JOINT UNDP-FAO

PROJECT DOCUMENT

<table>
<tr><td colspan="3">Project title: Fostering Sustainability and Resilience for Food Security in Karamoja Sub region</td></tr>
<tr><td>Country:
UGANDA</td><td>Implementing Partner: Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)</td><td>Management Arrangements:
National Implementation Modality (NIM) for UNDP and Operational Partner Implementation Modality (OPIM) for FAO</td></tr>
<tr><td colspan="3">UNDAF/Country Programme Outcome: Outcome: 3.1- By end 2020, natural resources management and energy access are gender responsive, effective and efficient, reducing emissions, negating the impact of climate-induced disasters and environmental degradation on livelihoods and production systems, and strengthening community resilience.</td></tr>
<tr><td colspan="3">UNDP Strategic Plan Output: Output 3.1: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste</td></tr>
<tr><td colspan="3">Contribution to FAO’s Strategic Framework: The project will directly contribute to FAO’s Strategic objective SO2 “Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner” in particular the major areas of work on “Sustainable food and agriculture” (SFA) and on “Ecosystems services and biodiversity” (ESB) and the work stream on promoting Integrated Landscape Management (ILM). Through capacity development for adapted, more reliable and diverse production systems and linking to value chains, it will also indirectly contribute to: SO5 “increase the resilience of livelihoods to threats and crises” through reducing vulnerability to drought and other impacts of climate change. SO1 “Contribute to the eradication of hunger, food insecurity and malnutrition” and S04 “Enable Inclusive and efficient agricultural and food systems”.</td></tr>
<tr><td colspan="2">UNDP Social and Environmental Screening Category:
Low
FAO Environmental Impact Assessment Category
Moderate risk</td><td>UNDP/FAO Gender Marker:
2</td></tr>
<tr><td colspan="2">UNDP’s Atlas Project ID/Award ID number: 00096870</td><td>UNDP’s Atlas Output ID/Project ID number: 00100758</td></tr>
</table>

UNDP-GEF PIMS ID number: 5577	**GEF ID number:** 9137
FAO Project Code: GCP /UGA/044/GFF	**FAO Project ID:** 636212
Planned start date: January 2017	**Planned end date: December 2021**
LPAC date: X	
Brief project description: *This project seeks to respond to chronic food insecurity in the Karamoja region, which is a result of combined pressures, including environmental degradation and climate change. The vast majority of people in Karamoja are facing food shortages, either year-long or seasonal, and the region has been exposed to increasing droughts. The project will seek to achieve its objective through three outcomes. Outcome 1 focuses on strengthening the enabling policy and institutional frameworks through the creation of multi-stakeholder platforms that will enable better planning, including local landscape-based planning. Outcome 2 will channel investments into the food production systems and value chains using a Farmer Field School approach adapted to the realities of the agro-pastoral societies of Karamoja. The project will increase production through climate resilient production techniques, and also support efforts to diversify production to increase income and reduce vulnerability to food insecurity. A strong emphasis will be placed on rehabilitating ecosystem services through restoration, agro-forestry, natural regeneration and sound pasture management. The project will also target specific activities towards women and youth, who are among the most vulnerable, to ensure equality of participation and remove underlying vulnerabilities. Finally, Outcome 3 will support the development and implementation of a monitoring and assessment framework for global environmental benefits, and socio-economic benefits.*	
FINANCING PLAN	
GEF Trust Fund	USD 7,139,450
(1) Total Budget administered by UNDP	**USD 3,589,426**
(2) Total Budget administered by FAO	**USD 3,550,024**
CO-FINANCING	
Government	USD 45,000,000
UNDP	USD 13,000,000
(3) Total co-financing	**USD 58,000,000**
(4) Grand-Total Project Financing (1)+(2)+(3)	**USD 65,139,450**

SIGNATURES		
Signature: print name below	**Agreed by Government**	**Date/Month/Year:**
Signature: print name below	**Agreed by Implementing Partner**	**Date/Month/Year:**
Signature: print name below	**Agreed by FAO**	**Date/Month/Year:**
Signature: print name below	**Agreed by UNDP**	**Date/Month/Year:**

Note: FAO will sign the GCP agreement with government, which will refer to the project document as annex.

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ACRONYMS

AEZ	Agro-ecological zone
ALREP	Northern Uganda Agricultural Livelihoods Recovery Programme
AnGR	Animal genetic resources for food and agriculture
APFS	Agropastoral field school
AqGR	Aquatic genetic resources for food and agriculture
CBD	Convention on Biological diversity
CC	Climate change
CCA	Climate change adaptation
CCO	Certificates of Customary Ownership
CCM	climate change mitigation
COPACSO	Coalition of Pastoralist Civil Society Organizations in Uganda
CSA	Climate smart agriculture
CSO	Civil society organisation
CSIF	Country strategic investment framework (for SLM)
CWR	Crop wild relatives
DoM	Department of Meteorology
EVH	Extremely vulnerable households
FAO	Food and Agriculture Organisation
FFS	Farmer field school
FGM	Female genital mutilation
GBV	Gender based violence
GEB	Global environmental benefit
GEF	Global Environment Facility
GIS	Geographic information systems
GNI	Gross national income
Ha	Hectare (ca 2.47 acres)
HDI	Human Development Index
HEA	Household economy analysis
HH	Household
HH-BAT	Household baseline assessment tool
IAP	Integrated approaches pilot
IAS	Invasive alien species
IGA	Income generating activity
IK	Indigenous knowledge
IMR	Infant mortality rate
INRM	Integrated natural resources management
IP	Implementing Partner
IRIN	Humanitarian news and analysis website
IUCN	International Union for the Conservation of Nature
IW	International waters (GEF focal area)
KALIP	Karamoja Livelihoods Programme
KAPFS	Karamoja Action Plan for Food Security
KIDDP	Karamoja Integrated Disarmament and Development Programme
km	Kilometre
km^2	Square kilometre
LADA	Land Degradation Assessment in Drylands (methods and tools)
LC	Land cover
LD	Land degradation
LMT	Land management typologies
LUS	Land Use Systems
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MLUD	Ministry of Lands and Urban Development

NAADS	National Agricultural Advisory Services Organization
NAP	National Action Plan (to combat desertification – under UNCCD
NARO	National Agricultural Research Organization
NDP	National Development Plan
NDVI	Normalised difference vegetation index
NEMA	National Environment Management Authority
NER	Net enrolment rate
NFA	National Forestry Authority
NGO	Non-governmental organisation
NHCC	National Housing Construction Cooperation
NPA	National Planning Authority
NUSAF	Northern Uganda Social Action Fund
NWSC	National Water and Sewerage Corporation
OPM	Office of the Prime Minister
PGR	Plant genetic resources
PGRC	Plant Genetic Resource Centre (NARO at Entebbe Botanical Gardens)
PGRFA	Plant genetic resources for food and agriculture
PPG	project development phase
PRDP	Peace, Recovery and Development Plan
SLM	Sustainable land management
SLWM	Sustainable land and water management
SSA	Sub-Saharan African
TACC	Territorial approaches to climate change (now closed UNDP project based in Mbale)
TAMP	Transboundary agroecosystem management project for the Kagera river basin
TEK	Traditional Ecological Knowledge
TE / R	Terminal evaluation / review
TT	Tracking tool
T&V	Test and verification
UDHS	Uganda Demographic and Health Survey
ULC	Uganda Land Commission
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNMA	Uganda National Meteorological Authority
UPDF	Uganda Peoples' Defence Forces
USIF	Sustainable Land Management Investment Framework (2010-2020)
VCS	Voluntary Carbon Standards
VGGT	Voluntary guidelines on the responsible governance of tenure (FAO)
WISP	World Initiative on Sustainable Pastoralism
WOCAT	World Overview of Conservation Approaches and Technologies
WB	World Bank
ZARDI	Zonal Agricultural Research and Development Institute

SECTION 1 – PROJECT RATIONALE

1.1 OVERVIEW OF THE PROJECT CONTEXT

1.1.1 Background and context

Country location and overview: Uganda is a landlocked country that lies astride the equator between 4° N and 1° S and stretches from 29.5° E– 35° W. Administratively, it is made up of four regions – Northern, Western, Central and Eastern, which divide into over 100 districts. Uganda is bordered by South Sudan to the north, Kenya to the east, Tanzania and Rwanda to the south and the Democratic Republic of the Congo (DRC) to the west. The target is Karamoja subregion in the eastern part of Northern region bordered by South Sudan to the north and Kenya to the east. Uganda is situated on the East African plateau between the Eastern and Western (Albertine) branches of the East African Rift, with 84% of land lying between 900m and 1,500m a.s.l., Uganda covers an estimated area of 241,038 km^2 out of which 194,000 km^2 is dry land, 33,926 km^2 open water and 7,674 km^2 permanent wetlands. Natural resources of Uganda are varied and include fertile soils, regular rainfall, copper, cobalt, hydropower, limestone, salt and arable land, as well as crude oil and natural gas reserves, as yet mostly untapped.

Overview of the country's climate and water resources: Despite being on the equator, Uganda's tropical climate is mild, because of its elevation. Mean annual temperature in the south-western highlands is 16 °C and increases to 25 °C in the north-west, with temperatures in the north-east reaching above 30 °C for the majority of the year. Temperatures as low as 4 °C are experienced in the Kabale highlands in south-western while temperatures below 0ºC are experienced on the mountain ranges of Rwenzori and Elgon. Mt. Rwenzori has a permanent ice cap, although this is expected to disappear in the next 20 years as a result of climate change. The average rainfall in Uganda is about 1180 mm/year which is about 40% higher than the global average of 860 mm/year. Uganda's rainfall exhibits considerable spatial and temporal variability (500 to 2600 mm/year) partly due to the complex topography, the existence of large inland lakes such as Lake Victoria and Kyoga, and the seasonal migration of the Inter-Tropical Convergence Zone (ITCZ).

Uganda has maintained macroeconomic stability and economic growth during the past 20 years. During the 2005/6 to 2012/13 period, the economy grew, on average, by 7 % per annum.[1] Food-crop production accounts for at least 65% of agricultural GDP in 2012/2013. This economic growth was mainly driven by the services sector (8 %) and the industry sector (7.8 %).

The contribution of agriculture has however been reduced countrywide, including in Karamoja where there is a higher dependence on non-agricultural activities, such as charcoal production. Despite its decline, agriculture is the mainstay of Uganda's economy, employing around 81% of the country's labour, 77 % of whom are women, and 63 % are youth, mostly residing in rural areas.[2] Given its potential for poverty reduction, the Government under its Second National Development Plan (NDP2 – 2015-2020) is emphasizing commercialization of agriculture, to increase production and productivity along the value chains. The major focus is placed on agricultural enterprises along the value chain including, among others, beef, milk and maize that could drive the economy of the Karamoja sub-region. The impetus is also placed on gender responsive mechanization, commercialization and provision of infrastructure to facilitate marketing, production and productivity.

[1] Uganda Poverty Status Report, 2014
[2] Uganda Poverty Status Report, 2014

In 2013, Uganda Human Development Index (HDI) improved from 0.448 in 2005/6 to 0.463 in 2012/13, positioning Uganda at 161 out of 187 countries and territories. Uganda's gross national income (GNI) per capita increased by about 125 % between 1985 and 2012 (HDR, 2015). The share of the population living below the poverty line reduced from 55.7 % in 1992 to 19.7 % in 2012/13 (UBOS, 2014). However, 69.9 % of the population lived in multidimensional poverty, while an additional 19 % were vulnerable to multiple deprivations. This means that economic growth and poverty reduction have not translated into sustainable progress in human development outcomes, particularly in the Karamoja sub-region. Income inequality, as measured by the Gini coefficient reduced from 0.426 in 2009/10 to 0.395 in 2012/13, and was higher in urban areas (0.41), compared to the rural areas (0.34). This shows that there is a need for an integrated approach to increasing resilience and food security.

Despite comprehensive recovery and development plans' interventions in Karamoja, all human development indices show that the sub-region is the least developed in the country. Whereas absolute poverty in Uganda reduced from more than half (56.4 %) in 1992/93 to less than a fifth (19.7 %) in 2012/13; 82 % of the population of Karamoja lives in absolute poverty with the global acute malnutrition level of 11 % compared with the national average of 6 %. While the Ugandan economy grew by 4.5 % in 2013/14 and 5.9 % in 2014/15 respectively, the annual rate of growth of Karamoja was of 1.9 % with HDI of 0.450 (HDR, 2015).

The acute, persistent poverty and extreme vulnerability that characterise Karamoja are attributed to multiple factors including: an unpredictable drought cycle; poor infrastructure (there are no sealed / tarmac roads from Karamoja into the surrounding districts) and basic social service delivery; limited marketing opportunities; natural resource degradation; and social and cultural marginalisation. Furthermore, the remoteness of the region from the traditional centres of business and economic power contributes to the region's low levels of human development. Some of these factors are linked with past cross-border violence, which occurred with other ethnic groups from Kenya and South Sudan.

Karamoja has been a recipient of humanitarian aid for over 50 years, which has contributed to the emergence of a dependency culture. Other structural factors include the over-reliance on rudimentary forms of livestock rearing, increasing reliance on more risky crop farming, and the loss of livestock.

1.1.2 Project region

The Karamoja sub-region is a semi-arid sub-region covering approximately 27,200 km^2 and is part of the "cattle corridor" of Uganda. It borders Kapchorwa and Bukwo Districts to the south, Katakwi, Amuria and Lira Districts to the south-west, Pader District to the west; Kitgum District to the north-west.

Karamoja is made of seven districts namely: Nakapiripirit, Moroto, Kotido, Kaabong, Napak, Amudat and Abim. With an average family size of seven people and dependency ratio of 2:1, the region has a population of about 1 million people (2.8 % of the national population), of which. 21 % of households are female headed, while 32 % is between the ages of 18 and 63 years.

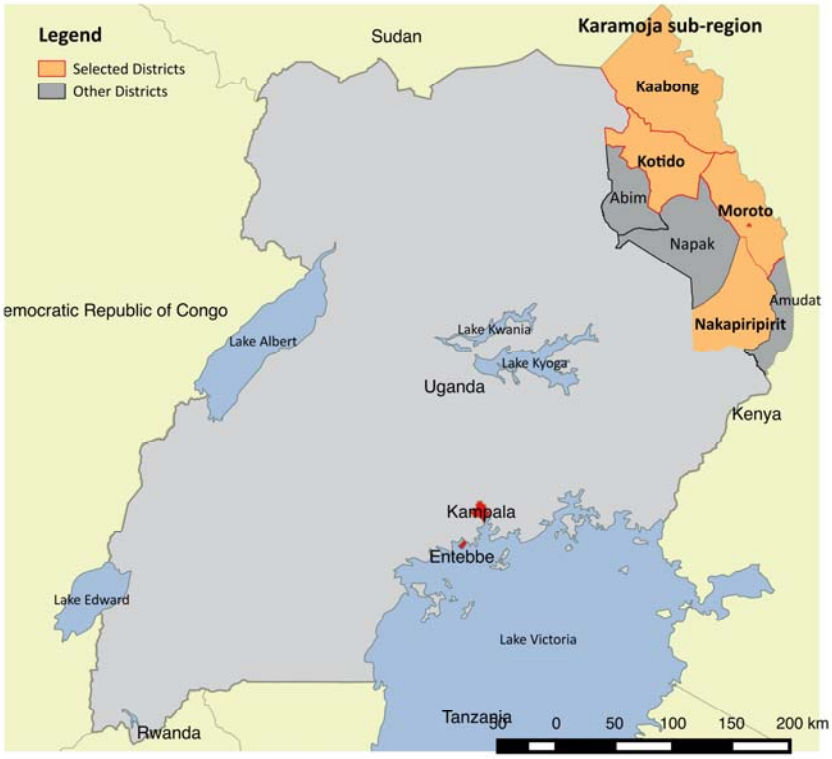


Figure 1: Map of Uganda showing Karamoja Sub-region and selected districts in orange

Weather and climate of Karamoja: The main characteristic of the sub-region is the low and unreliable rainfall – the area is drier and hotter than of the rest of Uganda with a single distinct dry season[3], lasting up to seven months in the east. The average annual temperature is 21.5°C; February and March are the hottest and July and August are the coolest months. Rainfall is unimodal with an annual average rainfall of 350 mm in the east and 1,500 mm in the west. Analysis of 30 years of satellite imagery reveals an average length of the growing season 120 to 180 days, which is sufficient for dryland crops. According to average annual rainfall, Karamoja is divided into three agro-climatic zones (see Figure 2), namely the i) arid zone in the east with average rainfall below 500 mm, a prolonged dry season and highly erratic rainfall, ii) the semi-arid zone with an average annual rainfall of 500 – 800mm in the central part of Karamoja, and iii) the sub-humid zone in the west with an average annual rainfall of 700 – over 1000 mm.

[3] Unlike the rest of Uganda, which has two rainy seasons and two planting seasons (i.e. bimodal), most of Karamoja has only one rainy season thus a single planting season (i.e. unimodal).

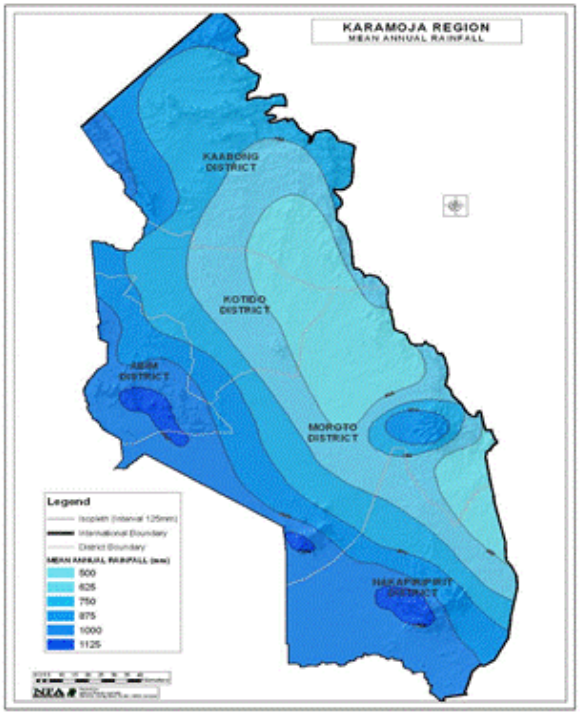


Figure 2: Rainfall Across Karamoja[4]

The rainfall totals are not only low, but also unreliable as there is a very high spatial-temporal variability in the rainfall, varying in amount from year to year and even from one place to another in the same year. The result of this pattern of rainfall is a low resource base characterised by seasonal variations in productivity, thus presenting patchy conditions even within the same zone - where there can be luxuriant vegetation in one location and near emptiness in another.

Topography and hydrology: The topography of the Karamoja sub-region is characterized by low elevation, relatively flat areas in the west and higher elevation with some hills and mountains, including: Mount Moroto (3,084m) in the east, Napak (2,537m) to the west, Mounts Kadam (3,068m) and Ayass (3,068m) towards the southern border. Much of the Karamoja landscape is more than 1,000 m altitude.

Much of the Karamoja landscape drains to the southwest or west. Numerous streams and rivers rise in the hills and mountains of the eastern part of the sub-region. After storms, rivers that are otherwise dry for the greater part of the year, flow down in spate over their often steep rocky beds – then as they reach the plains, their character changes and they flow in deep, wide channels. The drainage in the southern part of the region is dominated by deeply incised, sand filled, ephemeral channels flowing from east to west. These 'sand rivers', such as the Omanimani near Kangole, are a locally important source of water during the dry season when water can be found within a few meters of the surface. These channels feed into the southerly flowing Akokorio River via its tributaries, the Okok and Okere Rivers, leading through perennially swampy areas in its lower reaches and eventually draining to Lake Kyoga just to the southwest.[5]

[4] Source: FAO (2014c) FAO/GIEWS Livestock and Market Assessment Mission to Karamoja Region, Uganda.
[5] Mbogga, M.. Malesu, M., and de Leeuw, J. (2014), Trees and watershed management in Karamoja, Uganda. ICRAF, Nairobi, Kenya. Available from: http://www.worldagroforestry.org/downloads/Publications/PDFS/B17769.pdf

In the northern part of the Karamoja sub-region, particularly in Kaabong District, two rivers, the Kidepo and Narus, flow in a western direction through the southern portion of Kidepo Valley National Park. The Narus River eventually flows into Kidepo River about 30 km to the west of the Uganda border with South Sudan. These two rivers provide valuable water resources for Kidepo valley.[6]

For effective management of the country's water resources, Uganda has been divided into water management zones (WMZ). The Karamoja sub-region falls in two water management zones, the Kyoga WMZ that drains to the south-east into Lake Kyoga and the Upper Nile WMZ which takes up the northern part of Karamoja where the streams flow west into South Sudan.[7]

Vegetation and Wild Biodiversity: Historically, the vegetation of Karamoja was composed of grasslands mixed with woodlands dominated by *Combretum* spp and *Terminalia* spp trees and wetlands.

At the outset of colonial rule in the early 1920's, Mamdani, M. (1982) explains that: *"The bulk of Karamoja was divided into three natural zones, corresponding to differing climatic conditions. Grass and tree steppe were found in the dry parts. A lush grass savanna covered the moist areas. And forests had arisen in the uplands and the larger mountains. (…) In spite of their large numbers, game animals did not bring about over-grazing and a deterioration of cover, because they lived by extensive browsing of shrubs and trees. (…)*

The present-day land cover of Karamoja, which is the product of many human-induced changes over the last century, is depicted in Figure 3 and summarized in Table 1:

[6] Mbogga, M.. Malesu, M., and de Leeuw, J. (2014)
[7] Mbogga, M.. Malesu, M., and de Leeuw, J. (2014)

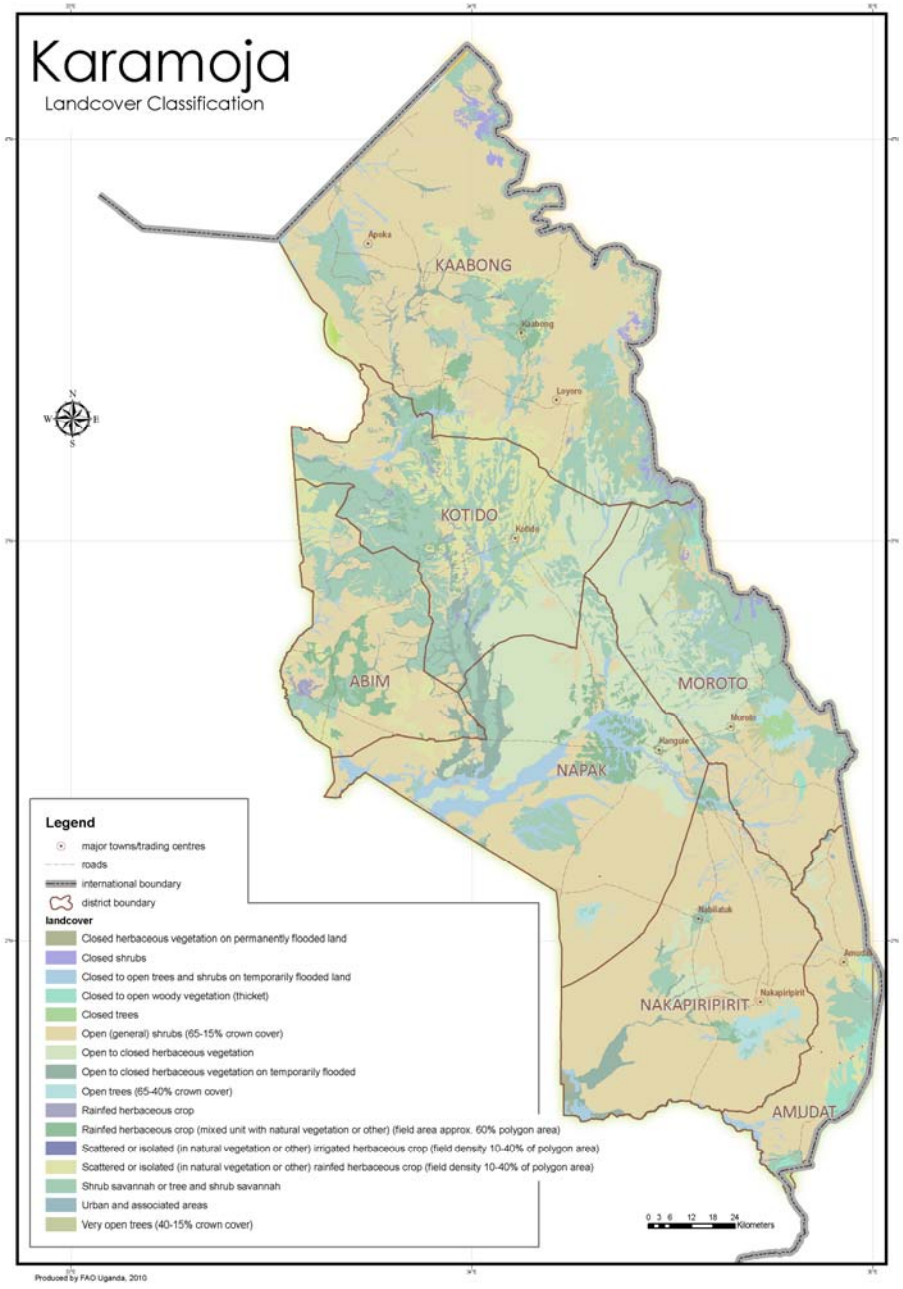


Figure 3: Land Cover Classification Map of Karamoja[8]

Table 1: Karamoja Land Cover Classification **(source: Africover 2010 map)**

Land Cover Classification Summary Description	Total Extent in Karamoja (in ha)	% of Karamoja
Closed herbaceous vegetation on permanently flooded land	2,445	0.09

[8] Source: Africover,2010

Closed shrubs	14,289	0.52
Closed to open trees and shrubs on temporarily flooded land	117,732	4.29
Closed to open woody vegetation (thicket)	23,576	0.86
Closed trees	5,156	0.19
Open (general) shrubs (65-15% crown cover)	1,366,240	49.80
Open to closed herbaceous vegetation	338,257	12.33
Open to closed herbaceous vegetation on temporarily flooded	76,237	2.78
Open trees (65-40% crown cover)	27,472	1.00
Rainfed herbaceous crop	5,853	0.21
Rainfed herbaceous crop (mixed unit with natural vegetation or other) (field area approx. 60% polygon area)	69,003	2.52
Scattered or isolated (in natural vegetation or other) irrigated herbaceous crop (field density 10-40% of polygon area)	539	0.02
Scattered or isolated (in natural vegetation or other) rainfed herbaceous crop (field density 10-40% of polygon area)	177,356	6.47
Shrub savannah or tree and shrub savannah	493,797	18.00
Urban and associated areas	437	0.02
Very open trees (40-15% crown cover)	24,893	0.91
Total	2,743,284	100

Karamoja sub-region has long been recognised as an area of high biodiversity value (see Figure 4) and today hosts two protected areas (Kidepo National Park and Mt Moroto Forest Reserve). Kidepo Valley National Park (area 1,442 km^2) lies in the rugged, semi-arid valleys between Uganda's borders with South Sudan and Kenya. Gazetted as a national park in 1962, it has a profusion of big game and hosts over 77 mammal species (inter alia cheetah, wild dog, lion, elephant, zebra, ostrich, greater kudu, Bright's gazelle) as well as around 475 bird species. The Kidepo landscape has recently been identified a potential transboundary Peace Park (Plumptre *et al*, undated).

Mt Moroto Forest Reserve extends 483 km^2. The upper parts of Mount Moroto are forested (totalling c.7,000 ha), but the reserve extends a considerable distance into savannas of various types, including *Combretum* woodlands, as well as bushland and tree/shrub-steppe. The reserve is relatively rich in savanna birds, with a total of 220 species recorded, although the list is certainly not complete.[9] About 200 tree and shrub species were recorded in Mount Moroto Forest Reserve by the Forest Biodiversity Inventory Team, 22 of which had not been recorded previously from this floral region (U1). Among the 22 species of small mammal are three endemic to the Somali–Masai biome. A comprehensive and appropriate management plan

[9] Birdlife International : UG029, Mount Moroto Forest Reserve: http://www.birdlife.org/datazone/sitefactsheet.php?id=7069

exists that aims to maintain or improve the populations of qualifying bird species in the forest reserve. Some limited conservation initiatives are in place.

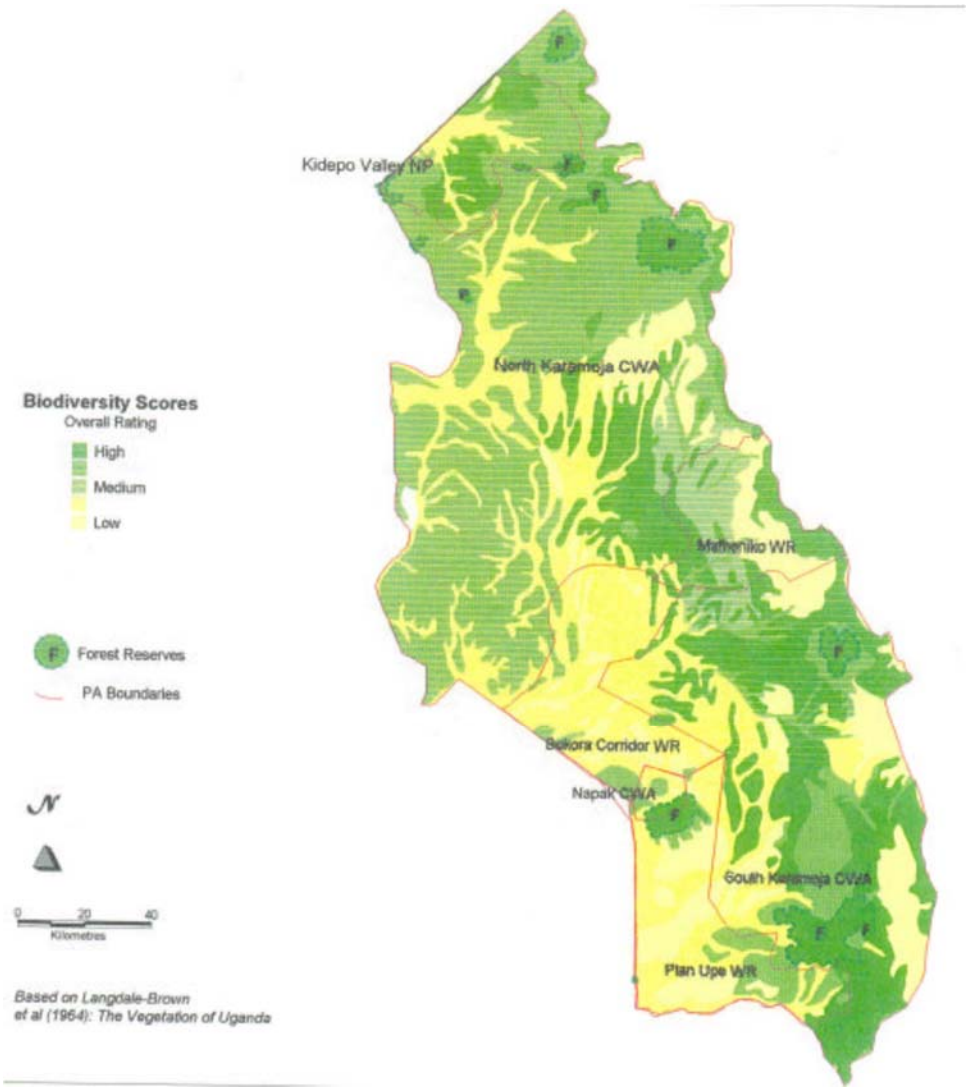


Figure 4: Vegetation **Biodiversity Scores, Karamoja**[10]

The sub-region hosts a range of other important wild tree species of potential economic value, including shea nut, tamarind, gum Arabica and Aloe vera. Local people collect a wide range of local plant species for medicinal use – which could also have potential economic benefits if sustainably harvested.

1.1.3 Targeted communities and districts

Site selection for this project took place according to a participatory approach at the start of project preparation. A set of criteria was established, ranging from socio-economic, ecological and feasibility criteria, for which data was sought from district administrations. This was

[10] Source: Plumptre,A. Nampindo,S. and Picton Phillipps,G. (undated)

combined with an assessment of available baselines, the results of the SLM workshop that took place during the second design mission, and the results of the household survey (see Annex 8 for HH-BAT methodology). Recommendations were made to the SLM committee spearheaded by the MAAIF, who finalized the site selection. The four selected districts are Kotido, Kaabong, Nakapiripirit and Moroto (see Figure 1 and Annex 15 for a summary of the site selection process). The population of the 4 districts, according to the 2014 Census Report[11], distributed as below:

S/N	District	Male	Female	Total
1	Nalaapiripirit	74,578	82,112	156,690
2	Moroto	49,746	53,686	103,432
3	Kaabong	79,207	88,672	167,879
4	Kotido	86,169	94,881	181,050
	Total	**289,700**	**319,351**	**609,051**

Livelihood Activities in Karamoja

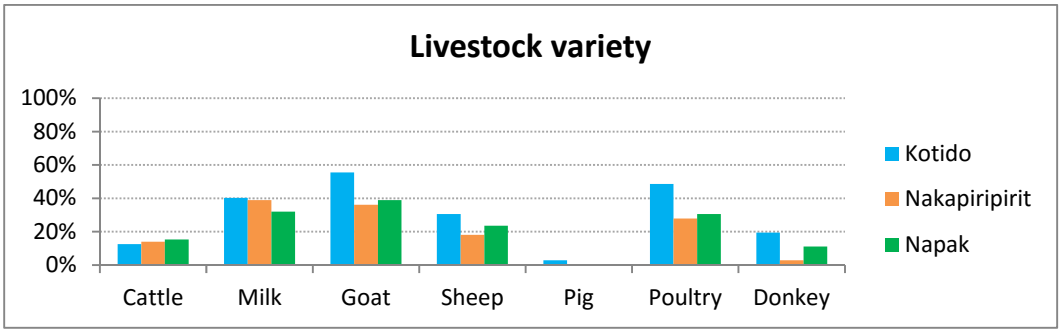
The main livelihood systems in Karamoja are pastoralist, agro-pastoralist, agricultural and urban. The most significant zone is the Central Sorghum and Livestock zone; followed by the Western Mixed Crop Farming zone; the Mountain and Foothills maize and cattle zone; and the North-Eastern highland agriculture (FAO & FEWSNET, 2013). Households depend on multiple sources of income with variations among districts and across seasons.

The most important economic activity is livestock herding (cattle, goat, camel, sheep and pig rearing, poultry) with the average herd size situated at around 30-40 cattle per herd. Livestock is the mainstay of the dryland system and is the domain of men. Given the reduction in cattle numbers and in mobility of men and herds, crop farming has gained momentum but it remains only possible for a limited period in a year. Livestock, more than crops, contributes to the coping strategies of the Karamojong in the harsh semi-arid environments, where resources are scarce all the time, and where opportunities for earning a livelihood are greatly limited.

In the project sites, the major types of livestock kept include cattle, goats, sheep, donkeys and chicken.[12] They are herded by boys in the nearby communal grazing areas in the wet seasons. In the dry season, the animals are moved to distant areas in search of better pasture and water. Communities in the Western Mixed Crop Farming zone do not practice transhumance, preferring to graze locally by pooling of livestock or tethering because of the few animals owned. Other traditional livestock management practices include castration, branding (traditional marks) and dehorning. The government also does official branding through the use of hot iron and of recent, rumen bolus. The bolus which contains an electronic chip containing the details of the owner is inserted into the rumen. A hand held device is used to read it to determine ownership in case raided cattle is recovered.

[11] http://www.ubos.org/onlinefiles/uploads/ubos/census_2014_regional_reports/Census_2014_Report_Northern_Region.pdf

[12] HH-BAT survey results (2016, see Annex 8 for HH-BAT / SHARP methodology)



Animal breeding

There are few attempts being made towards improving livestock breeds in Karamoja. This is due to the limited access to improved breeds, limited knowledge and communal grazing that makes selection difficult to carryout. However, there exists a culture of selecting choice males for all types of livestock that are left to serve the females while the poor males are culled. However, the culture of communal grazing limits the impact since not all the cattle owners do the culling of unwanted males. Also the lack of exchange of males between communities promotes in-breeding.

Animal nutrition

Livestock feed on pasture around fallowed land near settlements and communal grazing land throughout the year. Crop lands are opened for grazing after harvest from November to March and are grazed jointly with the fallows and communal grazing areas. Livestock are watered at boreholes where they exist and from wells dug on the dry river beds. Nutritional supplements for livestock are not common in Karamoja except for chicken that are occasionally fed with grain (sorghum and maize) and brewer's residue, mostly in the afternoon. However, ruminants are occasionally taken to natural salt licks located along valleys. Some farmers also gather acacia pods and fell tree branches for goats.

Utilisation of new varieties and breeds

Farmers in the region use a mix of local and improved crop varieties that are carefully selected taking climatic conditions and yield in mind. The livestock breeds kept in the region are mostly indigenous and include the Karamoja short horn Zebu for cattle, Small East African for Goats and the East African fat tailed for Sheep. A few exotic goat breeds such Boer have been introduced to the region through NGOs and Government efforts.

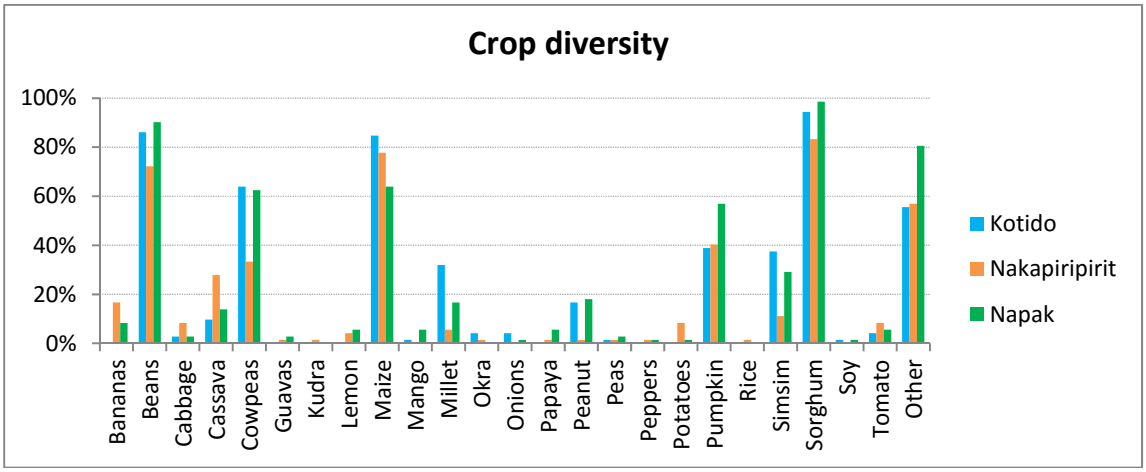
In terms of crops, sorghum is the main crop grown, followed by maize, pearl millet, cowpeas, sunflower, beans, groundnuts, and increasingly, cassava in the wetter western zones. However, the majority of the households are currently (2016) surviving on market purchase of staple foods (cereals and vegetables), wild foods, income generated from labour opportunities such as cultivation activities, firewood, charcoal and exploitation of natural resources.

Crop production and agro-biodiversity

The major crops grown are Sorghum, Maize, Sunflower, Beans, Groundnuts, Cowpeas and Green gram. Other crops include Pumpkins, Watermelon and Simsim. Pearl millet (Bulrush) is an important food security crop in the Central Sorghum and Livestock zone of Kaabong District. A few perennials like bananas, oranges, lemons and pawpaw are grown in the wet belt. Cassava is gaining popularity in the wet belt.

The varieties of crops grown are a mix of local and improved varieties that are selected by farmers for their resistance to drought and yield. The seeds are mostly sourced from the local

markets. Few farmers source their seeds from own harvest. This is because farmers consume all their harvest and sometimes the crops fail completely, requiring buying seeds each season.



Leguminous plants

These are a very important part of the Karamoja farming system. The legumes are basically planted for food. Common types include Field Beans, Cowpea, Groundnuts and Green gram. Dolichos lablab is popular in Kotido district where its seeds are a local delicacy. Pigeon pea is common among communities in the wet belt. Communities are not aware of the ability of legumes to improve soil fertility. An important knowledge gap that will be addressed by this project.

Pest management practices

Respondents reported that they use cultural practices for pest control such as thinning, weeding and crop rotation. Other households reported manually catching the pests found on the crops as a way of pest management and a few respondents reported using bio-products such as ash and neem extracts. The reason as to why they use these is they are less costly than synthetic pesticides.

Fertilizers

Commercial fertilizers are not used in the region on account of limited awareness about them and fertilizer use in general. The households do not use synthetic fertilizers because they are not available, very expensive and are only found in urban areas far away. Though there exists a lot of animal dung that could be used as a source of manure, a few farmers use it for kitchen gardens. Plant residues and weeds are also left to decompose in the fields in order to improve soil conditions. A majority of farmers use cover crops such as cucumber, pumpkins and water melon in their crop stands. The cover crops are considered by the community as more of a food source than fertility provider.

Weed species and management

Weeds are increasingly becoming a problem to the farming system in Karamoja. Control of weeds is the most costly item on the crop production calendar. The common method used for the control is hand weeding, which is slow. This means weeding is often done late and some fields are not even weeded. The impact of weeds on cropping is thus enormous. Additionally, the problem is aggravated by the appearance of invasive weed species such as parasitic Striga

where soil fertility has been depleted. The weed is causing total grain yield losses in some areas. The project will include low input weed control measures in the FFS curricula.

Land access

Interviews showed that many households own private land that was sufficient for their crop farming. They also had access to a sizeable amount of communal land mainly for purposes of grazing livestock. Off farm activities such as charcoal burning, firewood collection and hunting are practiced on communal land. Communities around wildlife reserves are allowed to graze their animals within the reserves. Female headed households had limited access to land compared to the male headed households.

Soil quality and land degradation

Generally soil degradation is on the increase in the region and the major drivers are soil erosion on sloping land, and deforestation /loss of protective cover and increased pest and weed competition.

Communities in Karamoja culturally practice some land management for restoring fertility. When cultivated land is exhausted, they leave it fallow for a season and move to a new land area. Planting is done during land opening (first ploughing), where seed is broadcast and then ploughed in by oxen or dug using hand hoes. Crop rotation and intercropping are also widely done with hardly any crop planted on pure stand. Sorghum, maize and sunflower are commonly grown in a mixed stand. A few trees are left in the fields during land clearing. The most common SLM practices in the surveyed districts are reflected below.

Table 2: Sustainable land management practices by head of the household in three districts of Karamoja sub- region

Sustainable land management practices by head of the household												
Practice	Kotido				Nakapiripirit				Napak			
	Males	%	Females	%	Males	%	Females	%	Males	%	Females	%
Liming	1	2%	0	0%	0	0%	1	5%	0	0%	0	0%
Fallowing	29	58%	14	64%	31	61%	9	43%	33	62%	13	68%
Zero tillage	27	54%	11	50%	11	22%	4	19%	16	30%	5	26%
Crop rotation	36	72%	17	77%	33	65%	13	62%	39	74%	19	100%
Wind break hedge	10	20%	4	18%	9	18%	5	24%	7	13%	2	11%
Intercropping	43	86%	19	86%	46	90%	18	86%	46	87%	19	100%
Mulching	21	42%	13	59%	29	57%	13	62%	26	49%	12	63%
Manuring	15	30%	11	50%	16	31%	8	38%	15	28%	9	47%
Vegetative strips	20	40%	4	18%	10	20%	4	19%	27	51%	9	47%
Agroforestry	30	60%	12	55%	19	37%	10	48%	17	32%	10	53%
Gully control	2	4%	2	9%	12	24%	5	24%	6	11%	3	16%
Terracing	0	0%	0	0%	6	12%	3	14%	6	11%	2	11%

Other income generating activities

A small percentage of households are engaged in salaried employment, while the most vulnerable depend on borrowing and food assistance. A majority of households and individuals engage in petty trade such as selling firewood or charcoal, brewing and agricultural labouring. Women fetch water in towns to earn a living and this is increasing their leverage as "bread winners" for the family. The men also harvest grass and bamboo for sale, brick making and construction.

The major sources of income were sale of forest products (firewood and charcoal), crafts and casual labour. This is because the normal income sources such as agricultural production and livestock did not perform as a result of a poor season in 2015 and low livestock numbers. Bee keeping is popular in Mountainous areas of Kamion, Tapac, Katikekile and Moruita Sub Counties. Gold mining was reported in Sidok and Katikekile Sub Counties and marble quarrying in Tapac and Katikekile Sub Counties. The project will support promising income generating activities such as bee-keeping and the sustainable production of charcoal.

Mineral resources
Karamoja is a land richly blessed by mineral resources: small and medium-scale mining has been taking place since 2010. As a result, some economic benefits have been generated in the areas where operations are undertaken. Various economic activities have emerged for those who service the mining activities by providing food and general merchandise. Those who work in the mines spend money on clothes, medical care, and food, and such expenditure has stimulated the local economy. However, land is being taken-over by mining activities, which reduces the land available for pasture and crop growing. The discovery of mineral resources has led communal land to become more vulnerable to individuals and corporate entities rushing in to acquire land for mineral exploration, mineral exploitation and other commercial activities.[13]

Resilience
Climate resilience is the resilience of a system or part of a system to climate-related shocks and stresses. It is the ability to survive, recover from, and even thrive in changing climatic conditions.[14]

Resilience is defined here as the ability of a system to recover, reorganize and evolve following external stresses and disturbances (Adger, 2000; Carpenter *et al.* 2001; Gunderson and Holling, 2002; Walker *et al.* 2004). Following this definition, the 'Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists' (SHARP) tool defines resilience as the ability of a system to recover, reorganise and evolve following external stresses and disturbances. Therefore, it suggests that there are benefits to conceptualizing resilience as both an outcome and inherent ability to adapt.

The SHARP tool was used during the project preparation phase to perform a baseline assessment of resilience in Karamoja, and will serve as a Monitoring and Evaluation tool to measure resilience for food security. The assessment of resilience, strengths and weaknesses of the households was conducted according to four subsets of resilience questions/indicators namely:

- **The production system and practices** section focuses on the resilience of agricultural production systems, and more specifically: type of production, crops and livestock practices; animal/livestock breeding and nutrition, tree planting, agroforestry, record keeping, utilisation of new varieties and breeds; access to information on climate change, farming practices; pest management practices; synthetic pesticide use.

- **The Environmental resilience section** addresses issues of use and management of natural resources and sustainable management practices including: water access, water conservation techniques and practices, water quality, land access, soil quality and land

[13] Adiba *et al* (2016), Enhancing Tenure Security for Customary Lands and Natural Resources in Karamoja Region through Participatory Community Mapping, Paper prepared for presentation at the "2016 World Bank Conference on Land and Poverty" The World Bank - Washington DC, March 14-18, 2016
[14] ACCCRN, online acccrn.net/

degradation, land management practices, leguminous plants, buffer zones, fertilizers usage, and weeds and management.

- **The Social resilience section** looks at determinants of social resilience among the households, in particular: the degree of social interaction, as assessed by group membership behaviour, food security and nutrition level, involuntary resettlement and displacement, impacts from shocks and disasters.

- **The Economic resilience** is concerned with the major productive assets, decision-making, market prices and access, income sources, and general financial status. Questions related to economic resilience give an outline of the financial status of agricultural households, gathering information on sources of income, savings and markets.

