-making opportunities at the household and community level. For example, related to land access and ownership, customary land ownership is influenced by a patriarchal system. Moreover, some cultural norms limit women and youth participation in decision making processes. Indigenous men pastoralists are also more vulnerable to conflicts over grazing land and water points due to their traditional pastoral roles. All the vulnerabilities combined lead to loss of biodiversity, poor agriculture productivity, low incomes and poverty, food insecurity and increased GBV. The major sources of GHG emissions are from cattle grazing systems, bush fires and land use change (deforestation, wetland reclamation and increased use of agro-chemical, mainly inorganic fertilizers).

3. Driver Analysis

Population continues to increase in the cattle corridor districts, some of which are poor with increased reliance on natural resources and households maintaining a fragile asset base. There are noticeable supply-side constraints and poor access to critical inputs and services (e.g., improved seeds and micro-finance), as well as information (e.g., extension and early warning). The corridor still faces high gender inequality in terms of access to productive capitals and political decision making. Observed economic development in the area has been a driver of increased resource use and environmental degradation (competition for productive inputs starting with land, forests, and water) yet the private sector participation in climate action is low. There are noticed public health and environmental threats that result from frequent interactions between humans and animals as well as wildlife at water points-this is a major driver of outbreaks and spread of emerging and reemerging of livestock and human infectious diseases. The country has good and relevant policies but are not fully implemented to achieve their respective goals due to technical, financial, and technological innovations capacity challenges.

4.2.2. Reframing the system

4. System outcomes

Transformative actions in the cattle corridor landscape need to acknowledge and address the key drivers of vulnerability and risk, particularly: 1) Reliance on climate-sensitive natural resources (forest, land and water, agriculture), 2) lack of assets and productive resources for food security and livelihoods (finance, built infrastructure-mechanization, green technology innovations, social safety net/social inclusion and human capacity). These 2 drivers can be converted to catalyze positive transformative response but would largely

[7] Uganda Bureau of Statistics report 2014.
[8] MAAIF 2018. National Adaptation Plan for the Agricultural Sector 2018, Uganda.
[9] Climate Risk Profile: Uganda (2021): The World Bank Group.

depend on drivers of a strong public-private partnership engagement. Transformation would require mitigation and adaptation business unusual integrated approaches that promote priority NDC/NAP Ag actions in various agricultural systems with transformative systems change potential: Crops (highly productive, climate-resilient and inclusive crops value chains), Livestock (enhanced livestock management), Fisheries (improved water use, income, food nutrition and security) and Forestry and natural resources (rangelands restoration) and integrated EWS. A transformative approach would ensure PPPs deliver strong institutional coordination and build adequate capacity and enhance investments in climate mitigation and adaptation.

5. Barrier analysis

The identified barriers impeding transformative change in cattle corridor and in the broader agriculture and land use sectors in general include:

→ Data and monitoring: Inadequate access, especially at sub-national level, to data and information for risk-informed climate change planning (outdated and inaccurate data, lack of knowledge management systems for dissemination, weak institutional capacity to undertake CRVAs, lack of centralized data monitoring systems, and issues to do with data integrity, private sector actors are often reluctant to share data that hurts their competitiveness)

→ Limited operationalization of M&E and MRV systems in agriculture and land use sector

→ Market access barriers: uncertainties related to market prices fluctuation, infrastructure, etc.

→ Limited technical capacity and technologies critical for investment in climate action

→ Lack of de-risking measures to incentivize PS investments. For example, SCALA has identified risk transfer instruments as a gap (e.g., insurance) and tools for disaster preparedness (e.g., climate information).

→ Entrenched gender inequality

→ Weak institutional coordination and multi-stakeholder engagement.

6. Leverage points for transformation

→ Enhance national monitoring and evaluation (**M&E)** and operationalize (**MRV**) systems in the land use and agriculture sectors

→ Improving institutional arrangements and coordination capacities for whole-of-government. This needs to include systems-level assessments to improve the generation and application of data and information

→ Strengthen public-private partnerships and financial de-risking measures that include integrating climate risks into private sector investment

→ Promote an integrated early warning that collects and disseminates timely and accurate data that can support weather index-based insurance.

→ Removing market barriers - increasing market access and price transparency.

→ Empowering women/youth's participation in target agricultural value chains (coffee, rice, diary, fisheries and meat)

7. Actors of change

National

→ Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) of Uganda (focal IP); Climate change Department (CCD) of Uganda - The coordination Focal Climate Change Institution; The Ministry of

Finance, Planning and Economic Development (MoFPED)- Ensure that national, sectoral and district budgets and indicative planning figures integrate climate change; MoGLSD- gender integration

→ Office of Prime Minister (OPM) on DRR aspects (e.g., EWS)

→ Ministry of local government to coordinate local action (District action plans in accordance with the Climate Act 2021) Local governments also play a critical role helping their communities reduce emissions and adapt to climate change.

→ UCDA- support coffee value chain; UDA -support dairy value chain

→ NAFIRRI National Fisheries Resources Research Institute- Technical support to targeted fisheries interventions

→ NARO and MUCCRI (Makerere University) (specify)- support research

→ UNMA- support to EWS activities.

→ PSFU - mobilize and support PS engagement

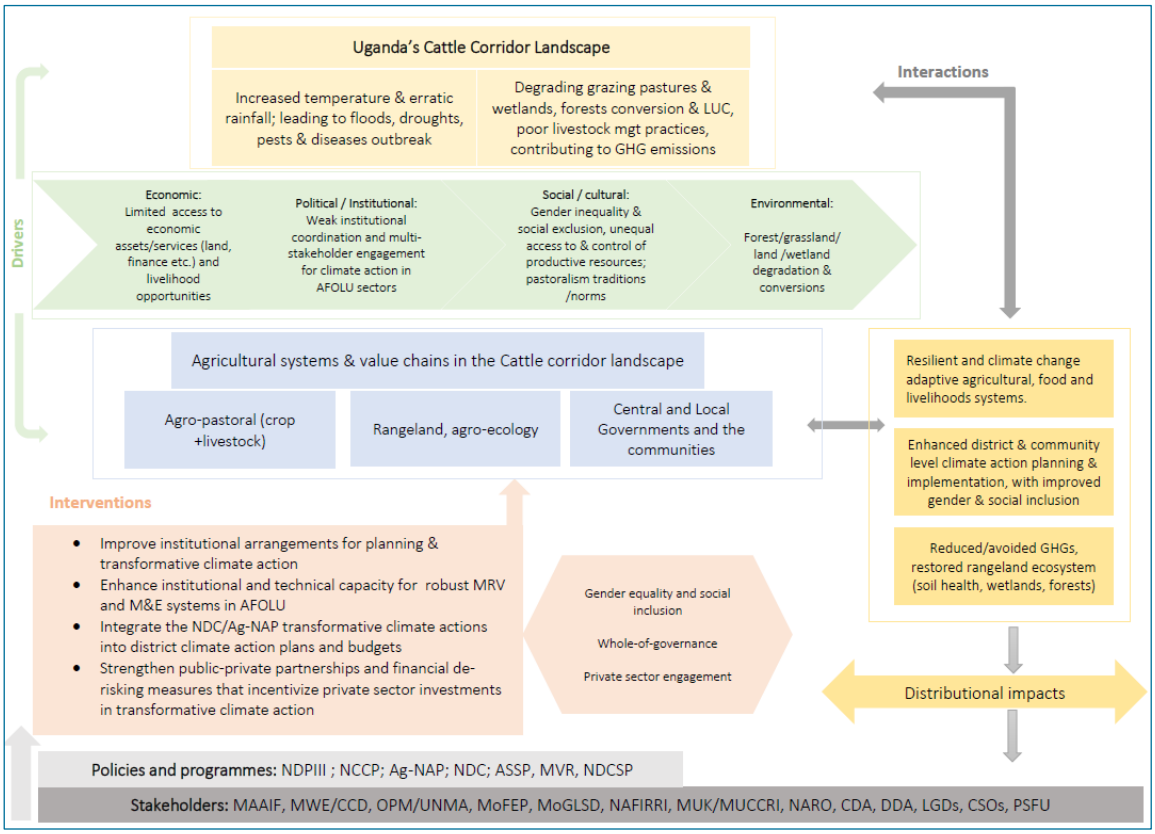
→ Climate Action Network of Uganda- Coordinate CSOs/NGOs

→ NDC Partnership

Local: LGDs, CBOs

4.2.3 Theory of Transformative Change

FIGURE 9 : ILLUSTRATION FLOW OF THE THEORY OF TRANSFORMATIVE CHANGE



4.3 WORKPLAN

4.3.1 Outcome 1

Through technical review and assessment of the updated NDC and the agricultural NAP, and through participatory consultations involving line ministries, relevant civil society and private sector actors, the cattle corridor landscape has been identified as system of focus for SCALA programme implementation. Under this outcome, a landscape-level system assessment will be conducted to understand the vulnerability level, the existing gaps, barriers and opportunities for the transformation of the agricultural systems and value chains in cattle corridor landscape towards increased adaptive capacity and resilience to climate change impacts. An assessment report will be produced using sex-disaggregated data and entailing both qualitative and quantitative status in relation to climate vulnerability and risks, a set of proposed interventions and pathway recommendations in terms of adaptation, resilience and GHG emission reductions and inclusive rural development, which would inform and guide district level planning for transformational adaptation in the cattle corridor. The landscape-level system assessment is expected to be conducted by Makerere University Centre for Climate Change Research and Innovations (MUCCRI) in close collaboration with MWE/CCD, MAAIF, DLGs, and involvement of the ENR-CSO Network, NGOs such as Care International, HRNS, Irish Aid- Uganda Environment Alert, Bioversity International, ICRAF, IITA, CIAT, which are supporting climate initiatives in Uganda.

4.3.2 Outcome 2

Uganda has an updated NDC and agricultural NAP which should be implemented across sectors and across different administrative levels. SCALA programme in Uganda will aim to improve multi-stakeholder coordination and institutional capacities for the translation and integration of the (most) transformative climate actions entailed in the updated NDC and the agricultural NAP into the district level adaptation plans and budgets for the districts making up the cattle corridor. Key planned activities include (1) support the establishment of a participatory and functional district-central level coordination mechanism, (2) capacity building to strengthen gender-responsive and inclusive climate change planning, budgeting and reporting processes through organize training of key stakeholders on systems-leadership to promote gender quality and social inclusion and to build skills and acquire techniques and tools for effective collaboration, planning and implementation of district level transformational adaptation plans, (3) capacity building of local government and central government Training of Trainers to operationalize MWE/CCD's disaster risk screening tools (agriculture and environment modules) to strengthen the convergence of adaptation and disaster risk reduction planning and investments, and also to operationalize MWE/CCD's MRV tool (mitigation, adaptation and finance elements), including data collection and reporting processes in the cattle corridor.