In order to evaluate the level of resilience, SHARP combines a participatory self-assessment component with an academically rigorous, quantitative assessment of resilience. It uses a holistic approach to resilience, allowing farmers and pastoralists to express their perceptions on adequacy of and importance of different aspects of their livelihood, and drives for locally customized adaptation strategies. Each survey question cluster is used to assess the relative resilience of a specific aspect of the farm system.

The assessment was conducted in Kotido, Nakapiripirit, Kaabong, Moroto and Napak districts providing the following resilience levels. Summary results are presented in Table 3 below, with the detailed report available in Annex 8.

Table 3: Resilience levels per four subsets of questions per male and female-headed households[15]

Kotido					
	Agriculture Practice	Environment	Social	Economic	Average
Male	10.55	11.80	10.53	12.14	11.25
Female	9.80	11.25	8.91	11.10	10.27
Nakapiripit					
Male	10.13	11.96	9.32	12.98	11.10
Female	8.99	11.34	8.54	10.89	9.94
Napak					
Male	10.89	12.20	9.98	11.24	11.20
Female	12.347	12.34	8.96	11.54	10.65
Kaboong					
Male	10.32	11.85	9.61	12.69	11.12
Female	10.03	11.89	8.76	11.79	10.622
Moroto					
Male	11.22	12.09	9.85	12.76	11.48
Female	10.41	12.47	9.50	12.52	12.23

Resilience levels are on average below 15 out of 30, which shows a very low overall resilience of Karamojong communities. Within the agricultural production systems section, the households surveyed registered even lower resilience levels, with an average score of 10.45, which shows the important contribution of the agriculture sector to overall resilience.

[15] The average resilience level for each question/indicator, (production; environment; social; and economic) was calculated through the sum of the quantitative assessment of resilience - academic score (10); and the qualitative assessment - self-assessed importance (10) and the self-assessed adequacy of any given farm system component (10), 30 being the maximum resilience score any respondent can reach. The resilience level is considered low when the indicator is rated below 15/30, i.e. at the middle of the scale; while resilience is assessed as high when such an indicator is scored above the threshold. Additionally, the maximum value of importance an individual can provide to an indicator is 10; therefore, a score below or above 5, would signal low or high importance respectively.

In terms of gender differences in the level of resilience, female-headed households are perceived as less resilient in almost all indicators, with the exception of the environment indicators. Women scored highest in the environment probably because they are responsible for water collection whose quality and quantity has improved over time. Women's relative advantage for accessing land may be explained by the fact that women, like men, have access to community land. Male-headed households, on the other hand, are notably more resilient in the context of economic, social and agricultural practices.

The Socio-Cultural Set up

The Karamojong have immeasurable pride in their traditional way of life and maintain a distinct cultural identity from the other tribal groups. Life is communal with families, clans and close relatives living together in same homesteads (Manyatta). Clans are reckoned by patrilineal descent and traditionally, authority and decision-making powers are wielded by the council of elders, the Ngigetei (warriors) and the Ngimoru (elders). However, with the introduction of the Local Council political governance system, the authority of elders has relatively weakened.

Land is communally owned under the custodianship and guidance of the elders and clan leaders. Much of the land is used for pasture and subsistence agriculture, with some reserved for traditional shrines. Until recently, pastoralism was the dominant economic livelihood for the Karamojong. Livestock ownership was a symbol of food and economic security as well as social and cultural status. Crop cultivation was a secondary activity, but has increasingly been encouraged by Government, thus has assumed more importance with the reduction of livestock numbers, due to the recent period of insecurity. While the men were nomadic warriors, the women stayed at one central settlement looking after small farms, animals and children.

Today, men still have greater influence over the livestock sector, especially large animals, while women are responsible for their household's food security, hence food production, as well as for caring for ruminants, young offspring and milking. Women also look after sick and elderly people and are responsible for the construction of houses, water and firewood collection and for assuming community roles. The young men are more concerned with processing of skins and hides. Following the loss of cattle, disarmament, and due to the effects of climate change, Karamojong have observed changing gender roles and other socio-cultural changes, such as women engaging in informal income-generating activities, such as making and selling local brew, and men engaging in house construction and sometimes helping on crop production, formally a domain for women, in order to support their families. Both husband and their spouse jointly make decision-making at household level. Women are also involved in community decision making as well as taking up leadership positions, which is illustrative of relative improvement in women empowerment in the region.

Social Services

With the impetus of reducing regional disparities, the government introduced equalization grant and special programmes. Such programmes include the Karamoja Integrated Disarmament and Development Program (KIDDP); the Peace, Recovery and Development Plan (PRDP); the Northern Uganda Social Action Fund (NUSAF), Karamoja Livelihoods Programme (KALIP) and Northern Uganda Agricultural Livelihoods Recovery Programme (ALREP). A lot of support has also come from bilateral and multi-lateral development partners, as well as national and international NGOs/ CSOs and faith-based organizations.

Such interventions have contributed to the improvement of social services, though a lot has yet to be done. In education, the net enrolment rate (NER) for primary education increased from

30.7 % to 54.9 % between 2005/6 and 2012/13 and female enrolment improved from 32.8 % to 57.4 % in 2009/10. These milestones notwithstanding, Karamoja registers the lowest literacy rates in Uganda at 12 %. Besides limited financial and physical challenges; cultural factors are critical impediments. School drop-out rates are higher among girls than boys, mainly because of early pregnancy or because they are retained at home to assist their mothers with household chores. In some instances, boys have to look after smaller livestock, which prevents them from attending school, where sustainable agricultural practices are taught in order to indirectly improve household food security.

Health Services

Karamoja suffers from the highest maternal and child mortality rates in Uganda. Infant mortality rate (IMR) stands at 140/1000 compared to the national average of 85/1000.[16] Maternal mortality rate stands at 700 per 100,000 live births compared to the national average of 435 per 100,000. The high maternal mortality rates in Karamoja are made worse by the continued practice of female genital mutilation (FGM) in some communities in spite of anti-FGM legislations.

According to the 2011 Uganda Demographic and Health Survey (UDHS), the use of contraceptives of any form stood at 8 % in Karamoja, compared to 48 % for Kampala. The 2011 UDHS also indicated that Karamoja had the highest percentage (71 %) of mothers with live births delivering at home, compared to only 6.7 % in Kampala. Only 29 % of deliveries are assisted by a health professional, compared to 58 % nationally. On average, 24 % of the population have access to health care, compared with the national average of 72 %. The most prevalent diseases, some of which undermine food security and nutrition include malaria, meningitis, diarrhoea, cholera and skin diseases.

Sanitation

Karamoja had the lowest sanitation coverage in the whole country, with an average of 27 % in 2012/13 compared to the national coverage of 83%. However, the most significant improvement has been achieved in the Abim District, which stood at 50.3 % of sanitation coverage in 2014. For cultural reasons, households are reluctant to share facilities with in-laws or between men and women. Hygiene measures have not been embraced, which is not only undermining household hygiene and nutrition, but also escalating the prevalence of waterborne diseases, such as cholera and hepatitis E.

Water access in Karamoja

Interviews conducted as part of the household survey, showed that the major water sources in Karamoja were boreholes, which serve both for livestock and human consumption, followed by the rivers and lastly the sand dams in riverbeds, built with the help of NGOs in some of the areas. Exception is for rural growth centres (trading centres) and a few areas where the major water source is piped water.

Interviews showed that the water access in Karamoja is insufficient as the boreholes are few compared to the population of both humans and livestock. The frequent borehole breakdown worsens the situation leading to communities resorting to the poor quality water from rivers and Chaco dams.

Water conservation techniques

[16] Uganda Demographic and Health Survey 2011

The practice of water conservation in Karamoja is very low. However the use of cover crops such as cucumber, pumpkins and local watermelon is widely practiced. A few farmers reported using contoured water retention ditches, trash lines and stone bunds which was not considered very effective in terms of retaining adequate water -on farm. Chaco dams were also constructed by communities with the support of NGOs and government. Graded ditches were used by some households to lead away water from flooded fields.

Water quality
Respondents reported that the water quality in Karamoja is generally good. Most of the water is collected from boreholes. However, respondents reported that the water collected from the rivers and dams is of poor quality because of open defecation and poor practices such as direct watering of animals in and around the dams and rivers. Dams are also prone to pollution with eroded sediments.

1.1.4 Food insecurity in Karamoja

Food security is defined as a situation in which "all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life". Nutrition security exists when "all people at all times consume food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care" (FAO, 2005).

According to the Uganda Nutrition Action Plan 2011 (UNAP), inadequate dietary intake is cited as the main driver of malnutrition caused by: low intake of food levels especially due to seasonality in food production, earning patterns, and variability in food prices; inadequate maternal and child care, and poor access to health care; and micronutrients deficiency particularly of Vitamin A and Iron. The UNAP set the target of having "75 % of the dietary energy consumption provided from foods other than cereals and starchy foods by 2016". Overall, 2 % of Ugandans are food poor while 38 % are Food Energy Deficient (38%). Female-headed households (4%), those living in rural areas (2%) as well as those in the Northern region (5%) are more likely to be food poor compared to other regions. Across all regions, the peak in food consumption from own-production corresponds to the end of the respective harvest seasons, with a few notable exceptions.

Many parts of Karamoja are chronically food insecure, with 36.9 % of children stunted due to insufficient food (WFP & UNICEF, 2014). At the national level, 6.3 % of all Ugandans face some form of food insecurity at one point or another during the year, in Karamoja, this category accounted for 56 % in 2014 and only 13 % of households were able to meet their needs for cereals, tubers and vegetables from their own cultivation (Ibid). The proportion of those who could only afford one meal per day declined from 40 % in 2012 to 27 % in 2013 (DDG 2014). Out of the 47% who were supported to earn some income, 41% were able to use their income to meet their basic needs and 50% were able to save a proportion of their income. 70% of the typical household's expenditures were spent on food. In addition, 49% of households reported debts, and that 70 % of these debts arose because of the need to meet food requirements.[17]

[17] These statistics come from the Food Security and Nutrition Assessment conducted by WFP & UNICEF in 2014, in all the seven district of Karamoja sub-region with a sample of 4,105 households.

Food security levels vary during seasons, between years and across districts. Men, often energetic youth locally known as karachunas, and their livestock seasonally move between wet and dry season grazing areas. During such times, women, children and elders remain behind in the manyattas (semi-permanent homesteads) rearing goats and sheep and operating back yard gardens using water from boreholes and ponds. But in terms of time use, women usually combine communal livestock watering with collecting fodder, bathing, feeding, cleaning, shed, delivering milk, socializing, taking rest and medicine administration. Within the domestic sphere, cooking, feeding, child caring, washing utensils, and clothes, house cleaning also have water use implications for women and the provision of food, which implies that there is a close interconnection between water for domestic and agricultural production.

Results from the household survey that measured food insecurity situation through the food insecurity experience scale[18] indicate that 92% of interviewed households are in moderate to extreme food insecure situations.[19] While male-headed HHs are slightly more food secure (10% of male-headed HHs do not experience food insecurity) than female-headed households (only 4% of the relative sub-sample does not experience food insecurity), 93% of female-headed HHs are under an extreme food insecurity situation, compared to 80% of male-headed HHs. These results show that there is a relationship between gender of household head and extreme food insecurity, which this project will address in its gender-specific focus.

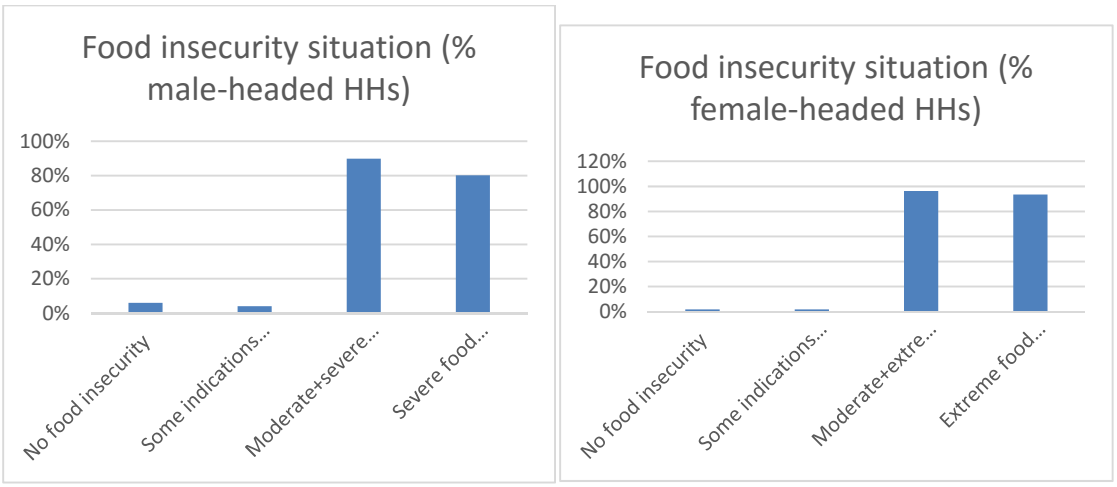


Figure 5: Food insecurity situation in Kaabong, Kotido, Moroto, Napak and Nakapiripit Districts (male and female-headed households), measured by the Food Insecurity Experience Scale (FIES)

Food insecurity in Karamoja is caused by multiple and closely related factors:

- **Limited access to food** attributed to low purchasing power and incomes, and lack of access to markets. Access to food is low and over 30% of the households incur debt to purchase food.

[18] The Food Insecurity Experience Scale (FIES), developed by the Voices of the Hungry (VoH) project, is an experience-based metric of severity of food insecurity that relies on people's direct responses. These responses are collected through eight questions regarding people's access to adequate food in the last twelve months plus two questions on the frequency of most severe situations of lack of access to sufficient food. Scale: <4: no food insecurity; ≥4: moderate+severe food insecurity; ≥7 severe food insecurity

[19] Sample size: 384 households Kaabong, Kotido, Moroto, Napak and Nakapiripit Districts, 277 male-headed households and 107 female-headed households

- **Food availability** associated with inadequate food production as a result of drought/low rainfall, inadequate key agricultural inputs, pests and diseases and diminishing livestock productivity, and in some cases, losses of crops due to floods.
- **Food consumption and utilization**: Inadequate preparation, which destroys nutrients.

Malnutrition trends

Compared to the rest of Uganda, Karamoja consistently has the highest prevalence of malnutrition: in 2014, 32 % of children were undernourished, 7 % were wasted and 45 % were stunted. Apart from Abim, the prevalence of malnutrition in other districts increased especially with Moroto registering the worst prevalence of global acute malnutrition in 2014.[20] In June 2014, the rate in Moroto was 20 %, meaning that one fifth of the district's children were malnourished. Overall, the prevalence of anemia in children was 58.9% and was above 40% among mothers, while prevalence of underweight mothers in Karamoja was 24.7%. Malnutrition prevalence in extremely vulnerable households (EVH) households was also significantly lower than in non-EVH households in 2014.[21]

The Household Dietary Diversity Score (HDDS), measured within the household survey and consists of a simple count of food groups (from zero to twelve) that a household has consumed over the preceding twenty-four hours. Data collected can also be analyzed to provide information on specific food groups of interest. HDDS is meant to reflect, in a snapshot form, the economic ability of a household to access a variety of foods. The results show that most households consume 2 (25%), 3 (35%) or 4 (23%) food groups during the day and the situation does not vary much according to gender of household head. Cereals (91%), vegetables (77%) and legumes (34%) are the most consumed food groups, regardless the gender of household head. Dietary variations between male- and female-headed households (table below) concern tubers (20% vs 29%), fruits (22% vs 12%), meat (12% vs 18%) and sugar (14% vs 9%). Finally, there is a low consumption of foods that provide animal protein. See detailed results in Annex 8 (SHARP Resilience Assessment Results).

While breastfeeding behavior within the first hour of birth and exclusive breastfeeding rates among infants were commendable, complementary feeding was low. Explanatory factors for malnutrition in children indicated that household socioeconomic status, food security, maternal nutrition, education level (household access to life skills and information on nutrition and diet) and fertility status, household ownership of cattle and latrines were all factors influencing nutrition status. In addition, there are factors negatively influencing care and feeding practices, including poor sanitation, poor child care practices, low feeding frequency, poor dietary diversity, and poor food preparation methods, low per capita water usage below 15 litres per person per day and poor food storage. While causes differ between districts and households, the main causes of malnutrition include: poor care and feeding practices; limited access to safe sanitation; high morbidity rates (childhood diseases especially malaria and diarrhoea); limited access to health care; poor level of hygiene; limited access to an improved water source and limited treatment of water.

Hazards and Stresses Undermining Food Security

The communities, especially the small-scale farmers, are stressed by multiple and closely related hazards and stresses increasing their vulnerability to food insecurity. These can be grouped under the following five categories namely:

[20] Food Security and Nutrition Assessment conducted by WFP & UNICEF in 2014

[21] Food Security and Nutrition Assessment conducted by WFP & UNICEF in 2014

Environmental degradation and increasing weather / climatic variability:

- Prolonged drought and water scarcity affect household crop harvests; availability of pasture leading to reductions in milk output, loss of livestock;
- Floods lead to destruction of crops in fields and increased livestock deaths;
- Increased temperatures lead to livestock deaths and increased losses of crops post-harvest;
- Increasing land degradation and soil erosion affects forage (availability with implications on livestock production) and crop yields;
- Deforestation / tree cutting reducing the availability of fruits etc.
- Fuel wood shortage; affects women's ability to cook certain foods, for example high protein beans.

Weak Agricultural Extension Support

- Limited access to agricultural inputs, storage and extension services to mitigate crop and livestock diseases and pests, reducing crop and livestock production;
- Agricultural marketing is constrained by poor or no access roads to villages;
- Limited knowledge of SLM technologies which could support more reliable crop yields;
- Limited access to appropriate and cost effective irrigation technologies (e.g. rainwater harvesting) and water for livestock.

Land Tenure

- Limited access to land given that traditional pasturelands and migratory corridors are reserved for wildlife conservation;
- Some land increasingly being taken for mineral exploration or because of commercial developments.

Financial Capital:

- Limited access to credit or savings for embarking on commercial non-traditional enterprises by women and youth who are dependent on borrowing from traditional social networks

Socio- economic Factors:

- Poverty - low income levels and low purchasing power;
- High prevalence of malaria, ARI and diarrhoea negatively affecting labour availability, also causing severe illness and death for many children and elderly;
- Limited access to basic social services like education, health units, roads and communication;
- Poor child care and eating habits due to excessive intake of alcohol and bartering of produce with alcohol and food by using all the produce for local brew to perform local ceremonies;
- Poor planning at household level and poor storage facilities.

A detailed problem tree can be found in Annex 4.

1.1.5 Institutional context

A large number of different institutions are relevant to fostering sustainability and resilience for food security in Karamoja sub-region. These include government ministries, statutory bodies, NGOs and community based organisations (CBOs), as below:

a) Office of the Prime Minister

Office of the Prime Minister (OPM) is a Government Ministry through which the Prime Minister of Uganda provides leadership of the Ministers under the Executive arm of Government. The Prime Minister is the Leader of Government Business in Parliament established under 108 A of the 1995 Constitution of Uganda (as amended). The OPM is made up of various directorates including: Policy Coordination, Monitoring and Evaluation; Directorate of Information and National Guidance, Directorate in charge of Disaster Preparedness, Management and Refugees; Directorate in Charge of Special Programs of Northern Uganda, Karamoja, Luwero, Rwenzori and Teso Sub-Regions Affairs; and a Directorate for Administration and Finance. Office of the Prime Minister is empowered:

- To Coordinate the Monitoring and Evaluation of the implementation of Government Policies and Programmes;
- To Coordinate the implementation of Government Policies, Programmes and Projects under a National Institutional Framework;
- To Coordinate the implementation of the National Development Plan (NDP);
- To Coordinate development of capacities for prevention, preparedness, and response to natural and human induced Disasters and Refugees;
- To Coordinate and monitor the implementation of Special Government Policies and programmes for Northern Uganda, Luwero, Rwenzori, Karamoja, Bunyoro and Teso Affairs.

The OPM houses the Minister for Karamoja whose role is to provide political leadership, and is responsible for the implementation of the Karamoja Development Programme. The Karamoja Programme is meant to provide affirmative action for the socially and economically disadvantaged region of Karamoja. Under the Management of Special Programmes Directorate in the Office of the Prime Minister are several projects that are relevant to food security in the Karamoja sub-region and these include Karamoja Livelihood Improvement Programme (KALIP), Northern Uganda Agricultural Livelihoods Recovery Programme (ALREP), Peace and Recovery Development Plan (PRDP), Northern Uganda Social Action Fund II and Karamoja Integrated Disarmament & Development Programme (KIDDP).

b) The Ministry of Agriculture, Animal Industries and Fisheries

The Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) is responsible for creating an enabling environment in the Agricultural Sector. The Ministry carries out its role by enhancing crop production, improving food and nutrition security, widening export base and improved incomes of the farmers. The Ministry is the overseer of the agricultural sector where it formulates, reviews and implements national policies, plans, strategies, regulations and standards and enforces laws, regulations and standards along the value chain of crops, livestock and fisheries.

c) Ministry of Finance, Planning and Economic Development

Ministry of Finance, Planning and Economic Development is a Government Ministry which plays an important role to ensure mobilization of public resources for the whole Government. The Ministry is further charged to oversee how these resources are accounted for as they are target to benefit all Ugandans. It aims to formulate sound economic policies that lead to sustainable economic growth and development. The Ministry is organized with Directorates of Budget, Economic Affairs, Accountant General's Office and departments of Finance and Administration. The Ministry of Finance is *inter alia* mandated to:

- Formulate, review and appraise projects and programs in liaison with line Ministries and Institutions;
- Review and update of the Public Investment Plan;
- Coordinate releases of funds for both recurrent and development activities in Central and Local Governments;
- Prepare of medium and long term development plans in association with The National Planning Authority;
- Coordinate policies that promote institutional capacity and development of the public and private sector.

d) Ministry of Lands and Urban Development (MLUD)

Ministry of Lands, Housing & Urban Development is a Government Ministry responsible for all matters concerning lands, housing and urban development. It is also tasked to put in place policies and initiate laws responsible for sustainable land management aimed at promoting sustainable housing for all and fostering orderly urban development in the country.

The Ministry has several Directorates, which include: Lands; Physical Planning and Urban Development; and Directorate of Housing and affiliated institutions including the Uganda Land Commission (ULC) and National Housing Construction Cooperation (NHCC). The Ministry is mandated, among others, to:

- Formulate national policies, strategies and programmes in the lands, housing and urban development sectors;
- Initiate, review and make amendments to existing legislation in lands, housing and urban development sub–sectors;
- Set national standards for matters regarding sustainable use and development of land and provision of safe, planned and improved housing/human settlements;
- Monitor and coordinate initiatives in the local governments as regards the lands, housing and urban development sub=sectors;
- Provide support, supervision and technical back-stopping to local governments on matters regarding lands, housing and urban development.

e) Ministry of Water and Environment

Ministry of Water and Environment is a Government Ministry to ensure provision of quality water and environmental protection services in the country. This Ministry is one of the key social service delivery sectors charged with management and sustainable utilization of water and environment resources for the betterment of the population of Uganda. The Ministry has Directorates that include; Water Resources Management, Water Development, and Environmental Affairs and affiliated institutions like National Water and Sewage Corporation (NWSC), National Environment Management Authority (NEMA), National Forestry Authority (NFA) to carry out its role. The role of this Ministry is to oversee a number of areas that include: development of public sanitary facilities, promotion of good practices of hygiene and sanitation in small towns and rural growth centres, water for production both on farm and off farm, water use and management of industries, commerce, wildlife and tourism. The ministry has the mandate to:

- Ensure good management and sustainable utilization of water and environment resources;
- To improve the quality Water resources for population;
- To ensure better access of water and environment resources in all parts of the country.

The National Water Resource Strategy in place and the Directorate of Water Resources Management (DWRM) de-concentrated the water resources management into four regional Water Management zones aimed at mobilizing local communities and other stakeholders to achieve catchment-based integrated water resources management. Catchment-based integrated water resources management is supported by the following operational documents including: WMZ operations manual, catchment planning guidelines and Water Source Protection Guidelines and EIA guidelines. A framework for catchment based water resources management is in place, including:

- A Catchment Stakeholders Forum (CSF), gathering representatives of all key stakeholders in the catchment, at least once a year;
- A Catchment Management Committee (CMC), composed of high level officials representing (local governments, NGOs, Private sector etc) responsible for coordinated planning and implementation;
- Catchment Technical Committee (CTC), composed of technical staff from key stakeholders to support the CMC during planning, management and development of water and related resources in the catchment; and,
- A Regional Water Dialogue supported by FAO takes place annually and is composed of donors, CSOs and local government to share lessons and best experience, though most of their activities are not coordinated.

f) Ministry of Local Government

The Ministry of Local Government is a Government Ministry responsible for guidance and overall vision of Government in local governments. The Ministry oversees the Government structures and operations at local levels in Uganda such that they are harmonized and supported to bring about socio-economic transformation of the whole country. It is composed of two Directorates of Local Government Administration and Inspection works towards sustainable, efficient and effective service delivery in the decentralized system of governance. The ministry has the mandate to:

- To inspect, monitor, and where necessary offer technical advice/assistance, support supervision and training to all Local Governments;
- To coordinate and advise Local Governments for purposes of harmonization and advocacy;
- To act a Liaison/Linkage Ministry with respect to other Central Government Ministries and Departments, Agencies, Private Sector, Regional and International Organizations;
- To research, analyse, develop and formulate national policies on all taxes, fees, levies, rates for Local Governments.

i) The Ministry of Gender, Labour and Social Development

The mandate of the MGLSD is to improve the wellbeing of vulnerable groups through community empowerment, the promotion of labour productivity and employment, and the enhancement social protection and gender equality. The major focus of the Ministry has been on mobilizing communities, disseminating information on social services and employment opportunities, transmitting non-formal skills, promoting labour productivity and employment as well as social protection for sustainable and gender responsive development. The Ministry also oversees the implementation of several policies, guidelines, laws, and standards in relation to its Mandate, including:

- Uganda National Gender Policy (2007);
- National Equal Opportunities Policy;
- National Employment Policy;

- National Policy on Older Persons, and
- National Policy on Disability.

Government Agencies

i) National Agricultural Research Organization (NARO)

NARO comprises of the council as its governing body, committees of the council as its specialized organs, a secretariat for its day-to-day operations with the semi-autonomous public agricultural research institutes under its policy guidance. NARO's Goal is "to enhance the contribution of agricultural research to sustainable agricultural productivity, sustained competitiveness, economic growth, food security and poverty eradication." NARO's mandate is coordinating, overseeing and guiding agricultural research in Uganda. NARO has the following functions:

- The provision of grants to associate institutes and persons desirous of carrying out research and training programmes which are consistent with national research priorities and plans of the organisation;
- The determination of resource requirements and approval of medium- or long-term research strategies and plans;
- Ensuring the dissemination and application of research results; and any other activity conducive or incidental to the attainment of the objects.

Under S.17, the organisation operates research institutes specified in the Third Schedule of the Act and others that may be established. The research institutes have a role to identify production, policy, market, processing and utilization constraints in the fields of agriculture, livestock, fisheries and forestry, and prepare short and long-term research programmes within the framework of the national agricultural research strategy and plan.

ii) **National Agricultural Advisory Services Organization (NAADS)**

The NAADS is a semi-autonomous public agency within the Ministry of Agriculture Animal Industry and Fisheries (MAAIF), responsible for public agricultural advisory/extension services. The National Agricultural Advisory Services (NAADS) 25-year Programme was created in 2001 by an Act of Parliament to specifically address constraints of lack of access to agricultural information, knowledge and improved technology among rural poor farmers in the country. NAADS objectives are as follows:

- To promote food security, nutrition and household incomes through increased productivity and market oriented farming;
- To empower all farmers to access and utilise contracted agricultural advisory services;
- To promote farmer groups to develop capacity to manage farming enterprises;
- To create options for financing and delivery of agricultural advice for the different types of farmers;
- To catalyse the participation of the private sector to fund agricultural advisory services.

NAADS has the mandate to manage Agricultural Inputs, Support Strategic Interventions, Agribusiness Development and Value addition. Interventions under the NAADS programme have been implemented in Karamoja sub-region, starting in Nakapiripirit and rolling out into other districts.

Following the 2014 reform of the agricultural extension system, the Government restructured NAADS leading to, among others, refocusing its mandate to support the management of agricultural input distribution processes and strategic interventions for value chain development focusing on the upper end of the commodity chains. The reforms paved way for a single spine

mode of extension approach to be implemented directly under MAAIF. The reforms also included creation of a new Directorate of Agricultural Extension Services (DAES) under MAAIF. Currently MAAIF is developing a National Agricultural Extension Policy and its five-year implementation strategy to guide operationalization of the policy. In the meantime, NAADS continues to be engaged under Operation Wealth Creation (OWC), an initiative by the Office of the President aimed at improving rural household incomes, and in which the national army (UPDF) is providing support to the coordination of extension and input provision activities at community level. The OWC initiative is being implemented in a collaborative manner between various Government ministries, departments and agencies.

iii) National Forestry Authority (NFA)

The National Forestry Authority was established under the National Forestry and Tree Planting Act 2001, as a Government parastatal responsible for the management of Central Forest Reserves. The NFA is under the Ministry of Water, Lands and Environment (MWLE) and is headed by a Board of Directors appointed by the Minister.

Some of the functions of the Authority include:

- Develop and manage all central forest reserves;
- To establish procedures for the sustainable utilization of Uganda's forest resources by and for the benefit of the people of Uganda;
- To enter into an agreement or other arrangement with any person, for the provision of forestry services, subject to such charges as may be agreed upon.

NFA is important in controlling domestic use of forests in Karamoja sub-region to ensure environmental conservation.

iv) National Environment Management Authority (NEMA)

The National Environment Management Authority is a semi-autonomous institution, established in May, 1995, under the National Environment Act, Cap. 153, and became operational in December, 1995, as the principal agency in Uganda, charged with the responsibility of coordinating, monitoring, regulating and supervising environmental management in the country. NEMA's Goal is "to promote sound environment management and prudent use of environment and natural resources in Uganda". NEMA spearheads the development of environmental policies, laws, regulations, standards and guidelines and guides Government on sound environment management. NEMA thus has a great role to play in ensuring environmental conservation to enhance farming productivity in Karamoja.

v) National Planning Authority (NPA)

The National Planning Authority was established by the NPA Act 15 of 2002 as an administratively independent agency affiliated to the Ministry of Finance, Planning and Economic Development (MFPED). It is mandated to produce comprehensive and integrated development plans for the country elaborated in terms of the perspective vision, and long- and medium-term plans. It is also responsible for overseeing the implementation of the five-year National Development Plan (NDP) and Uganda's new development blueprint dubbed Vision 2040. Since Uganda's economy is still agrarian, most of the key NDP II strategic results have are contributed to by the agricultural sector. Thus there is need for coordination with NPA to implement the Food Security Strategy and this linkage can also be exploited through alignment of the GEF project activities with the Agricultural Sector Strategic Plan.

vi) **District local governments**

Local governments are empowered to undertake control and protect natural resources within their jurisdiction from degradation. Further, S 38 of the Local government Act Cap 243 gives District councils the mandate to make Ordinances in respect to particular issues in there governance. The districts that make up Karamoja sub-region include Moroto, Kotido, Nakapiripirit, Abim, Napak, Amudat and Kaabong. Through their administrative structures, they support government by implementing the different policies and laws including those targeting agricultural productivity and food security.

1.2 THE CURRENT SITUATION

1.2.1 Main environmental threats

According to the National Development Plan II (GoU, 2015) Uganda's environmental resources are threatened by "poverty, rapid population growth, unplanned urbanization, expansion of informal settlements, industrialization and the impacts of climate change and variability among others". The two most serious threats in Karamoja are ***land degradation*** and ***climate change***, including increasing weather variability, frequency of extreme events and longer-term changes.

Land degradation and loss of ecosystem services

Productive land and soil are critical natural capital assets essential for agricultural productivity, conserving biodiversity and the provision of ecosystem services (provisioning, regulating, supporting and cultural). For those communities that rely heavily on land as their main source of livelihood, particularly the rural poor, human health and wellbeing are completely dependent upon and intricately linked to the health and productivity of the land. Thus, the vital functions of land and soil underpin the nexus of food, renewable energy and water security.

Land degradation refers to any reduction or loss in the biological or economic productive capacity of the land (UNCCD, 1994) caused by human activities, exacerbated by natural processes, and often magnified by the impacts of climate change and biodiversity loss.

The loss of traditional grazing grounds, brought about by insecurity, drought, and restrictions on cattle movement (e.g. from conservation areas), has increased the concentration of cattle, and contributed to encroachment onto lands more suitable for cropping, during the wet season. As grazing ground decreased, forests on mountain slopes were burned to convert them into grazing ground. This reduced the forest cover's contribution to rainfall regimes.

Furthermore, the cessation of annual burnings accelerated the growth of termite and harvester ant populations. Harvester ants destroyed the plant cover and, with exposure to the sun, the loss of soil moisture followed. The cumulative result of this process of erosion was a complete change in the land cover, grass savannah changed into huge expanses of barren soil punctuated with shrubs. This had led to widespread sheet erosion of the biologically active top soil and the loss of much potential soil moisture.

The current key impacts are outlined in Table 4.

Table 4: Land Degradation in Karamoja sub-region

Key Issue	Causes	Details	Affected Ecosystem Services
Decline in natural vegetation cover (biomass)	Over-harvesting of woody biomass	• For fencing, homestead construction, firewood, charcoal • Reduction in shade and shelter	• Provisioning – fuel • Regulating - climate regulation • Cultural - sacred groves as reservoirs

Key Issue	Causes	Details	Affected Ecosystem Services
	Overgrazing	• Particularly around permanent watering points, riverbanks etc.	• Provisioning - animal feed • Regulating - erosion control; water flows and quality; • Supporting - soil formation; soil protection, nutrient cycling; water cycling; habitat for diversity
	Uncontrolled bush burning	• Land users burn bush to encourage fresh growth of grasses / to clear pests (ticks, snakes) / ease hunting – but often this is done at inappropriate times of year • Also linked to harvesting of honey by bee-keepers – who use fire to control wild bees.	• Provisioning - fuel; animal feed; genetic resources • Regulating - erosion control; climate regulation; natural hazard regulation; water flows and quality; pollution; • Supporting - soil formation; soil protection, nutrient cycling; water cycling; habitat for diversity
	Under-grazing (also termed underutilization," or "over-rest.")	• Livestock numbers much lower than usual – due to impacts of insecurity and disease – <50% HHs own animals • Leads to the reduced vigour and reduced competitive-ness of desirable plant communities. Native grasses and forbs are disadvantaged to other plants such as weeds, plant communities change and diversity generally declines, and the nutritional value and forage volume of a landscape declines for all grazing species, wildlife included	• Provisioning - animal feed • Regulating - erosion control; climate regulation; natural hazard regulation; water flows and quality; pollution; • Supporting - soil formation; soil protection, nutrient cycling; water cycling; habitat for diversity
Soil degradation	Decline in physical properties	• Change on soil structure and texture is linked to erosion, decline in SOM and vegetation cover – leads to surface crusting, reduced rainwater infiltration, storage and increased surface run-off – in places leading to flash flooding (which accelerates erosion) • Also caused by repeated tillage	• Regulating - erosion control; natural hazard regulation; • Supporting - soil formation; soil protection, water cycling;
	Degeneration of soil organic matter content	• Often linked to tillage of fragile soils in hot, dry environments • also due to loss of vegetation cover due to overgrazing, trampling etc. • reduces water and nutrient holding capacity, thus leads to decline in productivity	• Provisioning - food and nutrients; • Regulating - erosion control; water flows and quality; • Supporting - soil formation; soil protection, nutrient cycling; water cycling;

Key Issue	Causes	Details	Affected Ecosystem Services
	Nutrient "mining"	On croplands – where land users not applying any or sufficient organic or inorganic nutrients to restore nutrients removed in harvested crop produce and residues – leading to progressive decline in crop yields	• Provisioning - food and nutrients; • Supporting - soil nutrient cycling; •
	Erosion	• Removal of topsoil rich in nutrients by rainwater (splash, rill and sheet erosion) and wind in exposed sites (leaving less fertile subsoil – reducing soil productivity • Gullying where runoff water is channelled on fragile soils and unprotected waterways. Leads to increased sediment load of water courses, silting of ponds, dams and other watering points - reducing their longevity and undermining the investment in water storage infrastructure.	• Provisioning - food and nutrients; • Regulating - erosion control; natural hazard regulation; water flows and quality; pollution; • Supporting - soil formation; soil protection, nutrient cycling; water cycling;
Loss of biodiversity	Reduction in plant genetic resources (varieties and species)	• Selective harvesting of species for charcoal, construction etc. • Reduction in indigenous species providing useful products for harvesting/ gathering (non-wood forest products, fruits, nuts, fibres, medicinal and cosmetic products etc.) Reduction in local crop varietal and species diversity due to Government and private sector promotion of specific seeds/germplasm and lack of support for local selection, multiplication and use.	• Provisioning - food and nutrients; animal feed; genetic resources • Regulating - erosion control; climate regulation; natural hazard regulation; water flows and quality; pollution; pest resistance • Supporting - soil formation; soil protection, nutrient cycling; water cycling; habitat for diversity • Cultural - traditional practices, sacred groves as reservoirs
	Reduction in wild and domestic animal genetic resources and breeds	Increasing pressure on expansive nature and forest reserves (livestock grazing, hunting, clearing for firewood etc.) due to land shortage with resulting loss of wildlife numbers and diversity hunting	• Provisioning - food and nutrients; genetic resources • Supporting - habitat for diversity • Cultural - traditional practices
	Reduction in Agrobiodiversity in crop, livestock and tree based systems	• Increased focus in agriculture on small number of crops, such as sorghum and maize and improved livestock breeds	• Provisioning - food and nutrients; animal feed; genetic resources • Supporting - habitat for diversity

Key Issue	Causes	Details	Affected Ecosystem Services
		• Inadequate recognition of importance of diversified farming systems for ecosystem functioning (pest and disease control, soil biodiversity, beneficial predators, C and nutrient cycles, etc.) • Decline in habitats for important pollinators and pest predators	• Cultural - traditional practices
	Encroachment by invasive species	• Invasion by indigenous and alien species, which out compete beneficial native species (trees, grasses, shrubs) and alter species composition of grasslands, wooded savannas and forests. Often the result of overgrazing (increase in non-palatable and woody species), over-harvesting (fuelwood), species introductions e.g. Prosopis, Lantana, etc.) or loss of soil fertility (Striga etc.)	• Provisioning - food and nutrients; fuel; animal feed; genetic resources • Regulating - erosion control; climate regulation; • Supporting - soil formation; soil protection, nutrient cycling; water cycling; habitat for diversity • Cultural - traditional practices, sacred groves as reservoirs

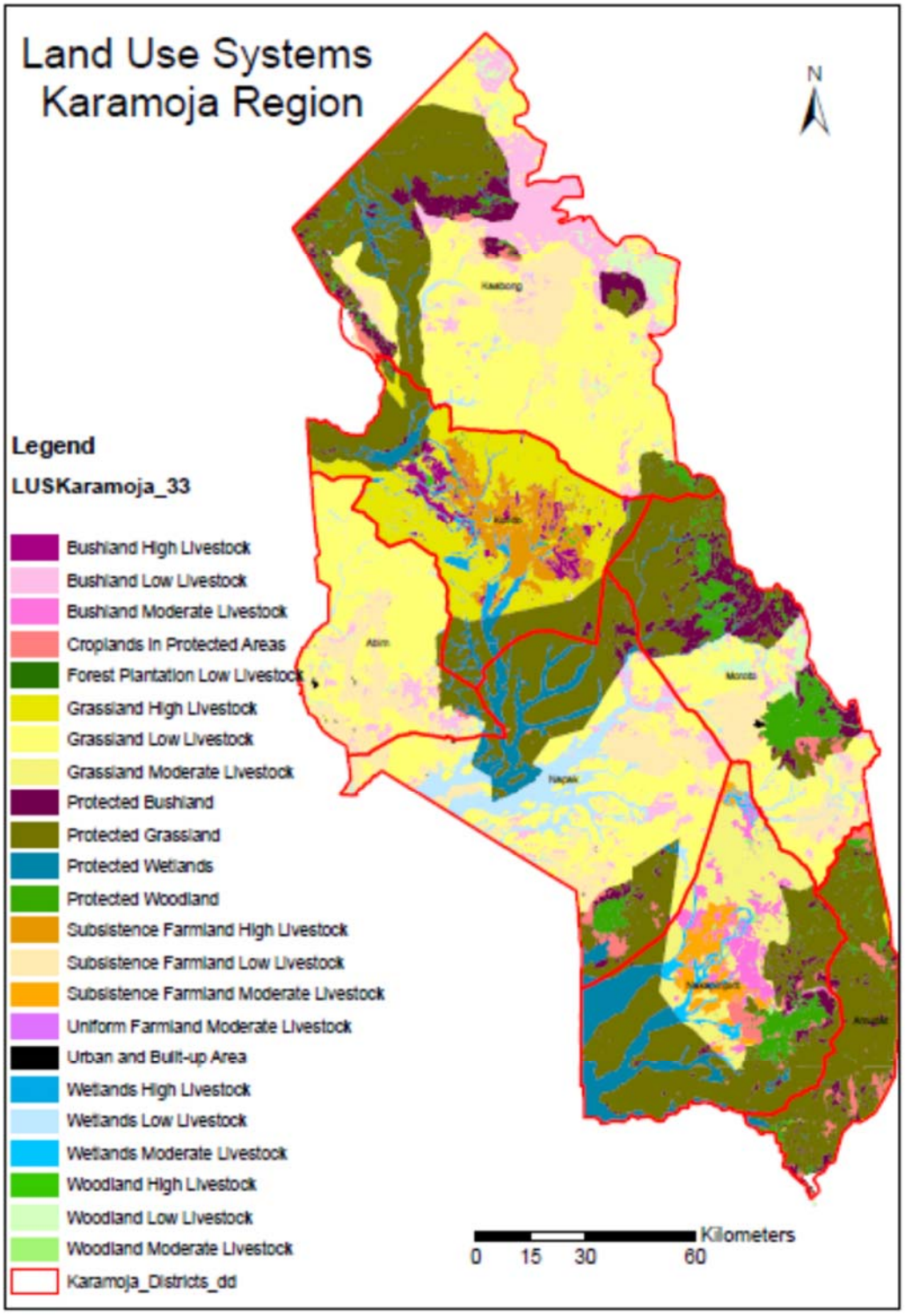


Figure 6: Map showing the IAP intervention districts in Karamoja and their land use systems

Increasing climate variability, frequency of extreme events and climate change

Karamoja sub-regional level

Future predictions of the impacts of climate change in Karamoja are fraught with inaccuracies, due to the very sparse availability of data. The analysis of weather and climate at national level (above) used the records from only a single weather station in the sub-region (Kotido), as this was the only one with sufficient data for analysis – thus the analysis has been severely constrained.

Communities such as those in Karamoja used to know their local weather and climate relatively well and indeed relied on this knowledge for planning of their farming activities. Knowledge of local weather patterns was augmented by indigenous knowledge such as appearances of specific bird species, sprouting of particular plants and flowers to assist land users in planning when / whether to sow crops – and where to move livestock to ensure good grazing. The communities were also able to deduce good and poor seasons and therefore make adequate preparations to cope with weather / climate variability and its adverse effects. However, increased weather variability and evolving climate change has rendered this mechanism less effective – in some parts of Karamoja, for example, the unimodal rainfall pattern is reportedly becoming increasingly bimodal – attributed to climate change.

To date, the increasing frequency and intensity /duration of droughts remain the dominant and most widespread risk factor attributed to climate change in Karamoja. Since 2001, there has been an increase in extreme weather patterns in the region resulting in a higher frequency of extended dry spells. For example from 2001, there have been extended dry spells every second year (2002 & 2004) and also during the three consecutive years (2007 – 2009), resulting in repeated crop failures and low livestock productivity. There was also a serious drought across most of the region in 2015 – with total crop failure reported. Drought most severely affects land users, causing widespread food insecurity, malnutrition and low productivity of crops and livestock, particularly imposing severe losses and hardships on the poorest communities, whose livelihoods are more sensitive to the adverse impacts of climate change. Across the sub-region, formerly perennial rivers and streams are now seasonal, riverbeds that traditionally were reliable dry season sources of water often now yield no water.

In addition, the magnitude, frequency and severity of floods have also increased over the past decades, with deleterious impacts on productive assets and traditional coping capacities that support livelihoods.

Table 5: Recent Weather-Related Events Affecting Food Security and Livelihoods

Period	Description
2013/14	Early seasonal floods combined with extended/prolonged intermittent dry spells around mid-May to June 2013, caused a delay in planting and damaged food crops. As such the lean season extended by about one and half months. However relatively good rainfall between August and November 2013 ensured recovery of food crops such as sorghum, maize and cassava. This helped to improve crop performance, harvest prospects and local availability of food in short and medium term.
2012/13	Heavy rainfall and major floods caused below-average harvests in August/September 2012 and demolished/damaged main roads and bridges such as Kotido-Abim; Kotido-Moroto and Kaabong-Kitgum and a number of rural feeder roads across the region. This limited physical access to strategic food and agricultural input markets. The overall impact included less food stocks and less seasonal income than normal from on-farm and casual labor than normal, leading to an early start to the lean season (Jan/Feb instead of Mar/Apr) with a slow food and livelihood security recovery process among local inhabitants.

2011/12	Heavy rainfall, floods and waterlogging caused by above normal rainfall reduced physical access to food markets and caused poor crop yields and, in some cases crop failure among rural households in some parts of the region. Excessive humid conditions also caused honey dew disease of sorghum (Ergot - a fungal pathogen affecting flowering and yield), the main staple crop of many districts in the region. Meanwhile other parts of Karamoja were also affected by dry spell conditions, resulting in low crop yields. The overall impact of these hazards was limited household access to food during 2011/12.
2010/11	Waterlogging due to above normal rainfall and crop diseases such as sorghum smut and honey dew caused poor crop harvest among rural households especially in the lowland areas of the region. However this year was also characterized by some positive changes such as promotion of cassava crop by OPM and development partners. This improved household food security situation towards the end of 2011/12.
2009/10	Heavy flooding especially in Nakapiripirit district and other low-lying areas destroyed food crops, with total crop failure in areas, such as Loregae, Namalu and Lolachat. This year was characterized by emergency food distributions by OPM and development partners. The situation was exacerbated by frequent cross border cattle raids and tsetse fly infestation in previous years. The cumulative impact was a significant loss of livestock due to the proliferation of Trypanosomiasis within the region.

(Source: FEWS NET and FAO, 2013)

Climate change is adding an extra layer of vulnerability to the already fragile context in Karamoja, compounding and exacerbating the underlying issues of poverty and food insecurity, including as shown in the table below:

Table 6: Summary of climate change impacts on crops and livestock

Impacts on livestock (all species)	➢ Increased demand for water and need for shade; ➢ Increased heat-related livestock deaths; ➢ Increasing the risk of disease and pest infestations.
Impacts on key crops (by species)	➢ Grains (maize, sorghum etc) – inadequate duration of rainy season or moisture at critical times- plant growth, flowering, seed setting- for obtaining a reliable harvest (yields considerable reduced or fail) ; also erratic rain could increase post-harvest storage losses of crops typically dried in the sun, also due to increased pests and rotting.; ➢ Grains (maize, sorghum) - coupled with irregular precipitation (above), increased temperatures could result in the proliferation of striga, a parasitic weed that affects sorghum and is prevalent in areas with degraded soils. ; ➢ Beans and other legumes- vulnerable to fungal and viral diseases when excessive rain falls during critical growing periods; ➢ Sweet potatoes and cassava - both crops grow well at temperatures much higher than current ones, but are also more vulnerable to pests and disease.