4.3.3 Outcome 3

SCALA programme will facilitate the development of project concepts that are fully appraised in relation to business opportunities, to leverage private sector investment in transformative, gender-responsive and inclusive climate action in the cattle corridor. The private sector actors will be involved through public-private partnership platforms, building on the existing platform under NDC partnership, to discuss, identify and implement de-risking solutions that would incentivize several public-private partnership investments in climate actions in the cattle corridor. Generally, SCALA programme will aim to catalyze increased engagement and private sector investments in transformative and innovative climate actions in the cattle corridor.

4.4 STAKEHOLDER MAPPING

Programme implementation is in close collaboration with the following stakeholders at national and district levels.

Table 6 Stakeholder mapping

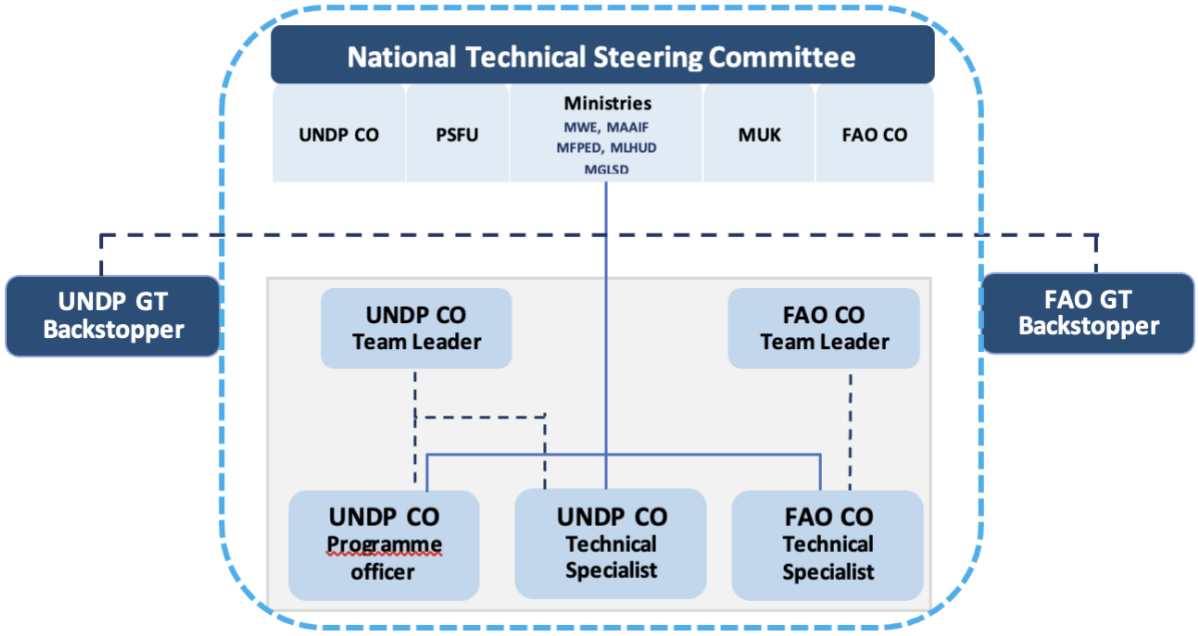
Level	Institution / stakeholder	Role & responsibility in implementation
Central government - MDAs	Ministry of: - Water and Environment - Agriculture Animal Industry & Fisheries - Finance Planning & Economic Development - Lands Housing & Urban Development - Gender Labor & Social Development	Collaborate on integration of climate actions into planning, budgeting and monitoring; develop partnerships and implement
	National Planning Authority	
	Climate Change Department	
	National Environment Management Authority	
	OPM – Office of Disaster Risk Management	
	National Agricultural Research Organization	
	Uganda National Meteorological Authority	
District Local Government	Production department	
	Environment & Natural Resources Management	
NGO, CBOs, Private Sector	Private Sector Foundation Uganda	Partnerships for engagement & investments in climate actions in the AFOLU sectors
	Associations of private sectors /producers e.g., UNADA	
	Financial & Insurance Institutions: Banks & Agricultural Insurance Consortium	
	Farmer organizations: - Uganda National Farmers Federation-UNFFE. - Action For Rural Women's Empowerment. - National Association for Women's Action in Development. - African Women Agribusiness Network - Uganda Chapter. - Association of Uganda Professional Women in Agriculture and Environment	
	Research Institutions: EPRC, NARO, IITA, CIAT & ILRI	
	NGOs: Care International; HRNS; Irish Aid-Uganda; Environment Alert; ENR-CSO Network; CAN-U, ACODE, PELUM, AGNES, CCAFS,	

5. OPERATIONS

5.1 IMPLEMENTATION ARRANGEMENT

Country and global team coordination: The coordination and implementation of SCALA programme in Uganda is interlinked through different layers (figure below) and is guided by a team composed of specialized technical staffs from UNDP and FAO, and representatives from the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and Ministry of Water and Environment (MWE), particularly from the climate change department: a department coordinating the country's implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol (KP). Two country level technical specialists - one from FAO and the another from UNDP are responsible for the day-to-day delivery of the joint workplan. The joint work plan has clear specification of which agency leads implementation of each activity. The technical specialists are supported by three staffs (two from UNDP and one from FAO) on technical, operational and management aspects including building partnerships with other stakeholders. In addition, two staffs- each from MAAIF and MWE- are technically supporting implementation and linking the SCALA programme to other government implemented climate initiatives. There are two global team members, each from UNDP and FAO, offering technical backstopping and operational support, as well as linking with the respective regional and global offices for specialized technical support.

FIGURE 10 : IMPLEMENTATION ARRANGEMENT STRUCTURE



Steering committee: Implementation of the programme is guided by a steering committee composed of the MWE-CCD unit, MAAIF, Ministry of Finance and Development Planning (MFDP), Ministry of Lands Housing and Urban Development (MLHUD), Ministry of Gender Labor and Social Development (MGLSD), Private Sector Foundation (PSF), and Academia – Makerere University, in addition to UNDP and FAO. The steering committee is chaired by MWE, and all the other ministries are Responsible Parties since the project is following a Direct Implementation Modality. The committee convenes quarterly to provide its oversight role: ensure good programme governance and delivery of planned outputs.

5.2 MONITORING AND EVALUATION (M&E) AND REPORTING

Programme results framework: The programme inception phase (6-8 months) allowed participatory technical review of the updated NDC and the agricultural NAP. This led to identification of the priority land-use and agriculture climate actions with transformative and system-change potential. Through stakeholders'

consultation, the identified climate actions were discussed and validated to set a basis for the specification of workplan activities and system of focus for programme implementation. This draft multi-annual work plan, with its target outputs, their indicators and means of verification were discussed and adopted during the programme inception workshop. A programme results framework is in annex 1.

Quarterly and Annual reports: Implementation progress shall be monitored quarterly through quarterly updates on the technical and operational arrangements, delivery of planned activities and partnerships established. These quarterly reports shall be submitted to the SCALA global team and serve as a basis to tailored implementation support and guidance. The quarterly update shall also be shared with the steering committee to inform their guidance and support. Annual programme review will also be done to monitor implementation progress towards programme output delivery, and where necessary revisions of the workplan and budget shall be done. Lessons learned and good practices shall also be compiled and shared. In the last quarter of SCALA programme implementation, the country team will prepare a Terminal Report. This comprehensive report will summarize the results achieved (outputs and outcomes), lessons learned, challenges met and areas where results may not have been achieved as planned. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the programme results.

Mid- and End-term evaluation: It is expected that the programme will undergo an independent Mid-Term Review at the mid-point of implementation. This review will determine progress being made towards the achievement of outputs and contribution to SCALA global outcomes and will identify course correction where necessary. It will focus on the effectiveness, efficiency and timeliness of programme implementation; will highlight issues requiring decisions and actions; and will present lessons learned about implementation and programme management. Findings of the mid-term review will be incorporated as recommendations for enhanced implementation during the final half of the programme's term. The management response to the review will be prepared and the project team will need to take actions as outlined in the recommendations.

A Final Terminal Evaluation will take place in the last quarter of programme implementation and will be undertaken in accordance with guidance from SCALA global team. It is expected that the final evaluation will focus on the delivery of the programme's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). Final evaluation will look at the transformational impact in the cattle corridor, the sustainability of results, including the contribution to implementation of the updated NDC and agricultural NAP.

5.3 KNOWLEDGE MANAGEMENT AND COMMUNICATIONS

The following are knowledge and communication materials planned:

- Written reports on implementation progress, Activities or Assessments/Studies
- Policy and Technical Briefs
- Documented good practices

BIBLIOGRAPHY

World Bank Open Data (2021). World Development Indicators. Uganda URL:ttp://databank.worldbank.org/data/reports.aspx?source=2&country

World Bank Data Bank (2021). Health Nutrition and Population Statistics: Population estimates and projections – Uganda: https://databank.worldbank.org/data/reports.aspx?

Ministry of Agriculture, Animal Industry and Fisheries (2018). Guidelines for Mainstreaming Climate Change Adaptation and Mitigation in Agricultural Sector Policies and Plans.

Ministry of Water and Environment (2015). Uganda National Climate Change Policy: URL:https://www.mwe.go.ug/sites/default/files/library/National percent20Climate percent20Change percent20Policy percent20April percent202015 percent20final.pdf

Ministry of Water and Environment (2014). Uganda Second National Communication to the UFCCC: URL:https://unfccc.int/resource/docs/natc/uganc2.pdf

Ministry of Water and Environment (2015). Uganda National Climate Change Policy: https://www.mwe.go.ug/sites/default/files/library/National percent20Climate percent20Change percent20Policy percent20April percent202015 percent20final.pdf

Ministry of Water and Environment (2016). Uganda's Nationally Determined Contribution: URL:https://www4.unfccc.int/sites/submissions/INDC/Published percent20Documents/Uganda/1/INDC percent20Uganda percent20final percent20 percent2014 percent20October percent20 percent202015, percent20minor percent20correction,28.10.15.pdf

Ministry of Agriculture, Animal Industry and Fisheries (2018). National Adaptation Plan for the Agricultural Sector: https://www.agriculture.go.ug/wp-ontent/uploads/2019/09/National-Adaptation-Plan-for-the-Agriculture-Sector.pdf

Ministry of Water and Environment (2015). Economic Assessment of the Impacts of Climate Change in Uganda – National Level Assessment: Agricultural Sector Report: https://cdkn.org/wp-content/uploads/2015/12/Uganda_Agricultural_Sector.pdf

Ministry of Water and Environment (2015). Uganda National Climate Change Policy: https://www.mwe.go.ug/sites/default/files/library/National percent20Climate percent20Change percent20Policy percent20April percent202015 percent20final.pdf.