1.2.2 Root causes

High poverty levels

High poverty levels have been identified as another key cause of the recent trends of rangelands degradation in Karamoja.[22] Following the recent disarmament, the unemployment rates have increased, especially for youth, which has driven them to engage in unsustainable alternative livelihood options, such as uncontrolled tree cutting and charcoal burning, with adverse impacts on rangelands and on health. The percentage of the population living below the poverty line is 82% in Karamoja, compared to 31% of the population at the national level.[23] This, along with the recent crop failures due to drought, contributes to creating a short-term vision among local communities and governments, one that is focused on ensuring immediate survival more than long-term resilience.

Karamoja's recent insecurity and political context

The Karamoja sub-region has a legacy of violent pastoral conflicts associated with decades of cattle rustling which has caused immeasurable suffering for the people, especially the women and girls. Many women were widowed and others raped and even killed as they travelled long distances in search of water, firewood, charcoal, and food. The disarmament programme in Karamoja has helped to curb road ambushes and large scale raid. Thus there is a significant positive change in the region because the security situation has improved and has led to the establishment of the government programmes in the region.

Karamoja sub-region has experienced a lot of political changes, just like the other regions of Uganda. The districts have increased in number from the original two to seven. The increase in the number of districts is intended to provide state control of this previously neglected region of the country and ensure adequate service delivery. Despite the good intentions, creation of districts along ethnic divides has contributed to the strengthening of tensions and the age-old rivalry among the different ethnic groups. The emergence of political elites in different districts has introduced yet another condition to the pastoral politics. As a result, some districts are seen to be more politically powerful than the others. Both the elites and the ordinary Karamojong's perception is that Moroto (plus Napak) and Kotido Districts harness more political powers than the other newly created districts. In addition to these political tensions, the new districts still have low capacity to manage natural resources.

"Apart from being affected at certain points by the conflict between the Lord's Resistance Army (LRA) and the Government of Uganda, groups living in Karamoja have also been involved in cycles of cattle raiding and counter-raiding. At various times, pastoralist or semi-pastoralist groups living across the border in Kenya and Sudan have also actively participated in these attacks" (Safer World, 2010).

During the recent insecurity, Uganda Peoples' Defence Forces (UPDF) soldiers took on responsibilities for livestock protection. The UPDF claimed to have branded over 150,000 heads of cattle to discourage raiding and established UPDF-guarded kraals at army barracks in some areas. The UPDF-guarded kraals provided some protection, although the kraals were still vulnerable to raids. Access of cattle owners to the kraals was restricted, impairing collection of livestock products for food and the use of oxen for agriculture; also migrations / transhumance were no longer possible, thus some livestock keepers have lost this habit, despite it being more resilient in the face of climate change. Following disarmament, many youth have decided to

[22] IUCN, 2014, A Rangelands Management Framework for Karamoja, 2014-2018. A Handbook for Local Governments and Partners. IUCN. Available from: http://www.fao.org/fileadmin/user_upload/drought/docs/A%20rangelands%20management%20framework%20for%20Karamoja-SK.pdf

[23] USAID, Climate change and conflict in Uganda: The Cattle Corridor and Karamoja, February 2011

produce charcoal in the perceived absence of alternative livelihoods, leading to massive and unsustainable tree cutting.

In 2014, livestock numbers showed a reduction of 70% from the 2008 UBOS Livestock Census (FAO, 2014c), probably attributable to the disruption of UPDF-guarded kraals. This has led to some rangeland currently being under-grazed, particularly areas far from water sources, and appears to be exacerbating vegetation degradation and loss of grazing productivity. The current under-stocking opens opportunities for the project to include re-stocking activities, notably among the approximately 50% of households that do not currently own any livestock.

Furthermore, although the region is slowly recovering from the recent insecurity and unrest, mechanisms for collaboration and cooperation are weak. Communities and households tend to keep to themselves, and this lack of trust creates obstacles for market emergence, as well as for community-driven planning. The climate of food scarcity contributes to a competition for resources that is not conducive to cooperative development.

Cultural factors

There are cultural factors that act as drivers of food insecurity and environmental degradation. First, the majority of livestock keepers (ca 50% of households – probably an all-time low level) continue the traditional system of wanting to hold large numbers of livestock, often keeping old animals – only occasionally slaughtering or selling an animal if it is sick, or if money is required to pay a particular bill or for ceremonies. While the size of a herd has a strong cultural significance, communities have not yet been sensitized to the environmental and financial advantages of reducing herd sizes and enhancing productivity and marketing.

There are also some cultural barriers to the development of stronger agro-pastoral value chains. For example, the Karamojong are reluctant to mix products from different animals or fields, therefore bulking and pooling of resources is a rarity. Establishing productive value chains that tend towards commercialization would require some significant efforts to raise awareness and demonstrate the value of such locally innovative practices. Value chain development in Karamoja sub-region is therefore still rare, not only due to cultural traditions, but also due to a lack of producer group organization and low access to markets, especially to input supply markets, making it difficult to link with private sector stakeholders.

1.2.3 Baseline initiatives

There are a number of projects and programs in Karamoja that seek to address the major development gaps in the region. Most of these programs and projects are formulated around the need to channel basic development services to communities in the area. This proposed initiative will build on these fundamental development programs as follows:

1. The first baseline initiative on which this project will build is the **Karamoja Livelihoods Programme (KALIP) in its forthcoming second phase**, supported by EU through the Primate Minister's Office in all seven districts of Karamoja for a total of 140 million Euros under the 11thEDF. This program is scheduled to start in early 2017 and end in late 2021. While the objective of the first KALIP phase was to "promote development as an incentive to peace by supporting livelihoods including agro-pastoral production and alternative income generation opportunities for the people of Karamoja", the second phase will focus on consolidating stability in the region and strengthening the foundations for sustainable development in Northern Uganda in order to reduce the developmental gap existing between Northern Uganda and the rest of the country. Its specific objectives include: i) reinforcing the sustainability of primary transport networks and of the connections with production areas, ii) increasing food security, nutrition and household income through the promotion of development and resilience

as an incentive of stability in the region and the promotion of inclusive growth in agriculture with value chain support, and iii) strengthening good governance, capacity and rule of law at the level of local government agencies.

While KALIP does not aim to promote resilient livelihoods, the proposed project will build on lessons learned from KALIP 1 and complement KALIP 2 by strengthening climate change resilience of Karamoja's food systems and associated livelihoods by promoting sustainable land management and integrated natural resources management and by introducing alternative income-generating activities and reinforcing value chain development. More specifically, this project will seek synergies and complement the new KALIP in three ways: it will build technical capacity to improve productivity in livestock rearing and crop farming by demonstrating the benefits of pasture improvement for rangeland rehabilitation, reinforcing the support to agro-pastoral field school (APFS) and farmer field school (FFS) networks, and implementing rainwater harvesting (RWH) techniques for livestock, crop and household uses. In addition to building technical capacity, it will also create new opportunities for Karamojong communities to diversify their sources of income by supporting the organization of producer groups to develop incomes generating activities such as cereal banking systems to improve supplies of local seeds, bee keeping, or soap making (Component 2). Finally, this project will not only complement the new KALIP but also benefit from the reinforcement of the primary transport networks which will facilitate access to markets, encouraging value chain development.

2. Africa Regional Pastoralism Livelihood Resilience Project (RPLRP) (2014-2019: 40,000,000 US$ for Uganda - World Bank, implemented by MAAIF). The objectives are to enhance livelihood resilience of pastoral and agro-pastoral communities in cross-border drought prone areas of selected countries and improve the capacity of the selected countries' governments to respond promptly and effectively to an eligible crisis or emergency in Kenya, Uganda and Ethiopia, facilitated by the Intergovernmental Authority on Development (IGAD). Specifically, this project has four priorities which will be put into action in five of the seven districts of Karamoja[24]: i) enhance the secure access to land of pastoral and agro-pastoral communities to sustainably manage pastoral-related natural resources, ii) improve market access of agro-pastoralists and pastoralists to the intra-regional and international markets of livestock and livestock products, iii) enhance livelihoods of pastoralists and agro-pastoralists communities, and iv) improve drought-related hazards preparedness, prevention and response at the national and regional levels. While RPRLP priorities are closely linked to the IAP project's objectives, by the time the IAP's implementation starts, the RPRLP will have reached its mid-term evaluation, which will be useful in terms of lessons learned and best practices. Therefore, synergies and coordination will be established at the inception phase in order to avoid duplication. The IAP project will be implemented in three of the five RPRLP-selected districts (Kaabong, Kotido and Moroto) and will therefore seek synergies and complement the RPRLP in three ways: 1) by strengthening links between government and local communities through district level multi-stakeholder platforms to support participatory and community-based land use planning, INRM plans and SLM practices, hence building an enabling environment for communities to sustain their livelihoods in the longer-term (Component 1), therefore contributing to RPRLP's first and third priorities; 2) by contributing to its fourth priority by integrating Karamoja into the national early warning system through the dissemination of agro-meteorological information and advisories to local government and to the general public through radio broadcasting (Component 2); and 3) by acting at both Africa's regional level and Uganda's national and sub-regional levels through linking the Karamoja

[24] Kaabong, Kotido, Moroto, Napak and Amudat districts.

process and actors with science - policy platforms at national and regional levels for scientific guidance and policy support.

3. Northern Uganda Social Action Fund (NUSAF) – 3rd phase. This program, which entered its third phase in 2015, is funded by a Loan from the World Bank (130 million US$) through the Prime Minister's Office. Its objective is to expand income-earning opportunities for poor households and to put in place the building blocks of a social protection system. The program is delivered through labour-intensive public works initiatives. This includes the provision of regular, seasonal employment opportunities by recruiting local workers for the construction of public infrastructure and assets such as rural access roads, soil and water conservation infrastructures, flood control structures, market shelters, rural health facilities and schools. The NUSAF will also support environmental rehabilitation by promoting cash for work approaches in afforestation, erosion control and the establishment of tree nurseries. NUSAF also intends to support the government in promoting sustainable agriculture activities such as animal husbandry, non-timber forest products, fisheries and value addition in the agricultural sector. This will be done through the provision of grants to households that meet a certain set of criteria (e.g. have a business plan, construct a latrine), supplemented by skill development and coaching. NUSAF 3 will also support specific vocational training for youth. In its third component, the NUSAF 3 will support the government, through the Ministry of Gender, Labour and Social Development, in developing the formulation and implementation of the Uganda Social Protection Policy.

The proposed GEF intervention will build on this baseline initiative in the following manner. First, the IAP project proposes an integrated approach to achieving lasting food security, that not only considers income as a measure of resilience, but also provides stronger opportunities for participating in development planning, and that also considers the natural environmental constraints faced by households in the region. The proposed GEF intervention will build on the baseline of social infrastructures built by NUSAF in the project sites, in particular roads that facilitate access to markets, post-harvest infrastructures, water conservation structures, schools and health services. The proposed initiative will also complement the grant scheme put forward by NUSAF by supporting community-based planning that will help households and villages in identifying their own resilience-building income generating activities, making it easier for communities to access NUSAF grant funds. Furthermore, through Component 1, the proposed GEF initiative will also build local government capacity to access, manage and plan NUSAF funds through multi-stakeholder platforms that create linkages beyond traditional administrative boundaries.

1.2.4 Barriers to achieving environmental sustainability and resilient food security

Despite the above mentioned baseline projects and initiatives, a number of barriers remain that constrain the ability of the local government and local communities in Karamoja to address food insecurity and environmental degradation:

a) Insufficient policy and legal guidance on the management of natural resources

The lack of completed policies and their application in the field is another barrier to addressing environmental threats in Karamoja. Among these policies, the Rangeland Management and Pastoralism Policy (Jan 2014) and the Pastoral Code (Jan 2007) both remain in draft form or about to be adopted. Their implementation would be pivotal for the success of this project, as for instance, the Rangeland Management and Pastoralism Policy "offers a framework for sustainable management of range resources, with ideas on areas for investments, managing

livestock numbers and their water and feed resources, mitigating climate change and degradation, improving agro-pastoralism, protecting biodiversity and indigenous knowledge, research and training, and engaging communities in decision making and range development process" (GoU, 2014). Furthermore, some districts of the sub-region have draft ordinances that have yet to be implemented on the ground and that the project will strive to implement or enforce, for example:

- ✓ Nakapiripirit District: the Food Security and Environment Conservation Ordinance has been drafted and includes guidance on how to manage soils, vegetation and wetlands, but needs support on how to implement or enforce it;
- ✓ Napak District: an ordinance on environmental management, including on bush burning, is at the last stage of approval. Awareness raising is underway.

The policies and laws of the various sector ministries, such as agriculture, wildlife, minerals, lands, transport, need to be aligned and connected to overcome the past piecemeal approaches to development in Karamoja. This project will work at the local level to demonstrate that alignment through a stronger district-level institutional and legal framework and by ensuring that participatory development planning processes are in line with national policies through the multi-stakeholder platform to facilitate intersectoral dialogue.

In addition, the area of land available for pastoralists, agro-pastoralists and crop farmers is gradually declining in Karamoja due to areas of formerly communal land being procured for other private uses (*inter alia* for national parks or wildlife reserves, mining, quarrying), hence reducing Karamojong's food security and increasing their vulnerability to shocks. There is a poor understanding by local land users of their land rights and on how development actors can support responsible land and water governance and strengthen capacities at community and local levels. While communal rights are formally recognized in the Land policy, there have yet to be instances where Certificates of Customary Ownership (CCO) have been granted – whereas private ownership is easier to formalize. FAO has recently supported the Ministry of Land, Housing and Urban Development (MLHUD) through its Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National of Food Security (VGGT) in developing a digital low-cost system to implement such measures, which has been tested in Kasese District in 2015. However, procedures are long and cumbersome, and the local populations and the organizations supporting them do not always have the capacity to intervene on these issues. Women's rights to land are also lagging behind.

As more pastoralists are encouraged by the government to engage in the riskier practice of crop production in the region, pressures on grazing land and conflicts among land users also risk increasing, particularly in the absence of any real community participation in land use planning at the sub-county or district level. There is also a strong push towards sedentarization of pastoral populations including through the increased supply of perennial water sources – which risks exacerbating land degradation as herds graze continuously in the areas around these supplies. Trust levels in the area are generally low, and there are no strong mechanisms for conflict prevention or arbitration. The role of local leaders in land attribution and distribution is also being overlooked in the efforts made by the government to formalize land tenure arrangements.

b) Fragmented technical capacity at district and household levels to support food production

At the district level, there is fragmented technical knowledge on sustainable land management and on the various integrated approaches that can be taken to promote resilient food security. While district technical staff are trained in some traditional areas of expertise, such as crop production, livestock production or soil and water management, they do not receive training on

ecosystem-based or integrated approaches. It is worth noting that among 70 technical officers who attended the SLM workshop held in Moroto in Jan 2016 for this project's preparation, none claimed to have knowledge of rangeland management – yet the whole sub-region is mainly rangeland with limited areas of cropland mainly to the more humid west.

In addition, most of the districts of Karamoja are new and remain quite weak from an institutional perspective, with few personnel or financial resources to support activities, which limits the district resource base and constrains the rate of development. The agricultural extension service, which had been weak during the NAADS[25] years, is gradually being recreated, with the recruitment of extension officers for each district and sub-county.

Technical staff at all levels in the range of sectors and decision makers are not fully aware of ecosystem services and how SLM and agroecological approaches can contribute to increasing the resilience of the fragile, degraded ecosystems and the associated livelihoods of the local people. Lastly, technical staff and NGO staff expressed the need for a much improved weather forecasting service, recounting that the current weather forecasts from the Meteorology Department are not made widely available, and are often unreliable for this sub-region. Although early warning systems in the sub-region are under implementation through UNDP's early warning system project[26], effects of such systems are yet to be seen in Karamoja.

Many land users are also facing challenges, beyond the scope of their local knowledge, *inter alia*:

- ✓ pastoralists and agropastoralists are re-establishing transhumance – which was disrupted during the recent period of insecurity, when livestock were kept in kraals guarded by the army to reduce cattle raiding;
- ✓ in some areas pastoralists are becoming sedentary and trying to manage their reduced livestock numbers without transhumance;
- ✓ sedentarized former pastoralists are struggling to grow crops, without the requisite knowledge of how to maintain their soil's health and productivity (i.e. physical, chemical and biological properties to produce yields);
- ✓ There is progressive degradation of the rangelands due to massive removal of trees for charcoal production and fencing of manyattas (homesteads).

c) Lack of coordination between stakeholders and among projects

Stakeholder groups, such as the Karamoja Development Partner Group, NGOs, CSOs, exist in Karamoja, but they are not necessarily connected or promote an integrated approach, as they do not involved local communities directly within their decision making processes. The absence of a multi-stakeholder platform at the local district level but also at the sub-regional level creates a barrier to adopting an integrated approach in the management of natural resources which would improve food security and enhance livelihood diversification.

d) Weak evidence base to support decision-making

[25] The National Agricultural Advisory Services program was launched in 2001 as a semi - autonomous public agency within the Ministry of Agriculture Animal Industry and Fisheries (MAAIF), responsible for public agricultural advisory/extension services. Following the recent reform of the Agricultural extension system, the Government restructured NAADS, refocusing its mandate to supporting management of the agricultural input distribution chains and strategic interventions for value chain development focusing on the upper end of the commodity chains. Traditional extension services will be provided by the MAAIF through decentralized government structures.

[26] Strengthening climate information and early warning systems in Africa for climate resilient development and adaptation to climate change (4.5 million – GEF/LDCF; 2013 – 2017).g

The long history of conflict in the region has created a setup where local, development-relevant data, is scarce and dispersed. Information on climate, crop-yields, and land productivity is not readily identifiable, and despite a number of household surveys, there does not exist a framework that can enable all sectors to adequately monitor development progress. As a result, development policies for the sub-region are often based on outdated or fragmented information, which does not allow for the kind of paradigm shift that would be required to lift Karamoja from the dire conditions it currently faces. Information that supports integrated planning and policy making is not yet making its way into the development programs of major donors and the government continues to adopt sector-based, siloed approaches to programming. Furthermore, most development-related data and information systems make abstraction of the degradation of environment, for which there is no systematic monitoring in the region. As a result of this, decisions on land use could be based on erroneous information, leading to poor choices in land management, and aggravating the pre-existing fragility of the natural resource base. Finally, communities are not typically involved in the monitoring and assessment of their own development programs, which – combined with the prevalence of food aid in the area – contributes to creating a climate of disempowerment and dependency.

1.2.5 Theory of change

Upon identification and analysis of the problems, their root causes and impacts in the project region during consultation missions, a theory of change was proposed to shape solutions that address the chain of causes and effects, as reflected in the problem tree (Annex 4).

This project is premised on the recognition that reducing food and nutrition insecurity and climate vulnerability requires a multi-pronged approach that leads to an increase in food production and availability and a diversification of livelihoods options. In order to implement these two key strategies, a number of enabling and supporting interventions are also necessary in order to remove potential barriers. This includes addressing the main drivers of environmental degradation and reversing ecosystem services loss, and providing an enabling development planning framework. The integrated approach embodied in this project therefore addresses the environmental, socio-economic, and institutional barriers to increased food availability.

The overall goal of the project is **to improve food security** by addressing the environmental drivers of food insecurity and their root causes in Karamoja sub-region. The specific objective of the project is to contribute to enhancing long-term environmental sustainability and resilience of food production systems in the Karamoja Sub-Region.

In order to achieve this objective and to contribute to achieving the goal, three mid-level results need to be achieved. The main strategy to be pursued is to significantly increase the land area and agro-ecosystems that are under integrated natural resources management (Outcome 2). This will support increased production and productivity, and ensure the continued maintenance of ecosystem services that are the foundation of food security. In order to provide conditions for sustainability and upscaled transformation of the local food systems, it is also required to put in place supportive policies and incentives at local, district and landscape levels (Outcome 1). These will contribute to lifting the structural barriers preventing communities from pursuing viable food security strategies. In addition, a system must be set up where development decisions at all levels are taken on the basis of a comprehensive, scientific information base (Outcome 3). This will help create a feedback loop to the local planning frameworks as well as will help inform national development policies of direct relevance to Karamoja.

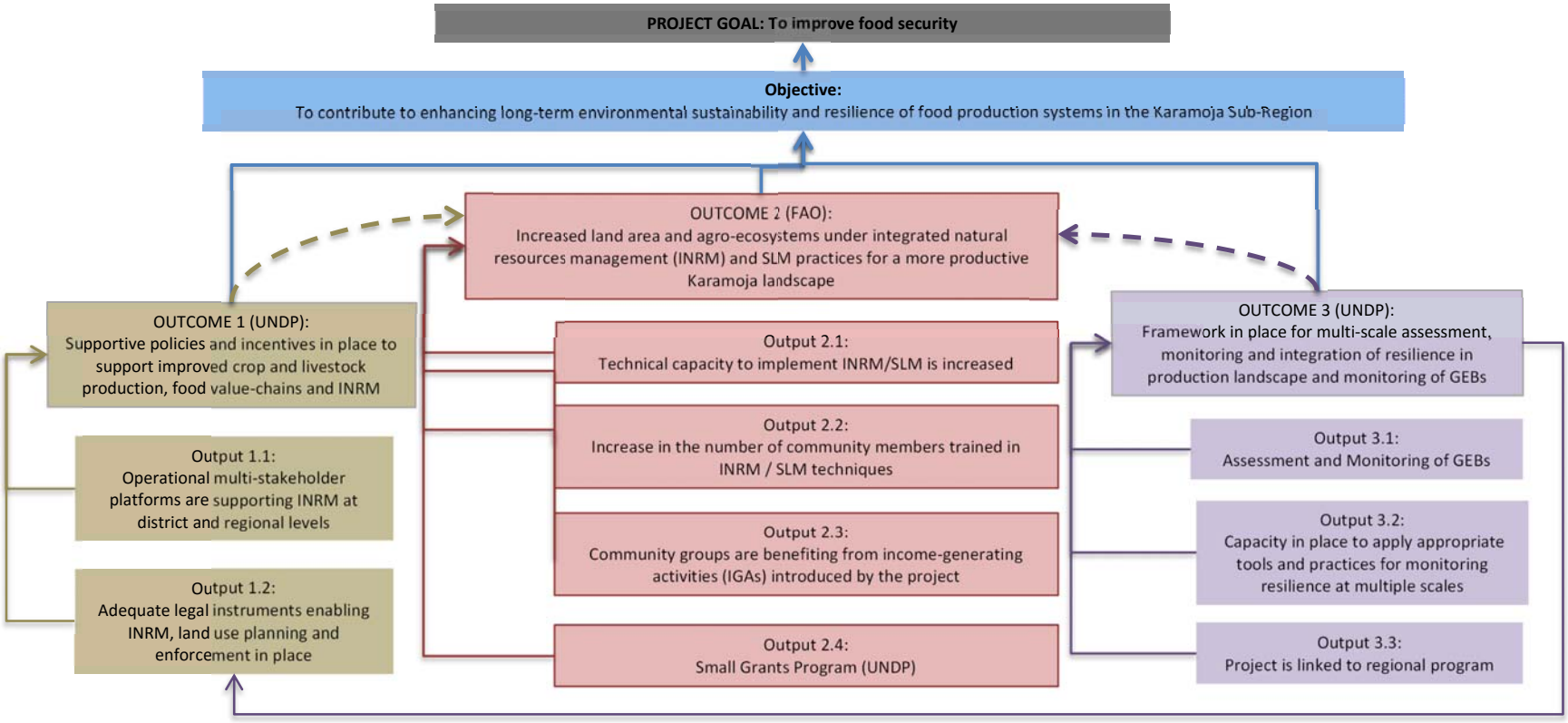


Figure 7: Theory of Change

1.2.6 Project assumptions

The project's design is based on a number of key assumptions. The first premise is that climate resilience – defined here as the resilience of a system or part of a system to climate-related shocks and stresses[27] – can be achieved through increased and diversified food production at the household level, as a first step. It is assumed here that through SLM practices, integrated production systems and strengthened value chains, improvements in household food productivity through INRM and SLM practices and income will lead to increased household food security (i.e. reduced food insecurity), will in the long-term, lead to resilient communities and stronger regional markets. The project is also based on the assumption that adequate access to markets exists or will exist during the project's duration and beyond.

A second key assumption is that the national government is willing and able to develop and apply policies that create true incentives for sustainable natural resource management, while not being overly disruptive to traditional livelihood patterns. Therefore while a potentially conducive policy setup exists at national level, the project's design is premised on the willingness of the local and district governments to translate these into viable systems applicable to local conditions.

The third major assumption is that local communities, even despite the dire and risk prone conditions in which they are currently living, will be willing to take some measured risks in adopting new practices. The project will work actively with local communities to identify any potential social, economic and cultural obstacles to the adoption of sustainable land management / INRM practices, while the APFS/FFS approach will help to demonstrate the direct, visible, economic benefits of those practices. It is also assumed that evidence of such benefits will be a sufficient lever to catalyze the dissemination and replication of project outcomes at a broader scale.

Finally, the project is also designed based on an assumption that mechanisms for securing land tenure, and avoiding conflict around such issues, will be successfully devised during the project. This includes the provision, formalization and recognition of collective and individual rights, when relevant. While the project expects to dedicate some resources to achieving this situation, it is recognized that a more comprehensive approach to land tenure and user rights will remain outside of the control of this single project.

[27] ACCCRN, online acccrn.net/

1.3. THE GEF ALTERNATIVE

1.3.1 Project Strategy

The project was designed according to the following key design principles:

Integrated natural resources management and sustainable land management practices

The integrated management of natural resources is the approach advocated by the regional programme (IAP) at the community level in 12 countries. It aims at strengthening soil health, improving access to drought-tolerant seeds, adjusting planting periods and cropping portfolios and enhancing on-farm agro-biodiversity, while implementing sustainable land management practices to minimize land degradation, rehabilitate degraded areas and ensure the optimal use of land resources for the benefit of the present and future generations. Within this project, the INRM and SLM concepts will build technical capacity needed at the institutional level but also at the community level to sustainably manage land and promote a more productive landscape in Karamoja, through the APFS and FFS approach (see below). Throughout the intervention sites, the project will seek to promote the identification, conservation and sustainable use of significant agro-biodiversity, focusing immediately on available species and varieties.

Value chain approach

The value chain approach aims at driving economic growth with poverty reduction by integrating all actors from input suppliers to end market and buyers, thus creating new opportunities for smallholder farmers to connect with private sector firms dealing products locally and regionally. Within this project, the value chain approach will be promoted not only for livestock and crop production systems, but also through the introduction of alternative income-generating activities, such as beekeeping with honey and wax making or Aloe vera processing of soap, ensuring smallholder farmers a predictable all-season income. In all activities aiming to promote an increase in production, attention will be paid in developing linkages with the private sector and markets to ensure long-term economic viability of any increase in production.

Farmer-based extension (Agro-pastoral / Farmer Field School Approach)

This project will use a farmer-based approach to complement the traditional extensions services. This will be done by using the "farmer-field school" methodology to promote the use of local (trained) facilitators to accelerate the dissemination of appropriate production practices. The aim of APFS/FFS approach is to provide capacity building and support smallholder farmers (males females and youth), and rural communities in the adoption of resilient agricultural technologies and livelihoods practices. The APFS will provide a platform for validating and up-scaling of already identified crop, livestock and natural resources management practices/technologies in an integrated way and supporting diversified and resilient production systems and disaster risk reduction and preparedness as well as other measures farmers are interested in to promote sustainable agriculture, livelihood security and diversification.

The FFS approach is particularly valuable for integrating the learning about various topics in a local agro-ecosystem specific context, and for mobilising farmers and pastoralists in the dissemination of new technologies and practices across the FFS groups and networks. APFS are flexible in that they can respond to local demands or problems as they are identified. They are based on an "experiential learning cycle" (with a minimum duration of one and half years or more, during which farmers' groups are followed and supported on a weekly basis), where groups of farmers are encouraged to assemble at regular intervals to go through a pre-determined number of FFS sessions in the fields /grazing lands to identify a problem, consider different options for problem solving and implement the best option. The method of interaction is non-formal and based on field observations and group discussions, as well as simple experiments, drawings, models, fables and other tools. The experimental, learning-by-doing approach facilitates the adaptation of the technologies to local agro ecological contexts, including climate risks and production practices and the adoption by farmers in the wider area. Farmers participating in FFS gain organizational skills, knowledge and practical skills that carry over beyond the end of the project. Moreover, due to the comprehensive planning processes, they are able to define the critical broader challenges faced in their livelihoods, as well as strategies to mitigate the challenges. The FFS process is guided by a dual systematic problem –solution identification process that guides consequent actions, thus setting a solid base for sustainability. The APFS will thus be vital entry points for the upscaling of actions as well as reinforcing the watershed management approach defined below.

Watershed Management Approach

The increasing risk of droughts resulting from the changing rainfall patterns is putting at the risks the food and livelihood security of farming and pastoral communities in the target districts. In many areas the rainy season either start early or start late and generally have become of shorter duration and heavier than in previous years. The combination of these distortions have led to water deficits during planting time, and in some areas heavy rainfall are creating erosion and landslides, resulting in soil erosion and degradation of agricultural and pastoral lands in the watershed.

The most efficient way to improve resilience of the agro-ecosystems and the associated human vulnerabilities is to plan and implement natural resources management interventions on a whole catchment basis (ecosystem basis). A resilient ecosystem can increase the resilience of vulnerable communities as well as address the externalities associated with the applications and use of certain NRM practices. The project will support the district local government to promote the use of watersheds as the *basic unit for planning*, implementing, monitoring and evaluation of natural resources management practices. A sound watershed management approach would provide the frame for harmonizing local economic development and environmental protection. It would also integrate social, cultural and institutional issues into natural resources protection and conservation in order to attain sustainable development and adaptive capacity to changing climate. The project will build upon existing experiences and outcomes of on-going and past Agro-Pastoral Field School interventions and pilot micro watershed initiatives in Karamoja, such as the ones conducted through the FAO and DFID project on Enhancing Resilience in Karamoja Programme (2015-2016). This will involve reviewing existing

assessments, catchment and adaptation plans, technologies and replicating or expanding successful practices where possible.

1.3.2 Development objective, project objective, outcomes and outputs

The overall goal or **development objective** of this project is to improve food security by addressing the environmental drivers of food insecurity and their root causes in Karamoja sub-region. The **Project objective** is to contribute to enhancing long-term environmental sustainability and resilience of food production systems in the Karamoja Sub-Region. In this project, resilience is understood both as the capacity of a system or part of a system to overcome stresses and shocks occurring due to climate change and variability as well as the ability of local communities to survive, recover from food-related shocks that can be brought on by other factors (e.g. prices, conflict), and even thrive in changing climatic conditions.[28]

The project will work in four districts in the Karamoja sub-region, in order to demonstrate the potential for upscaling SLM under different climatic conditions, agro-ecological zones and livelihoods. The districts were selected using a matrix of indicators of vulnerability, as well as consultations through the National SLM Committee.[29]

The districts are as follows:

Table 7: Profile of the four selected districts

District	Agro-ecological zone	Livelihood system
Kaabong	Sub-humid /Semi-arid	A/AP
Kotido	Semi-arid/Arid	AP/P
Moroto	Semi-Arid	AP
Nakapiriprit	Semi-Arid	A/AP

LS: Livelihood System A=Agricultural; AP=Agro-pastoral; and P=pastoral

The project will seek to achieve its objective through three interlinked outcomes and eight outputs. These GEF funded interventions will complement the baseline interventions deployed by KALIP's second phase and the World Bank Pastoralist Resilience Program in the targeted sites by addressing the threats and barriers detailed earlier.

Component 1: Strengthened institutional frameworks for improving food security

Outcome 1: Supportive policies and incentives in place at district level to support improved crop and livestock production, food value-chains and INRM

The purpose of this outcome is to overcome the shortcomings present in the institutional and legal framework governing natural resource use, land tenure, and planning. These shortcomings contribute to food insecurity by creating an institutional climate that does not

[28] ACCCRN, online acccrn.net/

[29] Should circumstances dictate a change in districts or sub-counties, changes can be made under the leadership of the MAAIF and the project steering committee during the inception period.

support communities in the maintenance of their natural resources, and because they tend to limit opportunities for collaborative planning.

In the long-term, the project hopes to contribute to the emergence of a set of effective institutions, realistic and enforceable laws, and collaborative planning frameworks.

This outcome will be reached by strengthening or creating multi-stakeholder platforms at the district level, which will be linked to a sub-regional level platform coordinated by the Ministry of Karamoja Affairs, to support integrated natural resources management (INRM) (Output 1.1). The purpose of multi-stakeholder platforms is to encourage consultation and collaboration among government organisations and communities around issues related to land use planning, land tenure, and SLM. Regardless of the form they take locally, platforms can assist communities in regaining trust and in establishing patterns of cooperation with the private sector that can gradually strengthen local markets. They are also crucial in promoting the integrated approach as they ensure that planning moves from "business as usual" siloed approaches towards more collaborative, ecologically sustainable and multisectoral approaches.

Outcome 1 will also support and promote the implementation of adequate legal instruments enabling INRM, through enforcement of ordinances and participatory land use planning (Output 1.2), working with local governments and district administrations.

Output 1.1: Operational multi-stakeholder platforms are supporting INRM at district and regional levels

As seen from Section 1.2 above, there is a need to create forums where all stakeholders can participate in policy decision-making, agenda setting, the development of multi-stakeholder INRM plans and knowledge sharing around food security and INRM priorities. There is also a need to help restore trust and to encourage the emergence of private sector enterprise in the agricultural sector through creating an enabling environment (linking land planning, extension, research, producers organisations, inputs supply, markets, quality control, information systems, etc.).. This will help support SLM practices, create improved market opportunities and all-season income, and ensure that the priorities and capacities of local communities are taken into consideration when making development and land use planning decisions, including their role as key players in local territorial planning and management and the application of community rights of ownership, thus leading to food security and climate resilience. At present, there is no multi-stakeholder platform or coordination mechanism at the district level that can bring all relevant actors together around issues related to INRM and sustainable development strategies. There are however a few regional stakeholder platforms, such as the Karamoja Development Partner Group, a donor coordination group spearheaded by the Ministry of Karamoja Affairs, a few ad hoc local NGO coordinating groups, and some private sector associations, but none of these provide the integrated multi-sectoral approaches needed to transform the rural sector in Karamoja.

Under this output, the project will begin by conducting a participatory assessment of existing platforms and coordination mechanisms involving governments, private sector, local communities and traditional leaders. Based on this assessment and on existing

platforms, the project will provide support to districts in their efforts to convene inclusive multi-stakeholder platforms focusing on issues related to INRM, food security and resilience. Efforts will start at the district level, and gradually establish appropriate agro-ecosystem or landscape-based platforms (e.g. catchment/watershed) or wider sub-regional platforms according to the needs. The purpose of these platforms will be to create a space where all stakeholders can be involved in dialogue and decision making in regard to land and water governance, land use planning, legal frameworks, access to information (SLM and INRM options, value chains, food security and nutrition), and development planning priorities from a sustainability and resilience perspective (see Component 2). While each platform can have its own format, participants will at least include representatives of local government, local communities, women's groups, youth groups, NGOs, CBOs, private sector enterprises, and other development partners.

The project will also work with local district planners and budget holders to ensure that priorities identified through district platforms are integrated in planning and budgeting, and more specifically to increase budget lines dedicated to support capacity development and SLM activities that will lead to food and livelihood security, resilience and other environmental and socio-economic benefits. At the district level, existing and a cadre of newly recruited extension service officers will play a major role in acting as liaison between community members and district level government. It is expected that the district-level platforms will be maintained through the regular district activities and budgets after the project is over.

In order to have a further transformative effect at the scale of the sub-region, these district level multi-stakeholder platforms will then be linked to a sub-regional level platform in Karamoja that will facilitate knowledge exchange and collaboration on INRM for resilience and sustainability and build on ongoing efforts to coordinate among development actors. The Ministry of Karamoja Affairs (MKA) will guide this sub-regional multi-stakeholder platform and will relay and share knowledge and lessons learned with other national regional or international platforms such as NEPAD-CAADP, TerrAfrica, and the Pastoralists Knowledge Hub of the World Initiative on Sustainable Pastoralism. Linkages will also be drawn with the regional hub project under the global IAP program. It is expected that this will form part of the MKA's regular attributions after project completion.

The project will also support the use of these platforms as relays in an awareness raising campaign. This will include awareness-raising on the project objectives and principles in regard to SLM and INRM, food security and nutrition, resilience and sustainable development, and will allow for sharing relevant case studies, lessons learned and other materials. Documents published by the Zonal Agricultural Research and Development Institute (ZARDI) and resources available on the internet will be translated to local languages and used to tailor material to the range of groups targeted by the project (APFS and FFS members; wider communities, school pupils, school teachers, local governments, private sector) with the contribution of local NGOs, artists, and media.

Output 1.2: Adequate legal instruments enabling INRM, land use planning and enforcement in place

In addition to supporting local coordination and consultation, there is a need to strengthen the legal and institutional framework governing natural resources management at the local level. Whereas national laws and regulations are in force, or are about to be approved, their translation into local regulatory and rights based frameworks is weak. Conflicting or missing legal texts, lack of clarity regarding the regulatory framework, and lack of enforcement capacity are all contributing to a lack of control regarding natural resource use, and therefore contributing to food insecurity. Some districts of Karamoja have drafted ordinances and by-laws on sustainable development and environment, however in many cases, these have either not been adopted or they are not being applied, due to a lack of implementation support. Therefore, under this output, the project will support the districts in their efforts to finalize, revise (where necessary), approve and enforce their own legal texts. The project will also provide support to districts in cooperation with the Ministry of Justice for the final approval and gazetting of relevant legal texts. This will contribute to creating an enabling environment that will allow local communities to regain control on their natural resources, while also creating a favourable legal context for the sustainable collaborative management of productive landscapes.

In Uganda, the National Land Policy (2013)[30] provides means to secure customary tenure by issuing Certificates of Customary Ownership (CCOs) and FAO has recently supported the Ministry of Land, Housing and Urban Development (MLHUD) through its Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National of Food Security (VGGT)[31] in developing a digital low-cost system to implement such measures, which has been tested in Kasese District in 2015. Visits in Kasese Districts will be organized to learn from their experience in implementing the digital low-cost system in the selected districts of Karamoja.[32] This will be an excellent entry point for the project as it generates a high level of commitment from both district and national level and establishes inclusive platforms for dialogue that could be combined with district level platforms created in Output 1.1.

Therefore, under this output, district land officers, local councils, NGOs and CBOs will receive training on the application of the relevant guidelines and approaches on the responsible governance of tenure of land and forests in the context of food security. This will support the formalization of customary collective rights and collaborative rangeland management approaches, which will contribute to food security by enhancing sustainable stewardship of shared resources. Lessons from the Kasese project will also be transferred to the four project districts, through the multi-stakeholder platforms strengthened under

[30] One of the key issues outlined in the policy is the creation of a customary register to facilitate registration of customary rights. http://www.focusonland.com/fola/en/resources/ugandas-national-land-policy-background-key-highlights-and-next-steps/

[31] The FAO VGGT represent the first global consensus on universally applicable standards for the recognition, recording and protection of tenure rights. They promote secure tenure rights and equitable access to land, fisheries and forests. They were officially endorsed by the Committee on World Food Security in May 2012, and all member states made a strong commitment to implement them. FAO has been supporting the Government of Uganda on VGGT implementation since 2014, facilitating a national dialogue driven by the Ministry of Lands, Housing and Urban Development (MLHUD) and through pilot projects for securing tenure in land and forest areas.

[32] Plans are under way in discussion with EU to expand this initiative to the broader region. Should this materialize, coordination may be pursued.

output 1.1. It is expected that as a result of the project, communities in the selected districts will benefit from more secure land tenure arrangements, enhanced conflict resolution measures, which will support an integrated and sustainable land use planning perspective.[33] It is also expected that this output will help address the barrier on land tenure identified earlier, and therefore contribute to creating an enabling environment for food security.

Furthermore, district level multi-stakeholder platforms established in Output 1.1 will also be used to gather stakeholders to conduct participatory and community-based land use planning supporting INRM activities as part of Component 2. The combination of community-based land use planning, training on land tenure guidelines, amendments of ordinances and by-laws and awareness raising will foster better enforcement of INRM and SLM guidance at the community level and contribute to support smallholder agriculture and to the recovery of cattle corridors.

Finally, the project will also support the exploration of incentive schemes for long-term sustainability of project outcomes. This will include for example the exploration of the possibility of setting up payment for ecosystem-services (PES) in project sites where communities can be encouraged to collaborate on joint environmental management. The project will also explore linking communities with voluntary carbon funds, in order to create long-term financial incentives for the maintenance of soil and forest cover. This activity will be supported through a partnership with experienced NGOs who have piloted similar initiatives in Uganda.

Table 8: Component 1 outcomes, outputs, activities

Outcome 1: Supportive policies and incentives in place at district level to support smallholder agriculture, food value-chains and INRM	
Output	**Activities**
Output 1.1: Operational multi-stakeholder platforms are supporting INRM at district and regional levels	1.1.1. Assessment of existing sectoral, interest-based and stakeholder-based platforms in Karamoja and needs assessment. 1.1.2 Create/strengthen multi-stakeholder platforms at the local (district) level with CBOs, NGOs and private sector and government, working through extension services and focused on value chain development, SLM and INRM. 1.1.3 Work with Ministry of Karamoja Affairs and other relevant ministries/stakeholders (such as the Ministry of Land and Ministry of Trade) to bring together platforms at the regional level to facilitate knowledge exchange and collaboration on INRM (exchange and harmonization of approaches, joint awareness and capacity development events, including linkages with regional platforms such as the Pastoralists Knowledge Hub or the World Initiative Sustainable Pastoralism – WISP)

	1.1.4 Facilitate the integration of the priorities expressed by local multi-stakeholder platforms into district planning and budgeting and to increase budget lines for SLM and INRM in line with the various national action plans for food security, SLM strategic investment plan, for climate resilience and preventing land degradation and biodiversity loss. 1.1.5. Produce and disseminate a wide range of awareness raising materials on the project, SLM and INRM (pictorial, in local languages for print, radio, dramas etc.) and relevant case studies.
Output 1.2: Adequate legal instruments enabling INRM, land use planning and enforcement in place	1.2.1 Facilitate the review / amendment / drafting of by-laws & ordinances to ensure the integration of INRM and diversified production systems on the basis of a legal framework assessment for each district and training of local council personnel, and work with MoJ to support LGs in securing final approval and gazetting legal instruments. 1.2.2 Support local councils, including all relevant department, through multi-stakeholder platforms in the review or establishment of community-based land use plans supporting INRM / SLM and land use conflict prevention/reduction, linked to the national and district level physical development plans, and inclusive of cattle corridors, conservation and migration routes/cattle corridors. 1.2.3 Train local councils, local NGOs and CBOs, on the application of appropriate guidelines on responsible tenure of land, fisheries and forests for resolving land tenure issues, within the framework of the established Land Act, Land and Land Use Policies and regulations, and provide support for the formalization of customary collective rights to support collaborative rangeland management. 1.2.4 Awareness raising of communities of their rights of access and use and control of land resources, in particular elders/or elderly and women. 1.2.5 Explore the potential for, and set up, incentive schemes for continued sustainability, including PES and carbon funds.

Component 2: Scaling-up integrated approaches at national and landscape level

Outcome 2: Increased land area under integrated natural resources management (INRM) and SLM practices for a more productive Karamoja landscape

According to the latest household survey conducted in February 2016 in Napak, Kotido and Nakapiripirit districts, 92% of households in the targeted areas suffer from moderate or severe hunger, which was exacerbated by the serious drought in 2015 (see Annex 8 for

a full report of the Survey).[34] The root causes of food insecurity in Karamoja include among others, the lack of water for production and for livestock, low government capacity to manage natural resources, inadequate NRM and unsustainable practices, which lead to low agricultural yield, livestock loss, soil erosion and soil loss. These specific problems can be traced back to the lack of technical capacity and financial capital to manage natural resources and lack of appropriate decentralised governance mechanisms. The project will build on the successfully implemented Agro Pastoral Field Schools (APFS) and watershed management approaches by FAO and other development partners in order to strengthen and extend a network of capacity and capacity leaders on SLM practices and INRM approaches.

The overall goal of this outcome is therefore to work on strengthening technical capacity of all relevant stakeholders on INRM and SLM practices in order to increase the number of community members using these sustainable management use practices (crop, livestock, forest, soil and water resources) to ensure food security and to increase the resilience of targeted farm households and "integrated" production systems, as the direct benefits of improved ecosystem services increased biodiversity, reduced land degradation and carbon emissions (see EX-ACT results in Annex 16). To contribute to this outcome, the project will employ the approach of watershed management, delivered through Agro-Pastoral Field Schools (APFS) / farmer field schools (FFS), as briefly described in the Theory of change section (1.2.5).

Output 2.1: Institutional technical capacities to implement INRM/SLM are strengthened

Most of the district government entities of Karamoja are recent and remain quite weak, with few staff or financial resources to support activities (apart from project-based funding). This limits the district resource base and constrains the rate of development. While the current state of Karamoja's already fragile ecosystem is further degrading, officers and local decision makers are not always aware of the usefulness of ecosystem services and how sustainable land management practices can contribute to increasing ecosystems' resilience. Opportunities to strengthen this institutional capacity are however arising, with the ongoing rebuilding of the extension service, starting with the recruitment of district and sub-country extension officers.

To ensure the best chances of success for all the other project activities and to achieve the desired outcomes of this component, it is important that the technical capacity of district staff, existing and newly recruited extension staff as well as community members be enhanced on rangeland management, INRM, SLM practices/technologies, climate-smart agriculture, agro-ecological approaches and the APFS/FFS methodology. The training will also include aspects related to energy saving, energy efficiency and sustainable charcoal production. Members of these stakeholder groups will become leaders and key resource persons ("master trainers") for future community-level awareness raising, training and advocacy with policy makers (including those under Output 2.2).

[34] Households were selected on the basis of co-occurrence of the following criteria: level of food insecurity, agro-ecological zone and main livelihoods. A total of 384 households were interviewed: 277 male-headed households and 107 female-headed households in Kaabong, Kotido, Moroto, Napak and Nakapiripirit districts.

The project will also train volunteer community members so that they can act as trainers within their communities, transferring SLM and INRM knowledge to their network through future FFS or APFS and catchment/watershed committees, and as appropriate other water users associations or local natural resources environmental management bodies. It is expected that the demonstration of benefits accrued through FFS and APFS approaches will contribute to the further dissemination of sustainable techniques. Awareness raising and training material on the benefits of improved approaches such as livestock keeping will also be disseminated through the district multi-stakeholder platform and will result in more farmers trained and supported to implement SLM practices, hence increasing the number of hectares under SLM (Output 1.1).