UNDP, 2012. Climate Risk Management for Sustainable Crop Production in Uganda: Lessons from Rakai and Kapchorwa Districts

USAID, 2013. Uganda climate change vulnerability assessment report. African and Latin American resilience to climate change project.

Ministry of Water and Environment, 2015. Economic Assessment of the Impacts of Climate Change in Uganda.

FAO, 2015. Cost Benefit Analysis (CBA) of Climate Change Adaptation and Prioritization in Agriculture

EM-DAT website (2011). Disasters in Uganda. The international Disaster Database. Centre for Research on the Epidemiology of Disasters (CRED). School of Public Health, Université catholique de Louvain, Belgium: http://www.emdat.be

ANNEX 1: PROGRAMME RESULTS FRAMEWORK AND BASELINE INFORMATION

RESULTS CHAIN	ACTIVITY	INDICATOR	UNIT	BASELINE	TARGET
Outcome 1: *Information and assessments used by national stakeholders to identify and appraise transformative climate actions to advance NDC/ NAP priorities in land use and agriculture*					
Output 1.1. [10] Evidence base for implementation of transformative climate action in land-use or agriculture strengthened	**Activity 1.1.1:** Conduct participatory technical reviews of the NDCs and Ag-NAP to identify priority land-use and agriculture actions with transformative systems - change potential in the cattle corridor agricultural landscape	Number of assessments conducted on (i) transformative, gender responsive climate actions in the cattle corridor landscape, or related systems identified through NDC / Ag-NAP reviews & (ii) assessed through inclusive multistakeholder consultations	Assessment reports, Workshop reports, Partnership agreements, ToRs, Attendance lists	The NDCs and Ag-NAP include sectoral climate actions with only three system assessment carried out, but no system-level analysis has been conducted in the cattle corridor landscape & on its agri-value chains	Assessment conducted on transformative, gender-responsive climate actions in landscape-level systems identified through both NDC & NAP-Ag review and (ii) assessed through inclusive multi-stakeholder consultations, addressing the needs and priorities of women and men
	Activity 1.1.2: Carry out a systems-level assessment to generate evidence to support for planning and implementation of transformative climate action in land-use and agriculture in line with the 2021 NDC & 2018 Ag-NAP at sub-national (district & community) levels	Number of assessment tools and methodological approaches produced and/or adapted for the translation of Ag-NAP and NDC and their integration into sub-national level planning	Tool and methodological guidelines, capacity building reports, technical reports, attendance lists	Several tools exist to support the assessment but need to be adapted to fit the country context	At least one adapted tool and methodological approach is applied for systems-level assessment of transformative climate action options, including gender analysis, in the cattle corridor landscape
Outcome 2: *Climate risk-informed land-use & agriculture sector priorities integrated into national & sectoral planning, budgeting & monitoring*					

[10] Global programme indicator for Output 1.1: Number of a assessments (i) conducted on transformative, gender-responsive climate actions in a food, landscape or other related systems identified through NDC and/or NAPs reviews and (ii) assessed through inclusive multi-stakeholder consultations that address the needs and priorities of women and men

Output 2.1.[11] NDC and NAP priorities for land-use and agriculture enhanced and integrated into sectoral planning and budgeting	**Activity 2.1.1:** Strengthen multi-stakeholder coordination and institutional capacities for the integration of NDC and NAP priorities on land-use and agriculture in policies, plans and budgets, especially at the district level in the cattle corridor	Number of ministries or districts having adopted sectoral plans and/or budget submissions that (i) incorporate Gender responsive NAPs and NDC land-use and agriculture priorities and (ii) are based on consultations that increase the participation of women and women's representatives in decision making	Government policies, strategies and plans, & budget submissions	There is less coordination for multi-stakeholder collaboration at (sub-) national levels for the integration of the NDC and Ag- NAP priorities into ministries, districts & community development & adaptation plans	At least 3 ministries or corresponding district departments in the cattle corridor have adopted sectoral plans /or budget submissions that **(i)** incorporate gender-responsive Ag-NAP & NDC AFOLU priorities and **(ii)** are based on consultations including participation of women & their representatives in decision-making
	Activity 2.12: Improve / develop MRV and M&E systems at national / sectoral level for monitoring and reporting on mitigation and adaptation in AFOLU including collection of gender disaggregated data	Number of MRV and M&E systems operationalized at (sub-) national and/or sectoral level for monitoring and reporting on mitigation and/or adaptation in land-use and agriculture sectors	Government's MRV and M&E databases, policies & websites, reports to UNFCCC (BUR, NC, NAP)	No functional MRV and M&E system already operational	At least one MRV and/or M&E system is operationalized at national and/or sectoral level for monitoring and reporting on CCM/A in AFOLU, including sex disaggregated data
	Activity 2.1.3: Enhance the implementation of system-level transformative	Number of sub-national (district or community-level) development and climate action plans	Government policies and plans, reports to UNFCCC	NDCs and Ag-NAP are not integrated in development	At least one district development and climate action plan