There is also a gap in terms of the transmission of relevant agro-meteorological information to the local land users. This creates a situation whereby farmers are not able to deal with climate uncertainty and risks, perpetuating a situation that leads to low productivity, erratic yields and risk avoidance strategies, such as overstocking. While Uganda is working towards a strengthening of its meteorological services, including through a GEF project[35], the Karamoja region not been fully included in these efforts. According to the HH-BAT results, only 59% of the respondents had access to weather forecasts in February 2016. The project will build on the ERKP (**Enhancing Resilience in Karamoja Program –** DFID), ending in 2016 and which has produced in collaboration with district local government, monthly-based drought advisories. These advisories are integrated within the national early warning system managed by the National Emergency Coordination and Operation Centre (NECOC) and are already disseminated across all districts. In addition, the FAO has engaged Radio Kotido (covering all districts of Karamoja and a part of Pokot region in Kenya) for the dissemination of technical messages related to crop and livestock husbandry practices and likely to extend under the current project, to early warning messages through radio broadcasting and meteorological information.

Under this output, the IAP project will build on the achievements of the ERKP and provide training to MAAIF decentralized staff, district administrations and APFS trainers on how to communicate agro-meteorological information to communities, which is not currently done effectively. This will include drought and flood warnings, and approaches on how to manage climate risks on a day-to-day basis. The project will support the integration of Karamoja's systems, including the Drought Early Warning System, in the national early warning system (EWS) managed by NECOC. APFS/FFS members will be encouraged to establish simple rain gauges and observations to monitor themselves the rainfall and other climatic effects and understand the changes and the implications.

Output 2.2: Increase in the number of community members trained in INRM / SLM techniques

It has become evident that traditional knowledge and coping mechanisms are no longer adequate to deal with the current state of environmental degradation, also weather and climate variability. While traditional and indigenous knowledge are still being relied upon, new approaches have been demonstrated to be effective in drylands that could be applied to Karamoja ecosystems and livelihoods systems. Under this output, the project will seek

[35] Strengthening climate information and early warning systems in Africa for climate resilient development and adaptation to climate change (4.5 million – GEF/LDCF; 2013 – 2017)

to identify, assess and upscale relevant successful approaches in order to support a sustainable increase in production through more resilient and diversified systems.

Activities will focus on strengthening the capacity of communities on integrated crop-livestock farming, horticulture, CSA and conservation agriculture, focusing on existing food and fodder value chains to support increased productivity (and therefore food security). Through all the APFS and FFS, the project will build the capacity of communities to identify, conserve, and sustainably manage their agricultural biodiversity. The project will adopt a watershed management approach and will work with watershed / sub-catchment committees to promote an integrated approach to food production systems.

The project will also support pasture improvement and rangeland rehabilitation, including reseeding degraded grasslands areas, restoring the tree component of systems and resuming grazing on under-grazed areas – all of which will enhance livestock productivity. This will be achieved through the deployment of APFS and FFS as a learning-by-doing mechanism focused on groups and wider networks in order to out and upscale APFS and FFS. The baseline study and the HH-BAT results will serve to inform the APFS/FFS curricula development in the first year of the project.

In addition, the collaborative land use plans (LUPs) developed in Component 1 through the multi-stakeholder platforms will help communities in land use/resources planning and making protection, conservation/ sustainable use or regeneration-oriented decisions. For example, LUPs will determine areas where the project will pilot temporary exclosure areas to promote natural regeneration of vegetation, or where to rehabilitate hotspots of degradation using indigenous species and local varieties of seeds and plants. Assisted natural regeneration will be encouraged to restore the tree cover in these silvopastoral systems. This will be complemented by awareness raising among land users of the many benefits of trees in the landscape, including ecosystem goods and services, food and medical products. The project will also support targeted reforestation in areas identified as opportune in the Land use plans, but will avoid where possible, the risky option of planting seedlings, which have very poor survival rates in drylands. Areas designated for targeted rehabilitation could include river banks, watering points, steep slopes, gullies, with a focus on increasing biodiversity, using indigenous tree species such as Acacia, Tamarind, Shea nut, and palatable grasses and shrubs and agroforestry approaches. The combination of these rehabilitation activities will not only restore fauna habitats and protect animal and plant reserves, conserve local species, reduce encroachment into natural reserves, but also create carbon sink of 480,508 tons of CO2-eq over the duration of the project, hence contributing to global environmental benefits (GEBs) (see Annex 16 for detailed results of EX-ACT simulation).

Lastly, with prolonged droughts severely affecting livestock and crops, the project will support the implementation of rainwater harvesting or conservation techniques, within a APFS or FFS setting (Activity 2.2.1). Crop farmers in Karamoja will learn about the range of sustainable land management technologies that could be used to provide more water for production and retain more water within soils after rainfall with relatively little effort, such as stone lines, tied ridges, zai and half-moons, which are widely used in other drylands, such as in the Sahel (see www.wocat.net for full list and details).

Output 2.3: Community groups are benefiting from income generating activities introduced by the project (note: achievement of this output is closely linked to Output 2.4)

In order to expand the existing production basis for crops and livestock and therefore make a lasting contribution to food security, the project will work in collaboration with the Zonal Agricultural Research and Development Institute (ZARDI) to organize youth and women in producer groups or in village savings and loans associations (VSLAs) to develop seed multiplication skills to increase the availability of local seed varieties that are drought resistant and cereal banking systems and to reduce post-harvest losses as well as improved animal husbandry practices. The project will support members of APFS and FFS to develop into networks to enhance linkages with the local private sector and to gain technical capacity to process and organize sale of produce, fostering knowledge exchange and transfer among smallholder farmers. In addition, the project will work with local NGOs and small industries to develop practical skills of community members and particularly of women and youth to learn how to make better use of grassland, such as fodder harvesting, storage and sale under a value chain approach.

The project will support the dissemination of the APFS/FFS approach as a basis for developing capacity at the household and community level on sustainable production techniques (linked to activity 2.2.1 above). This will include support in making linkages to the community decision making systems and to the private sector and markets, as well as the provision of technical and physical assets for value addition and sustainable production in traditional and innovative value chains, in improving post-harvest management, quality processing or marketing among other value chain activities.

A key aspect of resilience to climate and food-related shocks is the diversification of livelihoods options. Currently, very few communities are involved in alternative income-generating activities that could better sustain income and maintain food security in times of drought, crop failure or livestock loss. Some sporadic examples can however be found in the Karamoja region, which could be replicated to the project sites. However, each of these avenues need to be undertaken carefully in order to avoid placing undue risk on already impoverished households. Under this output, GEF funds will be used to first perform viability and feasibility assessments, including economic and market studies, on preselected value chains in order to introduce alternative income-generating activities that are sustainable. The project preparation phase identified the following potential value chains as warranting further exploration and demonstration:

- Sustainable charcoal production, including dissemination of retort kilns and improved cookstoves for energy savings, the establishment of woodlots for fuel and exploration of alternative sources of energy[36];

[36] The development of a sustainable charcoal production value chain will also contribute to the government's objective in the rangeland and pastoralism policy to "regulate the charcoal production industry and link it to strategies that reduce demand, promote reforestation and conservation or increase the use of more efficient charcoal conversion technologies". The project will also be able to use the IUCN on-going mapping of charcoal producers aimed at identifying a process of engaging them into sustainable production. Training and awareness raising will be enhanced in

- Beekeeping, honey making and wax products;
- Small Stock raising, including ducks, pigs, chicken and egg products;
- Livestock transformation activities: hides, milk and dairy, meat;
- Alternative animal raising: camels
- Transformation of local indigenous species with food security and ecological importance: aloe vera (soap), sisal (fabric), gum Arabic, fonio, Tamarind, spices, Acacia, etc.

Once analysis of feasibility and economic viability is complete, the project will work through volunteer APFS/FFS groups to build local production and transformation capacity. The project will learn from examples and pilot projects in other areas in order to identify and support promising alternative livelihoods options.

Output 2.4: Community level small grant projects in the Karamoja region that enhance ecosystem services, adopt sustainable land management practices, innovate alternative livelihood options, are implemented (Small Grants Program)

In addition to working directly with communities, the project will channel a portion of the GEF funds through the already-established Small Grants Program (SGP), as a sub-project. The Small Grants program was designed in 1992 by the GEF as a means to channel funds to NGOs and CBOs. The period targeted by this project will be the 6th Operational Phase of the SGP in Uganda. Since 1996, the SGP has channelled nearly $6.7 million in GEF financing to support 209 projects.

In keeping with the principles governing the design of this broader project, the 6th Operational phase of the Uganda SGP will provide support to local NGOs, CBOs and CSOs to deploy small projects that respond to one or both of the following objectives:

- Restoration of ecosystem services or reduction of negative environmental trends (contributing to a reversal of land degradation and deforestation, biodiversity loss, and a reduction of climate change emissions (GEBs); see EX-ACT results in Annex 16)
- Promote diversification and increase of livelihoods and livelihoods approach (water harvesting, post-harvest management, business skills development, etc.).

Recipients will be required to deploy their activities in the Karamoja sub-region, with a strong priority on the project's targeted districts. An estimated 800,000$ will be earmarked for the SGP's activities in the Land Degradation, Sustainable Forest Management, Climate mitigation and Biodiversity focal areas.

Pursuant to the operational guidelines for the SGP, the sub-project will operate in a decentralized and country-driven manner through a National Coordinator (NC) and National Steering Committee (NSC), with financial and administrative support provided by the UNDP Country Office (CO). The NSC will provide overall guidance and direction to the country programme, and will contribute to developing and implementing strategies

communities on harvesting trees sustainably for charcoal (coppicing) and energy saving stoves will be promoted as part of the sustainable production method.

for country programme sustainability. The NSC membership should include experts in the relevant GEF focal areas of biodiversity; climate change mitigation; sustainable land management; sustainable forest management and REDD; persistent and capacity development. The NSC will be responsible for the review, selection and approval of projects, and for ensuring their technical and substantive quality as regards the strategic objectives of the SGP.

During the inception period, guidance and programming documents for the SGP will be prepared, including criteria for eligibility, calls for proposals and project review criteria. The SGP will also develop its own M&E plan and results framework, which will be aligned to this overall project's results framework. It will also be included in the Monitoring and Assessment activities under this project. As with previous operational phases of the SGP, efforts will be deployed to ensure adequate priority is given to projects led by women's and youth organizations, as well as those targeting indigenous peoples.

Table 9: Component 2 outcome, outputs and activities

Outcome 2: Increased land area and agro-ecosystems under integrated natural resources management and SLM for a more productive Karamoja landscape	
Output	Activities
Output 2.1: Technical capacity to implement INRM/SLM is increased	2.1.1. Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS / FFS methodology and energy savings/efficiency approaches. 2.1.2 Provide training for decentralized MAAIF, DLG and APFS trainers on agro-meteorological information dissemination (with MAAIF and UMA). 2.1.3 Integrate Karamoja Drought Early Warning System into the national Early Warning System through the dissemination of agro-met info and advisories to local government and to the general public through radio and other venues such as local elders forums.
Output 2.2: Increase in the number of people applying INRM / SLM techniques	2.2.1. Build capacity of men, women, youth, elders and newly sedentary former pastoralists on integrated crop-livestock farming and horticulture / catchment and territorial management / SLM technologies conservation agriculture / and climate smart agriculture (CSA) through the establishment of and technical support to new and existing APFS and FFS. 2.2.1b Build capacity of implementing partners, service provider and farmers on relevant approaches for SLM/INRM. 2.2.2 Demonstrate the benefits of pasture improvement and controlled grazing of livestock for rangeland rehabilitation and sustainable management (linked to 1.2.3), using resilient species of grass/shrubs, including the demonstration of holistic grazing management. 2.2.3 Establish temporary enclosure areas for farmer assisted natural regeneration of vegetation in line with a land use plan agreed in Outcome 1 (1.2.2). 2.2.4 Undertake reforestation and rehabilitation in hotspots identified in community land use plans (1.2.2.) (e.g. riverine areas, watering points, steep slopes, gullies)

	with a focus on increasing biodiversity, productivity and climate resilience using beneficial indigenous tree species such as Acacia gum, tamarind, shea nut and palatable grasses and shrubs. 2.2.5. Implement rainwater harvesting techniques for enhanced productivity and resilience to drought in fields (e.g. tied ridges, retention ditches, zai, half-moons, stone lines) and sand dams (where feasible) for crop, livestock and household use (e.g. roof where feasible or below ground collection tanks).
Output 2.3: Community groups are benefiting from income-generating activities (IGAs) introduced by the project	2.3.1 In cooperation with Zonal Agricultural Research and Development Institute (ZARDI), organize youth and women in producer groups or in VSLAs, to develop seed multiplication skills to increase supplies of local seed varieties, especially those with drought coping mechanisms and / or a high % recovery post-drought and cereal banking systems to reduce post-harvest losses among crop farmers. 2.3.2 Work through existing or new APFS/FFS to disseminate improved crop/livestock production techniques (linked to 2.2.1) for increased household income, including through linkages with the private sector and provision of technical and physical capacity for value addition in traditional and innovative value chains. 2.3.3 Perform viability and feasibility assessments for preselected value chains, including detailed economic and market studies 2.3.4 Develop resilient value chains for increased income: 2.3.4a Explore the potential for sustainable charcoal production working with the NFA, youth and women groups, promote the introduction of retort kilns and establish dedicated woodlots of soft wood species for wood fuel at household and manyatta level to produce charcoal more efficiently (with GHG mitigation benefits) and explore alternative sources of energy. 2.3.4b Work with local NGOs and small industries to develop practical skills and encourage youth and women to set-up businesses that make better use of grassland such as fodder harvesting, storage and sale under a value-chain approach; basket making, thatching, seed multiplication (link to 2.3.3) of fodder crops etc 2.3.4c Work with local NGOs to train farmer groups in processing and transforming indigenous plants that have a food security and global ecological importance (e.g. Aloe, Tamaring, Acacia, Spices, Amarula, etc.) 2.3.4d Work with local NGOs to organize farmers in beekeeping production groups and provide support based on a cost sharing arrangement (equipment and storage facility) and training in bee-keeping, also processing of honey and related products (learn from APFS networks in Amudat District and the Tepeth Community in Moroto District) 2.3.4e Organize women and youth in producer groups to establish small stock rearing facilities (chickens for egg production, pigs, goats, ducks) in communities and in landscapes where it is appropriate 2.3.5 Conduct FPIC assessment and consultation

Output 2.4: Community level small grant projects in the Karamoja region that enhance ecosystem services, adopt sustainable land management practices, innovate alternative livelihood options, are implemented (Small Grants Program)	2.4.1 Deliver small grant projects focusing on a set of agreed themes including: restoration of ecosystem services, forest cover and biodiversity, water harvesting and conservation, implementation of erosion control techniques, innovative sustainable livelihoods and livelihoods approaches, post-harvest management, business skills development, with particular attention to gender-based strategies

Component 3: Monitoring and Assessment

Outcome 3: Framework in place for multi-scale assessment, monitoring and integration of resilience in production landscapes and monitoring of global environmental benefits (GEBs)

It is well proven that the impacts of projects are enhanced if a wide range of people can be involved in the monitoring and impact assessment, particularly if beneficiaries are involved in participatory monitoring as this enhances local ownership of project results and processes. There are however no standard and comprehensive monitoring and assessment frameworks for resilience and GEBs in place in Karamoja, and this prevents evidence-based policy making in the sub-region. As a result, policies that are designed to foster food security stove-piped. For example, without clear evidence that links the health of ecosystems to the health of food systems, policy makers will not be able to understand the necessity of addressing environmental degradation within the framework of food security programming. There also exists limited data on biodiversity, land degradation and SLM practices, including partial data collected during the district-level SLM workshop conducted during the project preparation phase using the LADA QM methodology. This means that decisions on land use taken by local users as well as local government authorities are not taking into consideration the natural limits of the environment. This has resulted in the over-exploitation of natural resources, which in turn undermines the productive base and leads to continued food shortages.

Finally, there is limited data on resilience, except from the HH-BAT SHARP baseline survey and analysis, which was conducted specifically for this project (see Annex 8). This means that many projects and programs implemented in Karamoja are not considering the impacts of climate variability and climate change, and can be based on inaccurate assumptions regarding the ability of the food systems and communities to recover from shocks. This leads to short-term planning rather than long-term planning, which does not create a suitable enabling environment for achieving food security. Importantly, there is no single framework that allows policy makers to grasp the links between local, district, and national environment and socioeconomic benefits and global environmental benefits.

Output 3.1: GEBs assessed and monitored from project interventions

Under Output 3.1, the GEF funds will first be used to support the Project Steering Committee, in collaboration with the national SLM committee, in selecting a methodology and framework to be used for M&A of the project. Methods available that have already been used in Uganda and Karamoja include for example the HH-BAT SHARP tool developed by FAO for this project or the Resilience Atlas developed by Vital Signs Uganda (see Table 10). During the project preparation phase, a baseline land use systems map was prepared by GIS experts, using ten available sets of data, that will be used as a starting point during the project inception phase, along with field verification including using the LADA-WOCAT tools, to assess wild biodiversity and land degradation in the identified intervention areas.

The project coordination unit and project beneficiaries, including the project M&A officer will be trained in the selected M&A methodologies and tools and in particular on participatory monitoring at household level. Technical and extension staff and representatives of APFS/FFS will be trained on the job in the use of LADA-WOCAT tools to perform assessments of local land resources status and trends (soil, water, vegetation, biodiversity), the drivers, causes and impacts and to document and assess the effectiveness of SLM practices during and after the project (on natural resources and livelihoods at farm level). These different trainings will enable both beneficiaries and government staff in the target districts to conduct regular assessments of the extent and effectiveness of the various SLM practices and the INRM approach.

Using the selected methodology, the project will conduct a baseline survey for each selected site. The objective the baseline survey will be to collect household information to assess food security as well as to perform local landscape diagnostics, to assess land degradation, including soil organic carbon, land cover and landscape structure, including crop and livestock productivity and above ground carbon stocks and agro-biodiversity. The baseline study will also confirm project indicators and targets.

Table 10: Different methodologies and tools to measure climate resilience at the household level

SHARP (HH-BAT)	Vital Signs	RIMA
The Self-evaluation Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP) is a participatory self-assessment tool that aims at better identifying and understanding the situations, concerns and interests of pastoralists and farmers in regards to their climate resilience. The HH-BAT (Household Baseline Assessment Tool) is a version of SHARP, which has been developed by FAO to assess climate resilience with particular reference to food security, nutrition and displacement issues.	Vital Signs Uganda is partnered with Africa Innovations Institute (AfrII). Vital Signs collects and integrates data on agricultural management and productivity, ecosystems and human well-being and provides tools and decision making capabilities for farmers, policy makers, businesses and other national leaders in Uganda and worldwide to assess and manage risk and to support policy. Vital Signs was launched in 2012 with a grant from the Bill & Melinda Gates Foundation to Conservation International (CI). It is led by CI in partnership with the Earth Institute (EI), Columbia University and the Council for Scientific and Industrial Research (CSIR) in South Africa.	The Resilience Index Measurement and Analysis (RIMA) is led by FAO in partnership with the EU. The RIMA model is an econometric approach, building on the Resilience Index, and weighs six dimensions contributing to household resilience: - Income and food access - Assets, - Adaptive capacity - Social safety nets - Sensitivity to shocks

The HH-BAT (SHARP) served as the baseline assessment tool for this project.	Vital Signs is participating in the regional component of the IAP and in Uganda, is led by the African Research Innovations Institute in partnership with the Ministry of Agriculture and the Ministry of Water and Environment	

This project will also coordinate with the GEF MSP on *Enabling the use of global data sources to assess and monitor land degradation at multiple scales* which is developing a multi-scale indicator of land degradation for the UNCCD and the GEF and for which Uganda was selected as a pilot country. This collaboration will enable a more detailed assessment of land degradation and land degradation trends, including mapping of degradation hotspots and will provide training to project and government personnel on land degradation monitoring and assessment using data products derived from remote sensing.

Output 3.2: Capacity in place to apply appropriate tools and practices for monitoring resilience at multiple scales

Under this output, the capacity built from training in Output 3.1 will be applied at the district or landscape level. Each district level multi-stakeholder platform will use M&E tools and methods selected in Output 3.1, for monitoring resilience in Karamoja's food production systems.[37] Activities will include the implementation of participatory M&A, monitoring of GEBs, documentation and dissemination of project results. It is expected that this will contribute to making a link between project benefits and lessons and development planning, to support evidence-based policy-making.

Output 3.3: Project is linked to regional program

Under this output, the GEF funds will support participation in regional program activities in order to exchange knowledge and lessons learned from continuous monitoring and assessment of GEBs of the 11 other child projects. The project will also dedicate resources to ensure that the project is in line with the IAP regional approach throughout its implementation, and to maintain effective programmatic linkages throughout the duration of the project. This will be achieved through participation in the Regional Hub Sub-project, whose objective is "to establish and operate governance structures and process for coordination, knowledge management, scaling up, and monitoring and assessment of the IAP on Food Security".

Activities supported by the regional program will include:

- Data integration, including global monitoring of a set of key environmental indicators (land cover, land under sustainable management, conservation of genetic diversity, Greenhouse Gas (GHG) emissions avoided, etc.)
- Supporting regional institutional frameworks: the establishment of a science-policy interface (SPI)

[37] It is expected that the methodology selected for the baseline study will be used for the continuous monitoring and assessment of the project's activities.

- Sharing information on best approaches: Support to the development of a greening of value chain approach, regional conferences, training at national and regional level, the development of scientific products and technical studies, study tours and visits, from which this project will benefit.

Table 11: Component 3 outcomes, outputs, activities

Outcome 3: Framework in place for multi-scale assessment, monitoring and integration of resilience in production landscape and monitoring of GEBs	
Output 3.1: GEBs assessed and monitored from project interventions	3.1.1. Select assessment methodology and tools and conduct baseline survey for selected sites including household survey and local landscape diagnostics (Land degradation types, severity and causes, effectiveness of SLM measures and impacts on ecosystems and livelihoods). 3.1.2. Provide training to PCU and project beneficiaries in methods and tools for rigorous Monitoring and evaluation of project indicators and participatory monitoring. 3.1.3 Regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience. 3.1.4 Train technical and extension staff (government and NGOs) in the use of selected methodology and tools to perform assessments of local land resources (LD and SLM) and livelihoods diagnostics and to assess and document INRM best practices.
Output 3.2: Capacity in place to apply appropriate tools and practices for monitoring resilience at multiple scales	3.2.1 Within multi-stakeholder platforms created at the district level in Component 1, conduct participatory M&A using the selected methodology and tools and hold annual workshops to learn from M&A and disseminate the use of appropriate tools and practices for monitoring resilience. 3.2.2 In partnership with relevant projects and partners in the region, exchange on monitoring and assessment of multiple benefits of INRM from farm-household to landscape level (ecosystem services, food and livelihood security, climate resilience) and train local NGOs and private sector actors (data collection and analysis of costs, benefits and impacts towards SDG targets).
Output 3.3: Project is linked to Regional Hub program for collaborative knowledge generation, exchange and dissemination	3.3.1. Participation in regional program activities including study tours, research and knowledge sharing. Including generation of knowledge products on topics key to the child project as they relate to resilience and sustainability of food security systems.

1.3.3 Incremental cost reasoning

The baseline situation in Karamoja presents a mix of challenges and opportunities. The key challenges are the dire state of food and nutrition security, the high level of climate vulnerability, and the precarious balance that has been achieved since the arrival of relative peace in the sub-region. The main opportunities reside in the fact that a growing amount of development investments are gradually being channeled to the sub-region, contributing to the establishment of a relatively stable baseline.

The GEF intervention arrives at a time when baseline development investments are being targeted towards ensuring access to basic services, such as security, healthcare, education, drinking water, and fundamental rural infrastructure (roads and markets). However, as was noted during the project preparation phase, if they are crucial to paving the way for socio-economic development gains, these large-scale investments do not have an immediately visible impact on food security, well-being and climate vulnerability. The trickle down effects of the baseline development investments are not yet entirely visible, and indeed, 8 years after the end of the conflict period, over 90% of the population still lives in extreme poverty and food insecurity. Climate variability, climate change and creeping environmental degradation are, to a significant extent, to blame for this situation, but baseline development investments are not yet addressing these causes of vulnerability. As a result of this gap, it can be observed that any gains in development can be annulled in a single drought season, plunging communities in a downward spiral of food insecurity.

Under the baseline scenario, therefore, and without GEF intervention, baseline development efforts such as KALIP and RPRLP will continue to be jeopardized by climate variability and climate change, and will be limited by environmental degradation. There is an urgent need to ensure that environmental sustainability and climate issues are fully integrated into all aspects of development planning and programming in the Karamoja region, especially given the intrinsic fragility of the ecosystem. The GEF intervention will therefore complement baseline development activities by removing barriers to the reversal of environmental degradation, and by demonstrating the developmental gains that can be achieved from a more sustainable integrated approach to food production.

The table below presents the incremental cost reasoning for each project component:

Table 12: Incremental cost reasoning

Outcome	Baseline Scenario	GEF alternative scenario
Outcome 1: Supportive policies and incentives in place at district level to support improved crop and livestock production, food value-chains and INRM	In the baseline situation, development interventions are planned in segmented or fragmented manner, with development partners targeting interventions towards their sector of choice. There is no single framework for development and no integrated approach that allows for the full consideration of environmental and climate constraints facing food production systems. Local government budgets often fail to provide sufficient resources towards addressing environmental degradation and concerns, resulting in an imbalance between development sectors. In addition, legal frameworks at local level are often inadequate to support the sustainable management of resources, resulting in a lack of enforcement of national policies. Furthermore, existing development planning frameworks are not fully inclusive, and communities are often faced with development decisions made without their having been fully consulted. This results in a lack of ownership and top-down attitude to local development. In addition, land tenure uncertainties and the difficulties in resolving land tenure issues also weaken the traditional stewardship systems, leading to further environmental degradation. Current land use planning frameworks do not	The GEF project will be used to address these barriers to the full integration of environment and climate concerns in development processes at the sub-regional and local levels. Under the alternative scenario, GEF funds will be used to support the creation or strengthening of development planning forums or multi-stakeholder platforms to ensure full participation from local communities, NGOs and CBOs, starting from the district level and aggregating towards the landscape/watershed levels and sub-regional level. The project will build on existing venues and platforms to create avenues for a stronger dialogue that restores trust, promotes integration of environmental sustainability, and allows for the emergence of better ownership by local communities themselves. This will be embodied in community-based land use plans that take ecosystems and their services into consideration. The project will also support the integration of environmental and climate issues in district level budget lines, along with support for the establishment of stronger local legal frameworks. The project will also work with communities and local governments to address land tenure issues, and to raise local awareness of the links between food security and sustainable natural resources management. The total value of incremental costs of this outcome is 1,664,223 US$

	include environmental services, leading to a disregard for the degradation of the production base.	
Outcome 2: Increased land area under integrated natural resources management and SLM practices for a more productive Karamoja landscape	In the baseline situation, efforts at addressing food insecurity have had mitigated success due to the widespread lack of technical capacity for sustainable production among communities and extension services, and have been undermined by climate shocks in the past few years. The current approach to providing extension services has not proven effective in Karamoja, due to the remoteness of communities, a lack of trust among communities and governments, and a lack of financial and operational means. In addition, efforts aiming at transforming pastoral systems into agro-pastoralist or sedentary cropping systems have met with some cultural resistance on the part of the Karamojong. As a result, communities are left struggling in a semi-transhumant pattern with little or no knowledge of the means by which they can achieve sustainable food security. In addition, there is a continued dependency on single-commodity food production systems, which accentuates vulnerability to climate shocks and food insecurity. As a result of this situation, natural resource use patterns in the region are increasingly unsustainable, further eroding the environmental	In the alternative GEF scenario, the project would work with local communities towards achieving a sustainable increase in production and productivity, while protecting the environmental services that supports it. The project would deploy efforts using an integrated watershed management approach that integrates land, water and biodiversity concerns into agricultural production. As such, agricultural landscapes would be considered within the broader watershed. The project will also work to upscale available knowledge on successful INRM approaches and SLM practices based on lessons available from previous projects. In order to achieve this, the project will work through a farmer-based extension approach, embodied in the Agro-pastoral and Farmer Field Schools. This will entail training of existing and prospective extension officers, as well as local facilitators who can contribute to extending knowledge locally. The project will work not only with government institutions but also with local communities, traditional leaders and farmers to disseminate sustainable practices for SLM, rangeland management, catchment/watershed management, climate smart agriculture, integrated crop-livestock farming and horticulture. In this regard the project will focus on traditional (existing) food and fodder value chains, and will also (through Outcome 2) promote alternative and new value chains for diversification. In addition, the project will ensure adequate attention is paid to the conservation and sustainable use of indigenous agro-

	basis for food production. Deforestation and over-grazing have led to the rapid degradation of fragile lands, soil erosion and the gradual disappearance of agro-biodiversity. Traditional land use patterns and cattle corridors have been disrupted, first due to the conflict, and now due to inadequate land tenure and land management arrangements. There is currently no significant efforts to promote the emergence of community-based small to medium enterprises. As a result, efforts to promote poverty reduction and food security continue to rely on traditional single-commodity approaches, which accentuates vulnerability to external shocks such as price fluctuations, market failures or climate extremes. Furthermore, while there have been sporadic attempts at supporting alternative livelihoods and diversification, these are usually undertaken in small isolated pilots and are not available to all communities. This stems in part from the fact that communities are not always involved in land use planning and development planning decisions (see Outcome 1) and therefore that they themselves do not have an opportunity to identify viable livelihoods pathways.	biodiversity, which is being eroded by single commodity approaches to food production. Using the APFS/FFS methodology, the project will demonstrate the food security, environmental and economic benefits of pasture improvement and rangeland rehabilitation, natural regeneration of soil cover, agro-forestry, and rainwater harvesting techniques – all of which will contribute to increasing production and incomes. Using the farmer-based extension system referred to above, the project will identify a set of viable alternative livelihoods that can provide income diversification and can help alleviate pressures on rare natural resources. These include for example sustainable charcoal production, fodder production, basket making, thatching and seed multiplication, small stock raising (pigs, poultry), egg, milk and hide processing, and honey or horticulture production. These avenues will be studied for viability from an environmental and economic standpoint and market prospects will also be studied, so that support is provided all along the value chain. Target groups for this support will include women and youth, as well as NGOs and CBOs. This will contribute to expanding the prospects for agricultural diversification, leading to the conservation and sustainable use of local biodiversity, reduced pressures on the environment, and increased value addition. Incomes generated from alternative livelihoods will directly contribute to reducing vulnerability and to increasing resilience of target groups.

		The total value of the incremental costs under this outcome is $4,350,024, of which 800,000 US$ is earmarked for execution through the SGP.
Outcome 3: Framework in place for multi-scale assessment, monitoring and integration of resilience in production landscape and monitoring of GEBs	In the baseline situation, there is no comprehensive effort to conduct an assessment of ecological services and their status. Data on environmental trends in Karamoja is fragmented and often gathered using diverging methodologies. This does not allow for the adequate measurement of the impact or environmental cost of development initiatives. Furthermore, while lessons are being continuously identified, these are not properly integrated into the next phases of development planning at the local or regional level. The feedback mechanisms that are required to achieve qualitative increases in development are not existent and donors and planners alike are left responding to crises in an ad hoc manner.	Under the incremental scenario, the GEF funds will be used to support the identification of a single comprehensive set of methodologies and tools for the measurement of environmental degradation trends and their links to food security and resilience. This will include measurement of land degradation, water availability and watershed degradation, forest cover, agro-biodiversity assessments, and measurements of the socio-economic aspects of vulnerability. This information will feed into the land use planning and development planning exercises foreseen in outcomes 1, 2 and 3, and will support the identification of alternative livelihoods pathways. The information will also be mobilized through the use of the multi-stakeholder platforms that are being set in place under Outcome 1, to allow for the integration of project successes and lessons into continuous development planning. The project will begin by identifying an appropriate framework for monitoring and assessment, such as for example the HH-BAT SHARP tool or the Vital Signs Resilience Framework (or a combination thereof), and will provide training to project stakeholders, including local governments, extension services, development officers, NGOs and the project staff. All monitoring and assessment will be conducted using a participatory monitoring approach, through the multi-stakeholder platforms. A baseline study will be conducted, followed by bi-annual monitoring of project results and indicators and a final impact study.

		Finally, the GEF funds will also be used to promote the project's linkages to the broader regional IAP platform. This will include benefiting from enabling services, knowledge and science products, technical support, exchange visits and study tours. The total incremental cost of activities under this outcome is 789,023 US$.

Transformative effect

This project is expected to have a lasting and transformative effect in the project sites and through the broader Karamoja landscape, through a few key strategies:

First, by promoting the re-integration of local communities, NGOs and CBOS as legitimate actors and decision makers into the development planning processes, the project will contribute to decreasing the aid-driven, project-based approaches to reducing poverty in the area. Furthermore, the multi-stakeholder platforms envisaged in Outcome 1 and the Monitoring and assessment activities under Outcome 3 will contribute to the gradual transformation of the development planning processes into evidenced based decision-making with communities and the environment at their heart.

Second, the project will contribute to reversing the damage to the environment that is currently visible in the project areas, by allowing local communities to undertake restorative and preventative actions. This alone will have a transformative effect at the scale of the landscapes concerned, which are currently very degraded and which cannot support any increase in production. The restoration of environmental services will support a return to productivity, and activities designed to reduce the risk faced by smallholders will further support the transformation of the landscape. It is expected that this project will contribute to the emergence of a new cadre of agricultural entrepreneurs, mostly among women and youth, who currently form part of the most vulnerable segments of the population.

Thirdly, this project is expected to have a catalytic effect through the use of farmer-based extension approaches. By not limiting agricultural extension to government services alone, with their inherent limitations in operational budgets and human resources, the project will contribute to the rapid dissemination of sustainable and economically viable production techniques. The learning-by-doing aspect of this project's extension support will contribute to renewing the motivation for local stewardship, and economic benefits will be directly visible – thereby further facilitating upscaling.

At the end of the project, it is expected that the beneficiary communities will be transformed from their current, extremely vulnerable and food aid-dependent situation, into responsible actors of their own development, with a distinct set of production assets and a basis from which to grow. The integrated approaches pursued by the IAP, which include environmental issues (integrated watershed management), food production (value chain management), and development planning (multi-stakeholder landscape-based development planning) will all contribute to creating a new model for development in Karamoja.

1.3.4 Partnerships, stakeholder consultation and engagement

Stakeholders

The beneficiaries and stakeholders described in the table below have participated in the design stage of the project and will continue to do so during project implementation.

Stakeholders	Details	Contributions to the project
Government	District local governments in the Karamoja sub-region – technical staff	- Part of the district multi-stakeholder platforms and linking to the regionally established platform - Recipient of training on INRM and SLM - Recipient of training on the application of the FAO Voluntary Guidelines on responsible tenure of land, fisheries and forests (VGGT) for resolving land tenure issues - Providing technical advice on rangeland management / SLM etc - Support enforcement environmental management regulations / by-laws / EIA regulations etc. - Support for the main-streaming/ institutionalisation of APFS/FFS through district plans and budgets - Recipient of training on the use of LADA-WOCAT tools to perform assessments of local land resources and livelihoods diagnostic to assess best practices
	District local governments in the Karamoja sub-region – extension staff	- Part of the district multi-stakeholder platforms and linking to the regionally established platform - Recipient of training on INRM and SLM - Recipient of training on the application of the FAO Voluntary Guidelines on responsible tenure of land, fisheries and forests (VGGT) for resolving land tenure issues - Master Trainers for APFSs and FFSs - Recipient of training on the use of LADA-WOCAT tools to perform assessments of local land resources and livelihoods diagnostic to assess best practices
	Ministry of Agriculture, Animal Industries and Fisheries (MAAIF)	- Part of the regional multi-stakeholder platform - Project Executing Partner - Recipient of training on INRM and SLM - Recipient of training on the application of the FAO Voluntary Guidelines on responsible tenure of land, fisheries and forests (VGGT) for resolving land tenure issues - Contributor to the introduction of INRM and SLM into public policy and practice as an adaptation strategy - Recipient of training on the use of LADA-WOCAT tools to perform assessments of local land resources and livelihoods diagnostic to assess best practices
	Ministry of Agriculture, Animal Industries and Fisheries – Zonal Agricultural Research and Development Institute (ZARDI)	- Part of the regional multi-stakeholder platform - Guidance and training for farmers (e.g. hay making, seed multiplication, SWC, AF, woodlots, root crops) - Support to the training on INRM, SLM and seed multiplication - Recipient of training on the use of LADA-WOCAT tools to perform assessments of local land resources and livelihoods diagnostic to assess best practices
	National SLM committee	- Part of the regional multi-stakeholder platform - Part of the PSC, through a designated focal point - Responsible for project coordination and monitoring of project activities
	National Environmental Management Agency	- Part of the regional multi-stakeholder platform - Participate in monitoring environmental benefits of activities, including biodiversity and land rehabilitation
	Ministry of Water and Environment (MWE)	- Part of the regional multi-stakeholder platform - Recipient of training on INRM and SLM - IWRM for agriculture, livestock and human consumption, sustained surface and ground water supply and watershed management

Stakeholders	Details	Contributions to the project
	Ministry of Energy and Mineral Development (MEMD)	- Part of the regional multi-stakeholder platform - Recipient of training on INRM and SLM - Support to Sustainable charcoal production/value chain development - Support to the awareness raising on Energy saving stoves, biogas, solar energy or other energy saving measures e.g. for agro-processing
	Ministry of Lands and Urban Development (MLUD)	- Part of the regional multi-stakeholder platform - Support to the establishment of community-based land use plans supporting INRM and SLM. - Providing information on community land tenure and access rights including forest and fisheries to support project activities - Recipient of training on the application of the FAO Voluntary Guidelines on responsible tenure of land, fisheries and forests (VGGT) for resolving land tenure issues
	Office of the Prime Minister (OPM)	- Support the regional multi-stakeholder platform during and after the project's implementation - Support for coordination and links to numerous existing projects and programmes (e.g. DFID Resilience Programme, World Bank Africa Pastoral Livelihood Resilience Project, Strengthening capacities for DRM and resilience)
	National Forestry Authority (NFA)	- Work with the project coordination unit and support the potential for sustainable charcoal production among youth and women groups. - Part of the regional multi-stakeholder platform - Providing information on choice of tree species choices, also tree management - Liaise with project on interventions in forest reserves (e.g. Mt Moroto)
	Office of Karamoja Affairs	- Contribute to the assessment of existing sub-regional platforms and to the needs assessment for a sub-regional multi-stakeholder platform - Coordinate the regional multi-stakeholder platform gathering all relevant stakeholders - Part of the regional and district levels multi-stakeholder platforms
	Ministry of Trade, Industry and Cooperatives	- Provide vital inputs and links to value chains to develop markets for produce from Karamoja (initially, local markets – longer-term consider wider markets) - Part of the regional multi-stakeholder platform
Land Users, their groups and leaders	Pastoralists	Beneficiaries[38]
	Agro-pastoralists	Beneficiaries
	Rainfed cropping farmers (including traditional and recently settled pastoralists);	Beneficiaries
	Small-scale irrigated horticulturalists – mainly but not exclusively women – usually part of APFSs;	Beneficiaries
	Woodland- and forest-dependent communities.	Beneficiaries
	Women and youth associations/groups in Karamoja (active in	Beneficiaries

[38] Please refer to the social context (Section 1) for more information on beneficiaries, including: different roles and responsibilities of women and men (of different age, ethnicity and socioeconomic group), and their access to resources and services.

Stakeholders	Details	Contributions to the project
	agriculture and other non-farm activities)	
	Representatives of local NRM mechanisms (i.e. water user associations, catchment committees, basin organizations, pasture committees, etc.)	Beneficiaries
	Traditional leaders/Elders of various ethnic groups in Karamoja	Beneficiaries
International development agency	UNDP	GEF Implementing Agency, responsible for Outcomes 1 and 3, contributing partner to outcomes 2 and 4. Member of the Project Board, quality assurance.
	FAO	GEF Implementing Agency, responsible for Outcomes 2 and 4, contributing partner to outcomes 1 and 3. Member of the project board, quality assurance.
Other	Academic and Research Institutions	- Research support to sustainable rangeland and integrated crop-livestock management and activities to enhance food and livelihood security
	World Agroforestry Centre (ICRAF)	- Providing information on choice of tree species choices, also tree management – and advice / germplasm of appropriate domesticated fruit trees
Non-Governmental Organization (NGO) & **Civil Society Organization (CSO)**	NGOs such as: - Community Integrated Development Initiative (CIDI) - Hope for Humanity Karamoja (HHK) - Concern Worldwide - Bicycles for Humanity (B4H) A list of relevant CSOs can be found in Annex 6	- Part of the regional and district levels multi-stakeholder platforms - Recipient of training on the application of the FAO Voluntary Guidelines on responsible tenure of land, fisheries and forests (VGGT) for resolving land tenure issues - Contribute to reforestation and rehabilitation activities - Participate in the implementation of SLM practices and INRM - Support farmer groups in developing resilient value chains for increased income - Recipient of training on the use of LADA-WOCAT tools to perform assessments of local land resources and livelihoods diagnostic to assess best practices - Recipient of training on methods and tools on monitoring and assessment of multiple benefits of INRM from farm-household to landscape level (Output 3.2) - Strengthen capacity of CSOs/CBOs to become effective service providers for: • developing and implementing community /catchment action plans facilitating/supporting APFS and FFS
	Existing APFS and APFS networks	- as above also exchange visits, participatory evaluation etc.
Private sector	Traders in inputs supply, agricultural food produce, charcoal and other value chains in Karamoja and other parts of Uganda	- Part of the regional and district levels multi-stakeholder platforms - Provide vital inputs and links to value chains to develop markets for produce from Karamoja (initially, local markets – longer-term consider wider markets) - Establish linkages with communities to provide value addition in traditional and innovative value chains through existing and new APFS/FFS.

Stakeholders	Details	Contributions to the project
		- Recipient of training on methods and tools on monitoring and assessment of multiple benefits of INRM from farm-household to landscape level (Output 3.2)

Stakeholder engagement

In order to ensure buy-in and ownership of project activities, the communities, institutions and partners in this project have been involved from the start in the project's design, during the project preparation phase. The project preparation phase included a Project Preparation Inception Workshop (held in November 2015) and brought together all stakeholders and potential partners, and other prospective stakeholders that were identified during the course of project preparation. A second design and consultation mission took place in January 2016, during which the preparation team visited potential project sites and conducted focus groups and discussions with communities and with district technical officials on food security, environmental degradation, and climate change impacts on local livelihoods.

During the focus groups, vulnerable groups such as women, youth and the elderly were particularly targeted in order for them to be able to voice their concerns (for more detail on vulnerable groups, please refer to Section 2.3 of the Project Document). They will be specifically targeted in this project, in particular through Component 2, which will provide activities designed around their specific needs, capacities, knowledge and social roles with the objective to increase the land area under INRM and SLM and enhance productivity to contribute to food security. Furthermore, district technical officials will all also be particularly targeted in order to enhance and build up their institutional and technical capacity in terms of implementing integrated natural resources management and sustainable land management.

The validation workshop took place on 18th May 2016 and brought together all relevant stakeholders, including representatives from NGOs and specific sectors to discuss the final list of project activities and expected results. Detailed report of the inception, consultation and validation missions are provided in Annex 12.

To ensure effective and informed participation of stakeholders in the formulation and implementation of this project, the inception and consultation missions engaged community stakeholders and district officials through focus groups, which involved two stages. In district government, the consultation first held a meeting with all the district's employees and then divided into thematic groups, such as agriculture, livestock, land management and alternative livelihoods to focus on certain issues. Within communities, large community meeting involved everyone in a community, then, the smaller focus groups included groups of women, youth and elders. This allowed for fair and representative participation of all affected populations, especially the most vulnerable and marginalized. Questions to communities allowed the design preparation team to understand the current and past issues in the sub-region as well as to identify needs of communities in order for them to reach resilient livelihoods and food security. In addition, mapping of land use systems was conducted by national experts, and a stakeholder workshop was held in Moroto in January 2016 to conduct a participatory assessment of land degradation and existing SLM practices in the seven districts in Karamoja sub-region, however, more information is required from the districts to complete the database and mapping.

Through the large set of activities, this project design strives to respond to all concerns expressed by communities and will be in line with what the communities need to enhance their food security in the long term.

Grievance Mechanism

FAO facilitates the resolution of concerns of beneficiaries/stakeholders of FAO projects and programmes regarding alleged or potential violations of FAO's social and environmental commitments. For this purpose, concerns may be communicated in accordance with the eligibility criteria, which apply to all FAO programmes and projects[39]. All projects and programmes are required to publicize the mechanism for the receipt and handling of grievances at the local level.

The grievance mechanism for communities to voice any concern not in line with FAO's environmental and social standards during this project's implementation will involve the cooperation of district extension workers, who will act as liaison between communities and the project management unit. This mechanism will be communicated to all communities involved in the project at the beginning of implementation through the local radio.

Disclosure

Disclosure of relevant project information helps stakeholders to effectively participate. FAO will disclose information in a timely manner, before appraisal formally begins, that is accessible and culturally appropriate, placing due attention to the specific needs of community groups which may be affected by project implementation (such as literacy, gender, differences in language or accessibility of technical information or connectivity).

1.3.5 Linkages and coordination with other initiatives

The proposed project will coordinate with existing projects in order to promote synergies when appropriate, support other interventions, share knowledge and resources when possible, avoid duplication and ensure value-added to the development sector in Karamoja. The potential initiatives that the project could coordinate with are listed below:

1. **The Green Charcoal Project – Addressing Barriers to the Adoption of Improved Charcoal Production Technologies and Sustainable Land Management Practices through an Integrated Approach** (US$ 3.48 million – GEF MFA through UNDP; 2014 - 2018), is being implemented by the Ministry of Energy and Mineral Development (MEMD) in collaboration with the Ministry of Water and Environment, National Forestry Authority, Nyabyeya Forestry College and the four districts of Kiboga, Kiryandongo, Mubende and Nakaseke. In its first year, the project has already accomplished the following:
    - Supported the development and implementation of the National Biomass Energy Strategy (NBEST) for Uganda.
    - Created awareness about threats from traditional charcoal production methods and influenced attitude change towards adoption of improved charcoal production technologies among different stakeholders. This has contributed to reduction on the amount of wood used for charcoal production.

[39] See "Compliance Reviews Following Complaints Related to the Organization's Environmental and Social Standards" http://www.fao.org/aud/42564-03173af392b352dc16b6cec72fa7ab27f.pdf

- Built capacity of charcoal producing associations, supported women and youth entrepreneurs in production and marketing of briquettes. As a result, Small and Medium Enterprises dealing in charcoal have been formed.
- Trained 500 community members, supported them to plant close to 1 million trees for sustainable charcoal feedstock."

2. **Strengthening climate information and early warning systems in Africa for climate resilient development and adaptation to climate change** (4.5 million – GEF/LDCF; 2013 – 2017). The goal of the on-going LDCF project is to improve climate monitoring and early warning systems, including the following: i) enhancing the capacity of hydro-meteorological services and networks to predict climatic events and associated risks; ii) developing a more effective and targeted delivery of climate information including early warnings; and iii) supporting improved and timely responses to forecasted climate-related risks. Specifically the LDCF project intends to:
    i) establish a functional network of meteorological and hydrological monitoring stations and associated infrastructure to better understand climatic changes;
    ii) develop and disseminate tailored weather and climate information (including colour-coded alerts – advisories, watches and warnings – for flood, drought, severe weather and agricultural stresses, integrated cost-benefit analyses and sector-specific risk and vulnerability maps) to decision makers in government, private sector, civil society, development partners and local communities in the ***Teso and Mt Elgon sub-region***;
    iii) integrate weather and climate information into national policies, annual work plans and local development including the National Policy for Disaster Preparedness and Management, and district and sub-county development plans in priority districts in the Bukedi, Busoga, Elgon, Teso, Acholi, ***Karamoja*** and Lango sub-regions.

3. The **Conservation and Sustainable Use of the Threatened Savanna Woodland in the Kidepo Critical (KCL) Landscape in North Eastern Uganda project** (US$ 13 million by UNDP, GEF, USAID and the Government of Uganda; 2013 – 2016) is being implemented by the National Environment Management Authority (NEMA) in collaboration with the Uganda Wildlife Authority (UWA), National Forestry Authority (NFA) and the six districts namely Kaabong, Kotido, Abim, Otuke, Agago and Kitgum that surround Kidepo National Park. This project aims at strengthening the national system of protected areas in Uganda by improving the management effectiveness of protected areas in the KCL, thus affording biodiversity sufficient protection from emerging and future threats. More specifically, the objective is to create a coordinated landscape management approach in the KCL to serve as a shield against human-induced pressures on Uganda's threatened biodiversity. If the proposed project is implemented in Kotido district, the PMU will strive to work with communities living in buffer around park to develop shared use agreements to protect local livelihoods and the park's biodiversity.

4. **Strengthening Adaptive Capacity of Agro-Pastoral communities and the Local Government to Reduce Impacts of Climate Risk on Livelihoods in Karamoja, Uganda**

(US$ 9 million, DFID resilience programme, implemented by FAO; 2013 – 2017). This project aims at strengthening: i) early warning, preparedness and contingency planning and response system; ii) livestock disease surveillance, diagnostic capacity, veterinary services and animal/ livestock nutrition; and iii) agro-pastoral production systems through support to district local governments, APFS and improved access to water.

5. **Strengthening Seed Delivery System for Dryland Cereals and Legumes in Drought-prone Areas of Uganda**, implemented by the National Semi Arid Resources Research Institute - National Agricultural Research Organisation (NARO) and The International Treaty on Plant and Genetic Resources for Food and Agriculture (ITPGRFA)

6. **Promoting open source seed systems for beans, forage legumes, millet and sorghum for climate change adaptation in Kenya, Tanzania and Uganda**, implemented by National Genebank of Kenya and The International Treaty on Plant and Genetic Resources for Food and Agriculture.

7. The current **Swalog Production Grant Scheme Phase III (SPGSIII)** project aimed at encouraging private sector investment in commercial timber plantations through provision of grant and technical support is implemented by FAO on behalf of the Ministry of Water and Environment and funded by EU. The IAP project may look for potential synergies with one of the SPGSPIII components focused on smallholder fuel wood plantations (woodlot afforestation), although it is unknown yet how much of Karamoja will be targeted.

8. The **Uganda Climate-Smart Agriculture Program (2015-2025),** is jointly implemented by the MAAIF and the MWE and aimed at i) increasing agricultural productivity through CSA practices and gender-based approaches, ii) increasing the resilience agricultural landscapes and communities to climate change impacts, iii) increasing the agricultural sector contribution to the low carbon development pathways, iv) strengthening the enabling environment for efficient and effective scaling up of CSA, and v) enhancing partnerships and resource mobilization initiatives to support implementation of CSA.[40]

1.4 LESSONS LEARNED

The project design team consulted documentation and experts from previous and ongoing projects, and many of the activities included in this project's design are based on successes experimented in other initiatives. The main lessons learned were as follows:

- ✓ The **Karamoja Livelihoods Programme (KALIP, 2010-2015)** is a five-year programme funded by the European Union, with the objective to promote development as an incentive to peace by supporting livelihoods including agro-pastoral production and alternative income generation opportunities for the people of Karamoja. In the Programme completion report, the following lessons learned were noted as they are directly relevant to this project:

[40] Uganda CSA Program 2015-2025: http://www.slideshare.net/cgiarclimate/the-way-forward-for-ugandas-csa-program-2015-2025

- Components and their related results should complement each other and be part of an integrated delivery, as opposed to a complex project with different unrelated components and results.
- Efficient resource planning and allocation is needed during design to ensure timely delivery of the project implementation
- Future projects should build on best practices / successful interventions of KALIP
- Partnerships with districts should be enhanced through the engagement of local district officials at all levels of the project in order to guide technical designs, quality control and political acceptability of the project.
- There is a need for a strong monitoring and a thorough reporting and communication system.

At the community level, the KALIP also recommended that:

- The quality of APFSs Facilitators should be enhanced. More use should be made of the greater technical expertise of sub-county extension staff.
- The group activities conducted within APFS need to be applied at the household level
- Focus on combining interventions on livestock and crops
- Vulnerable households, such as women headed households, should be empowered with small ruminants such as goats and sheep to cope with adverse weather conditions.

✓ **The Water Addendum to Enhancing Resilience in Karamoja Program (ERKP)** (DFID–ERKP; 2015-2016) included four components, namely: i) Watershed management, ii) rangeland mapping and restoration, iii) water resources research, and iv) water resources decision support tool, and terminated in early 2016. The following lessons learned and recommendations will be useful for the proposed project:

- The importance of the watershed / landscape approach,
- ***Prosopis juliflora*** is a notorious invasive woody vegetation species with adverse ecological and landscape consequences,
- **In Lokere**, degradation hotspot areas include Katikekile, Rupa and Nadunget for Moroto, Irriri and Lotome in Napak and Loroo in Amudat. In addition to vegetation loss and soil erosion, Lolachat in Nakapiripirit is also frequently flooded.
- **In Lokok,** degradation hotspot areas include Rengen, the eastern part of Panyangara, a small section of the western part of Nakapelimoru in Kotido district; Kaabong East, Sidok (Kapoch), Loyoro, Lolelia in Kaabong and Rupa in Moroto and a portion of Iriiri in Napak. In addition to vegetation loss and erosion, Alerek in Abim is also flooded.

Recommendations:

- Development and implementation of participatory adaptation actions plans Community Environment Action Plans (CEAPs).
- Rehabilitation and restoration of degraded watershed and rangeland hotspots
- Live fencing of homesteads in order to reduce offtake of biomass for fencing homesteads
- Establishment of woodlots for fuelwood, building materials and for commercial purposes
- Establishment of natural resources management (NRM) institutions that incorporate traditional and statutory structures

- Promotion of a Community Environment Conservation Fund (CECF) for income-generating activities and as an incentive for CEAP implementation

✓ **Strengthening capacities for disaster risk reduction and resilience building** (2013 – 2016: 3,968,708 US$ - UNDP/BPPS, Japan and Sweden). This project terminated in early 2016 and contributed to strengthening national Disaster Risk Reduction (DRR) institutions through improved sector coordination. Its main goal was to see that DRR is included in national and sector specific policies and projects and to improve the different communities' readiness to deal with disasters. Lessons learned will soon be published in the final evaluation report and the proposed project will use these to improve the implementation of Component 2.

✓ Recent focus of attention by Government, for instance the Karamoja Action Plan for Food Security (KAPFS, 2009-2014), which prioritized crop farming over traditional pastoralism (livestock), which people have survived on for decades, risks reducing the resilience of transhumance pastoralist and agro-pastoralist livelihoods, particularly in the face of the impacts of increasing weather variability, frequency of extreme events and climate change. FAO and EC (2010) amongst many give very clear evidence for the economic viability of pastoralism, for its comparative advantage over crop farming in Karamoja and for its drought resilience as a livelihood system. Livestock keeping thus must become once more advocated as the most appropriate livelihood system, using holistic grazing management or using traditional transhumance for the majority of land users in the sub-region.

✓ Increasing the number of water sources for livestock is risking exacerbating land degradation around watering points as these will encourage livestock keepers to become sedentary, thus the areas around watering points will have no time to recover. Provision of watering points should be accompanied by catalysing local livestock keepers to adopt holistic grazing management (Weber and Horst, 2011) or enclosures (Nyberg *et al,* 2015).

✓ Climate Change Adaptation in the Mbale region of Uganda, part of the Territorial Approach to Climate Change (TACC) terminated in 2013, supported the integration of climate change adaptation and mitigation measures into sustainable development planning and programming. Lessons learned from this project may be found on http://www.adaptation-undp.org/projects/dc-uganda-tacc

✓ The Transboundary agroecosystem management project of the Kagera river basin shared by Uganda, Tanzania, Burundi and Rwanda:

- The opportunity and benefits of linking FFS on soil and water management to wider catchment/watershed management by communities
- The need to involve farmers, other land users, community leaders, backed up by the range of technical sectors, in participatory diagnostics of the selected watershed/ territory as basis for developing a prioritised multi-stakeholder management plan with clear responsibilities, timing and budget
- The need to link and institutionalise the intervention approaches (APFS/FFS, participatory diagnostics, monitoring, watershed management, etc.) and the various management structures (FFS groups, catchment committees, water users associations and other NRM bodies)

- The opportunity to systematise the use of standard WOCAT tools for assessing and documenting SLM practices (now simplified and on line and part of UNCCD country reporting)
- The need to develop very simple, easily applied monitoring tools at the start of the project with the partners and to work with local research bodies and MSc students to support training and ensure the collection of reliable data.
- The need to address land and water governance issues (user rights, tenure security and conflicts over resources) as a basis for SLM.
- The importance of linking the project steering committee (PSC) with the national SLM committee (i.e. a subgroup) and other relevant decision making processes (district; region; agriculture and environment sectors) to obtain better guidance and prevent setting up redundant decision making structures.

1.5 ALIGNMENT AND STRATEGIC FIT

1.5.1 Alignment with national development goals and policies

This project contributes to the achievement of the SDGs, in particular SDG 2 on the reduction of hunger, SDG 13 on climate change, SDG 15 on biodiversity, land degradation and deforestation, and their related targets, as follows:

- By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
- By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons
- By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment
- By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
- By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

- By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

- By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

- By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development

- Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

The project also makes indirect contributions to other SDG targets, including conservation of agricultural biodiversity (seed banks - Component 2), improving water use efficiency and increasing access to water (Component 2), and Goal 5 on gender.

This project is consistent with the development priorities for Uganda, as embodied in the 2nd National Development Plan (2015-2020), whose objective is to propel the country to middle income status by the middle of the century. For example, under NDP2, the government of Uganda has a target of reducing the number of the labour force in subsistence production from 6 million in 2012/13, majority of who are women, to 3 million in 2019/20. The NDP foresees investments in the four key pillars of agricultural production: i) increasing production and productivity through the promotion of ecologically sound and climate resilient agricultural practices; ii) addressing challenges in the selected thematic technical areas including critical farm inputs mechanization and Water for Agricultural Production; iii) improving agricultural markets and value addition, and iv) institutional strengthening for agricultural development.

The project is in line with key legislation in Uganda. The key legislation is summarised in the Table below and described in further detail in Annex 10. The project is coherent with these national development priorities, as follows:

Table: Summary of Key Policies and Legislation relevant to Fostering Sustainability and Resilience for Food Security in Karamoja Sub Region

Relevant Area	Law
Land Use	• **Uganda National Land Policy 2013** The vision of the National Land Policy is "a transformed Ugandan society through optimal use and management of land resources for a prosperous and industrialized economy with a developed service sector." Among the attributes of the vision is modernized agriculture aimed at shifting from subsistence to commercial agriculture to avert poverty and attain food security using land as the major resource input. The Policy statement on agriculture is that "Government shall regulate the use of land and water resources for agricultural production aligned with a National Agriculture policy" Some of the strategies are that government will take measures to:

	• Promote farming practices that reduce land degradation and enhance soil quality and productivity. • Plan, use and regulate agricultural activities and other practices that degrade the quality of agriculture land • Promote sustainable use and management of water, soil and land resources**.** Fostering Sustainability and Resilience for Food Security in Karamoja Sub Region requires under-taking of the above land policy strategies. • **The National Soils Policy for Uganda 1999** This Policy contains Government Policy directives, plan of action and statements of aim and objectives to ensure sound management of the soils of Uganda on a sustainable basis. The objectives of this policy include promotion of optimal land use without unnecessarily compromising the environment through the use of soils and establishing a structure for continuous monitoring and assessment of Uganda's potential in terms of its soil properties and weather, soil degradation and then undertaking technical measures required to control it. One of the strategies for Policy implementation includes land use improvement, which requires land resources inventory to provide up-to-date information and reliable data on land resources such as soil, water, climate, vegetation, wildlife and forestry. The Policy provides the legal strategies to include review of existing legislation with a view of enacting a comprehensive soil conservation Act and urging districts to make Ordinances and By-laws on soil conservation. The policy is vital in improving the farming systems in Karamoja through undertaking soil conservation measures. The different districts already have ordinances on the environment to control bush burning. • **The Land Act Cap 227** The Act provides for the tenure, ownership and management of land in Uganda. The Land Act defines four land tenure systems; mailo, customary, freehold and customary tenure. Section 43 of the Act requires a person who owns or occupies land to manage and utilise the land in accordance with the (Forest Act) repealed by the National Forestry and Tree Planting Act, the Mining Act, the National Environment Act, the Water Act, the Uganda wildlife Act, and any other law. S.70 reserves all rights in the water of any natural spring, river, stream, watercourse, pond, or lake on or under land, whether alienated or unalienated to the Government but grants reasonable use by an occupier of land of any waters for domestic, small-scale agricultural, or pastoral purposes. • **The National Environment (Minimum Standards for Management of Soil quality) Regulations, 2000** The regulations establish and prescribe minimum soil quality standards to be maintained for the management of the quality of soil, the criteria and procedures for the measurement and determination of soil quality and guidelines for soil management. Soil conservation in these areas is thus required as a basis for environmentally sound production of food, wood and other commodities based on sustainable use of land, species and ecosystems. • **The National Environment (Hilly and Mountainous Area Management), Regulations, 2000** The Regulations facilitate the sustainable utilization and conservation of resources in mountainous and hilly areas to promote the integration of wise use of resources in such areas and that efficient and sustainable use of such resources are maintained for the present and future generation.
Agriculture	• **The National Agricultural Policy 2013** The vision of the Policy is "A Competitive, Profitable and Sustainable Agriculture Sector". The overall objective is to promote food and nutrition security and to improve household incomes through coordinated interventions that will enhance sustainable agricultural productivity and value addition; provide employment opportunities, and promote agri-businesses, investments and trade. Other key objectives that are relevant to Fostering sustainability and resilience for food security in Karamoja sub-region, include: • Ensure household and national food and nutrition security for all Ugandans.

	• Increase incomes of farming households from crops, livestock, fisheries and all other agriculture related activities • Ensure sustainable use and management of agricultural resources • Develop human resources for agricultural development The policy shall thus guide all agriculture and agriculture related sub-sector plans, policy frameworks and strategies existing and those to be formulated in future to enhance food security in Karamoja sub region. • **The National Agricultural Research Policy 2003** The aim of the policy is to develop a demand-driven, client-oriented and farmer-led agricultural research service delivery system, particularly targeting poor men and women. The policy is designed to generate and disseminate appropriate, safe and cost-effective technologies, while enhancing the natural resource base. The policy recognises the need to address market opportunities and promote the participation of the private sector, civil society and farmers and also the opening up provision of agricultural research services to competition may increase the efficiency and effectiveness of agricultural research. This requires separating public funding from the delivery of research services. Ensuring food security in Karamoja requires conducting agricultural research based on this policy and considering the area's environmental and climatic conditions • **The National Agricultural Advisory Services Act, 2001** The Act establishes the National Agricultural Advisory Services Organisation (NAADS) whose objectives include; to increase incomes and improve the quality of life of poor subsistence farmers through increased productivity and increased shares of marketed production, and to promote sustainable use and management of Natural resources by developing land use and management policy and promote environmentally friendly technologies. The major function of the NAADS as under S.6 of the Act is to contribute to the modernization of agricultural sector in order to increase total factor productivity of both land and labour for the benefit of the farmers. The organization is empowered to ensure that research and extension of needs of farmers are identified and answered by service providers. Support and advisory services to farmers in Karamoja sub region should be given by NAADS as required by this Act. • **The National Agricultural Research Organisation Act Cap 205** The Act under S.2 establishes the National Agricultural Research Organization (NARO). The objectives of the organisation are to undertake, promote and streamline research in agriculture, livestock, fisheries and forestry. Under S.17, the organisation shall have and operate the research institutes specified in the Third Schedule to the Act and others that may be established. The research institutes have a role to identify production, policy, market, processing and utilization constraints in the fields of agriculture, livestock, fisheries and forestry, and prepare short- and long-term research programmes within the framework of the national agricultural research strategy and plan. • **The Seeds and Plant Act, 2006** The Act is intended to promote, regulate and control plant breeding and variety release, multiplication, conditioning, marketing, importing and quality assurance of seeds and other planting materials. Under S.3 of the Act, a National Seed Board under the Ministry of Agriculture is established to formulate and advise government on the national seed policy, establish a system of implementing seed policies, constantly review the national seed supply, coordinate and monitor the public and private seed sector. • **The Plant Protection Act Cap 31** The Act makes provision for the prevention of the introduction and spread of disease destructive to plants. It empowers the commissioner for agriculture to administer the Act and the minister to make rules for the purpose of preventing and controlling attacks by or the spread of pests or diseases in Uganda. Some of rules as under S.3 include - The disinfection, treatment, destruction and disposal of any unhealthy plant, or of any plant appearing to be infected with any pest or disease, or of anything whatever, whether of a nature similar to a plant or not, likely to infect any plant with any pest or disease;

	- The prohibition, restriction or regulation of the cultivation and harvesting, either throughout Uganda or in any specified area, of any plant, where, in the opinion of the Minister, any pest or disease cannot otherwise be readily or adequately controlled or eradicated; - The reporting of the occurrence of any pest or disease specified in the rules, and the collection and transmission of specimens of any pest or diseased plant; - The methods of planting, cleaning, cultivation and harvesting to be adopted and the precautions and measures to be taken by any person for the purpose of preventing or controlling attacks by or the spread of any pest or disease. S. 4 requires any occupier or owner of land to take measures as are reasonably necessary for the eradication, reduction or prevention of the spread of any pest or disease which an inspector may by notice in writing order him or her to take, including the destruction of plants, whether the plants are infected with disease or not. • **The Prohibition of Burning Grass Act, Cap 33** The Act prohibits burning of grass unless authorized by a veterinary officer or agriculture officer or forest ranger or wildlife officer authorized by the board of trustees. Under the S.1 of the Act, 'grass' is defined to include all vegetation and 'farming' includes management of land for agricultural, forestry and livestock development. However, under S.3 the sub county chief may after consultation with an officer of the veterinary or agricultural departments, authorize controlled burning of grass for a specific purpose; and such burning has to be under the supervision of a parish or sub parish chief. S.5 provides for exceptions on the prohibition while taking proper care to prevent the spreading of fire and these include burning grass for the purposes of clearing land for farming. This Act creates offences and penalties. A person who carries out the burning of grass contrary to the Act or fails to obey an order to control or extinguish fire or to prevent the burning of grass in the area commits an offence and is liable on conviction to a fine not exceeding five hundred shillings or to imprisonment for a period not exceeding three months. Whereas the term of imprisonment appears to be somehow proportional to the offence, the fine of five hundred shillings is too low and lenient having no regard to the environmental damage caused and does not serve the purpose of deterring offenders. • **Draft Rangeland Management and Pastoralism Policy 2014** The broad objective of the Rangeland Management and Development Policy is to contribute to the national goal of wealth creation through sustainable investments, proper management and conservation of rangeland resources for the benefit of all. One of the objectives is to secure effective participation of pastoralists, agro-pastoralists and other stakeholders in the decision-making and implementation processes for matters relevant to sustainable use and management of rangeland resources. It includes the following strategies: • Educate rangeland users about their resource-user rights and responsibilities to scale up sustainable rangeland management; • Empower rangeland users to uptake appropriate technologies for improving rangeland productivity; • Provide training on the best practices for rangeland resource use and development; • Establish collaborative and well-regulated management mechanisms that allow pastoral access to grazing reserves in and outside gazetted areas; • Promote an 'all-inclusive and all-participating' approach involving key stakeholders to prepare and implement only those projects identified as best suited to reduce land degradation and enhance soil quality and productivity for specific locations; • Prioritise livestock programmes likely to improve people's livelihoods; • Educate pastoralists to practice optimum stocking rates to sustain the rangeland environment; • Promote capacity building and networking among pastoralists, agro-pastoralists, other rangeland users, service providers and policy makers; • Harmonise this policy with others seeking to improve pastoral representation and integration into national development, resolve conflicts, improve service delivery, and increase production marketing and value addition to products originating from the rangelands;

	• Support development of alternative livelihoods and non-wood and non-land based products in the rangelands; and • Enact and enforce ordinances and bye-laws to promote agro-pastoral crop protection and livestock production and discourage unregulated bush burning practices. Other related acts and regulations: • **The Plan for Modernization of Agriculture** • **The Agricultural Chemicals (Control) Act, 2006** • **The Control of Agricultural Chemicals (Registration and Control) Regulations 1989**
Forestry	• **The Uganda Forestry Policy 2001** The objective of the Uganda Forestry Policy is to establish an integrated forest sector that achieves sustainable increases in the economic, social and environmental benefits from forests and trees by the people of Uganda, especially the poor and vulnerable. Policy statement 6 is on farm forestry and states that tree-growing on farms will be promoted in all farming systems, and innovative mechanisms for the delivery of forestry extension and advisory services will be developed. The government will promote and support farm forestry in order to boost land productivity, increase farm incomes, alleviate pressures on natural forests and improve food security. It recognizes important opportunities for tree farming on private land including non-wood products and fruit trees The strategies for the implementation of this policy statement include: • Strengthen the organisation of farmers for better communication and collaboration in the development of farm forestry; • Build the capacity of farmers to integrate forestry into all farming systems; • Disseminate farm forestry advice through decentralised, farmer-driven service delivery mechanisms The policy statement 6 above and the strategies outlined ought to be adopted to ensure food security in Karamoja sub region. • **The National Forestry and Tree Planting Act, 2003** The Act provides for the conservation, sustainable management and development of forests for the benefit of the people of Uganda. S.32 prohibits forestry activities except in accordance with the management plan or in accordance with a licence. One must be authorized to cut, take, work or remove forest produce; clear, use or occupy any land for grazing; livestock farming; planting or cultivation of crops. Forest produce as per S.3 of the Act include anything which occurs or grows in a forest and includes among others fruits, seeds, honey, and mushrooms. A person who contravenes this commits an offence and is liable, on conviction, to a fine not exceeding thirty currency points or to imprisonment for a term not exceeding three years, or both. S. 33 permits domestic use of forest produce subject to the management plan. • **The Forest Nature Conservation Master Plan 2002** • **Draft Forestry and Tree Planting Regulations, 2012** • **The Forest Produce Fees and Licenses Order, 2000 S.I. No.16**
Water	• **The National Water Policy, 1995** The policy objective is to sustainably manage and develop the water resources in an integrated and sustainable manner so as to secure and provide water of adequate quantity and quality for all social and economic needs of the present and future generations. It provides that community groups and local committees will monitor activities having local impacts on water resources such as use of wetlands and forests. Food security can be achieved basing on this policy through the sustainable use and management of the area's natural water resources • **The Water Act, Cap 152**

	This Act provides for the use, protection and management of water resources. The objectives of the Act include promoting the rational management and use of the waters of Uganda through progressive introduction and application of appropriate standards and techniques for the investigation, use, control, protection, management and administration of water resources. Under S 47, the water and sewerage authority is responsible to provide water supply services for domestic, stock, horticultural, industrial, commercial, recreational, and environmental and other beneficial uses. S. 2 (l) defines "domestic use" to include use for the purpose of human consumption, washing and cooking by persons ordinarily resident on the land where the use occurs; watering not more than thirty livestock units; irrigating a subsistence garden; and watering a subsistence fish pond. • **The National Environment (Standards for Discharge of Effluents into Water or on Land) Regulations** • **The National Environment (Delegation of Waste Water Discharge Functions)** • **The National Environment (Waste Management) Regulations, 1999** • **The Water Resources Regulations 1998** • **The Water (waste discharge) Regulations, 1998**
Fish	• **The Fish Act Cap 197** This Act makes provision for the control of fishing, the conservation of fish, the purchase, sale, marketing and processing of fish. • **The Fisheries Policy 2004** One of the objectives of the policy is to improve livelihoods and alleviate poverty in fishing communities taking into account the special needs of women, youth and other disadvantaged groups. This is important for food security in Karamoja sub region.
Wildlife	• **The Uganda Wildlife Cap 200**
Wetlands	• **The National Environment Management Policy (NEMP) 1994** The NEMP is an output of the National Environment Action Plan (NEAP) process. The National Environment Management Policy (NEMP), 1994 led to the enactment of the National Environment Act. The overall policy goal is to establish sustainable social and economic development, which maintains or enhances environmental quality and resource productivity on a long- term basis that meets the needs of the present generations without compromising the ability of future generations to meet their own needs. The policy is crucial in ensuring sustainability and environmental quality of Karamoja sub region. • **The National Environment Act (NEA), Cap 153** This Act emanated from the National Environment Action Plan (NEAP), which ended in 1995 and aimed at providing for the sustainable management of the environment and natural resources. It is the framework legislation for environmental law in Uganda. Under the Act, the National Environment Management Authority (NEMA) was created with the responsibility of supervising and coordinating activities related to the management of the environment. The Act mandates NEMA in collaboration with relevant lead agencies to issue guidelines and measures relating to management and conservation of; lakes and rivers, lakeshores and riverbanks, wetlands, forests, hill tops and mountainous areas and land use planning. S.40 (2) of the Act mandates NEMA in consultation with the lead agency to issue guidelines and prescribe measures for the sustainable use of hillsides, hilltops and mountainous areas including those relating to appropriate farming methods; carrying capacity of the areas in relation to animal husbandry; and measures to curb soil erosion. The third schedule of the Act requires EIA to be conducted for large-scale agriculture projects, use of pesticides, introduction of new crops, and use of fertilizers. In order to operationalize the broad measures above, NEMA has issued regulations and standards to guide the sustainable use of environmental resources that are relevant to agricultural production. These were made in accordance with S.107 of the NEA and they are as below. • **The National Policy for the Conservation and Management of Wetland Resources, 1995** The overall goal of this Policy is to maintain an optimum diversity of uses and users and consideration of other stakeholders when using wetland resources.

	Some of the objectives of this Policy include establishing the principles by which wetland resources can be optimally used by the present and future generations, to end practices which reduce wetland productivity, maintain wetlands' functions and values, and Integrate wetland concerns into the planning and decision making of other sectors. The policy is important in undertaking sustainable agriculture development activities in wetlands to increase agricultural productivity in the region. • **The National Environment (Wetlands, Riverbanks and Lakeshores Management) Regulations 2000** The regulations provide for the conservation and wise use of wetlands and their resources and to facilitate the sustainable and conservation of resources on riverbanks and lakeshores by and for the benefit of the people and community living in the area.
Others	• **Uganda Vision 2040** Vision 2040 outlines the goals and aspiration that Ugandans have set to achieve by the year 2040. The goals range from political, economic, social, environmental, and cultural among others. Concerning the agricultural goals as under chapter 4 (4.1.2), Uganda aspires to transform the agriculture sector from subsistence farming to commercial agriculture. Government will also reform the extension system in the country to increase information access, knowledge and technologies to the farmers; ensure that land fragmentation is reversed to secure land for mechanization; collect adequate agricultural statistics; improve weather information and its dissemination and intensify environmental control measures to halt the decline in soil fertility. Government will strengthen and harmonise the legal, regulatory and institutional framework and ensure the sector client charter is developed, popularised and enforced. Appropriate human resource in agriculture will also be developed, retooled and motivated. Fostering of food security in Karamoja sub region is in line with and operationalizes this vision. • **The National policy for disaster preparedness and management 2010** The policy goal is to establish institutions and mechanisms that will reduce the vulnerability of people, livestock, plants and wildlife to disasters in Uganda. The policy under chapter two recognizes famine among the disasters affecting the nation and defines it as a severe shortage of food that may lead to malnutrition and death. Karamoja is among the areas that are most prone to famine and some of the factors contributing to famine include drought, crop failure and livestock deaths as well as conflict, displacement and land shortage. Some of the policy actions for famine include: • Taking measures including specific programmes, needed to improve methods of production, conservation and distribution of food by making full use of available technical and scientific knowledge • Increasing production and productivity for food security using improved production technologies • Streamlining the land tenure systems in Uganda • Establishing measures for household, community, regional and national food reserves and silos • Ensuring the implementation of food security and nutrition policy A number of specific programs were initiated for Karamoja Sub region under the Management of Special Programmes Directorate in the Office of the Prime Minister with the political supervision of the minister for Karamoja affairs. • **The 1995 Constitution of Uganda (as amended)** The constitution is the supreme law of the land. Under the National Objectives and Directive Principles of State, Objective XI (ii) provides that the state shall "stimulate agricultural, industrial, technological and scientific development by adopting appropriate policies and enactment of enabling legislation. Objective XXII concerns food security and nutrition to the effect that the State shall take appropriate steps to encourage people to grow and store adequate food; establish national food reserves; and encourage and promote proper nutrition through mass education and other appropriate means in order to build a healthy State.

	Objective XII provides for balanced and equitable development. Paragraph (iii) states that, the State shall take special measures in favour of the development of the least developed areas. • **Karamoja Development Agency Act (1987)** The Act provides for the establishment of Karamoja Development Agency, its powers and functions and related matters. S.3 of the Act provides for the functions of the agency among which is (c) to provide sufficient water in the region for the purpose of developing agriculture and animal industry in the region and (d) to promote, diversify and increase the productive capacity of the region. The Act has specific legal requirements for fostering sustainability and resilience for food security in Karamoja sub-region. • **National Environment (Environmental Impact Assessment) Regulations, 1998** Regulation 3 provides for the application of the regulations that they shall apply to among others all projects included in the Third Schedule to the Act. In the third schedule of the National Environment Act, among the projects to be considered for Impact Assessment include agriculture related activities and the Act goes ahead to list the activities to include large scale agriculture, use of new pesticides, introduction of new crops and animals and use of fertilizers. • **National Environment (Audit) Regulations, 2006** These Regulations, made by the Minister responsible for the National Environment Act under section 107 of the National Environment Act, provide for a systematic, periodic and objective evaluation carried out to determine: how well a facility is performing in conserving the environment and its resources; the facility's compliance status with environmental regulatory requirements and the environmental management system; the overall environmental risk of the facility. Every owner or operator of a facility whose activities are likely to have a significant impact on the environment shall establish an environmental management system in accordance with these Regulations. However, farming is carried out informally in Karamoja and this means that such audits are not done. • **The Local Government Act Cap 243** This Act consolidates and streamlines the existing law on local governments in line with the Constitution to give effect to the decentralization and devolution of functions, powers and services. The act also provides for revenue, the political and administrative set-up of local governments, and provides for election of local councils and any other matters that relate to local governments. Subsequent to the decentralization policy, the Local Government Act provides that it is the responsibility of the Local Government to protect and preserve the resources from abuse, pollution and degradation and to manage the resources for sustainable development within the district. The second schedule Part 5 B states the functions and services to be devolved by a city or municipal council to divisions and these include agriculture and veterinary extension services. The District councils are the highest political authorities and have power under S.38 to enact district laws (Ordinances) while urban, sub-county division or village councils may in relation to its specified powers and functions make by-laws. Through this method, the district and other lower local councils are to effectively control and manage their natural resources and environment within their local areas and jurisdiction. • **By-Laws/Ordinances made under the Local Government Act** Some districts have enacted environmental and food security related Bye Laws and Ordinances like in Nakapiripirit where every householder is required to plant at least one acre for food security and have 2 bags of either Maize, Sorghum and beans in stock. The different ordinances in Karamoja sub region include: • Nakapiripirit District (Food Security and Environment Conservation) Ordinance. • The Local Governments (Nakapiripirit District Hygiene and Sanitation) Ordinance. • The local Government (Moroto District Reduction of Deforestation Ordinance) • Ordinance on Environment to control bush burning (Napak District) The ordinances have however not been finalised and thus have limited implementation.

	• **The Energy Policy for Uganda, 2002** • **The Renewable Energy Policy 2006** • **The Uganda Gender Policy, 2007** • **The Uganda Tourism Policy, 2003**

1.5.2 Alignment with NAPA, NAPs, NBSAP, NIPs, NAMA

This project is well aligned with the **National Adaptation Plan of Action** as it shares the following prioritized intervention strategies (p49):

Prioritized intervention strategies in the agriculture and water resources sectors (NAPA):

- Promote community best practices of collaborative natural resources management in the agriculture and water resources sectors
- Develop and promote drought-tolerant and early maturing plant varieties and animal breeds
- Promote appropriate and sustainable water harvesting, storage and utilization technologies

This project will contribute to these strategies through Outcome 2 (Output 2.2), which will increase technical capacity on integrated natural resources management, sustainable land management practices and subsequently encourage community members to apply these in their fields. In addition, through Outcome 2 (Output 2.3) the project will develop seed multiplication skills and cereal banking systems among crop farmers to improve supplies of local seed varieties, especially those with drought coping mechanisms and / or a high % recovery post-drought. Lastly, Outcome 2 (Output 2.3) will also implement rainwater-harvesting techniques to enhance productivity and resilience to drought in fields for crops and livestock but also for household use.

Weather and climate information sector (NAPA):

- Expansion of weather observing infrastructure (networks)
- Promotion of multimedia approach to dissemination of weather and climate information

This project will contribute to these intervention strategies on weather and climate information through Outcome 2 (Output 2.1), which will integrate Karamoja into the national EWS through the dissemination of agro-met information and advisories to local government and to the general public through radio.

Forestry sector (NAPA):

- Promote tree growing in farmland and strengthen community sensitization and advocacy on climate change-related issues in the forestry sector
- Integrate climate change issues into the sectoral planning and implementation

This project will contribute to these intervention strategies on forestry through Outcome 2 (Output 2.2), which will not only promote climate-smart agriculture, conservation agriculture and SLM practices, but also will aim at reforesting and rehabilitating hotspots identified in community land use plans with a focus on increasing biodiversity, productivity and climate resilience using beneficial indigenous tree species such as Acacia gum, tamarind, shea nut and palatable grasses and shrubs.

This project contributes to the following **National Biodiversity Strategy and Action Plan** (NBSAP – 2002) priorities through Outcome 1, which will support the implementation of adequate

legal instruments enabling INRM, land use planning and policy enforcement at the local level through an operational regional multi-stakeholder platform to exchange on lessons learned as well as district level multi-stakeholder platforms focused on value chain development, SLM and INRM to strengthen local implementation through extension services.

- Catalyse and provide guidance for legal, policy and institutional reforms necessary to achieve effective conservation and sustainable use of biodiversity (Output 1.2)
- Enhance planning and coordination of national efforts aimed at the conservation and sustainable use of biodiversity (Output 1.2 + Output 1.1)
- Guide the investment and capacity building programmes for the conservation and sustainable use of biodiversity (Output 2.1 + Output 1.1)
- Facilitate information sharing and co-ordinated action among various stakeholders and foster scientific and technical cooperation with other countries and international organizations. (Output 1.1)

The project is also consistent with the **National Action Plan developed under the UNCCD**, as it contributes to the following priorities through its outcomes 1, 2 and 3:

- *Information generation, exchange and dissemination on land degradation*: through the multi-stakeholder platforms at regional and district levels, this project will foster information and knowledge exchange (Output 1.1);
- *Awareness raising and training:* training conducted to increase institutional and technical capacity of government staff on INRM and SLM practices, and capacity building provided to community members through the establishment and technical support to new and existing APFS and FFS will increase awareness on land degradation and train communities on practical solutions (Outputs 2.1 and 2.2);
- *Water development, management and conservation:* the implementation of rainwater harvesting and conservation techniques to enhance productivity and resilience to drought in fields and at the household level will directly contribute to this priority (Output 2.3 and Output 3.1);
- *Afforestation and agro-forestry:* degraded areas will be identified through community land use plans and will be reforested and rehabilitated using beneficial indigenous tree species such as Acacia gum, tamarind, shea nut and palatable grasses and shrubs (Output 2.3);
- *Promoting the development and use of affordable and environment friendly energy sources:* through the establishment of dedicated woodlots of soft wood species for wood fuel at household level, the project will support the promotion of sustainable charcoal production along with the introduction of retort kilns (Output 3.1);
- *Review of laws and policies relevant to combating desertification:* this project will facilitate the review and drafting of by-laws & ordinances to ensure the integration of INRM and diversified production systems on the basis of a legal framework assessment for each district and training of local council personnel (Output 1.2).

Finally, this project is also aligned with the **Strategic Investment Framework for SLM (U-SIF SLM),** which was developed through the GEF-funded **SIP - Enabling Environment for SLM to overcome land degradation in the cattle corridor of Uganda**, aimed at strengthening sector cooperation in order to halt, reverse and prevent land degradation / desertification and mitigate the effects of climate change and variability. The IAP project will contribute directly to the framework

through activities aimed at training government staff and community members on SLM practices and implementing INRM and SLM practices under Outcome 2.

1.5.3 Alignment with GEF Focal Area and/or LDCF/SCCF strategies (and Aichi targets for BD projects)

This project will contribute to two GEF focal areas, namely land degradation and biodiversity. The project contributes to achieving the following focal area key results and indicators:

LD-1 – Prog.1: Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods: **Program 1**: Agro-ecological intensification

- **Outcome 1.1 => Indicator 1.1:** under Component 2, the project will increase land area and agro-ecosystems under integrated natural resources management and SLM practices for a more productive Karamoja landscape, by increasing the number of hectares of land with INRM and SLM practices, notably through the establishment of and technical support to new and existing APFS and FFS, promoting SLM practices in cropland and rangeland through watershed management, including reforestation and rainwater harvesting techniques for enhanced productivity and reduced carbon emissions (Output 2.2; see EX-ACT results in Annex 16). Indicator 1.1 (land area under SLM practices and effective agricultural and pastoral/rangeland management systems including climate-smart agriculture) will be used to measure the results of Output 2.2 (Outcome 2). Under Component 1, the project will strive to build on the existing policies and establish a comprehensive legal framework enabling INRM and SLM, therefore indirectly contributing to the efficient functionality and cover of agro-ecosystems (Output 1.2).

LD3: Integrated landscapes: reduce pressures on natural resources from competing land uses in the wider landscape **- Prog.4:** Scaling-up sustainable land management through the landscape approach

- **Outcome 3.2**: Integrated landscape management practices adopted by local communities based on gender sensitive needs => Indicator 3.2: Application of integrated natural resource management (INRM) practices in wider landscapes. Under Outcome 2, the project will increase the land area under INRM by building capacity of men, women, youth and elders in integrated crop-livestock farming and agroforestry, CSA and watershed management through the establishment of and technical support to new and existing APFS and FFS and catchment/watershed committees (Output 2.2).

LD-4: Maximizing transformational impact: Maintain land resources and agro-ecosystem services through mainstreaming at scale, **Program 5:** Mainstreaming SLM in development

- **Outcome 4.2** Innovative mechanisms for multi-stakeholder planning and investments in SLM at scale => **Indicator 4.2**: **Innovative mechanisms, institutions, legal and regulatory frameworks functioning to support SLM**. Under Outcome 1, the project will work with Karamoja Affairs to bring together stakeholder platforms at the regional level of Karamoja to establish a multi-stakeholder platform to facilitate knowledge exchange and collaboration on INRM among NGOs, district, regional and national governments, CSOs, and private sector organizations (Output 1.1). The regional platform will also be

linked to district level platforms that will be created by the project. The district level multi-stakeholder platform will bring together extension services, district officials, community members, NGOs, CSO and private sector organizations in order to establish or review community-based land use plans supporting SLM, INRM and value chain development.

BD-4 - Mainstream biodiversity conservation and sustainable use into production landscapes and seascapes and production sectors, **Program 9**: Managing the human-biodiversity interface. There are two outcomes within Program 9 that relate to this project.

- **Outcome 9.1:** Increased area of production landscapes and seascapes that integrate conservation and sustainable use of biodiversity into management => Indicator 9.1: Production landscapes and seascapes that integrate biodiversity conservation and sustainable use into their management preferably demonstrated by meeting national or international third-party certification that incorporates biodiversity considerations (e.g. FSC, MSC) or supported by other objective data.

  Under Outcome 2, the project will increase land area and agro-ecosystems under integrated natural resources management and SLM for a Karamoja landscape, by increasing the number of hectares of land that integrate biodiversity considerations and sustainable land management practices with INRM, notably through the establishment of temporary enclosure areas for farmer assisted natural regeneration of vegetation in line with land use plans agreed in Outcome 1 (Output 2.2). Project activities under Component 2 will lead to improved in situ conservation and restoration of tree species and local varieties of seeds through training on seed multiplication, introduction of drought tolerant varieties; the restoration of fauna habitats through reforestation and conservation of forests; the reduction of encroachment into natural reserves and protection of animal and plant reserves in the selected sites. Under Outcome 3, the project will measure and monitor global environmental benefits (GEBs) by building capacity on assessing agro-biodiversity, recognizing species of significance, and conducting regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience (Output 3.1).

- **Outcome 9.2**: Sector policies and regulatory frameworks incorporate biodiversity considerations => Indicator 9.2: The degree to which sector policies and regulatory frameworks incorporate biodiversity considerations and implement the regulations. Under Component 1, the project will strive to build on the existing policies and establish a comprehensive legal framework enabling INRM and SLM, and integrating biodiversity considerations, by facilitating the review, amendment or drafting of by-laws and ordinances in collaboration with the Ministry of Justice to secure final approval and gazetting (Output 1.2).

1.5.4 Alignment with UNDP/FAO Country Programming Frameworks

This project is well aligned with UNDP's Country programme document for Uganda (2016-2020) priorities, namely:

The *natural resources management, adaptation and developing resilience to climate change and disaster risk component*: UNDP seeks to strengthen capacity at national and subnational levels, focusing on oversight and coordination; investment efficiency; protecting ecosystem services; facilitating the shift of government investments from emergency response to disaster risk management; building resilience to natural disasters and climate variability; and empowering citizens, including women and youth, to monitor and demand public accountability from regulatory agencies. UNDP will support Government in scaling up resources mobilization and capacity building for proven innovative approaches and evidence-based policy reform to address emerging issues."

The *livelihood and employment opportunities component* that seeks to strengthen institutions to improve productive and income generation capacities targeting low-income women, youth and other vulnerable groups. In particular, UNDP will support the development of inclusive and green value chains; and low emission and climate resilience in tourism, extractives, and agriculture and infrastructure sectors. East African regional integration efforts will be strengthened by supporting public and private sector institutions to participate in intra and interregional peace and trade enhancement processes in the sectors of agriculture, tourism, natural resources management, climate change and disaster risk reduction."

Under Outcome 2, the project will work on building technical capacity of all relevant stakeholders on INRM and SLM practices in order to increase the number of community members using these sustainable land practices to ensure food security. To reach this outcome, the project will also introduce alternative income generating activities by developing new value chains, such as sustainable charcoal production, bee keeping and aloe vera soap production.

This project is also well aligned with FAO's five priorities identified in its Country Support Strategic Framework for Uganda (2010-2014). These five priorities are:

1. Policy, Strategy and Planning
2. Production and Productivity
3. Value addition, Agro-processing and Marketing
4. Agricultural knowledge, information and education
5. Sustainable Natural Resource Management

This project will cover the five priorities within outcomes 1, 2 and 4. While Outcome 1 will address policy, strategy and planning at the Karamoja sub-region level by establishing multi-stakeholder platforms to facilitate knowledge exchange and implementation of adequate legal instruments, policies or by-laws, Outcome 2 will increase household level food security by not only building technical capacity on sustainable land management and integrated natural resources management to enhance crop and livestock productivity, but also by introducing alternative income generating activities, such as value chain developments like bee keeping or sustainable charcoal production in order to increase all season income.

1.5.5 South-South and Triangular Cooperation (SSC/TrC)

This project includes a significant component dedicated to strengthening South-South and Triangular cooperation, particularly through Outcome 3, which dedicates resources to the project's linkages to the broader IAP program. As part of this component, project beneficiaries and partners will be able to engage through regional workshops with countries implementing similar projects. In particular, linkages will be sought with neighbouring countries, to potentially integrate cross-border issues, in the context of agropastoral transhumance. The potential for South South cooperation will also be strengthened by sharing methodologies and assessment frameworks, which will allow for comparability of results across border, both in terms of environmental benefits as well as in terms of economic benefits.

SECTION 2 – INNOVATIVENESS, POTENTIAL FOR SCALING UP AND SUSTAINABILITY

2.1 INNOVATIVENESS

Bearing in mind that the project is located in a risk averse area, the project seeks to build on proven successful practices, systems and mechanisms. However, the project has several innovative characteristics:

The concept of multi-stakeholder platform is a relatively innovative one in the Karamoja context. As noted above, while there exists some sectoral or interest-based coordination, multi-stakeholder forums are very weak in the region. The use of such platforms as both beneficiaries and actors in the project will support the emergence of new patterns of cooperation among the different social groups. It is also expected that private sector participation in these platforms will contribute to stronger market organization and to increasing demand for sustainable production. The use of these platforms as mechanisms for land use planning, within the current system, could also be an innovation, particularly if it considers issues related to land rights.

The project will also seek to introduce technical innovations and to pilot SLM / INRM technologies that have not yet been promoted in the Karamoja region. This includes for example rainwater harvesting or rangeland rehabilitation techniques, in addition to sustainable and climate smart land management practices in crop, grazing and forest lands. The project will also seek to promote alternative sources of livelihoods within existing value chains, by using the strong agro-pastoral traditions to take communities from subsistence to (where feasible) more market-oriented practices. Transformation and value addition will provide welcome innovations in an area where traditional livelihoods are weakening.

Finally, the project will also innovate in that it will create mechanisms for monitoring and assessing resilience through a series of indicators that combine natural resources, ecosystem services, and community well-being. This will create a feedback loop that will contribute to sound policymaking for the North.

2.2 POTENTIAL FOR SCALING UP

The project's activities, if successful, can be scaled-up in other communities of Karamoja, within project districts, but also to the districts not included in the project, through the creation of other district level multi-stakeholder platforms and the multiplication of the agropastoral / farmer field school approaches, which can be easily adapted and disseminated. In addition to their participatory and community-based land-use planning mandate, the multi-stakeholder platforms will participate in participatory monitoring and evaluation exercises during and at the end of the project, and it is expected that this will assist district administrations in taking up the project's successful practices in other villages and sub-counties. Linkages between district-level and regional-level platforms will also assist in replication and scaling up.

Importantly, it is expected that the field school approach will lead to the broader dissemination of knowledge on sustainable and profitable agricultural practices that can be replicated in other areas. As communities demonstrate success and increased economic benefits, this will create incentives for other communities to spontaneously replicate approaches and practices demonstrated in this project. Field visits and study tours among communities will be organized, along with a strong awareness raising campaign, which will assist in the dissemination of lessons learned to other parts of Karamoja and, eventually, Uganda.