[11] Global programme indicators for Output 2.1: 1) Number of ministries having adopted sectoral plans and/or budget submissions that (i) incorporate gender-responsive NAPs and NDC land-use and agriculture priorities and (ii) are based on consultations that increase the participation of women and women's representatives in decision-making; 2) Number of MRV and/or M&E systems are operationalised at national and/or sectoral level for monitoring and reporting on mitigation and/or adaptation in land-use and agriculture, including sex-disaggregated data; and 3) Number of NDCs and/or NAPs enhanced with updated land-use and agriculture priorities and gender-responsive targets

	land-use and agriculture priorities in the NDC and Ag-NAP	that integrate gender-responsive NDC and/or Ag-NAP priorities		plans at sub-national level.	relevant to the cattle corridor have integrated gender-responsive NDC & Ag-NAP priorities
Outcome 3: *Private sector engagement in climate action in land-use and agriculture increased*					
Output 3.1.[12] Enabling environment and incentives enhanced for private sector engagement in NDCs and NAPs implementation	**Activity 3.1.1:** Identify policy and financial de-risking measures and business opportunities	Number of gender responsive de-risking strategies validated by existing institutional coalitions of public, civil society and private sector actors considering well-being of local communities/different actors along value chains	Strategy documents, Workshop reports, Assessments reports, ToRs, attendance lists	Limited or no financial de-risking measures for private sector led business opportunities and climate action investments	At least one de-risking strategies validated by existing institutional coalitions of public, civil society & private sector actors
	Activity 3.1.2: Develop project concept notes to leverage investment for transformative and inclusive action in partnership with the private sector	Number of project concept notes developed for transformative and gender responsive climate action with public private partnerships	Project concept notes, project documents	Limited or no project concept notes for transformative and gender responsive climate action with public private partnerships	At least one project/ business concept notes for transformative and gender-responsive climate action with public private partnerships developed

[12] Global programme indicators for Output 3.1: 1) Number of gender-responsive de-risking strategies validated by existing institutional coalitions of public, civil society and private sector actors considering well-being of local communities/different actors along value chain and 2) Number of project concept notes for transformative and gender-responsive climate action with public private partnerships

ANNEX 2: PLANNING WORKSHOP AGENDA AND LIST OF PARTICIPANTS

AGENDA DURING THE INCEPTION WORKSHOP - 19 AUGUST 2021

TIME	DESCRIPTION
Session 1: Setting the scene	
9:00-9:10	Welcome and Opening Remarks
9:10-9:20	Session objectives, expected outcomes and agenda
9:20-9:30	Overview of the SCALA programme
9:30-9:35	Q&A
9:35-9:40	Group photo
Session 2: Understanding priorities, capacities and needs for climate action in key agricultural systems in the cattle corridor	
9:40-9:55	Scoping the cattle corridor landscape: summary presentation of baseline survey results
9:55-11:10	Situational analysis: Breakout groups to evaluate priorities, baseline capacities and needs in the cattle corridor
11:10-11:25	Break
Session 3: Work-planning for inclusive, low-emission and climate-resilient agricultural system transformations in the cattle corridor	
11:25-11:55	Work planning: Breakout groups to propose workplan activities
11:55-12:55	Groups report back to plenary
12:55-13:15	Closing and wrap-up

PARTICIPANT LIST

Name	Institution	Role
Anthony Kagoro	FAO	Climate change specialist
Apollo Kasharu	NACORI-Kituza	Agricultural economist
Aruho Cassius	NARO-NaFRRI	
Ben Busizori	UNDP	Consultant
Dennis Azisua	FAO	
Elisa Distefano	FAO Global Team	M&E specialist
Emily Tanganelli	FAO Global Team	Junior consultant
Erina Nabafu	CCD/MWE	
Esther Nabeeta	Private Sector Foundation Uganda	Private Sector Development Officer
Francis Kajura	Private Sector Foundation Uganda/ NDC Support Programme	
Fred Kabi	Makerere University	
Fred Migadde	Centenary Bank	Lead implementer of environment and social risk management
Gerald Kyalo	UCDA	Directorate of Production
Gloria Namande	UNDP Global Team	