There are many plans for channelling significant development investment in the Karamoja sub-region. This project will help leverage these investments towards increased sustainability and resilience by building the capacity of local land users and planners to understand and assess vulnerability (Outcome 2). The project will also create a knowledge base and an information base on which to plan future development investment (Outcome 3). Furthermore, it is expected that the multi-platforms will serve as forums where development priorities are identified and addressed in an integrated manner (Outcome 1).

2.3 SUSTAINABILITY

To further strengthen the sustainability of the IAP project, interventions will be implemented in a phased approach. This includes the development of technical capacity, which will be pre-requisite to working with communities. Government staff (extension agents) will be trained in the farmer field school approach, so that they may adopt this methodology in all their work – and continue doing so beyond the project life-span. Additionally agreements will be established with individuals trained to ensure that they remain in the relevant government departments for the minimum period after receiving the training.

Ultimately, the sustainability of the project will largely depend on the willingness of stakeholders to adopt the interventions and continue to pursue them beyond the duration of the project. Suitable technical, legal and institutional capacity is necessary at both local and sub-regional level for sustainability to be achieved. Although restoring the degraded landscape will be a long-term result of the project, a range of activities have been include in the project which link the land users to value chains, to ensure they can see returns for their investments (of time, energy – and in some instances money) - "quick-wins".

Through the use of the APFS and FFS and other participatory approaches, inclusion of exchange visits and activities to share information on project achievements are designed to ensure that post-project other land users in Karamoja may learn of and emulate the achievements of the project.

The sustainability of IAP project interventions will be strengthened through a range of activities. It is expected that the multi-stakeholder platforms established under Component 1 will be maintained after project completion, using local and regional governments' own resources. The project will work to demonstrate the clear development benefits of these platforms to encourage their continued use. Component 2 includes a wide range of awareness raising and training activities to ensure that the project beneficiaries, wider communities in the sub-region and technical staff will be supported to better conserve, protect and enhance the natural and ago-ecosystems of Karamoja, also how these actions can improve their livelihoods through increasing the efficiency of their resource use. This will build on their indigenous knowledge.

The project is expected to lead to significant environmental benefits, namely through the reversal of land degradation trends and through the restoration of key ecosystem services. This will include restoration of vegetative cover, sustainable management of soils and water, sustainable harvesting of biomass and biodiversity. The project does not anticipate any negative environmental impacts.

In terms of financial sustainability, the project will work with district administrations and through the multi-stakeholder platforms, to leverage increased national investment into SLM and INRM. This will include seeking district level budget increases and the establishment of an enabling framework for channeling investments towards natural resources management and conservation.

An Environmental and Social Screening was conducted on the project. The project is rated as a category 1.

2.3.1 Tenure Security

The lack of tenure security has proven to have a detrimental impact long-term sustainability of any intervention and to undermine development efforts. Karamoja is an area of high interest for both Government and development partners, and there is a shared understanding that development will not be achieved unless tenure issues and grievances are addressed.

The project will include capacity development for local governments in the application of the Voluntary Guidelines on Land tenure, as well as other sustainable approaches to preventing and resolving land conflicts. The project will also work with local governments to recognize and formalize collective land ownership rights in using a methodology successfully piloted by FAO in Kasese district. This will provide a way to ensure long-term sustainability of GEF intervention and will help ensure that the targeted communities are investing on the basis of tenure security.

2.3.2 Gender Equality

Gender and vulnerability

Uganda is a party to the Convention on the Elimination of Discrimination against Women (CEDAW) and commendable progress has been made in terms of formulation of gender responsive regulatory and institutional framework. This has resulted in institutionalization of gender planning with a critical mass of women in political governance structures. Women Councils have been established from grassroots to national level to enhance women's confidence and to provide women at all levels with opportunities to raise into leadership positions. The law also establishes

Women's Councils and Committees from the district, county, sub-county, parish or ward, up to the village level. The Land Act also makes provisions intended to enhance the socio-economic welfare of women, especially married women. The Act prohibits the dispossession of land on which a person resides with his or her spouse and from which they derive sustenance without the prior written consent of the spouse.

Gender Inequality Index (GII) for Uganda was 0.570 and in Karamoja was 0.604 in 2013. Gender gaps have narrowed, in terms of primary school enrolment, as well as participation in economic activities and decision making, and improved access to water and sanitation. However, there is evidence of persistent high rates of maternal mortality and morbidity, as well as teenage pregnancies, and of low enrolment of females at the post-primary education levels, limited access to, and ownership of, productive resources for women (especially land), as well as increased sexual and gender based violence. The National household survey of 2012/13 survey revealed that 38 % of female and 12 % of male headed households had no formal education, women earned less than men in the formal work sector and less likely to participate in formal work but participated more in the household sector. Close to half of the old person (48%) never been to school and these were predominantly females (68%) compared to their male counterparts (26%). The majority of the widows (82%) were household heads implying they were major decisions takers in the household, and probably playing a lead role as well in looking after other household member.

In Karamoja, traditions such as child marriage which is preceded by female genital mutilation affecting women and girls reduce their access to education and therefore development and productive contribution to society. Tackling the practice is a challenge, because it is a means of increasing family and community assets. A national survey found that 45 % of women in Karamoja compared to the national average of 19% had experienced sexual, physical or emotional violence. This violence is linked to alcoholism and changing gender roles, in particular men's alienation from the economic opportunities being taken up by women. Food insecurity and malnutrition is also linked to alcoholism and negative cultural beliefs. For instance, the practice of selling food to buy alcohol; or prioritizing food for men's consumption and ceremonies.

The number of female-headed households in Karamoja is increasing due to HIV/AIDS and cattle raids. Female headed households and young women face various social restrictions and find it extremely difficult to secure gainful employment. Approximately 16% of female household heads are either disabled or chronically ill and therefore vulnerable and need appropriate support to ensure their food. To sustain themselves and their children, female headed women resort to sending their children to work, sell their labour in agriculture, restaurants, hotels and water collection for sell in towns, some are exploited as cheap labour. According to the FSNA (UNICEF, 2014), female headed households are highly vulnerable as they are worse off on several measures compared to their male counterparts with; lower access to land, fewer households with at least one income earner, and poorer food consumption scores, among others. According to this assessment, approximately 16% of female household heads are either disabled or chronically ill and therefore vulnerable.

A higher proportion of women especially mother experience severe anaemia since they tend to eat least and last. Pregnant and lactating women require special enhanced nutritional requirements to facilitate the growth and development of the foetus and the infant, as well as for maternal

metabolism and tissue development specific to reproduction. Therefore pregnant and lactating women are particularly vulnerable to malnutrition. Nutritional deficiencies among pregnant women may cause of maternal and child mortality and can also cause irreversible damage in the development of foetuses and infants. Among mothers, prevalence of anaemia was above 40% in most districts except Kotido 30.1%, Kaabong 36.1% and Moroto 37.5%. Likewise, the proportion of underweight mothers in Karamoja has constantly remained high at 24.7%.

Although Karamoja women and men play complementary roles in guaranteeing food security, women tend to play a greater role in natural resource management and ensuring nutrition. Women often grow, process, manage and market food and other natural resources, and are responsible for raising small livestock, managing home gardens and collecting fuel and water over long distances. Men, by contrast, are generally responsible for cash cropping and larger livestock. Women's involvement in an agricultural production is adversely affected by the impacts of climate change, particularly drought-induced crop and livestock failure. In this context, responsibility for adaptation is likely to fall on their shoulders – including finding alternative ways to feed their family. However, statutory and/or customary laws often restrict women's property and land rights and make it difficult for them to access credit and agricultural extension services, while also reducing their incentive to engage in environmentally sustainable farming practices and make long-term investments in land rehabilitation, seed multiplication technologies, cereal storage systems and soil quality. Therefore improving seed and food security in Karamoja, will require greater participation of women, in for example local seed technology development that is built on farmers' knowledge to increase yields through improved quality of the farmers' seed and diffusion of the improved practices and seeds. Because of the formal seed system constraints and to ensure sustainability for the target beneficiaries to participate in the strengthened value chains, focus will be given to the informal seed multiplication process. This will ensure that women famer group members continue to produce and disseminate seeds on their own - selling some, reinvesting some for the next season, and training other interested farmers in quality production methods. In addition, the production expansion of the new, climate resilient, higher yielding seed will strengthen women's role in household food security and nutrition.

Climate change has increased the occurrence of illnesses, namely malaria, which was not common in Karamoja and increases women health and nutrition issues. Children are most vulnerable because of their low immunity and poor nutrition and playing in dirty or dusty environments. Food shortage is reported to increase women's burden, as they are the ones expected to ensure that there is sufficient food supply for the family. Consequently, they suffer increased nutritional deficiencies which lead to problems of anaemia and other health risks. Anaemia is reported to be responsible for a quarter of maternal mortality in Karamoja.

Finally, district gender and food production profiles with analytical data on women's relative to men's needs in project implementation and coordination are unavailable, yet necessary for planning and project design by district local governments and CSOs. The reality is that district planners and NGO project officers with no gender-lens in their approach to food security and sustainable natural resource management, often make project decisions that often treat gender issues as simply cross-cutting or requiring unavailable resources. If gender concerns are not identified at project design, implementation and coordination usually puts the rights and privileges of women at risk. It might be necessary therefore to equip District Coordination Committees and the Sub-County Boards with a deeper level of gender analysis on what works, how and why, in

ways that blend with the economic and environmental factors used to guide the design of projects, so that gender and community development officers are positioned to broaden opportunities for influencing the decisions made.

Livelihood strategies for women

The effects of climate change and improved security have led to changes in gender roles, consequently making some men and women take on non-traditionally prescribed roles. These include women's engagement in income generating activities to provide for their families and men's involvement in house construction and crop production, which was formally a domain of women.

Women are more engaged in crop production than livestock and the more active are organised in groups such as Village Savings and Loans Associations that provide loans for undertaking agriculture and non-agriculture activities. Women are most vulnerable to impacts of climate change, notably food insecurity, water shortage and fuel wood scarcity given their role in availing food as well as needing nutritious foods themselves due to pregnancy-related demands and for the children they take care of.

Gender-specific Interventions

- Interventions to address food insecurity by the project will deliberately prioritize female-headed households in APFS/FFS, by:
    - Raising awareness of communities and particularly women, on their rights of access, use and control of land resources (Output 1.2),
    - Encouraging the uptake of drought resilient crops and product processing and marketing for value addition (Output 2.2),
    - Promoting the use of rotations, cover crops, organic matter and precision use of inorganic fertilisers to restore soil fertility (Output 2.2),
    - Improving access to quality seed of local varieties through seed multiplication and improved seed/germplasm, farm tools and equipment (pedal pumps, hoses, watering cans, grain silos, among others) to increase yields, in order to improve food availability, access and affordability (Output 2.3).
    - Providing training through baseline programming and the establishment of APFS/FFS in order to sensitise women, who are responsible for food production at the household level, on the need to improve dietary diversity and healthy eating habits, in order to improve climate resilience and food security (Output 2.2).
    - Identifying and supporting existing and/or facilitate formation of VSLAs, women farmers associations and groups to access start-up capital to undertake various income generating activities (Output 2.3),
    - Implementing rainwater harvesting techniques (within APFS/FFS), for enhanced productivity and resilience to drought in fields, as well as sand dams for crops, livestock and household use (Output 2.2),
    - Such interventions will reduce women's workload and will leave more time for child caring practices, thus improving nutrition and health status of women and their household.

2.3.3 Youth

The Population and Housing Census (NPHC) 2014 estimated that the working age youth to be almost 40 % of the total working population (14-64 years). The youth in the Northern Uganda represented 38 % of the total youth population and (23.6 %) residing in severely affected sub-regions; which includes Karamoja.

The youth in Karamoja have inadequate education in terms of literacy and numeracy, preventing them from establishing themselves as fully productive adults, as well as from developing their capabilities. Relative peace in Karamoja has been accompanied by economic and social transition for the youth, who considered raiding as livelihood, which they are now denied with the advent of disarmament. Young women too suffer disempowerment, including high levels of unemployment; underage pregnancy and sexually transmitted diseases including HIV/AIDS.

The majority of the youth is engaged in subsistence agriculture but they do not own land, they only depend on land owned by their parents and are often under-employed. The incidence of rural-urban migration among the youth is significant, seeking paid employment. Some youths have however mobilized themselves into groups and have been supported with capital to engage in some economic activities (such as cattle trading, sand mining, stone quarrying, charcoal burning, small business like retail trade, brick laying, casual labour and small scale trade**.**

In terms of governance, the youth are represented at Youth Councils at various levels besides being members various groups such as VCLA and Youth Training Centres.

The project will specifically intervene to support youth in the following ways:

- Encourage youth to participate and be represented at the multi-sectoral stakeholder platforms (Output 1.1),
- Support training of youth groups and associations and the expansion of savings and credit groups to raise capital for business activities (Output 2.2),
- Promote youth livelihoods by encouraging the formation of producer groups to develop resilient value chains for increased income, such as sustainable charcoal production, establish piggeries and small stock rearing facilities (Output 3.1).

2.3.4 Indigenous Peoples[41]

The Ugandan population is made up of 65 different ethnic groups but there is no official definition of indigenous peoples, neither any criterion for their identification. Using the international criterion, the indigenous peoples in Uganda include the Batwa, Benet and Karamajong.

The Karamojong live in the seven districts of Karamoja sub-region, considered as a remote part of the country, (see Figure 1) and the least developed area of Uganda. The region's marginalisation dates as far back as the colonial period and continued by the successive post-independence governments. The lifestyle and cultures of the Karamajong are under threat, mainly due to environmental changes and pressure exerted on the land. Large parcels of land in Karamoja have

[41] Indigenous peoples is the internationally agreed term (United Nations Declaration on the Rights of Indigenous Peoples) and it encompasses tribal peoples, natives, First Nations, pueblos originarios, pueblos autóctonos, nomadic and pastoralists, aboriginal and traditional peoples.

been gazetted either as game or forest reserves. The most notable is the Pian-Upe Wildlife Reserve, covering over 2 300 sq km and Kidepo Valley National Park, covering approximately 1442 sq km. This process restricted the territory used by the population for livestock grazing; increasing disputes and conflicts over livestock grazing rights as well loss of livestock and also in these areas prohibited traditional hunting practices.

The main ethnic groups of Karamoja consist of the Karamojong, which include three main ethnicities: the Dodoso (north), the Jie (central) and the Karimojong, which further include the Pokot (Kenyan border); Bokora, Matheniko and Pian (south). There are also smaller ethnic groupings: the Tepeth, Nyakwe, Ik, Ngipore and Ethur. Whereas all Karamojong in general are categorised as indigenous and marginalised, there are specific ethnic minority groups that are more marginalised and disadvantaged. These include the Ik who live on Mount Morungole in relative isolation after having been evicted from the fertile Kidepo Valley upon establishment of the Kidepo Valley National park in the 1960s. Others are the Tepeth or So and the Nyangeya to the North West. These minority tribes are essentially sedentary agriculturalists, with a liking for hunting and fruit-gathering as well as clay and iron working. The Ik were particularly vulnerable to raiding by neighbouring pastoral groups, and their insecurity has deterred them from accumulating even basic assets (such as oxen for ploughing) that might attract raiders. Mountainous areas of the Tepeth lack access to social services because of the terrain, which impedes service delivery. There are however other marginalised ethnic groups in Karamoja but with limited information on the ways of life and cultures. These include the Napore and the Nyagia. Despite the fact that Uganda has adopted a number of acts and policies that advance the position of women in society, the majority of the women remain marginalised. This includes indigenous women, who are marginalised both within the group of marginalised peoples and outside as members of that group.

The influx of investment and the government's ever-shifting approaches to development continue to affect the lifestyle of the Karamojong of Karamoja region. The current debate on the government's sedentarization of pastoral communities is exacerbating the problem of land insecurity given that 80% of land is already gazetted to secure wildlife reserves. The recent droughts, coupled with the degradation, is forcing communities to migrate with their livestock in search of water and pasture, proving that the traditional mobile livelihood was more resilient.

Potential Mitigation Measures under the Project

The 1995 Constitution offers no express protection for indigenous peoples but Article 32 places a mandatory duty on the state to take affirmative action in favour of groups who have been historically disadvantaged and discriminated against. This provision, while primarily designed or envisaged to deal with the historical disadvantages of children, people with disabilities and women, is the basic legal source of affirmative action in favour of indigenous peoples in Uganda.

The Land Act of 1998 and the National Environment Statute of 1995 protect customary interests in land and traditional uses of forests. However, these laws also authorize the government to exclude human activities in any forest area by declaring it a protected forest, thus nullifying the customary land rights of indigenous peoples. Uganda has never ratified the ILO Convention 169, but is a signatory to the United Nations Declaration on the Rights of Indigenous Peoples.

Uganda has also established a number of human national human rights institutions that investigate violations of human rights and to monitor government compliance with its human rights obligations. These include the *Uganda Human Rights Commission;* the *Equal Opportunities Commission and the* Ministry of Gender, Labour and Social Development. The Constitution makes provision for a number of structures that could be used by indigenous peoples to ensure that they manage their own affairs- elaborate system of decentralisation and local governance in addition to establishment of the institution of traditional/cultural leaders.
The National Environment Act requires that indigenous peoples be consulted and involved in processes leading to the gazetting of their land.

- The strategy for addressing the needs of the indigenous people will include the following: self-targeting and affirmative action to ensure that activities to increase food security, income generating activities, and empowering the vulnerable also include the indigenous people.
- COPACSO (Coalition of Pastoralists' Civil Society Organizations) that represent the Karamojong pastoralists will be engaged, consulted and strengthened in partnership with Ministries of OPM and the Ministry in charge of Karamoja Affairs to scale-up interventions to address education, water scarcity, food insecurity, insecurity and poverty; needs of vulnerable people including indigenous children.
- Support as appropriate, activities related to reviewing land tenure policies and laws to enhance security of tenure of the indigenous people; and strengthen mechanisms or institutions that could safeguard land tenure and access through participatory land use planning and provide legal rights and compensation where necessary.
- Work with civil society organisations to adopt special programmes that address the special needs of the various indigenous peoples and marginalised groups to ensure that the social and economic needs of these peoples are met.
- Encourage the representation of indigenous peoples (men, women, and youth) in the numerous political and economic decision-making platforms at all levels: local councils, women and youth Councils, Cooperatives and VCLA.
- The policy defines vulnerable children to include street children, children in broken marriages and children stricken by poverty. The concerns of indigenous children will be addressed along and simultaneously with other interventions aimed to address issues of poverty; food security, adequate food, education and medical attention of other children in Karamoja

2.4 HUMAN RIGHTS BASED APPROACHES

Indigenous People

Indigenous people that reside in the project area will be duly consulted in PY1 before starting project operations. According to FAO Policy on Indigenous and Tribal Peoples[42] and the Environmental and Social Management Guidelines[43], a Free, Prior and Informed Consent process should be conducted, and a Grievance Mechanism will be made available.

[42] http://www.fao.org/docrep/013/i1857e/i1857e00.htm

[43] http://www.fao.org/3/a-i4413e.pdf

Right to adequate food

The project's objective is to achieve better access to food and nutrition for households in the Karamoja sub-region. As such, the project will seek to increase food production and income from non-food agricultural production in order to reduce food insecurity during all seasons. The project will also develop mechanisms to ensure that vulnerable groups are included in project activities and, as a result, have better access to food.

Older Persons: In Uganda older people (aged 65 years and above) constitute about 3.3 % of the population, corresponding to about 1.1 million people. 64 % of older people have old-age related disability, 11 % live alone, 55 % are women, and 63 % of the older women are widows (compared to only 15 % of older men who are widowers). In Karamoja, the elderly constitute 3.2% and majority of whom lost livestock due cattle raiding. Their food security challenges include: reduced ability to engage in productive work, limited ability to walk to access food markets and health care and, in some cases, limited ability to provide security for self and property. The most vulnerable elderly are those who play the role of caregivers to others, mostly orphans; those with fewer or no assets; those who suffer from poor health; and those who live in rural and remote areas with limited access to basic social services. The project will seek to ensure that elders and leaders are included in all project activities, and will also seek to ensure that food produced within communities can also benefit the elderly.

People living with HIV/AIDS: The HIV prevalence rate for women in Karamoja is 5.3% and 5.2 for men. PLWA experience illness, general sickness and a multiplicity of opportunistic infections, which require high medical and special diets. They tend to their productive assets in effort to treat the disease. PLWA also still suffer stigma at community level, a factor that increases their isolation and hence poverty. PLWA are however organised in district associations but are not targeted by any for food aid programme. The project will include HIV/AIDS awareness raising, and will also seek to ensure inclusion of people living with HIV/AIDS in APFS and FFS ventures, including alternative livelihoods undertakings.

Children and Orphans: Uganda has a population of over 2 million orphans (about 13% of the total children population). The annual growth in orphan hood in Karamoja was 5.8% of children, living in poverty experience deprivation, exclusion and vulnerability, and also face multidimensional circumstances that create lifelong difficulties in gaining access to their basic rights (UNICEF 2015). Girls in Karamoja are subjected to early marriages, defilement, neglect, abandonment and discrimination in the guise of cultural and traditional beliefs. Children are especially vulnerable in accessing their right to food, being physiologically and psychologically dependent on adult protection and care, for food as well as a range of other survival needs and rights. Inadequate consumption of nutritious food, especially in the first 100 days from conception (including poor nutrition of the mother while the child is still in the womb), can have devastating life-long consequences on health and future development. Up until 6 months, exclusive breastfeeding is recommended to ensure food security to the baby and is also a bacteriologically sterile source of nourishment. Overall prevalence of anaemia in children was 58.9% in Karamoja.

Breastfeeding is important after 6 months up until 2 to 3 years, but this stage requires complementary feeding as well. Orphans do not families or have families who are unable to

provide for their food needs, and depend more of accessing school feeding programmes; Universal Primary Education (UPE) programme and the Vulnerable Family Grants (VGS) component of the Social Assistance Grants for Empowerment (SAGE) scheme. Children are targeted directly, based on the demographic characteristics of the households, including the disability and orphan status of household members. In the case where children-headed households are present in project areas, the project will seek to integrate them in activities, targeted at better nutrition through the APFS/FFS approaches, while avoiding child labour.

2.5 CAPACITY DEVELOPMENT

The project will use a capacity development approach to all activities, as described above. Capacity will be targeted at the systemic, institutional and individual levels, according to needs expressed during the project design phase. This will include the following activities:

Under Outcome 1: the project will build systemic and institutional capacities through the provision of support for the creation of multi-stakeholder platforms, the revision and strengthening of legal texts and frameworks, and the development of awareness raising activities. The project will strengthen the capacity of NGOs and the private sector to participate actively in decision-making and land use planning.

Under Outcome 2, the project will focus on institutional and individual capacities, by providing targeted training of government and community members, using the APFS/FFS approaches, on all aspects related to SLM, INRM and resilience. The project will also work with local NGOs and CBOs, as well as with the private sector, to increase production capacity in traditional and non-traditional value chains.

Under Outcome 3, the project will emphasize the development of capacity for monitoring and assessment. This will include specifically strengthening capacities of government and non-government project stakeholders to undertake participatory assessment and to assess global environmental benefits.

The following table illustrates the suggested approaches for capacity building per target group.

Table 13: Approaches for capacity building

Target Group for Training	Key Topic Areas	Suggested Approach(es)
Pastoralists	Importance of indigenous knowledge. Improved livestock management – storage and use of fodder for stock not involved in transhumance to increase yield of milk etc., identification and treatment of prevalent diseases, assisted natural regeneration, holistic grazing management, seeding of rangeland with legumes to increase nutritional value of forage etc. Possibly sustainable charcoal, also IGAs in rangelands excluding charcoal (*inter alia* gum Arabica, tamarind, other fruits, medicinal plants, *Aloe vera*, shea nuts, honey and wax products). Collective land ownership and land rights.	Group learning in APFS Exchange visits (e.g. with West Pokot) Multi-stakeholder platforms
Traditional crop farmers – resident	Importance of indigenous knowledge, including of the high nutritional value of indigenous vegetables (World Bank, 2002) and medicinal value of local plants.	APFS/FFS Exchange visits

	Approaches to increase resilience of traditional systems to increasing weather variability – e.g. reduced tillage, use of compost, manure, cover crops etc., also post-harvest storage and processing and rainwater harvesting. Knowledge of which crops to grow on local soil type and rotations including fodder crops for deep rooting, legumes for BNF, short season varieties and tubers for drought resilience .	
New crop farmers – recently settled pastoralists	Local knowledge, including of the high nutritional value of indigenous vegetables (World Bank, 2002). Techniques to increase the likelihood of their obtaining sufficient food to be food secure from their new livelihoods (including SLM, growing wide range of crops, integration of small stock etc.), also post-harvest storage and processing. Knowledge of which crops to grow on local soil types.	APFS/FFS Exchange visits
Landless youth / disarmed groups	IGAs from community land (*inter alia* hay making and storage, other fodder & food banks, apiculture, regeneration and sustainable harvesting of forest products such as gum Arabica, shea nut etc.)	Training days Exchange visits
All communities	The win-win-win benefits of: ➢ Land use planning (community / micro-catchment and catchment action plans) ➢ Community NRM /catchment committees and water users associations ➢ Trees and tree management, including assisted natural regeneration and sustainable harvesting ➢ Soil and water conservation measures for various situations ➢ Management of rangeland burning (timing, use of fire breaks etc.) Improved tenure of land, fisheries and forests (VGGT) and access rights to natural resources Climate adaptation (CSA practices) for coping with increasing weather variability, frequency of extreme events and climate change. Participatory M & E of project activities	APFSs Exchange visits
MAAIF Extension staff	Farmer /agro-pastoral field school approaches Implementation of environmental management regulations / bye-laws etc. Rangeland management Watershed /catchment approaches SLM / INRM / Climate smart agriculture- CSA	Training of trainers Exchange visits
District Technical Staff	Awareness of and implementation / enforcement environmental management regulations / bye-laws / EIA regulations etc. Land use planning Rangeland Management Watershed approaches SLM / INRM / CSA Establishment and management of environmental/watershed funds	Refresher training days Short in-service courses
School teachers – to pass on to children and young people	Environmental issues and food security in drylands SLMs to enhance fruit, vegetable and crop growing (for school gardens), including knowledge of which crops to grow on local soil types. Agro-ecological and climate smart agriculture approaches Junior FFS and school gardens	Training days Short in-service courses

Journalists – to write-up, publish and broadcast	Environmental and food security issues in drylands Sustainable food and agriculture systems in drylands	Training days
Awareness raising materials for all	All above, particularly on increasing weather variability, frequency of extreme events and climate change	Music, drama productions, radio Videos programmes, also posters and information sheets (in local languages and in pictorial form).

SECTION 3 – INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

3.1 INSTITUTIONAL ARRANGEMENTS

3.1.1 Agencies

FAO and UNDP will both act as GEF Implementing Agencies for the project, supporting the main implementing partner MAAIF in achieving the project's overall objective. They will be jointly responsible to support the project result achievement and for ensuring the project's linkages to the overall program. In addition, UNDP will be responsible to support MAAIF in the implementation of Outcome 1 and Outcome 3 while FAO will be responsible to support MAAIF in the implementation of Outcome 2. Funds will flow from the GEF trustee separately for each agency according to the established outcome-based budgets. Applicable GEF Fees will be attributed to each Agency according to the budget they will manage. The two agencies will develop protocols for regularly reviewing budgets and expenditures and, together with the Project Steering Committee, will agree on any budget adjustments to be made between outcomes, should the need arise. Furthermore, each agency shall make available regular (6 monthly) expenditure reports to be presented to the Project Steering Committee.

Both agencies will be jointly responsible for reporting to the GEF on finance and project results. This will include the submission of joint annual PIRs and collaboration on the day to day supervision and monitoring of project activities.

UNDP will use the Country Office support service to NIM modality for the component it manages, with MAAIF designated as Implementing Partner. MAAIF procurement procedures will be used in line with the findings of the latest HACT assessment (Harmonized Approach to Cash Transfers). The FAO will use the Operational Partner Implementation Modality (OPIM) and the Sustainable Land Management (SLM) programme Management Unit (PMU) of MAAIF as Operational Partner. The MAAIF SLM PMU will be responsible for the overall implementation of Component 2 and for directly executing activities related to the recruitment of project consultants for this component. The preparation of consultant's Terms of Reference (TOR), as well as the identification and selection process will be conducted jointly with the FAO. The FAO Country office shall provide support services for the procurement of goods and services as detailed in the

budget. The procurement of goods and services shall be in accordance with the FAO regulations, rules, policies and procedures.

Depending on the results of the capacity assessment of MAAIF's SLM PMU procurement capacity scheduled for the first year of project implementation and implementation experience, the FAO implementation arrangements might be adjusted.

Agencies' roles and responsibilities

Each agency shall, in accordance with policies and regulations of the GEF and Trustee, fulfill the following duties:

- Manage and disburse funds from GEF in accordance with internal rules and procedures;
- Enter into Agreements with national Executing Partner(s) and service providers for this project;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and internal rules and procedures;
- Provide technical guidance to ensure that appropriate technical quality is applied to all project activities;
- Carry out at least one supervision mission per year;
- Collaborate with the other agency in the organization of independent mid-term and final project evaluations;
- Jointly report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress; and
- Provide financial reports to the GEF Trustee and exchange financial information with the other Agency and transmit any other information as requested.
- Carry out one supervision mission per year as well as, spot checks and audits.

To the extent possible, national entities will be subcontracted to conduct parts of the work. Arrangements such as LoAs, MOUs and sub-contracts can be pursued by either agency and the MAAIF based on agreed intervention strategies for specific activities. Agencies will, at the beginning of the project, and in discussions with MAAIF, specify direct project services they will provide and related costs and will ensure these are appropriately documented in project budgets and financial reports.

Both FAO and UNDP will be part of the project steering committee, which will be chaired by MAAIF under the supervision of the SLM team.

FAO internal implementation arrangements

Budget Holder (BH). The FAO Resident Representative of the FAO Uganda Office will be the BH of this project. The BH, working in close consultation with the FAO Lead Technical Officer (LTO, see below), will be responsible for the timely operational, administrative and financial management of the project. Specifically the BH will:

- authorize the disbursement of FAO's share of the project's GEF resources based on satisfactory reporting on project progress and statement of expenditures;
- review financial reports provided by MAAIF and supervise MAAIF's financial management and use of resources, including clearance of Budget Revisions in consultation with the FAO LTO, the TCI/GEF Coordination Unit and the Investment Centre Division Budget Group;
- conduct procurement activities as required and in agreement with MAAIF, based on assessment of internal procurement capacity;
- be responsible for the management of FAO's share of the project resources and all aspects in the agreements between FAO and the various executing partners;
- monitor all areas of work and suggest corrective measures as required;
- submit to the GEF Coordination Unit, the TCID Budget Group and the LTO six-monthly financial reports on the use of FAO's share of the GEF resources (due 31 July and 31 January) that show the amount budgeted for the year, amount expended since the beginning of the year, including un-liquidated obligations (commitments) including details of project expenditures on an output-by-output basis, reported in line with project budget lines as set out in the project budget included in the Project Document;
- ensure that project partners have provided information on co-financing contributed during the course of the year for inclusion in the PIR;
- be accountable for safeguarding resources from inappropriate use, loss, or damage;
- be responsible for addressing recommendations from oversight offices, such as Audit and Evaluation; and
- establish a multi-disciplinary FAO Project Task Force to support the project.

Within FAO, **a multidisciplinary Project Task Force (PTF)** will be established by the BH which is mandated to ensure that the project is implemented in a coherent and consistent manner and complies with the organization's goals and policies, as well as with the provision of adequate levels of technical, operational and administrative support throughout the project cycle. The PTF is composed of a Budget Holder, a Lead Technical Officer (LTO), the Funding Liaison Officer (FLO) and one or more technical officers based on FAO Headquaters (HQ Technical Officer).

FAO Lead Technical Officer (LTO). The LTO for the project will be the Senior Land Resources Officer in the Land and Water Division, Agriculture Department at HQ who will have the oversight role of the implementation of the SLM project. The role of the LTO is central to FAO's comparative advantage for projects. The LTO will oversee and carry out technical backstopping to the project implementation. The LTO is responsible and accountable for providing or obtaining technical clearance of technical inputs and services procured by the Organization.

In addition, the LTO will provide technical backstopping to the PTF to ensure the delivery of quality technical outputs. The LTO will coordinate the provision of appropriate technical support from PTF to respond to requests from the PSC. The LTO will be responsible for:

- Representing FAO in the PSC or delegating to another land and water officer ;
- Overseeing the development by the FAOR with MAAIF, TCS, the BH and the GEF Coordination Unit, the Operational Partner Agreement that will govern the co-execution of project activities by MAAIF;
- Review and give no-objection to TORs for consultancies and contracts to be performed under the project, and to CVs and technical proposals short-listed by the PCU for key project positions, goods, minor works, and services to be financed by GEF resources;
- review procurement and contract documentation;
- review and approve project technical and progress reports submitted by PMU in consultation with the Project Task Force, BH and GEF Coordination Unit;
- review and clear the results-based AWP/B prepared by the PMU, prior to submission to the Project Steering Committee;
- contribute to the preparation of the annual Project Implementation Review report led by the NPC with inputs from MAAIF, UNDP and other project partners; the final consolidated project PIR should be submitted for clearance to the GEF Coordination (TCI);
- carry out or delegate to another land and water officer technical backstopping and supervision missions as necessary, but at least once a year;
- review and provide comments on TORs for the mid-term and final evaluations; and
- troubleshoot when complications arise or issues are raised, participate in review missions and, if necessary, collaborate with project partners in drawing up an eventual agreed adjustment plan to mitigate project risk.

The HQ Officer is a member of the PTF, as a mandatory requirement of the FAO Guide to the Project Cycle. The HQ Officer has most relevant technical expertise - within FAO technical departments - related to the thematic of the project. The HQ Technical Officer will provide effective functional advice to the LTO to ensure adherence to FAO corporate technical standards during project implementation, in particular:

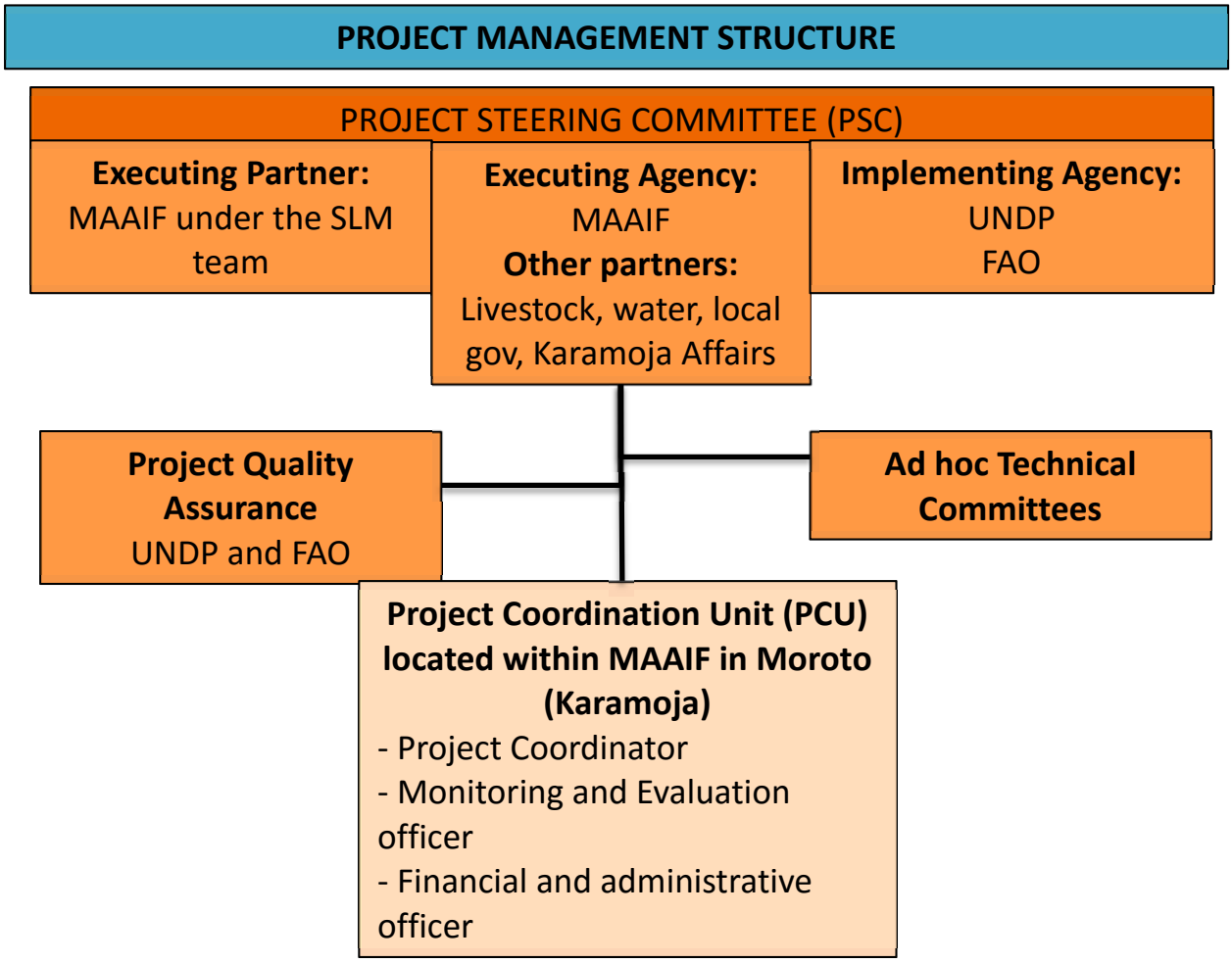
- Supports the LTO in monitoring and reporting on implementation of environmental and social commitment plans for moderate projects.
- Provides technical backstopping for the project work plan.
- Clears technical reports, contributes to and oversees the quality of Project Progress Report(s) (PPRs).
- May be requested to support the LTO and PTF for implementation and monitoring.
- Supports the LTO and BH in providing inputs to the TOR of the Final Evaluation as requested by OED.

The FAO-GEF Coordination Unit will act as Funding Liaison Officer (FLO). The FAO/GEF Coordination Unit will review the PPRs and financial reports, and will review budget revisions based on the approved Project Budget and AWP/Bs. This FAO/GEF Coordination Unit will support the review and rating for the jointly prepared annual PIR(s) and will undertake

supervision missions as necessary. The GEF Coordination Unit will also assist in the organization and be a key stakeholders in the mid-term and final evaluations. It will also contribute to the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will, in collaboration with the FAO Finance Division, request transfer of project funds from the GEF Trustee based on six-monthly projections of funds needed.

The FAO Financial Division will provide annual Financial Reports to the GEF Trustee and, in collaboration with the FAO-GEF Coordination Unit, request project funds on a six-monthly basis to the GEF Trustee. The Investment Centre Division Budget Group (TCID) will provide final clearance of any budget revisions. UNDP Internal Project Management arrangements are detailed in the UNDP Project Document Template, in line with master agreements between the government of Uganda and UNDP and the UNDP POPPs.

3.2 IMPLEMENTATION ARRANGEMENTS



A Project Steering Committee (PSC) will be established and chaired by MAAIF. It will be comprised of representatives from the following:

- MAAIF (SLM Team),
- FAO,
- UNDP,
- MAAIF directorates (production, livestock, water, etc)
- Ministry of Water
- Ministry of Environment
- Office of Karamoja Affairs
- PMO-RALG
- Representatives of local governments
- Representatives of NGOs and CBOs
- Representatives from the private sector

The National Coordinator (see below) will be the Secretary to the PSC. The PSC will meet at least two times per year to ensure:

- Oversight and assurance of technical quality of outputs;
- Close linkages between the project and other ongoing projects and programmes relevant to the project;
- Timely availability and effectiveness of co-financing support;
- Sustainability of key project outcomes, including up-scaling and replication;
- Effective coordination of government partner work under this project; and
- Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget.

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

A Project Management Unit (PMU) will be established within the MAAIF, and will be hosted in a MAAIF District office, preferably in Moroto to ensure proximity to all project sites. PMU members will be jointly selected by UNDP, FAO and MAAIF and will contribute to all three components. The PMU will include:

- a full time National Project Coordinator (NPC);
- a full time monitoring and evaluation expert;
- a full time operation and administration officer.

The ToRs of the PMU staff are provided in Annex 7. The PMU staff will be recruited by the project and will report (through the NPC) to the Project Steering Committee and budget holders. Some key functions of the PMU will be:

- Technically identify, plan, design and support all activities;
- Liaise with government agencies and regularly advocate on behalf of the project;
- Prepare the Annual Work Plan and Budget (AWP/B) and monitoring plan;

- Be responsible for day-to-day implementation of the project in line with the AWP;
- Ensure a results-based approach to project implementation, including maintaining a focus on project results and impacts as defined by the results framework indicators;
- Coordinate project interventions with other ongoing activities;
- Monitor project progress;
- Be responsible for the elaboration of FAO Project Progress Reports (PPR) and the annual Project Implementation Review (PIR); and
- Facilitate and support the mid-term evaluation/review and final evaluation of the project.

PMU staff will be supported by national and international consultants who will be recruited during project implementation as needed. The list and ToRs of required consultants are presented in Annex 7.

3.3 RISK MANAGEMENT

3.3.1 Environmental and social risks

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the Social and Environmental Screening Procedure and Toolkit for guidance on how to answer the 6 questions.

Project Information

Project Information	
1. Project Title	Fostering Sustainability and Resilience for Food Security in Karamoja sub region
2. Project Number	UNDP (ID: 5577) and FAO (636212)
3. Location (Global/Region/Country)	Uganda

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
The project integrates a human rights approach by focusing on the right to food. It is focused on ensuring that communities who are currently in a state of extreme food insecurity can produce and trade food. The project also integrates the principles of human rights and the rights of indigenous peoples.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment
The project has integrated gender-disaggregated indicators and recognizes the important role played by women in the agriculture and food sector. Specific activities are designed with the roles and responsibilities of women in mind, particularly in terms of income generation, alternative livelihoods, as well as capacity building for more sustainable food production.
Briefly describe in the space below how the Project mainstreams environmental sustainability
The project is expected to lead to significant environmental benefits, namely through the reversal of land degradation trends and through the restoration of key ecosystem services. This will include restoration of vegetative cover, sustainable management of soils and water, sustainable harvesting of biomass and biodiversity. The project does not anticipate any negative environmental impacts.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses). If no risks have been identified in Attachment 1 then note "No Risks Identified" and skip to Question 4 and Select "Low Risk". Questions 5 and 6 not required for Low Risk Projects.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	***Impact and Probability (1-5)***	***Significance (Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
Risk 1: There is a risk that the project beneficiaries may question the legitimacy of existing protected areas around project sites.	I = 1 P = 1	**Low**	Some of the project sites are situated near a wildlife reserve.	The project does not intend to work within the reserve or to target the reserve. Some community members expressed reservations about the reserve as it limits the ability of cattle to range. The project intends to work with NEMA and local stakeholders to assist in increasing rangeland rehabilitation and promoting sustainable rangeland management that will reduce pressure on the reserve.
Risk 2 : The project involves reforestation whose success will depend on climate conditions as well as the institution of sustainable management systems	I = 2 P = 2	**Moderate**	The project intends to undertake natural regeneration, reforestation in key degraded areas, and agro-forestry.	The project will promote the use of community-based forest management, rangeland management and agro-forestry in order to ensure adequate measures are put in place to increase forest cover.
Risk 3: The outcomes of the project are sensitive to climate change	I = 4 P = 3	**Moderate**	This project targets climate change impacts on livelihoods and food security. Its outcomes are sensitive inasmuch as the agricultural sector continues to be climate-sensitive.	The entire project is dedicated to reducing the impacts of climate change on food production systems and food security. Comprehensive strategies are being put in place to ensure that communities are more resilient, including diversification and production increase.
Risk 4: There are indigenous peoples in the project areas.	I = 2 P = 2	**Low**	The project is taking place in an area where indigenous people reside. While their land rights are not formally recognized (none are), they are not contested.	The project does not intend to challenge traditional land ownership rights, or to change land use patterns. In relation to indigenous peoples, they have been consulted and intend to participate in the project. The project will support the rights and aspirations of indigenous peoples. There are no disputes currently among the Karamojong or the indigenous peoples, although some transboundary conflicts occasionally arise due to cattle raiding. The project promotes a multi-stakeholder community-driven approach that seeks to reduce conflicts.

[add additional rows as needed]				

	QUESTION 4: What is the overall Project risk categorization?		
	Select one (see SESP for guidance)		**Comments**
	Low Risk	**X**	
	Moderate Risk	☐	
	High Risk	☐	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		**Comments**
	Principle 1: Human Rights	☐	
	Principle 2: Gender Equality and Women's Empowerment	☐	
	1. Biodiversity Conservation and Natural Resource Management	☐	
	2. Climate Change Mitigation and Adaptation	**X**	
	3. Community Health, Safety and Working Conditions	☐	
	4. Cultural Heritage	☐	
	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	**X**	
	7. Pollution Prevention and Resource Efficiency	☐	

Final Sign Off

Signature	***Date***	***Description***
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
Principles 1: Human Rights		**Answer (Yes/No)**
1.	Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2.	Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [1]	No
3.	Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4.	Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5.	Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6.	Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7.	Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8.	Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment		
1.	Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2.	Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3.	Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4.	Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No
1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	Yes
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No

[1] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	Yes
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? *For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.*	No
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant[2] greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	Yes
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	NO
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		

[2] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?[3]	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	Yes
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? *If the answer to the screening question 6.3 is "yes" the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.*	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No

[3] Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

The FAO risk classification form is also included as Annex 5.