Henry Ahimbisibwe	FAO	
Humphrey Mutaasa	Uganda National Farmers Federation (UNFFE)/Agripoint Initiatives Limited / The grain Council of Uganda	
Iordanis Tzamtzis	FAO Global Team	MRV specialist
Jerome Lugumira	NEMA	Natural resources management specialist (soils and land use)
Jimmy Lamo	NARO-NaCRRI	
Joel Buyinza	CGIAR-ICRAF	Research scientist, agroforestry specialist
John C Birantana	MAAIF	SCALA Focal Person
Joseph Mudiope	FAO	SCALA technical specialist
Joseph Mutyaba	FAO	GIS/Remote Sensing Specialist
Joyce Atuhaire	African Women Agribusiness Network - Uganda Chapter	
Justus Rutaisire	Aquafarm consults ltd	
Krystal Crumpler	FAO Global Team	Climate change specialist
Levand Turyomurugyendo	Uganda Biodiversity Fund	
Margiotta Sarah	CGIAR-IITA	Climate-smart agriculture team lead
Martin Maku	Private Sector Foundation Uganda	Sector coordinator for agriculture, agribusiness and forestry
Moses Ojara	UNMA	
Moses Tenywa	Lake Bounty Ltd	Food safety expert
Neha Rai	FAO Global Team	Private sector engagement specialist
Ovia Katiti Matovu	Fish Factories Association/Fish Processors & Exporters Association	
Pamela Anyoti Peronaci	Asante Mama Sunshine Agro Products Ltd	Agribusinesses for cocoa value chains
Pascajoell Musoli	NARO-NACORI	
Peninah Kyarimpa	aBi Trust	Agriculturist specializing in mainstreaming cross-cutting aspects (gender, green growth) in value chains
Shanali Pethiyagoda	FAO Global Team	Environmental economist
Philip Idro	Upland Rice Millers	
Prossy Namugugu	WFP	
Raymond Karungi		
Robert Bakiika	MWE	NDC Partnership In-country facilitator Uganda
Roland Mugumya	CGIAR-ILRI	Programme coordinator for Climate Smart Livestock Systems in Uganda
Rosemirta Birungi	FAO	Value chain specialist
Samuel Tumwesigye	UNDP Global Team	Agriculture and climate change specialist
Sarah Mujabi	UNDP	
Sheku Davowa	UNDP	
Shovon Kibria	UNDP Global Team	Private sector engagement specialist
Sibyl Nelson	FAO Global Team	SCALA Lead programme advisor
Stephen Segujja	Stanbic Bank	Focus on Economic Enterprise Restart Fund (EERF)
Susan Nandudu	Climate Action Network Uganda (CAN U)	
Teopista Nakkungu	International Women's Coffee Alliance (IWCA)	Focus on women in coffee empowerment, due diligence and regulation for supply chains with a focus on coffee an assignment for EU

Victor Komakech	Hanns R. Neumann Stiftung	Climate change programming
Vincent A. Byendaimira	Ministry of Lands	Ag. Director for Physical Planning & Urban Development

ANNEX 3: INCEPTION WORKSHOP AGENDA AND LIST OF PARTICIPANTS

AGENDA - 25TH AUGUST 2021

Time	Description	Speaker
09:00 - 09:05	Welcome and introductions	Sarah Mujabi (UNDP)
09:05 - 09:15	Opening remarks	Fred Kabango – Commissioner MAAIF
09:15 - 09:20	Agenda, workshop objectives & expected outcomes	Samuel Tumwesigye (UNDP)
09:20 - 09:30	Overview of NDC and NAP status in Uganda	Gloria Namande (UNDP)
09:30 - 09:40	Overview of SCALA Programme	Julie Teng (UNDP)
09:40 - 09:45	Group Photo	
09:45 - 10:05	**Presentation:** What is the baseline and which entry-points exist for transformative climate action in the cattle corridor?	Ben Busizori (Consultant)
10:05 – 10:15	Q&Q	Krystal Crumpler (FAO)
10:15 - 10:20	Break	
10:20 - 11:40	Presentation and participatory discussion: • What is the theory for transformative systems change in the cattle corridor? • How is SCALA contributing to transformative climate action in the cattle corridor? • Feedback on work plan activities and suggested partners to engage	Joseph Mudiope (FAO)
11:40 - 11:50	Conclusions and Wrap-up	Krystal Crumpler (FAO)
11:50 - 12:00	Closing remarks	Muhammad Semambo (Assistant Commissioner, MWE)

PARTICIPANT LIST

69 participants attended the SCALA Uganda inception workshop, of which 41 were male and 28 were female participants.

Name	Title	Institute	Gender
Ababu Zeleke Anaga	National Climate Change Specialist	UNDP Ethiopia	Male
Aimable Uwizeye	Livestock Policy Officer	FAO HQ	Male
Anthony Kagoro	Climate Change Specialist	FAO Uganda	Male
Antoine Libert	Climate and Disaster Risk Management Expert	FAO	Male
Apolo Kasharu	Executive Director	Chain Uganda	Male
Barry Kamira	Climate-smart Agriculture Consultant [Aquaculture]	Agropreneur Initiatives Uganda Limited	Male