3.3.2 Risk management strategy

	Description	Date identified	Type	Probability & Impact (1–5)	Mitigation measures / Countermeasures	Owner	Submitted, updated by	Last update	Status
1	Current climate and seasonal variability and/or hazard events prevent implementation of planned activities.	May 5th 2016	Economic, Environmental	Economic loss or physical damage to project activities; the implementation timing of the project is delayed P = 3 I = 5	• Consider current climatic variability during the implementation process. • Focus on climate-resilient species and techniques to: i) assist plant growth particularly in the seedling/sapling phase; and ii) reduce risk of damage from hazard events. • Take meteorological predictions and seasonal variability into account to reduce the risk of damage to plants.	UNDP FAO MAAIF			
2	Karamoja sub-region's development priorities are undermined by national emergencies	May 5th 2016	Social, environmental	Project activities are interrupted. Natural and financial capital is lost. P = 3 I = 5	• The project manager and coordination committee will keep abreast of national events and politics to plan contingency activities when/if necessary.	UNDP FAO MAAIF			
3	Lack of funds after project may reduce sustainability of project outcomes	May 5th 2016	Economic	Financial instability may undermine the efforts established during the project implementation, leading back to maladaptive practices (institutional and social) due to lack of funding. P = 2	• The project will pay particular attention to the key factors of success in the implementation of SLM and INRM as a strategy for adaptation in the rest of Uganda. • The project will support the development of multi-stakeholder platforms to discuss project implementation exchange knowledge and lessons learned, assess the	UNDP FAO MAAIF			

				I = 2	potential for replication, develop an up-scaling strategy, a mainstreaming strategy, and a financing strategy that will consider all possible future sources. • The project will also work with district administrations to leverage an increase in budgetary allocations for NRM. • The project will also explore alternative and innovative sources of financing, such as payment for ecosystem services.				
4	Poverty and other social factors prevent local communities from adopting resilient livelihoods for the long-term, instead opting for maladaptive activities for short-term benefits	May 5th 2016	Social, environmental	If local communities do not fully get involved in the project due to social factors, they will perpetuate maladaptive practices that will result in a spiralling of the root causes underlying what the project seeks to address – i.e. unsustainable use of natural resources, which will then lead to further degradation of ecosystems. Consequently, the community will continue to be vulnerable. P = 2 I = 4	• During project preparation, stakeholders have been engaged since the design to make sure they own the project and that the project implements "no-regrets" options. • The project will carry out information dissemination activities at the local level ensuring that communities are aware of the benefits of ecosystems and adaptation. • Inclusive interventions such as building participatory and community-based land use plans and the establishment of APFS/FFS will ensure that individuals have a role and stake in the project.	UNDP FAO MAAIF			
5	Weak institutions and government capacity cause	May 5th 2016	Institutional	Given that the institutional capacities are generally low and coordination between different government agencies is not optimal, this could impede the implementation of the project	• Government officials have been engaged since the preparation stage to promote ownership of the project. • Government officials will coordinate the activities of all the partners and stakeholders ensuring that the civil	UNDP FAO MAAIF			

	delays and logistical challenges to support project implementation			and reduce the number of activities that could be delivered. P = 4 I = 4	service has a central role in the project's success, maintaining their interest and accountability of the project. • The project will promote inter-ministerial collaboration so as to ensure cross-departmental accountability and cooperation. • Training and capacity building will also be provided, which will allow this project to provide learning incentives.				
6	Communities do not support interventions and do not adopt ecosystem management activities during or after the term of the proposed project because of limited immediate benefits of SLM/INRM	May 5th 2016	Social, environmental	Unsustainable use of natural resources continues, leading to further degradation of ecosystems. SLM and INRM techniques are not implemented in the long term. Consequently, the community continues to be vulnerable. P=1 I=4	• Community stakeholders have been engaged since the PPG phase to strengthen their buy-in into the proposed project. • Actively involve local communities in project implementation. • Foster a bottom-up, grassroots approach throughout the project's development and implementation phases. • Implement alternative livelihoods that have proved to be financially, technically and socially viable/feasible to reduce reliance on intensive land use. • Raise public awareness on the capacity of the restored ecosystems to increase community resilience to climate change. • Improve capacity building and training of the communities to improve their understanding of the adaptation benefits of the SLM and INRM activities. • Implement activities that have direct benefits to local communities which will be ensured through the APFS/FFS structure..	UNDP FAO MAAIF			

7	Loss of government support may result in poor prioritisation of proposed project activities.	May 5th 2016	Institutional	Project activities are delayed. P=1 I=3	• Engage with the government to maintain its commitment to the proposed project. • Integrate the objectives of national development policy in decision making throughout the project to maintain government commitment.	UNDP FAO MAAIF			
8	Institutional capacity and relationships between line ministries are not sufficient to provide effective solutions to food security problems that are complex and multi-sectoral.	May 5th 2016	Institutional	Multi-sectoral adaptation interventions are compromised and interventions are confined to those sectors willing to engage in cross-sectoral dialogue. The vulnerability of certain sectors and Uganda as a whole is not fully addressed. P=2 I=3	• Promote the development of institutional capacity and the enforcement or set up of cross-sectoral and cross- ministerial exchange platforms throughout the project implementation. This will ultimately lead to the development of an appropriate institutional framework for analysing food security dynamics, amending policy and implementing SLM and INRM interventions for climate change adaptation.	UNDP FAO MAAIF			
9	Limited technical capacity to conduct preliminary studies and design the implementa	May 5th 2016	Technical	Preliminary studies do not take place resulting in delayed implementation of project activities. Interventions are not designed appropriately. P=2	• Identify and develop human resource capacity as required. • Include funds in the project budget for preliminary studies to hire international consultants to complement the research team. • Engage field officers to work closely with the project manager of the	UNDP FAO MAAIF			

	tion of activities.			I=2	proposed project to ensure timely delivery of project outputs.				
10	Priority interventions implemented are not found to be cost-effective.	May 5th 2016	Economic	Project interventions are not upscaled for large-scale SLM and INRM programmes P=2 I=4	• Conduct baseline studies on cost-effectiveness and pilot each proposed alternative livelihoods in demonstration sites. • Record detailed information on cost-effectiveness. Such information will be widely disseminated to allow future projects to use them • Use cost-effectiveness as a core principle in the implementation of adaptation measures.	UNDP FAO MAAIF			
11	Indigenous peoples targeted by the project activities or living outside direct project intervention areas block the project	May 2016	Social	Project interventions cannot go ahead or are unsustainable due to the lack of buy-in from indigenous peoples. P = 2 I = 4	• Communities targeted by the project have been engaged in project design consultations and will keep being engaged and be duly consulted in PY1 before starting project operations, to ensure stakeholder engagement and sustainability through strong community ownership of the project. • According to FAO Policy on Indigenous and Tribal Peoples[1] and the Environmental and Social Management Guidelines[2], a Free, Prior and Informed Consent process should be conducted, and a Grievance Mechanism will be made available.	UNDP FAO MAAIF			

[1] http://www.fao.org/docrep/013/i1857e/i1857e00.htm

[2] http://www.fao.org/3/a-i4413e.pdf

3.4. FINANCIAL MANAGEMENT

3.4.1 Financial planning

Project Component	GEF funding	Co-financing
Component 1	1,600,450	2,500,000
Component 2	4,318,510	52,550,000
Component 3	990,850	2,000,000
PMC	229,640	950,000
TOTAL	**7,139,450**	**58,000,000**

GEF financing per Agency

Outcome/ Output		Financing through FAO-GEF	Financing through UNDP-GEF
OUTCOME 1: Supportive policies and incentives in place at district level to support improved crop and livestock production, food value-chains and INRM			
	Output 1.1: Operational multi-stakeholder platforms are supporting INRM at district and regional levels		882,500
	Output 1.2: Adequate legal instruments enabling INRM, land use planning and enforcement in place		717,950
OUTCOME 2: Increased land area under integrated natural resources management (INRM) and SLM practices for a more productive Karamoja landscape			
	Output 2.1: Institutional technical capacities are strengthened to implement INRM/SLM	153,250	
	Output 2.2: Increase in the number of community members trained in INRM / SLM techniques	1,685,496	
	Output 2.3: Community groups are benefiting from income-generating activities (IGAs) introduced by the project	1,679,764	
	Output 2.4 Community level small grant projects in the Karamoja region that enhance ecosystem services, sustainable land management, innovate alternative livelihood options, are implemented		800,000
OUTCOME 3. Framework in place for multi-scale assessment, monitoring and integration of resilience in production landscape and monitoring of GEBs			
	Output 3.1: Assessment and Monitoring of GEBs		398,900
	Output 3.2: Capacity in place to apply appropriate tools and practices for monitoring resilience at multiple scales		200,500
	Output 3.3: Project is linked to regional program		391,450
Project Management Cost		31,514	198,126
TOTAL PER AGENCY		3,550,024	3,589,426

Summary of cofinancing	
Ministry of Agriculture (Grant)	$21,000,000
Office of Prime Minister (Grant)	$ 24,000,000

UNDP	$13,000,000

3.4.2 Financial management and reporting

FAO

Financial management and reporting in relation to the GEF resources will be carried out in accordance with FAO's rules and procedures (see below) and as described in the Operational Partner Agreement (OPA) between FAO and the Sustainable Land Management (SLM) programme Management Unit (PMU) of MAAIF.

Financial Records. FAO shall maintain a separate account in United States dollars for the project's GEF resources showing all income and expenditures. Expenditures incurred in a currency other than United States dollars shall be converted into United States dollars at the United Nations operational rate of exchange on the date of the transaction. FAO shall administer the project in accordance with its regulations, rules and directives.

Financial Reports. The BH shall prepare six-monthly project expenditure accounts and final accounts for the project, showing amount budgeted for the year, amount expended since the beginning of the year, and separately, the un-liquidated obligations as follows:

1. Details of project expenditures on a component-by-component and output-by-output basis, reported in line with project budget codes as set out in the project document, as at 30 June and 31 December each year.
2. Final accounts on completion of the project on a component-by-component and output-by-output basis, reported in line with project budget codes as set out in the project document.
3. A final statement of account in line with FAO Oracle project budget codes, reflecting actual final expenditures under the project, when all obligations have been liquidated.

The BH will submit the above financial reports for review and monitoring by the LTO and the FAO GEF Coordination Unit. Financial reports for submission to the donor (GEF) will be prepared in accordance with the provisions in the GEF Financial Procedures Agreement and submitted by the FAO Finance Division.

Financial statements: Within 30 working days of the end of each semester, the FAO Representation in Uganda shall submit six-monthly statements of expenditure of GEF resources, to present to the Project Steering Committee. The purpose of the financial statement is to list the expenditures incurred on the project on a six monthly basis compared to the budget, so as to monitor project progress and to reconcile outstanding advances during the six-month period. The financial statement shall contain information that will serve as the basis for a periodic revision of the budget.

Budget Revisions. Semi-annual budget revisions will be prepared by the BH in accordance with FAO standard guidelines and procedures.

Responsibility for Cost Overruns. The BH is authorized to enter into commitments or incur expenditures up to a maximum of 20 percent over and above the annual amount foreseen in the project budget under any budget sub-line provided the total cost of the annual budget is not exceeded.

Any cost overrun (expenditure in excess of the budgeted amount) on a specific budget sub-line over and above the 20 percent flexibility should be discussed with the GEF Coordination Unit

with a view to ascertaining whether it will involve a major change in project scope or design. If it is deemed to be a minor change, the BH shall prepare a budget revision in accordance with FAO standard procedures. If it involves a major change in the project's objectives or scope, a budget revision and justification should be prepared by the BH for discussion with the GEF Secretariat.

Savings in one budget sub-line may not be applied to overruns of more than 20 percent in other sub-lines even if the total cost remains unchanged, unless this is specifically authorized by the GEF Coordination Unit upon presentation of the request. In such a case, a revision to the project document amending the budget will be prepared by the BH.

Under no circumstances can expenditures exceed the approved total project budget or be approved beyond the NTE date of the project. **Any over-expenditure is the responsibility of the BH.**

Audit. The project shall be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between the GEF Trustee and FAO.

The audit regime at FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the Governing Bodies of the Organization and reporting directly to them, and an internal audit function headed by the FAO Inspector-General who reports directly to the Director-General. This function operates as an integral part of the Organization under policies established by senior management, and furthermore has a reporting line to the governing bodies. Both functions are required under the Basic Texts of FAO which establish a framework for the terms of reference of each. Internal audits of imprest accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.

Procurement. Careful procurement planning is necessary for securing goods, services and works in a timely manner, on a "Best Value for Money" basis. It requires analysis of needs and constraints, including forecast of the reasonable timeframe required to execute the procurement process. Procurement and delivery of inputs in technical cooperation projects will follow FAO's rules and regulations for the procurement of supplies, equipment and services (i.e. Manual Sections 502 and 507). *Manual Section 502*: "Procurement of Goods, Works and Services" establishes the principles and procedures that apply to procurement of all goods, works and services on behalf of the Organization, in all offices and in all locations, with the exception of the procurement actions described in Procurement Not Governed by Manual Section 502. *Manual Section 507* establishes the principles and rules that govern the use of Letters of Agreement (LoA) by FAO for the timely acquisition of services from eligible entities in a transparent and impartial manner, taking into consideration economy and efficiency to achieve an optimum combination of expected whole life costs and benefits.

As per the guidance in FAO's Project Cycle Guide, the BH will draw up an annual procurement plan for major items, which will be the basis of requests for procurement actions during implementation. The first procurement plan will be prepared at the time of project start-up, if not sooner, in close consultation with the NC/PMU. The plan will include a description of the goods, works, or services to be procured, estimated budget and source of funding, schedule of procurement activities and proposed method of procurement. In situations where exact information is not yet available, the procurement plan should at least contain reasonable projections that will be corrected as information becomes available.

The procurement plan shall be updated every 12 months and submitted to FAO BH and LTO for clearance, together with the AWP/B and annual financial statement of expenditures report for the next instalment of funds.

The BH, in close collaboration with the NPC, the LTO and the Budget and Operations Officer will procure the equipment and services provided for in the detailed budget in Appendix 3, in line with the AWO and Budget and in accordance with FAO's rules and regulations.

UNDP FINANCIAL PLANNING AND MANAGEMENT

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board. Should the following deviations occur, the Project Manager and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF:

a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more;
b) Introduction of new budget items/or components that exceed 5% of original GEF allocation.
Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Refund to Donor: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Financial completion: The project will be financially closed when the following conditions have been met:

a) The project is operationally completed or has been cancelled;

b) The Implementing Partner has reported all financial transactions to UNDP;

c) UNDP has closed the accounts for the project;
d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project will be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

Audit: the project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.[1]

UNDP Direct Project Services as requested by Government**:** UNDP has been requested by the government to provide direct project services for this project, relating to procurement of goods and services for establishing the Project Management Unit. These services, and their cost, have been outlined in the Letter of Agreement (see Annex L) to be signed between government and UNDP, prior to the signing of the PRODOC between UNDP and government.

SECTION 4 – MONITORING, REPORTING AND EVALUATION

4.1. OVERSIGHT

Project oversight will be carried out by the Project Steering Committee (PSC), the FAO GEF Coordination Unit, the UNDP Regional Technical Advisor, and relevant Technical Units in both Agencies. Oversight will ensure that: (i) project outputs are produced in accordance with the project results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project global environmental benefits/adaptation benefits are being delivered.

The Agencies will provide oversight of GEF financed activities, outputs and outcomes largely through the annual Project Implementation Reports (PIRs), periodic backstopping and supervision missions.

4.2 MONITORING

Project monitoring and evaluation will be conducted in accordance with the established FAO, UNDP and GEF procedures and will be supported by the PMU, FAO and UNDP delegated offices and other project stakeholders. Project performance will be monitored using the project results matrix, including indicators (baseline and targets) and annual work plans and budgets. At inception the results matrix will be reviewed to finalize identification of: i) outputs ii) indicators; and iii) missing baseline information and targets. A detailed M&E plan, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc) will also be developed during project inception by the M&E specialist.

[1] See guidance here: https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx

4.3 REPORTING

Specific reports that will be prepared under the M&E program are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report. In addition, assessment of the GEF Monitoring Evaluation Tracking Tools against the baseline (completed during project preparation) will be required at midterm and final project evaluation.

Project Inception Report. Immediately after the project inception workshop, the PMU will prepare a project inception report in consultation with the FAO and UNDP and other project partners. Elements of this report should be discussed during the Project Inception Workshop and the report subsequently finalized. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan. The draft inception report will be circulated to the PSC for review and comments before its finalization, no later than one month after project start-up.

Results-based Annual Work Plan and Budget (AWP/B). Following the approval of the Project, the Project's first year work plan and budget (AWP/B) will be adjusted (either reduced or expanded in time) to synchronize it with FAO and UNDP financial reporting requirements. It will be prepared by the PMU in consultation with FAO and UNDP and reviewed at the project Inception Workshop. The Inception Workshop inputs will be incorporated, and the PMU will submit a draft final AWP/B within two weeks of the Inception Workshop to FAO and UNDP. In subsequent years, the AWP/B and budget will follow an annual preparation and reporting cycle, and should be submitted to UNDP and FAO for review by November each year. As part of the AWP/B, a detailed project budget for the activities to be implemented during the year should be included together with all monitoring and supervision activities required during the year.

The AWP/B must be linked to the project's Results Framework indicators so that the project's work is contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B should be approved by the Regional Steering Committee) and uploaded on the FAO FPMIS by the BH and onto ATLAS at UNDP.

Project Progress Reports (PPR): The PMU will submit quarterly PPRs to UNDP and six-monthly PPRs to FAO in accordance with UNDP and FAO procedures. The formats for the quarterly and six-monthly PPRs are largely prescribed by the GEF Agencies.PPRs will be prepared by the PMU based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework (Annex 1). The purpose of the PPR is to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action in a timely manner. They will also report on projects risks and implementation of the risk mitigation plan.

Annual Project Implementation Review (PIR): An annual Project Implementation Review will be prepared in the form required by the GEF to report on progress in the 12 months to 30 June. This will be submitted to FAO and UNDP with the IAP Tracking Tool no later than 31 July each year for review and approval. The format for the annual PIR is fixed by the GEF.

Technical Reports: Technical reports will be prepared by national, international consultants as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by the PMU to the Agencies who will share it with the partners. The Agencies will be responsible for ensuring appropriate technical review and clearance of said report. Copies of the technical reports will be distributed to project partners and the Project Steering Committee as appropriate.

Co-financing Reports: The BH, with support from the PMU, will be responsible for collecting the required information and reporting on co-financing as indicated in the Project Document/CEO Request. The PMU will compile the information received from the executing partners and transmit it in a timely manner to the Agencies. The report, which covers the period 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The format and tables to report on co-financing can be found in the PIR.

GEF Tracking Tools: Following the GEF policies and procedures, the relevant tracking tools for full sized projects will be submitted at three moments: (i) with the project document at CEO endorsement; (ii) at the project's mid-term review/evaluation; and (iii) with the project's terminal evaluation or final completion report. The TT will be uploaded in FPMIS by the GEF Unit. The TT can be found in Annex 13.

Terminal Report: During the last three months, the project team will prepare the Project Terminal Report in a format decided by the GEF Agencies. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results. The final version of the Terminal Report will include the findings of the final evaluation as described in the next section. A final Project Steering Committee meeting is expected to take place in late 2020.

4.4 EVALUATION

The project will follow UNDP and FAO standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Section 4.3 and 4.5. UNDP will jointly arrange for the mid-term evaluation in consultation with the project partners. The evaluation will, *inter alia:*

(i) review the effectiveness, efficiency and timeliness of project implementation;
(ii) analyze effectiveness of partnership arrangements;
(iii) identify issues requiring decisions and remedial actions;
(iv) propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
(v) highlight technical achievements and lessons learned derived from project design, implementation and management.

The organization, terms of reference and timing of the MTE will be decided after consultation between the parties to the project document. UNDP will take the lead in organizing the MTE in close consultation with the FAO Evaluation Office (OEDD) and UNDP/GEF Coordination Unit. The Terms of Reference for this MTE will be prepared by FAO and UNDP, with input from the PMU. UNDP will take the lead in preparing the Management response and ensure that FAO's comments are incorporated. The management response and the evaluation will be uploaded to GEF Agencies' corporate systems, after review by the RSC with responses and agreed actions.

The IAP Tracking Tools will also be updated during the MTE.

An independent Terminal Evaluation will focus on similar issues as the MTE but will also look at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. UNDP will take the lead, in close consultation with the FAO Evaluation Office and the UNDP/GEF Coordination Unit, in organizing the final evaluation which should be conducted three months prior to the last PSC. The terms of reference for the Terminal Evaluation will be prepared by FAO and UNDP, with the lead Agency being UNDP, in consultation with the PMU. The management response and the evaluation will be uploaded to GEF Agencies' corporate systems, after review by the PSC with responses and agreed actions.

The GEF tracking tools are attached as Annex 13. These will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. As mentioned above the mid-term and terminal evaluation will verify the information of the tracking tool.

4.5 M&E Plan

GEF M&E requirements	**Primary responsibility**	**Indicative costs to be charged to the Project Budget[1] (US$)**		**Time frame**
		GEF grant	**Co-financing**	
Inception Workshop	UNDP Country Office	USD 6,063	USD5,000	Within two months of project document signature
Inception Report	Project Manager	None	None	Within two weeks of inception workshop
Standard UNDP/FAO monitoring and reporting requirements as outlined in the UNDP POPP and joint ProDoc	UNDP/FAO Country Office	None	None	Quarterly, six monthly, annually
Monitoring of indicators in project results framework	M&E officer Project Manager	None	*None*	Annually
GEF Project Implementation Report (PIR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
NIM/OPIM Audit as per UNDP/FAO audit policies	UNDP Country Office FAO Country Office	Per year: USD 5,000 (5,000 x 5) = $25,000 $3,000 for UNDP & $2,000 FAO)		Annually or other frequency as per UNDP/FAO Audit policies

[1] Excluding project team staff time and UNDP staff time and travel expenses.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[1] (US$)		Time frame
		GEF grant	Co-financing	
Lessons learned and knowledge generation	Project Manager	USD 80,000 (over 5 years)	USD10,000 per annum (Total USD50,000)	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP/FAO CO	None		On-going
Addressing environmental and social grievances	Project Manager UNDP/FAO Country Office BPPS as needed	None for time of project manager, and UNDP CO		
Project Board meetings	Project Board UNDP/FAO Country Office Project Manager	Per year = USD 1,000 (1,000 x 5)= $5000	USD5000 per annum (Total USD25,000)	At minimum annually
Supervision missions	UNDP Country Office FAO Country Office	None[2]	USD25,000 per annum (Total USD125,000)	Annually
Oversight missions	UNDP-GEF team FAO GEF Team	None[7]	None	Troubleshooting as needed
Knowledge management as outlined in Outcome 3	Project Manager	USD 300,000		On-going
GEF Secretariat learning missions/site visits	UNDP Country Office and Project Manager and UNDP-GEF team	None		To be determined.
Mid-term GEF Tracking Tool to be updated by (add name of national/regional institute if relevant)	Project Manager	NONE	USD10,000	Before mid-term review mission takes place.
Independent Mid-term Review (MTR) and management response	UNDP/FAO Country Office and Project team and UNDP/FAO-GEF team	USD 35,000	USD5,000	Between 2nd and 3rd PIR.
Terminal GEF Tracking Tool to be updated by (add name of national/regional institute if relevant)	Project Manager	NONE	USD10,000	Before terminal evaluation mission takes place

[2] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[1] (US$)		Time frame
		GEF grant	Co-financing	
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP/FAO Country Office and Project team and UNDP/FAO-GEF team	USD 35,000 -	USD5,000	At least three months before operational closure
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		**USD 486,063**	**USD485,000**	

In addition, Monitoring and Assessment activities are also included in the project under Component 3. These include assessments of GEBs produced by the project, assessments of project benefits and indicators as well as the costs of the M&E officer.

4.6 COMMUNICATION

The vulnerability of Karamojong communities is exacerbated in part by limited knowledge and awareness of climate change, its impacts, and possible adaptation strategies. To address this challenge, strategies at local and regional levels will support awareness, communication and mainstreaming of the project approaches through multi-stakeholder platforms created or strengthened at both levels.

Communication and dissemination activities are planned within the project's three outcomes as essential parts of awareness raising, learning and M&E. Under Outcome 1, emphasis will be made on the production of training materials in local languages and in the form of pictorial elements in order to communicate on SLM and INRM benefits and reach the highest possible number of beneficiaries. Knowledge products from training will then be uploaded online on FAO's and UNDP's repositories as well as on regional and local government's appropriate channels, such as official websites. Under Outcome 2, knowledge and benefits from applying improved crop/livestock production techniques will be communicated through existing and new APFS and FFS, which has proved to be successful in reaching vulnerable populations and building capacity through a learning-by-doing approach. Participatory M&E during the project, planned as part of Component 4, will allow project stakeholders and community members to express their perceptions on the project strategy and implementation while improving the project's accountability as well as exchanging lessons learned and building local capacity on how to improve the project's implementation.

ANNEX 1: RESULTS MATRIX

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
Goal: to improve food security by addressing the environmental drivers of food insecurity and their root causes in Karamoja sub-region	**Percentage of households suffering from hunger in Karamoja**	**92% of households suffer from moderate or severe hunger in Karamoja (preliminary results from HH-BAT, January 2016)**	**A 15% reduction in the number of households suffering from moderate or severe hunger, among which 35% are female-headed households, at mid-project.**	**A 25% reduction in the number of households suffering from moderate or severe hunger, among which 35% are female-headed households, by end of project.**	**Household Surveys/HH-BAT (FIES)**
Objective: to contribute to enhancing long-term environmental sustainability and resilience of food production systems in the Karamoja Sub-Region	**Increase in intra and inter-seasonal livestock and crop productivity arising from SLM and INRM practices**	**At present, the only available data is the average district level yield. During the baseline study, the project will strive to collect household level data. Maize 1.2 Sorghum: 0.65 Beans: 0.35 Cassava: 8.0 Sweet Potato:8.0**	**A 20% increase in productivity of cereals, pulses and vegetables, in all seasons, in 900 hectares by mid-project. A 10% increase in cattle and small stock in all seasons productivity (milk/meat/eggs) by mid-project.**	**A 20% increase in productivity of maize, sorghum, cassava and sweet potato, vegetables and beans, in 1,800 hectares by end of project. A 15% increase in cattle and small stock productivity (milk/meat/eggs), by end of project.**	**HH-BAT (SLM) - Food security and livelihood surveys - Seasonal crop production reports by District production Departments and MAAIF - Market surveys - Systematic data collection and analysis by FFS/APFS through links with ZARDI / University**

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
OUTCOME 1: Supportive policies and incentives in place at district level to support improved crop and livestock production, food value-chains and INRM	Number of supportive policies and incentives in place at district level to support viable SLM/INRM approaches	While some enabling policies are adopted at the national level, their local implementation and application is weak. For example, the land policy is not fully implemented and customary rights are not formally recognized. The pastoral policy remains a draft at national level, and cattle corridors are not formally re-established.	Mechanisms for enhancing the application of SLM/ INRM polices identified, by mid-project	At least 1 policy or 1 incentive in force to support viable SLM/INRM approaches and related food value-chains at landscape level in each selected site, by end of project	Progress report, Policy briefs
Output 1.1: Operational multi-stakeholder platforms are supporting INRM at district and regional levels	*Number of multi-stakeholder platforms established supporting INRM per district, within which a percentage of women, men, youth, and indigenous people are represented*	*At the moment, there are a few regional stakeholder platforms, such as the donor coordination group spearheaded by the Ministry of Karamoja Affairs, a few ad hoc local NGO coordinating groups, and some private sector associations. There is no single multi-stakeholder platform for the region and collaboration is unequal from site to site. There is no platform for coordination at district level that brings together all relevant stakeholders.*	*An analysis of the strengths, weaknesses, and opportunities related to multi-stakeholder platforms at the district and regional levels is complete by mid-project.*	*At least 1 multi-stakeholder platform per district, supporting INRM, within which at least 30% are women, 30% are men, 20% are youth, and as appropriate 10% are indigenous people to represent communities, by end of project. One operational and comprehensive regional multi-stakeholder platform that includes meaningful participation by NGOs, private sector, CBOs, CSOs, government and development partners and that is linked to district level platforms, by end of project.*	*Meeting reports, outlining participating actors, institutions, NGOs, CBOs, private sector organization and meeting agenda*
1.1.1. Assessment of existing sectoral, interest-based and stakeholder-based platforms in Karamoja and needs assessment.					
1.1.2 Create/strengthen multi-stakeholder platforms at the local (district) level with CBOs, NGOs and private sector and government, working through extension services and focused on value chain development, SLM and INRM.					
1.1.3 Work with Ministry of Karamoja Affairs and other relevant ministries/stakeholders (such as the Ministry of Land and Ministry of Trade) to bring together platforms at the regional level to facilitate knowledge exchange and collaboration on INRM (exchange and harmonization of approaches, joint awareness and capacity development events, including linkages with regional platforms such as the Pastoralists Knowledge Hub or the World Initiative Sustainable Pastoralism – WISP)					
1.1.4 Facilitate the integration of the priorities expressed by local multi-stakeholder platforms into district planning and budgeting and to increase budget lines for SLM and INRM in line with the various national action plans for food security, SLM strategic investment plan, for climate resilience and preventing land degradation and biodiversity loss.					

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
1.1.5. Produce and disseminate a wide range of awareness raising materials on the project, SLM and INRM (pictorial, in local languages for print, radio, dramas etc.) as well as relevant case studies.					
Output 1.2: Adequate legal instruments enabling INRM, land use planning and enforcement in place	*Number of legal instruments, policies, by-laws applied in Karamoja sub-region enabling INRM, land use planning and enforcement*	*0*	*A thorough assessment of legal gaps and needs for each district is completed by mid-project.*	*At least one INRM-enabling legal instrument, policy or by-law under implementation in each district by end of project.*	*Reports on best practices , Policy briefs, legal documents, council documents*
1.2.1 Facilitate the review / amendment / drafting of by-laws & ordinances to ensure the integration of INRM and diversified production systems on the basis of a legal framework assessment for each district and training of local council personnel, and work with MoJ to support LGs in securing final approval and gazetting legal instruments.					
1.2.2 Support local councils, including all relevant departments, through multi-stakeholder platforms in the review or establishment of community-based land use plans supporting INRM / SLM and land use conflict prevention/reduction, linked to the national and district level physical development plans, and inclusive of cattle corridors, conservation and migration routes/cattle corridors.					
1.2.3 Train local councils, NGOs and CBOs on the application of appropriate guidelines on responsible tenure of land, fisheries and forests for resolving land tenure issues, within the framework of the established Land Act, Land and Land Use Policies and regulations, and provide support for the formalization of customary collective rights to support collaborative rangeland management.					
1.2.4 Facilitate the formalization of land ownership rights particularly for women, elderly and the youth					
OUTCOME 2: Increased land area under integrated natural resources management (INRM) and SLM practices for a more productive Karamoja landscape	Number of hectares of cropland/rangeland/forest under integrated natural resources management and SLM per district Increase in crop yields by farmer records;	0	225 ha of cropland, 90 ha of rangeland and 300 ha of forests per district are under INRM / SLM systems, by mid-project (2,460 ha in total)	450 ha of cropland, 180 ha of rangeland and 600 ha of forests per district are under INRM / SLM systems, by end of project (4,920 ha in total)	Annual technical reports, Visual observations, Annual reports on production numbers per district or per landscape, Annual APFS/FFS reports

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
	Increase in water availability through biophysical monitoring				
Output 2.1: Institutional technical capacities are strengthened to implement INRM/SLM	*Number of people trained on INRM, among which a percentage are women*	*0*	*At least 25 people per district, trained on INRM, among which half are women, by mid-project*	*N/A*	*List of participants to training (by gender), Training reports, training manuals*
2.1.1. Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology and energy savings approaches					
2.1.2 Provide training for decentralized MAAIF, DLG and APFS trainers on agro-meteorological information dissemination (with MAAIF and UMA)					
2.1.3 Integrate Karamoja Drought Early Warning System into the national EWS through the dissemination of agro-met info and advisories to local government and to the general public through radio and other fora such as local elders forums, etc..					
Output 2.2: Increase in the number of community members trained in INRM / SLM techniques	*Number of community members trained in INRM and SLM practices, 60% of which are women*	*0*	6,000 community members trained in INRM/SLM (soil, water, biodiversity) by mid-project, among which half are women	12,000 community members trained in integrated natural resources management and SLM, among which half are women by end of project	*Visual observations, yield data, Annual reports on production numbers per district or per landscape, HH-BAT*
2.2.1. Build capacity of men, women, youth, elders and newly sedentary former pastoralists on integrated crop-livestock farming and horticulture / catchment and territorial management / SLM technologies conservation agriculture / and climate smart agriculture (CSA) through the establishment of and technical support to new and existing APFS and FFS (including field demonstration and other training events).					
2.2.1b Build capacity of implementing partners, service providers and farmers on relevant approaches for SLM/INRM					

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
2.2.2 Demonstrate the benefits of pasture improvement for rangeland rehabilitation and sustainable management (linked to 1.2.3), using resilient species of grass/shrubs, including the demonstration of holistic grazing management.					
2.2.3 Establish temporary enclosure areas for farmer assisted natural regeneration of vegetation in line with a land use plan agreed in Outcome 1 (1.2.2).					
2.2.4 Undertake reforestation and rehabilitation in hotspots identified in community land use plans (1.2.2.) (e.g. riverine areas, watering points, steep slopes, gullies) with a focus on increasing biodiversity, productivity and climate resilience using beneficial indigenous tree species such as Acacia gum, tamarind, shea nut and palatable grasses and shrubs.					
2.2.5. Implement rainwater harvesting techniques for enhanced productivity and resilience to drought in fields (e.g. tied ridges, retention ditches, zai, half-moons, stone lines) and sand dams (where feasible) for crop, livestock and household use (e.g. roof where feasible or below ground collection tanks).					
Output 2.3: Community groups are benefiting from income-generating activities (IGAs) introduced by the project	*Number of people participating in alternative livelihoods schemes addressing SLM/INRM in the broader Karamoja landscape, 60% of which are women* *Increase in household incomes measured by household surveys*	*0*	*At least 1000 community members, of which at least 60% are women, participate in alternative livelihoods schemes and small grant projects addressing SLM/INRM in the broader Karamoja landscape by mid-term*	*At least 2500 community members, of which at least 60% are women, participate in alternative livelihoods schemes and small grant projects addressing SLM/INRM in the broader Karamoja landscape by end of project*	*Annual reports on production numbers for each value chain, per district, HHBAT, producer surveys*
2.3.1 In cooperation with Zonal Agricultural Research and Development Institute (ZARDI), organize youth and women in producer groups or in VSLAs, to develop seed multiplication skills and cereal banking systems among crop farmers to improve supplies of local seed varieties, especially those with drought coping mechanisms and / or a high % recovery post-drought.					
2.3.2 Work through existing or new APFS/FFS to disseminate improved crop/livestock production techniques (linked to 2.2.1) for increased household income, including through linkages with the private sector and provision of technical and physical capacity for value addition in traditional and innovative value chains.					
2.3.3. Perform viability and feasibility assessments for preselected value chains, including detailed economic and market studies					
2.3.4 Develop resilient value chains for increased income:					
2.3.4a Explore the potential for sustainable charcoal production working with the NFA and Ministry of Energy, youth and women groups, to promote the introduction of retort kilns and improved cookstoves for energy savings and establish dedicated woodlots for wood fuel at household and manyatta level to produce charcoal more efficiently (with GHG mitigation benefits) under a value-chain approach, and to explore other sources of energy.					

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
2.3.4b Work with local NGOs and small industries to develop practical skills and encourage youth and women to set-up businesses that make better use of grassland such as fodder harvesting, storage and sale under a value-chain approach; basket making, thatching, seed multiplication (link to 2.3.3) of fodder crops etc					
2.3.4c Work with local NGOs to train farmer groups in processing and transforming indigenous plants which have food security and global ecological importance (Local, National and International benefits)E.g: Aloes, Tamarind, Acacia Spices, Amarula, among others					
2.3.4d Work with local NGOs to organize farmers in beekeeping production groups and provide support based on a cost sharing arrangement (equipment and storage facility) and training in bee-keeping, also processing of honey and related products (learn from APFS networks in Amudat District and the Tepeth Community in Moroto District)					
2.3.4e Organize women and youth in producer groups to establish piggeries and small stock rearing facilities (chickens for egg production, goats, ducks) in communities and in landscapes where it is appropriate					
2.3.5 Conduct FPIC assessment and consultation					
Output 2.4 Community level small grant projects in the Karamoja region that enhance ecosystem services, sustainable land management, innovate alternative livelihood options, are implemented	*Number of Civil Society practising SLM / INRM issues in Karamoja through the Small Grants Program*	0	25% of grant amount disbursed by mid-term, of which at least 50% is allocated to women and youth groups	100% of grant amount disbursed by end of project, at least 50% of which is disbursed to women and youth groups.	project reports, SGP reports
2.4.1 Deliver small grant projects focusing on a set of agreed themes including: restoration of ecosystem services, forest cover and biodiversity, water harvesting and conservation, implementation of erosion control techniques, innovative sustainable livelihoods and livelihoods approaches, post-harvest management, business skills development, with particular attention to gender-based strategies					
OUTCOME 3. Framework in place for multi-scale assessment, monitoring and integration of resilience in production landscape and monitoring of GEBs	Level of resilience as measured by the SHARP, HH BAT, Vital Signs and RAPTA tools: • Increased levels of agro-ecological and social resilience by end of project • Reduced perception of risk and vulnerability by end of project	There is little available data on resilience and no data on GEBs, including biodiversity	Low level of available data on resilience and GEBs by mid-project	At least, medium level of available data on resilience and GEBs by the end of the project	Annual technical reports and specific survey results

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
	• Reduced levels of food insecurity				
Output 3.1: Assessment and Monitoring of GEBs from project interventions	*Number of monitoring and assessment exercises conducted during the project, within multi-stakeholder platform*	*There are no monitoring and assessment exercises*	*Two M&E exercises by mid-project (baseline, MTR)*	*Three statistically representative M&E exercises conducted and changes analysed (baseline, mid-term and end of project assessment and monitoring) over the duration of the project per selected landscape, by end of project*	*Maps, technical reports*
3.1.1. Select assessment methodology and tools and conduct baseline survey for selected sites including household survey and local landscape diagnostics (Land degradation types, severity and causes, effectiveness of SLM measures and impacts on ecosystems and livelihoods)					
3.1.2. Provide training to PCU and project beneficiaries in methods and tools for rigorous Monitoring and evaluation of project indicators and participatory monitoring					
3.1.3 Regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience					
3.1.4 Train technical and extension staff (GO and NGOs) in the use of selected methodology and tools to perform assessments of local land resources (LD and SLM) and livelihoods diagnostics and to assess and document INRM best practices					
Output 3.2: Capacity in place to apply appropriate tools and practices for monitoring resilience at multiple scales	*Number of workshops held at regional level on monitoring resilience within multi-stakeholder platforms (created in Component 1)*	*0*	*2 workshops by mid-term on monitoring resilience and building capacity for M&E, within the multi-stakeholder platforms, to which 50% of participants are women*	*At least 1 workshop held per year on monitoring resilience and building capacity for M&E, within the multi-stakeholder platform, among which 50% of participants are women*	*List of participants of workshops*
3.2.1. Within multi-stakeholder platforms created at the district level in Component 1, conduct participatory M&A using the selected methodology and tools and hold annual workshops to learn from M&A and disseminate the use of appropriate tools and practices for monitoring resilience					
3.2.2.In partnership with relevant projects and partners in the region, exchange on monitoring and assessment of multiple benefits of INRM from farm-household to landscape level (ecosystem services, food and livelihood security, climate resilience) and train local NGOs and private sector actors (data collection and analysis of costs, benefits and impacts towards SDG targets)					

COMPONENT / OUTCOME / Output	INDICATOR	BASELINE	Mid-term target	End Term TARGET	Means of Verification
Output 3.3. Project is linked to Regional Hub program for knowledge generation, exchange and dissemination	*Number of knowledge products produced and shared at Regional Hub platform*	*N-A*	*At least 2 thematic knowledge products developed and shared at a regional meeting of the FSIAP programme countries and other platforms*	*Atleast 5 thematic knowledge products developed and shared at the regional meeting of the FSIAP programme countries and other platforms*	*Thematic knowledge products, MTR and final evaluation*
3.3.1. Participation in regional program activities including study tours, research, knowledge sharing					

ANNEX 2: MULTI-YEAR WORKPLAN

COMPONENT / OUTCOME / Output	**Y1**				**Y2**				**Y 3**				**Y4**				**Y5**			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
OUTCOME 1: Supportive policies and incentives in place at district level to support improved crop and livestock production, food value-chains and INRM																				
Output 1.1: Operational multi-stakeholder platforms are supporting INRM at district and regional levels																				
1.1.1. Assessment of existing sectoral, interest-based and stakeholder-based platforms in Karamoja and needs assessment.																				
1.1.2 Create/strengthen multi-stakeholder platforms at the local (district) level with CBOs, NGOs and private sector and government, working through extension services and focused on value chain development, SLM and INRM.																				
1.1.3 Work with Ministry of Karamoja Affairs and other relevant ministries/stakeholders (such as the Ministry of Land and Ministry of Trade) to bring together platforms at the regional level to facilitate knowledge exchange and collaboration on INRM (exchange and harmonization of approaches, joint awareness and capacity development events, including linkages with regional platforms such as the Pastoralists Knowledge Hub or the World Initiative Sustainable Pastoralism – WISP)																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1.4 Support district level government in integrating the priorities expressed by local multi-stakeholder platforms into district planning and budgeting and to increase budget lines for SLM and INRM in line with the various national action plans for food security, SLM strategic investment plan, for climate resilience and preventing land degradation and biodiversity loss.																				
1.1.5. Produce and disseminate a wide range of awareness raising and training materials on the project, SLM and INRM (pictorial, in local languages for print, radio, dramas etc.) and relevant case studies.																				
Output 1.2: Adequate legal instruments enabling INRM, land use planning and enforcement in place																				
1.2.1 Facilitate the review / amendment / drafting of by-laws & ordinances to ensure the integration of INRM and diversified production systems on the basis of a legal framework assessment for each district and training of local council personnel, and work with MoJ to support LGs in securing final approval and gazetting legal instruments.																				
1.2.2 Support local councils, district planning and land offices through multi-stakeholder platforms in the review or establishment of community-based land use plans supporting INRM / SLM and																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y 3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
land use conflict prevention/reduction, linked to the national and district level physical development plans, and inclusive of cattle corridors, conservation and migration routes/cattle corridors.																				
1.2.3 Train district land officers, local councils, local NGOs and CBOs, on the application of the FAO Voluntary Guidelines on responsible tenure of land, fisheries and forests (VGGT) for resolving land tenure issues, within the framework of the established Land Act, Land and Land Use Policies and regulations, and provide support for the formalization of customary collective rights to support collaborative rangeland management.																				
1.2.4 Awareness raising of communities of their rights of access, use and control of land resources, in particular elders/or elderly and women.																				
OUTCOME 2: Increased land area under integrated natural resources management (INRM) and SLM practices for a more productive Karamoja landscape																				
Output 2.1: Institutional technical capacities are increased to implement INRM/SLM																				
2.1.1. Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management,																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology																				
2.1.2 Provide training for decentralized MAAIF, DLG and APFS trainers on agro-meteorological information dissemination (with MAAIF and UMA)																				
2.1.3 Integrate Karamoja into the national EWS through the dissemination of agro-met info and advisories to local government and to the general public through radio.																				
Output 2.2: Increase in the number of community members trained in INRM / SLM techniques																				
2.2.1. Build capacity of men, women, youth, elders and newly sedentary former pastoralists on integrated crop-livestock farming and horticulture / catchment and territorial management / SLM technologies conservation agriculture / and climate smart agriculture (CSA) through the establishment of and technical support to new and existing APFS and FFS (including field demonstration and other training events).																				
2.2.2 Demonstrate the benefits of pasture improvement for rangeland rehabilitation and sustainable management (linked to 1.2.3), using resilient species of																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
grass/shrubs, including the demonstration of holistic grazing management.																				
2.2.3 Establish temporary enclosure areas for farmer assisted natural regeneration of vegetation in line with a land use plan agreed in Outcome 1 (1.2.2).																				
2.2.4 Undertake reforestation and rehabilitation in hotspots identified in community land use plans (1.2.2.) (e.g. riverine areas, watering points, steep slopes, gullies) with a focus on increasing biodiversity, productivity and climate resilience using beneficial indigenous tree species such as Acacia gum, tamarind, shea nut and palatable grasses and shrubs.																				
2.2.5. Implement rainwater harvesting techniques for enhanced productivity and resilience to drought in fields (e.g. tied ridges, retention ditches, zai, half-moons, stone lines) and sand dams (where feasible) for crop, livestock and household use (e.g. roof where feasible or below ground collection tanks).																				
Output 2.3: Community groups are benefiting from income-generating activities (IGAs) introduced by the project																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y 3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.3.1 In cooperation with Zonal Agricultural Research and Development Institute (ZARDI), organize youth and women in producer groups or in VSLAs, to develop seed multiplication skills and cereal banking systems among crop farmers to improve supplies of local seed varieties, especially those with drought coping mechanisms and / or a high % recovery post-drought.																				
2.3.2 Work through existing or new APFS/FFS to disseminate improved crop/livestock production techniques (linked to 2.2.1) for increased household income, including through linkages with the private sector and provision of technical and physical capacity for value addition in traditional and innovative value chains.																				
2.3.3. Perform viability and feasibility assessments for preselected value chains, including detailed economic and market studies																				
2.3.4 Develop resilient value chains for increased income:																				
2.3.4a Explore the potential for sustainable charcoal production working with the NFA and Ministry of Energy, youth and women groups, to promote the introduction of retort kilns and improved cookstoves for energy savings and																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y 3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
establish dedicated woodlots for wood fuel at household and manyatta level to produce charcoal more efficiently (with GHG mitigation benefits) under a value-chain approach, and to explore other sources of energy.																				
2.3.4b Work with local NGOs and small industries to develop practical skills and encourage youth and women to set-up businesses that make better use of grassland such as fodder harvesting, storage and sale under a value-chain approach; basket making, thatching, seed multiplication (link to 2.3.3) of fodder crops etc																				
2.3.4c Work with local NGOs to train farmer groups in processing and transforming indigenous plants which have food security and global ecological importance (Local, National and International benefits)E.g: Aloes, Tamarind, Acacia Spices,Amarula, among others																				
2.3.4d Work with local NGOs to organize farmers in beekeeping production groups and provide support based on a cost sharing arrangement (equipment and storage facility) and training in bee-keeping, also processing of honey and related products (learn from APFS networks in Amudat District and the Tepeth Community in Moroto District)																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.3.5 Conduct FPIC assessment and consultation																				
Output 2.4 Community level small grant projects in the Karamoja region that enhance ecosystem services, sustainable land management, innovate alternative livelihood options, are implemented																				
2.4.1 Deliver small grant projects focusing on a set of agreed themes including: restoration of ecosystem services, forest cover and biodiversity, water harvesting and conservation, implementation of erosion control techniques, innovative sustainable livelihoods and livelihoods approaches, post harvest management, business skills development, with particular attention to gender-based strategies																				
OUTCOME 3. Framework in place for multi-scale assessment, monitoring and integration of resilience in production landscape and monitoring of GEBs																				
Output 3.1: Assessment and Monitoring of GEBs from project interventions																				
3.1.1. Select assessment methodology and tools and conduct baseline survey for selected sites including household survey and local landscape diagnostics (Land degradation types, severity and causes, effectiveness of SLM measures and impacts on ecosystems and livelihoods)																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y 3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.1.2. Provide training to PCU and project beneficiaries in methods and tools for rigorous Monitoring and evaluation of project indicators and participatory monitoring																				
3.1.3 Regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience																				
3.1.4 Train technical and extension staff (GO and NGOs) in the use of selected methodology and tools to perform assessments of local land resources (LD and SLM) and livelihoods diagnostics and to assess and document INRM best practices																				
Output 3.2: Capacity in place to apply appropriate tools and practices for monitoring resilience at multiple scales																				
3.2.1. Within multi-stakeholder platforms created at the district level in Component 1, conduct participatory M&A using the selected methodology and tools and hold annual workshops to learn from M&A and disseminate the use of appropriate tools and practices for monitoring resilience																				
3.2.2.In partnership with relevant projects and partners in the region, exchange on monitoring and assessment of multiple benefits of INRM from farm-																				

COMPONENT / OUTCOME / Output	Y1				Y2				Y 3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
household to landscape level (ecosystem services, food and livelihood security, climate resilience) and train local NGOs and private sector actors (data collection and analysis of costs, benefits and impacts towards SDG targets)																				
Output 3.3: Project is linked to regional program for knowledge generation, exchange and dissemination																				
3.3.1. Participation in regional program activities including study tours, research, knowledge sharing																				