Name	Title	Institute	Gender
Blaga Zlateva	Co-Country Manager	Hanns R. Neumann Stifung Africa Uganda (HRNS-Uganda)	Female
Brian Sengendo	Head of Agriculture and community development	Misghana General Trading Company Limited	Male
Christopher MvTumusiime	Executive Director	Trinity Forestry Services Ltd	Male
Denis Asizua	Livestock Production Specialist	FAO Uganda	Male
Dennis Kavuma	Timber Growers Association	General Manager	Male
Derrick Mugisha	National Coordinator	Uganda Youth Biodiversity Network	Male
Emily Tanganelli	Junior Climate Change Consultant	FAO HQ	Female
Erina Nabafu	Climate Change Officer	Ministry of Water & Environment	Female
Ettore Lancellotti	Social Protection and Resilience	FAO HQ	Male
Fatma Abouzeid	Natural Resources Expert	FAO Egypt	Female
Freddie Kabango	Assistant Commissioner of Soil and Water Conservation	Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	Male
Gerald Kyalo	Technology Development Manager	Uganda Coffee Development Authority (UCDA)	Male
Imelda Kanzomba	Principal Agricultural Officer, Focal person for Koronivia Joint Work on Agriculture, Gender and Climate Change - MAAIF	MAAIF	Female
Isaac Guzman Estrada	Climate Change Analyst	FAO HQ	Male
Jacopo Monzini	Senior Natural Resources Management Officer	FAO HQ	Male
Jaliah Namubiru	Programme Officer	Environmental Management for Livelihood Improvement Bwaise Facility (EMLI)	Female
Janet Nabwami	Soil Management Specialist	FAO Uganda	Female
Jean Marie Byakweli	Policy Officer	FAO Uganda	Female
Jerome Lugumira	Natural Resources Management Specialist (Soils and Land Use)	National Environment Management Authority of Uganda (NEMA)	Male
John Jagwe	Country Manager	Alliance for a Green Revolution in Africa (AGRA)	Male
John Chrysostom	Senior Policy Analyst / SCALA Coordinator	MAAIF	Male
Joseph Mudiope	Crop Production Specialist/ SCALA Technical Specialist	FAO Uganda	Male
Julie Teng	Technical Specialist on NAP / SCALA Global Programme Coordinator	UNDP	Female
Kocho Justin Bob	Project Manager	Ecological Christian Organization	Male
Krystal Crumpler	Climate Change Specialist, SCALA Uganda Focal Point	FAO HQ	Female
Lapo Roffredi	ITA Intern	FAO HQ	Male

Name	Title	Institute	Gender
Magunda Matthias	Managing Partner	Ecosystems Green Consult	Male
Melanie Pisano	Communications Officer	UNDP	Female
Mildred Barungi	Senior Research Fellow	Economic Policy Research Centre	Female
Muhammad Semamb o	Assistant Commissioner Climate Change Department	MWE	Male
Morris Jabero	Team Leader	Kwanzaa Eco Farm Initiative	Male
Moses Isabirye	University Professor	Busitema University - Tororo	Male
Moses Ojara	Principal Meteorologist	UNMA	Male
Mwesigwa Jonah	CEO / Co-founder	Marine Innovation Group	Female
Neha Rai	Private Sector Engagement Specialist	FAO HQ	Female
Ovia Katiti Matovu	CEO	Uganda Fish Processors and Exporters Association (UFPEA)	Female
Pamela Anyoti Peronaci	Managing Director	Asante Mama - Sunshine Agro Products	Female
Phuong Dang	Capacity development	FAO Uganda	Female
Proscovia Ritah Namugugu	Coordination and Technical Officer	PROACT- International Management and Research Institute	Female
Raymond Kirungi	Policy officer	Office of the Prime minister	Male
Reuben Sessa	Natural Resources Officer	FAO HQ	Male
Richard Kisakye	Principal	Nyabyeya Forestry College	Male
Robert Bakiika	In-country Facilitator - NDC	NDC Partnership / MWE	Male
Roland Mugumya	Research Support Specialist	International Livestock Research Institute (ILRI)	Male
Samuel Tumwesigye	Agric. & CC Adaptation Specialist – SCALA Global	UNDP	Male
Sandagdorj Bayarkhuu	Consultant	UNDP Mongolia	Female
Saruul Dolgorsuren	Officer	UNDP	Female
Saskia Reppin	Livestock Systems and Koronivia Specialist	FAO HQ	Female
Sebastian Burgos	Climate Change Consultant	FAO HQ	Male
Shanali Pethiyagoda	Economist	FAO HQ	Female
Sheku Davowa	Programme Management Specialist	UNDP Uganda	Male
Sibyl Nelson	Lead SCALA Programme Advisor	FAO HQ	Female
Sophie von Loeben	Scientist & Project Coordinator	Potsdam Institute for Climate Impact Research (PIK) Germany	Female
Stephen Segujja	Head, Economic Enterprise Restart Fund	Stanbic Bank Uganda	Male
Stephen Muwaya	Senior Ecologist	MAAIF	Male
Tenywa Moses	Food Safety Manager	UFPEA	Male
Teopista Nakkungu	Chief Coordinator	International Women's Coffee Alliance (IWCA) Uganda Chapter	Female
Victor Komakech	Climate Change Coordinator	HNRS-Uganda	Male

Name	Title	Institute	Gender
Vincent Byendaimira	Ag. Director, Physical Planning & Urban Development	Ministry of Lands, Housing and Urban Development (MLHUD)	Male
Vivian Salta	Asistente Programa	FAO	Female
Viviane Umulisa	Climate Change Specialist	FAO HQ	Female
Wirya Khim	DRR Team Leader	FAO HQ	Female
Yibeltal Tiruneh	Irrigation & Water Resources Officer	FAO - Ethiopia	Male

Supported by:

Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection

IKI INTERNATIONAL CLIMATE INITIATIVE

MAAIF
Ministry of Agriculture
Animal Industry and Fisheries

based on a decision of
the German Bundestag

This report has been developed under the “Scaling up Climate Ambition on Land use and Agriculture through NDCs and NAPs” (SCALA) programme, co-led by the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme (UNDP), with funding from the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) through the International Climate Initiative (IKI).

Information

UNDP website
FAO website