ANNEX 3: BUDGET

FAO budget

				Expenditures by year						
Oracle code and description	**Unit**	**No. of units**	**Unit cost**	**TOTAL GEF OUTCOME 2**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**NOTE**
5300 Salaries professionals										
5300 Sub-total salaries professionals				**0**	**0**	**0**	**0**	**0**	**0**	
5570 Consultants										
NC - Agro-pastoral expert				**18750**	0	18750	0	0	0	1
NC - Agro-meteorologist				**10000**	0	0	10000	0	0	2
NC - Value chain development specialists (1 livestock; 1 crops; 1 alternatives)				**30000**	0	30000	0	0	0	3
NC - Agro-economist				**12500**	0	12500	0	0	0	4
Sub-total national Consultants				***71,250***	***0***	***61,250***	***10,000***	***0***	***0***	
IC - SLM and INRM specialist				**24750**	0	24750	0	0	0	5
IC - APFS and FFS expert				**24750**	0	24750	0	0	0	6
IC - Rangeland rehabilitation specialist				**55000**	0	0	27500	0	27500	7
Sub-tot international Consultants				***104500***	***0***	***49500***	***27500***	***0***	***27500***	
5570 Sub-total consultants				**175,750**	**0**	**110,750**	**37,500**	**0**	**27,500**	
5650 Contracts										
LoAs with IPs for promotion of catchment based INRM/SLM practices thru at least 250 APFS				**995,600**	-	100,000	330,000	330,000	235,600	8
Sub-contract to specialized institution for livestock				**220,000**	0	0	80000	80000	60000	9
Sub-contract to NGO for FNR				**300,000**	0	0	100000	100000	100000	10
Sub-contract to NGO for reforestation				**260,000**	0	0	130000	130000	0	11
MoU with ZARDI on seed multiplication				**300,000**	0	0	0	100000	200000	12

Sub contract relevant institutions for VCD thru APFS				**900,000**	0	0	300000	300000	300000	13
Contractual Services for FPIC				**35,000**	35,000	-	-	-	-	14
5650 Sub-total Contracts				**3,010,600**	**35,000**	**100,000**	**940,000**	**1,040,000**	**895,600**	
5900 Travel										
Travel costs for international consultants				**35,545**	0	23280	6205	0	6060	14
Travel costs for national consultants				**35,205**	0	21,600	13,605	0	0	15
5900 Sub-total travel				**70,750**	**0**	**44,880**	**19,810**	**0**	**6,060**	
5023 Training										
Training workshops for district/extension staff				**30,000**	-	30,000	-	-	-	16
Training workshops on agrometeorology				**30,000**	-	-	30,000	-	-	17
Demonstration workshops (rangelands)				**40,000**	-	-	20,000	-	20,000	18
Tailored training workshops for IPs and farmers				**146,410**	146,410	0	0	0	0	19
5023 sub-total training				**246,410**	**146,410**	**30,000**	**50,000**	**0**	**20,000**	
6100 Non-expendable procurement										
Media, printing and communications costs				**15000**	0	0	5000	5000	5000	20
6100 Sub-total non-expendable procurement				**15000**	**0**	**0**	**5000**	**5000**	**5000**	
6300 GOE budget										
FAO Direct Project Service Costs				**4014**	802.8	802.8	802.8	802.8	802.8	21
Audits and assessments for partners, service providers and IPs				**27500**	9500	4500	4500	4500	4500	
6300 Sub-total GOE budget				**31,514**	**10,303**	**5,303**	**5,303**	**5,303**	**5,303**	
TOTAL				**3,550,024**	**191,713**	**290,933**	**1,057,613**	**1,050,303**	**959,463**	

SUBTOTAL Comp 1	**0**
SUBTOTAL Comp 2	**3,518,510**
SUBTOTAL Comp 3	**0**
FAO Direct Project Service Costs (Project Management Cost (PMC))	**31,514**
TOTAL GEF	**3,550,024**

Notes

1	Consultant to support activity 2.1.1, "Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology and energy savings approaches"
2	Consultant to support activity 2.1.2 on the dissemination of agro-meteorological information at local level
3	Consultants to support activity 2.3.3 on the development of feasibility studies for the alternative value chains
4	Consultants to support activity 2.3.3 on the development of feasibility studies for the alternative value chains
5	Consultant to support activity 2.1.1, "Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology and energy savings approaches"
6	Consultant to support activity 2.1.1, "Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology and energy savings approaches"
7	consultant to support activity 2.2.2 to "Demonstrate the benefits of pasture improvement for rangeland rehabilitation and sustainable management (linked to 1.2.3), using resilient species of grass/shrubs, including the demonstration of holistic grazing management." and activity 2.2.3 to support assisted Natural Regeneration
8	Costs of supporting, through the APFS/FFS approach, activities 2.2.1 (integrated farming systems), 2.2.5 (rainwater harvesting), 2.3.2 (improved agricultural practices), and 2.3.4 (alternative income generating value chains)
9	LoA with the MAAIF to support rangeland rehabilitation and management under activity 2.2.2
10	Loa with the MAAIF to support assisted natural regeneration under activity 2.2.3
11	LoA with an experience NGO or local service provider to support activity 2.2.4 to Undertake reforestation and rehabilitation in hotspots identified in community land use plans (1.2.2.) (e.g. riverine areas, watering points, steep slopes, gullies) with a focus on increasing biodiversity, productivity and climate resilience using beneficial indigenous tree species,
12	MoU with the ZARDI to support activity 2.3.1 to organize youth and women in producer groups or in VSLAs, to develop seed multiplication skills and cereal banking systems among crop farmers to improve supplies of local seed varieties, especially those with drought coping mechanisms and / or a high % recovery post-drought.
13	Sub-contract with service providers for the development of alternative income generating value chains
14	Costs of a service contract to support Prior Informed Consent consultation for indigenous peoples at the start of the project
14	Travel costs for ICs
15	Travel costs for NCs
16	Cost of training workshops under activity 2.1.1 ((inclusive of travel+DSA for participants))
17	Costs of training workshop to support activity 2.1.2 on the dissemination of agrometeorological information, (inclusive of travel+DSA for participants)
18	Costs of workshops to demonstrate and discuss the benefits of improved rangeland management approaches and rehabilitation (inclusive of travel+DSA for participants)
19	Costs of delivering training of trainers to selected implementation partners and service providers (activity 2.1.2b). (inclusive of travel+DSA for participants)
20	Media, printing and communications costs involved in supporting the dissemination of agro-meteorological and EW information

21 | Direct project service costs charged by FAO to the project for procurement. See Annex for details and agreement letters

UNDP budget

Atlas Proposal or Award ID:	96870	**Atlas Primary Output Project ID:**	100758
Atlas Proposal or Award Title:	Fostering Sustainability and Resilience for Food Security in Karamoja sub region		
Atlas Business Unit	UGA10		
Atlas Primary Output Project Title	Fostering Sustainability and Resilience for Food Security in Karamoja sub region		
UNDP-GEF PIMS No.	5577		
Implementing Partner	Ministry of Agriculture Animal Industry & Fisheries (MAAIF)		

GEF Comp. Outcome /Atlas Activity	Responsible Party (Atlas Implementing Agency)	Fund ID	Donor Name	ERP / ATLAS Budget Code	Atlas Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total	Budget Notes
Component 1: Strengthened institutional frameworks for improving food security	**MAAIF**	62000	GEFTF	71200	International Consultants	-	30,000	30,000	30,000	30,000	120,000	1
				71300	Local Consultants	122,500	117,500	57,500	27,450	27,500	352,450	2
				71400	Contractual Service Individual	18,000	17,500	17,500	17,500	17,500	88,000	3
				74200	Audio Visual & Print Prod Costs	10,000	25,000	20,000	20,000	15,000	90,000	4
				72100	Contractual Services-Companies	-	52,000	52,000	51,000	50,000	205,000	5
				74100	Professional Fee	3000	3,000	3,000	3,000	3,000	15,000	6
				75700	Training, workshops & conference	140,000	170,000	140,000	140,000	140,000	730,000	7
					TOTAL COMPONENT 1	**293,500**	**415,000**	**320,000**	**288,950**	**283,000**	**1,600,450**	

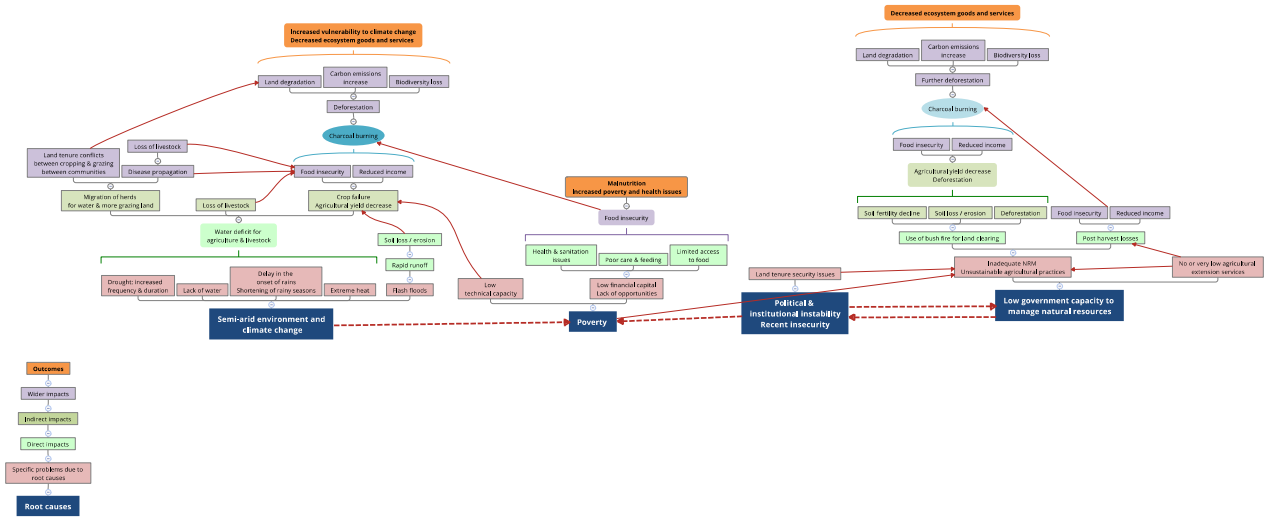
GEF Comp. Outcome /Atlas Activity	Responsible Party (Atlas Implementing Agency)	Fund ID	Donor Name	ERP / ATLAS Budget Code	Atlas Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total	Budget Notes
Component 2: Scaling-up integrated approaches at national and landscape level	**UNDP**	62000	GEFTF	72600	Grant	-	195,000	190,000	195,000	195,000	775,000	8
				75700	Training, workshops & conference	5,000	5,000	5,000	5,000	5,000	25,000	9
					TOTAL COMPONENT 2	**5,000**	**200,000**	**195,000**	**200,000**	**200,000**	**800,000**	
Component 3: Monitoring and Assessment	**MAAIF**	62000	GEFTF	71200	International Consultant	33,000	20,000	20,000	20,000	20,000	113,000	10
				71300	Local Consultant	30,000	30,000	25,000	30,000	35,000	150,000	11
				71400	Contractual Services - Individual	43,500	45,000	45,000	45,000	45,000	223,500	12
				71600	Travel	50,600	23,000	24,000	31,000	24,750	153,350	13
				72200	Equipment and Furniture	50,000	-	-	-	-	50,000	14
				74500	Miscellaneous Expenses	5,000	5,000	3,500	3,500	4,000	21,000	15
				75700	Training, Workshops and Confer	75,000	25,000	60,000	60,000	60,000	280,000	16
					TOTAL COMPONENT 3	**287,100**	**148,000**	**177,500**	**189,500**	**188,750**	**990,850**	
Project Management Unit	**MAAIF/ UNDP**	62000	GEF	71200	International Consultant	-	-	35,000	-	35,000	70,000	17
				71400	Contractual Services - Individual	16,000	16,100	16,000	16,000	16,000	80,100	18
				71600	Travel	3,000	3,000	2,154	2,000	3,000	13,154	19
				72300	Materials & Goods	15,163	-	-	-	-	15,163	20
				74500	Miscellaneous Expenses	1,320	1,370	1,370	1,370	1,370	6,800	21
				74598	Direct Project Cost	1,369	1,369	1,369	1,370	1,369	6,846	22
				75700	Training, Workshops and Confer	6,063					6,063	23
					TOTAL PROJECT MANAGEMENT COST	**42,915**	**21,839**	**55,893**	**20,740**	**56,739**	**198,126**	
					PROJECT TOTAL	**628,515**	**784,839**	**748,393**	**699,190**	**728,489**	**3,589,426**	

Budget Notes

1	Consultant to participate in activities related to land tenure, including to train local councils, NGOs and CBOs on the application of appropriate guidelines on responsible tenure of land, fisheries and forests for resolving land tenure issues (activity 1.2.1) and to support the formalization of collective tenure rights (1.2.4).
2	Consultant to perform assessment of existing sectoral, interest-based and stakeholder-based platforms in Karamoja and needs assessment (activity 1.1.1), to support the establishment of multi stakeholder platforms (activity 1.1.2) and to facilitate the integration of the priorities expressed by local multi-stakeholder platforms into district planning and budgeting and to increase budget lines for SLM and INRM (activity 1.1.4)
	Consultant to support activity 1.1.5." Produce and disseminate a wide range of awareness raising materials on the project, SLM and INRM (pictorial, in local languages for print, radio, dramas etc.) as well as relevant case studies.
	Consultants to facilitate the review / amendment / drafting of by-laws & ordinances to ensure the integration of INRM and diversified production systems on the basis of a legal framework assessment for each district and training of local council personnel, and work with MoJ to support LGs in securing final approval and gazetting legal instruments (activity 1.2.1). Consultants will also deliver activity 1.2.3 on the training of local councils, NGOs and CBOs on the application of appropriate guidelines on responsible tenure of land, fisheries and forests for resolving land tenure issues, within the framework of the established Land Act, Land and Land Use Policies and regulations, and provide support for the formalization of customary collective rights to support collaborative rangeland management.
	Consultant to work as part of a team under activity 1.2.1 to support local councils, including all relevant departments, through multi-stakeholder platforms in the review or establishment of community-based land use plans supporting INRM / SLM and land use conflict prevention/reduction, linked to the national and district level physical development plans, and inclusive of cattle corridors, conservation and migration routes/cattle corridors.
	Consultant to support a team towards delivery of activity 1.2.2. Support local councils, including all relevant departments, through multi-stakeholder platforms in the review or establishment of community-based land use plans supporting INRM / SLM and land use conflict prevention/reduction, linked to the national and district level physical development plans, and inclusive of cattle corridors, conservation and migration routes/cattle corridors"
	Consultant to work as part of a team under activity 1.2.4 Facilitate the formalization of land ownership rights particularly for women, elderly and the youth
	Consultant to support activity 1.2.5 to explore the potential for, and set up incentive schemes for continued sustainability, including PES and carbon funds
3	Portion of the project manager's salary (50%)
4	Costs of media and communications to support the establishment of multi stakeholder platforms (activity 1.1,2) and public awareness (activity 1.1.4)
	Media, printing and communications costs involved in delivering output 1.2 on land tenure and collective rights
5	Sub-contract to an NGO to set up payment for ecosystem services schemes and to explore the potential for tapping into carbon funds under activity 1.2.5
	Costs of a HACT and procurement assessment in year 1
6	Cost of annual joint audits
7	Costs of workshops and meetings to support the delivery of outcome 1 on the development of multi-stakeholder platforms, awareness raising.
	Training workshops to support activity 1.2.1 on the development of appropriate legal instruments to facilitate INRM/SLM
	Community meetings on land use planning
	Training workshops on responsible land tenure
8	This budget is earmarked for the UNDP Small Grants Program which will be administered separately. Detailed expenditures and items will be developed at a later date.

9	Workshops, conferences and meetings for the SGP National Steering Committee for decision-making on small grants to beneficiaries.
10	Consultant to provide training to PCU and project beneficiaries in methods and tools for rigorous Monitoring and evaluation of project indicators and participatory monitoring
	Consultant to provide training to district staff and other stakeholders in the multi-stakeholder platform on LADA and WOCAT methodologies and to participate in the regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience
11	Consultants to perform baseline studies and household surveys during the project's M&A plan (8 individuals, 2 per district)
	Consultants to perform regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience
	National Consultants to assit the Mid-term and TE evaluation and also to assist complitiation of data for MTR and TE tracking tools
12	Part of the salary for a full-time Monitoring and Evaluation officer who will be part of the Project Management Unit.
	Portion of the salary of the project manager
13	Participation of project staff and partners in regional program activities including study tours, research, learning and knowledge sharing and travel costs for consultants and M & E Officer
14	Purchase of a vehicle for the PMU.
15	For Miscellaneous expenses e.g bank charge etc
16	Training workshops for technical and extension staff (GO and NGOs) in the use of selected methodology and tools to perform assessments of local land resources (LD and SLM) and livelihoods diagnostics and to assess and document INRM best practices,
	Training at national and regional level, regional conferences, south-south cooperation and technical studies, study tours and visits, from which this project will benefit
	Costs of workshops to exchange on monitoring and assessment of multiple benefits of INRM from farm-household to landscape level (ecosystem services, food and livelihood security, climate resilience) and train local NGOs and private sector actors (data collection and analysis of costs, benefits and impacts towards SDG targets) (activity 3.2.1 and 3.2.2)
	Cost of board and other meetings etc
17	Costs of a consultancy to perform the Mid-Term and Terminal Evaluation reviews
18	Costs of a Finance and Administrative officer to support the PMU
19	Travel costs for the Project Management Unit
20	Costs of initial materials purchased for the PMU
21	Miscellaneous Expenses
22	DPC – for hiring of International consultants, procurement etc.
23	Costs of inception meetings

ANNEX 4: PROBLEM TREE



ANNEX 5: FAO RISK CLASSIFICATION CERTIFICATION FORM

FAO Environ and
social risk certificatio

ANNEX 6: LIST OF RELEVANT CSOs

• Coalition of Pastoralists' Civil Society Organizations (COPACSO)
• Albertine Rift Conservation Society (ARCOS)
• CENTRE FOR INTEGRATED DEVELOPMENT (CIDev)
• Chimpanzee Sanctuary & Wildlife Conservation Trust (CSWCT)
• Earthsavers Movement Uganda Chapter
• Environmental Alert
• ENVIRONMENTAL CONSERVATION TRUST OF UGANDA (ECOTRUST)
• Environmental Management for Livelihood Improvement (EMLI)
• ENVIRONMENTAL WOMEN IN ACTION FOR DEVELOPMENT (EWAD) (formely known as Entebbe Women Association, EWA)
• Hope for Mothers & Children Agency (HOMACA)
• KATAKWI CONSERVE UGANDA
• MABIRA FOREST INTEGRATED COMMMUNITY ORGANISATION (MAFICO)
• Mahemo (Mahanga Environment Management Organisation)
• Mgahinga Community Development Organisation (MCDO)
• Mutukula Community Development Association (MUCODA)
• Nature Palace Foundation
• Nature Uganda - the East Africa Natural History Society (EANHS)
• Networks and Information Exchange (NETINFEX)
• Pro-biodiversity Conservationist in Uganda (PROBICOU)
• Real Agency for Community Development (RACD)
• Soroti Rural Development Agency (SORUDA)
• SSESE Health Effort for Development
• Support for Women in Agriculture and Environment (SWAGEN)
• Sustainable Agriculture Trainers Network (SATNET)
• Sustainable Agriculture, Forestry & Environment Concerns - SAFE
• Uganda Association for Social Economic Progress
• Uganda Coalition for Crisis Prevention (UCCP)
• UGANDA ENVIRONMENTAL EDUCATION FOUNDATION (UEEF)
• Wildlife Clubs of Uganda (WCU)
• Youth Environment Service (YES)

ANNEX 7: TERMS OF REFERENCE OF PROJECT MANAGEMENT UNIT STAFF

TERMS OF REFERENCE FOR PROJECT MANAGER (PM)

The Project Manager will be recruited for the duration of the project. The Project Manager will be jointly selected by MAAIF, UNDP and FAO. The Project Manager will undertake responsibilities associated with the execution of the project activities, which include:

- Organize project activities
- Manage the work of a finance and administrative officer, district-level technicians as well as the national and international consultants
- Monitor and report project performance and delivery to the Project Steering Committee, UNDP and FAO
- Facilitate collaborative and consultative processes to ensure participation by government stakeholders
- Facilitate public awareness activities
- Lead organizer of training workshops and meetings
- Draft documents and reports for Project Steering Committee
- Manage organizational and logistical issues related to project execution per UNDP/FAO guidelines and procedures
- Keep records of project documents, including financial in accordance with audit requirements
- Facilitate timely preparation and submission of financial reports and settlement of advances, including progress reports and other substantial reports
- Identify and resolve logistical and organizational problems, under the guidance of the Project Steering Committee

The Project Manager will have a post-graduate degree in public administration, or natural resources management or related field, and have a minimum of seven (7) years' experience in progressively responsible and substantive areas in environmental and natural resource governance programming and planning.

TERMS OF REFERENCE FOR FINANCE AND ADMINISTATION OFFICER

The project manager will be supported by a Finance and Administration Officer whose main responsibilities will be as follows. The Finance and Administration Officer will be jointly selected by MAAIF, UNDP and FAO:

- Assist in the financial management tasks under the responsibility of the Project Manager, including information on the transfer and conversion of funds at the Bank,
- Verify financial entries in the appropriate Accounting Software
- Prepare annual and semi-annual budgets, quarterly expenditure reports, cash advance requests and any other financial management tools required by UNDP, FAO or the MAAIF
- Prepare inventory reports, reports on goods and services acquired
- Coordinate with the Ministry of Finance as relevant,
- Make timely payments of contractual fees and procurements,
- Provide support in the use of financial management software for financial monitoring and reporting on project financial flows
- Set up and maintain project files,
- Collect and archive project related data and information;
- Establish document control procedures;
- Compile, copy and distribute all project reports (Consultancies, workshops, training sessions, etc.)
- Undertake project financial closure formalities including submission of terminal reports, transfer and disposal of equipment, processing of semi-final revisions, and support professional staff in preparing the terminal assessment reports.
- Assist in the timely issuance of contracts and assurance of other eligible entitlements of the project personnel, experts, and consultants by preparing annual recruitment plans.

- Undertake any other administrative tasks delegated by the Project Manager

With respect to Component 2; assist the FAO budget holder (BH) and MAAIF in the following:

- Ensure smooth and timely implementation of project activities in support of the results-based work plan, through operational and administrative procedures according to FAO and MAAIF rules and standards;
- Coordinate the project operational arrangements through contractual agreements with key project partners;
- Arrange the operations needed for signing and executing Letters of Agreement (LoA) with relevant project partners;
- Day-to-day manage the project budget, including the monitoring of cash availability, budget preparation and budget revisions to be reviewed by the PC;
- Ensure the accurate recording of all data relevant for operational, financial and results-based monitoring;
- Ensure that relevant reports on expenditures, forecasts, progress against work plans, project closure, are prepared and submitted in accordance with FAO and GEF defined procedures and reporting formats, schedules and communications channels, as required;
- Execute accurate and timely actions on all operational requirements for personnel-related matters, equipment and material procurement, and field disbursements;
- Participate and represent the project in collaborative meetings with project partners and the Project Steering Committee, as required;
- Undertake missions to monitor the outputs-based budget, and to resolve outstanding operational problems, as appropriate;
- Be responsible for results achieved within her/his area of work and ensure issues affecting project delivery and success are brought to the attention of higher level authorities through the BH in a timely manner;
- Undertake any other duties as required.

TERMS OF REFERENCE FOR MONITORING AND EVALUATION OFFICER (M&E)

The M&E officer will be responsible for monitoring and evaluation activities under Component 4 of the project. The M&E officer will be jointly selected by MAAIF, UNDP and FAO

Responsibilities

- Conduct regular assessments of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience
- Conduct participatory M&A using the selected methodology and tools and hold annual workshops to learn from M&A and disseminate the use of appropriate tools and practices for monitoring resilience within multi-stakeholder platforms created at the district level in Component 1.

The M&E officer will have a post-graduate degree in natural resources management or related field, and have a minimum of five (5) years' experience in progressively responsible and substantive areas in environmental and natural resource monitoring and evaluation.

Terms of reference of key consultants to be recruited

Title	Estimated budget*	Summary TOR

NC - Agro-pastoral expert	18,750	Consultant to support activity 2.1.1, "Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology and energy savings approaches"
NC - Agro-meteorologist	10,000	Consultant to support activity 2.1.2 on the dissemination of agro-meteorological information at local level
NC - Value chain development specialists (1 livestock; 1 crops; 1 alternatives)	30,000	Consultants to support activity 2.3.3 on the development of feasibility studies for the alternative value chains
NC - Agro-economist	12,500	Consultants to support activity 2.3.3 on the development of feasibility studies for the alternative value chains
IC - SLM and INRM specialist	24,750	Consultant to support activity 2.1.1, "Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology and energy savings approaches"
IC - APFS and FFS expert	24,750	Consultant to support activity 2.1.1, "Train district technical staff / extension staff and volunteer community members in participatory SLM and INRM approaches including pastoral/rangeland management, catchment /watershed management, agro-ecological approaches, climate smart agriculture and the APFS/FFS methodology and energy savings approaches"
IC - Rangeland rehabilitation specialist	55,000	Consultant to support activity 2.2.2 to "Demonstrate the benefits of pasture improvement for rangeland rehabilitation and sustainable management (linked to 1.2.3), using resilient species of grass/shrubs, including the demonstration of holistic grazing management." and activity 2.2.3 to support assisted Natural Regeneration
NC - Institutional specialist	85,000	Consultant to perform assessment of existing sectoral, interest-based and stakeholder-based platforms in Karamoja and needs assessment (activity 1.1.1), to support the establishment of multistakeholder platforms (activity 1.1.2) and to facilitate the integration of the priorities expressed by local multi-stakeholder platforms into district planning and budgeting and to increase budget lines for SLM and INRM (activity 1.1.4)
NC - Communications specialist	37,500	Consultant to support activity 1.1.5." Produce and disseminate a wide range of awareness raising materials on the project, SLM and INRM (pictorial, in local languages for print, radio, dramas etc.) as well as relevant case studies.
IC - Land tenure expert	99,000	Consultant to participate in activities related to land tenure, including to train local councils, NGOs and CBOs on the application of appropriate guidelines on responsible tenure of land, fisheries and forests for resolving land tenure issues (activity 1.2.1) and to support the formalization of collective tenure rights (1.2.4).
NC - Legal experts (x4)	130,000	Consultants to facilitate the review / amendment / drafting of by-laws & ordinances to ensure the integration of INRM and diversified production systems on the basis of a legal framework assessment for each district and training of local council personnel, and work with MoJ to support LGs in securing final approval and gazetting legal instruments (activity 1.2.1). Consultants will also deliver activity 1.2.3 on the training of local councils, NGOs and CBOs on the application of appropriate guidelines on responsible tenure of land, fisheries and forests for resolving land tenure issues, within the framework of the established Land Act, Land and Land Use Policies and regulations, and provide support for the formalization of customary collective rights to support collaborative rangeland management.

NC - Land use planning expert	20,000	Consultant to work as part of a team under activity 1.2.1 to support local councils, including all relevant departments, through multi-stakeholder platforms in the review or establishment of community-based land use plans supporting INRM / SLM and land use conflict prevention/reduction, linked to the national and district level physical development plans, and inclusive of cattle corridors, conservation and migration routes/cattle corridors.
NC - SLM and biodiversity expert	20,000	Consultant to support a team towards delivery of activity 1.2.2 .Support local councils, including all relevant departments, through multi-stakeholder platforms in the review or establishment of community-based land use plans supporting INRM / SLM and land use conflict prevention/reduction, linked to the national and district level physical development plans, and inclusive of cattle corridors, conservation and migration routes/cattle corridors"
NC - Communications specialist	10,000	Consultant to work as part of a team under activity 1.2.4 Facilitate the formalization of land ownership rights particularly for women, elderly and the youth
NC - PES and carbon fund specialist	50,000	Consultant to support activity 1.2.5 to explore the potential for, and set up incentive schemes for continued sustainability, including PES and carbon funds
IC - M&E specialist	22,000	Consultant to provide training to PCU and project beneficiaries in methods and tools for rigorous Monitoring and evaluation of project indicators and participatory monitoring
IC - LADA WOCAT specialist	11,000	Consultant to provide training to district staff and other stakeholders in the multi-stakeholder platform on LADA and WOCAT methodologies and to participate in the regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience
NC - Enumerators (x8)	135,000	Consultants to perform baseline studies and household surveys during the project's M&A plan (8 individuals, 2 per district)
NC - SLM and biodiversity expert	32,500	Consultants to perform regular assessment of agro-biodiversity at the district level including varieties/breeds, species and habitat diversity and associated functions (e.g. pollination, pest and disease control) and impacts in terms of resilience

*NOTE: consultancy budgets were calculated on the basis of an average rate for NCs and ICs. The amount indicated is excusive of travel.

ANNEX 8: SHARP RESILIENCE ASSESSMENT RESULTS

The 'Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists' (SHARP) tool was developed by the FAO in 2013, in response to the needs of a number of Climate Change Adaptation (CCA) projects in sub-Saharan Africa. SHARP is conducted predominantly at the individual farmer/pastoralist level, assessing farmers' and pastoralists' current state of resilience to climate change, at the household while at the same time allowing for reflection on experiences to help tailor actions and interventions aimed at increasing their resilience.

In order to evaluate the level of resilience, SHARP combines a participatory self-assessment component with an academically rigorous, quantitative assessment of resilience based on Cabell and Oelofse's agro-ecosystem resilience indicators (2012). It uses a holistic approach to resilience[50], allowing farmers and pastoralists to express their perceptions on adequacy of and importance of different aspects of their livelihood, and drives for locally customized adaptation strategies.

SHARP works through a participatory survey developed for Android tablets spanning environmental, social, economic, governance and general agricultural practices. Each survey question cluster is used to assess the relative resilience of a specific aspect of the farm system, measured using four components:

1. Academic scoring: A numerical or discrete question, such as "Do you have access to climate/weather information?" ("academic" resilience based on quantitative responses). The "academic" components of the questions are scored based on interviews and an e-discussion with experts from different fields of study in 2014;
2. A question on the respondent's assessment of that aspect's adequacy (self-assessed adequacy);
3. A question on the respondent's assessment of the importance of that aspect to their livelihood (self-assessed importance);
4. Space for elaboration or short follow up questions (to provide context).

By combining the responses from the "academic", self-assessed adequacy and self-assessed importance, the SHARP application produces a relative ranking of resilience priorities for each household. The results can then be discussed with respondents, individually or in a group as part of FFS/APFS community action plans. In addition, all results are uploaded in the FAO Central Server and can be used for further analysis to understand resilience priorities, trends and determinants at a more aggregate level. The resilience ranking can be analyzed holistically or in its individual components (i.e. academic, self-assessed importance and self-assessed adequacy) including the elaboration section of the questions in order to better understand the context in which the questions were responded.

The SHARP tool is primarily aimed at better understanding the resilience of farmers and pastoralists' farm systems and communities; nevertheless, it has also been used as a learning tool in the context of farmer/agro-pastoral field schools (FFS/APFS). Due to its nature as a self-assessment tool, it has been a valuable addition for project design and as monitoring and evaluation tool, through the establishment of a resilience baseline from which the impact of project interventions can be observed, measured and better targeted.

[50] SHARP defines resilience as the ability of a system to recover, reorganise and evolve following external stresses and disturbances (following: Adger, 2000; Carpenter et al. 2001; Gunderson and Holling, 2002; Walker et al. 2004). Therefore, it suggests that there are benefits to conceptualizing resilience as both an outcome and inherent ability to adapt.

SHARP complements some existing practices but focuses not only on single crises, but rather on increasing climate resilience in a holistic manner over the long-term that could include multiple crises and continual change. By focusing on understanding long-term changes and impacts to resilience and especially the perceptions of the farmers and pastoralists in terms of adequacy and importance, the importance of policies, practices and legal frameworks and institutions to support long-term climate change resilience can be more effectively implemented.

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- Cabell, J.F. & Oelofse, M. 2012. An Indicator Framework for Assessing Agroecosystem Resilience. Ecology and Society. 17(1): 18.
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- Gunderson, L.H. & Holling, C.S. 2002. Panarchy: understanding transformations in human and natural systems. Island Press, Washington, D.C., USA.
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Household survey conducted during project preparation phase

A comprehensive baseline household survey was conducted during the project preparation phase. The aim of the survey was to understand and document the prevailing socio-economic and environmental conditions of the households, to establish a baseline against which project outcomes can be monitored, and to design a sound project targeting strategy. The sample size was as large as 384 households, which is statistically representative with 95% confidence level and 5% margin of error for a total population greater than 130,000 households. The survey was conducted in the districts of Kaabong, Kotido, Moroto, Nakapiripirit and Napak.

A multi-stage sampling strategy was followed: the sub-counties in each district were purposively selected taking into consideration the level of food insecurity, the different agro-ecological zones and the main corresponding livelihoods. Instead, parishes (one in each sub-county), villages and households were randomly selected. Seven households were surveyed in 3-4 villages in each parish, and requirements included that at least 2 households per village were female-headed.

The FAO-developed tool “Self-evaluation and Holistic Assessment of climate Resilience for farmers and Pastoralists” (SHARP) was used for the survey. It addresses the need to better understand and incorporate the situations, concerns and interests of family farmers and pastoralists relating to climate resilience (http://www.fao.org/in-action/sharp/en/). The tool consists of a tablet-based questionnaire (Android application) that has been customized to accommodate the IAP project specific monitoring requirements. The customized version of SHARP, the “Holistic Household Baseline Assessment Tool”, is hereinafter referred to as HH-BAT. The tool combines a range of IAP related indicators (including GEB’s such as land degradation/SLM and agro-biodiversity) but also specific IAP development indicators such as food insecurity (using Food Insecurity Experience Scale (FIES)) and nutrition (using the Household Dietary Diversity Score – HDDS), resilience (the tool is embedded in the SHARP framework) and gender.

Moreover, HH-BAT indicators correlate with FAO's Environmental and Social Safeguards and will help to determine whether any safeguards are triggered by the project. The tool will be embedded in the targeted FFS/APFS structure and therefore allow a participatory monitoring of the project's impact and if required guide in the changes of activities according to the communities' needs.

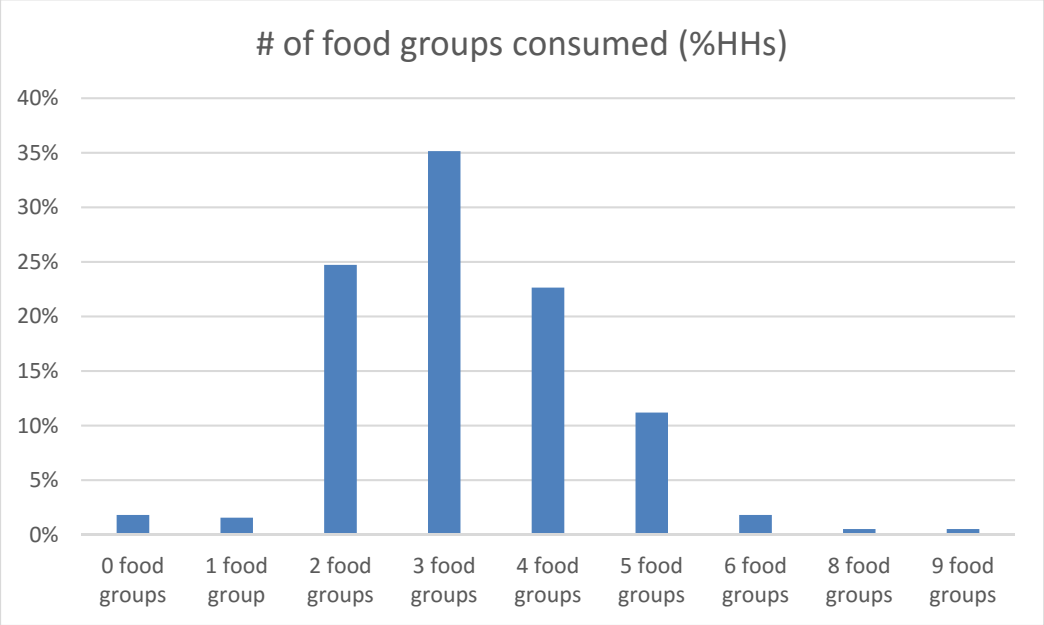
Surveyed areas in Karamoja sub-region:

District	Sub-county	Parish	Agro-ecological zone/main livelihoods
Kaabong	Sidok	Kasimeri	Central grassland/Sorghum and livestock
	Karenga	Loyoro Napore	West wet green belt /Mixed crop farming
	Kamion	Timu	North highland/Beekeeping and potato
Kotido	Panyangara	Loposa	Central grassland/Sorghum and livestock
	Rengen	Lopuyo	Central grassland/Sorghum and livestock
	Kacheri	Lokiding	West wet green belt/Mixed crop farming
Moroto	Tapac	Tapac	East mountain slopes/Maize and cattle
	Katikekile	Musupo	East mountain slopes/Maize and cattle
	Nadunget	Komaret	Central grassland/Sorghum and livestock
Nakapiripirit	Moruita	Moruita	East mountain slopes/Maize and cattle
	Namalu	Loperot	West wet green belt/Mixed crop farming
	Nabilatuk	Achegeretolim	Central grassland/Sorghum and livestock
Napak	Irir	Nabwal	West wet green belt/Mixed crop farming
	Loopei	Nakwamoru	Central grassland/Sorghum and livestock
	Lokopo	Akalale	Central grassland/Sorghum and livestock

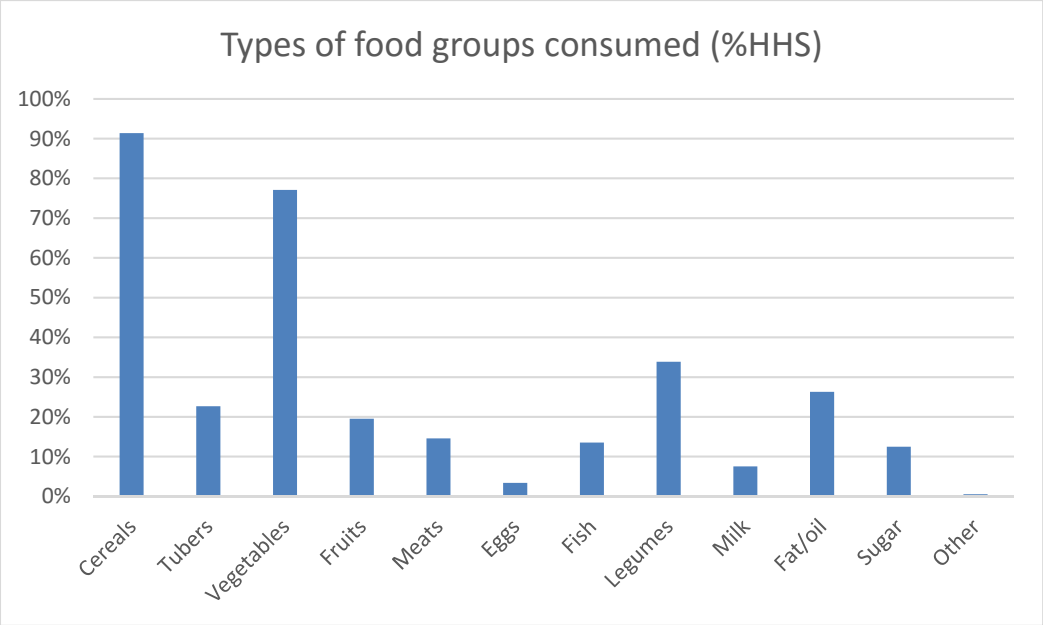
RESULTS FROM HOUSEHOLD DIETARY DIVERSITY SCORE AND FOOD INSECURITY EXPERIENCE SCALE FOR KARAMOJA REGION

Uganda – Karamoja Region
Kaabong, Kotido, Moroto, Napak and Nakapiripit Districts
384 HHs – 277 male-headed and 107 female-headed HHs
Household Dietary Diversity Score (0-12)[51]

2 food groups	25% HHs
3 food groups	35% HHs
4 food groups	23% HHs
Cereals	91% HHs
Vegetables	77% HHs
Legumes	34% HHs

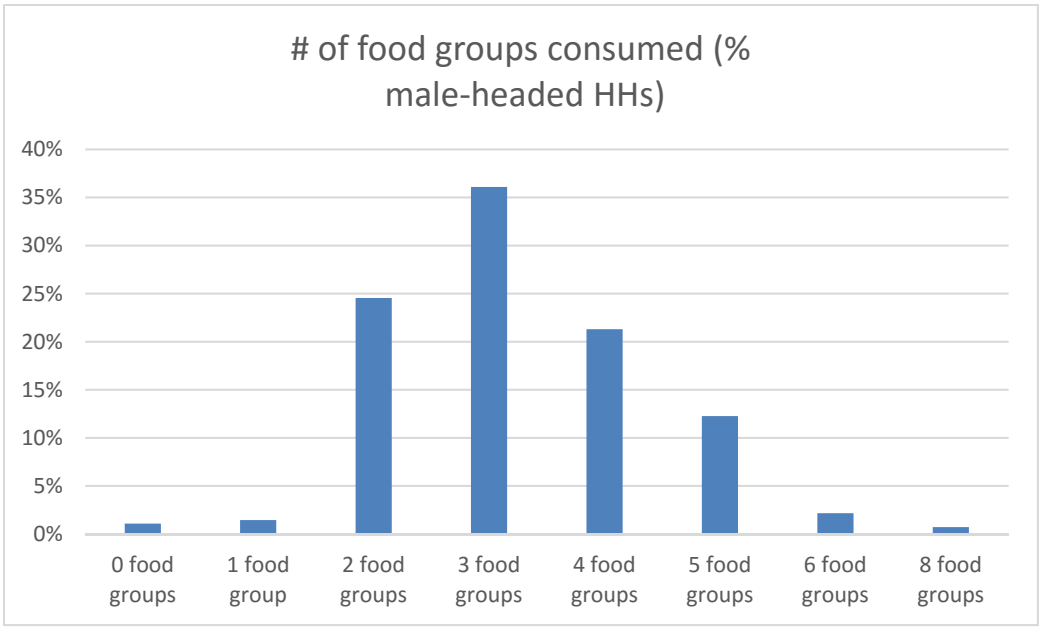


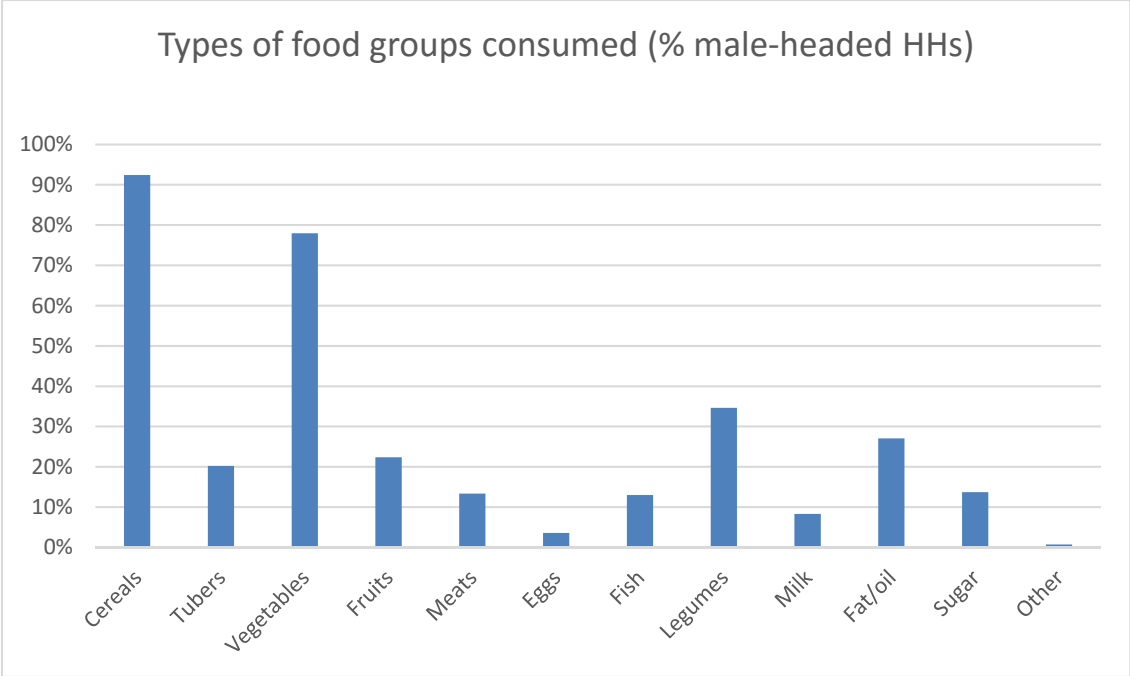
[51] The Household Dietary Diversity Score (HDDS) consists of a simple count of food groups (from zero to twelve) that a household has consumed over the preceding twenty-four hours. Data collected can also be analyzed to provide information on specific food groups of interest. HDDS is meant to reflect, in a snapshot form, the economic ability of a household to access a variety of foods.



Male-headed HHs

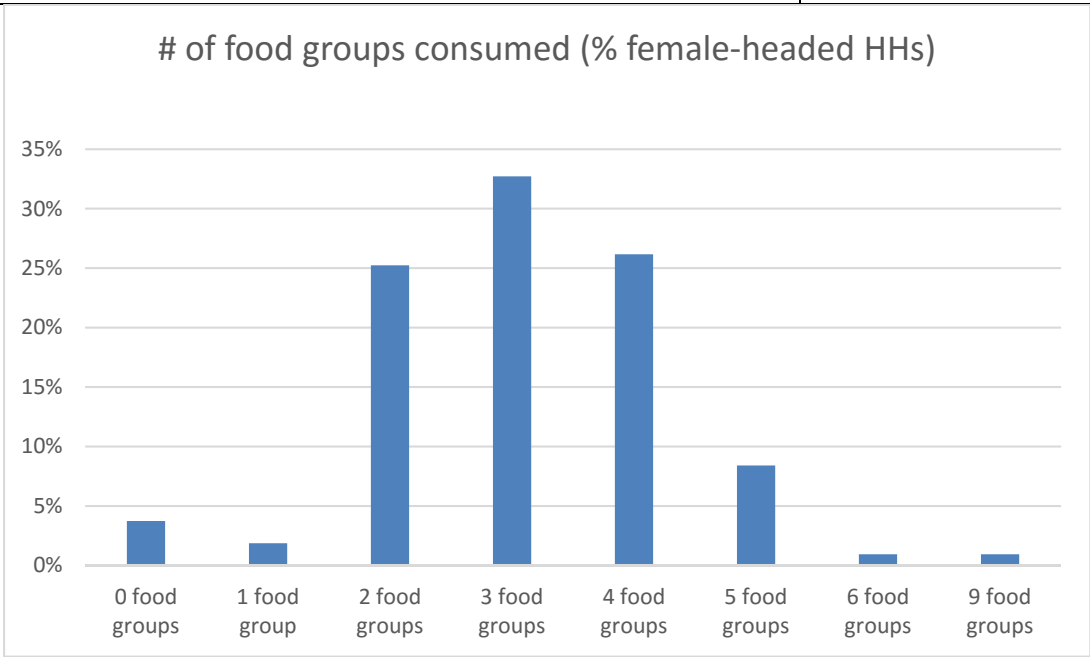
2 food groups	25% HHs
3 food groups	36% HHs
4 food groups	21% HHs
Cereals	92% HHs
Vegetables	78% HHs
Legumes	35% HHs

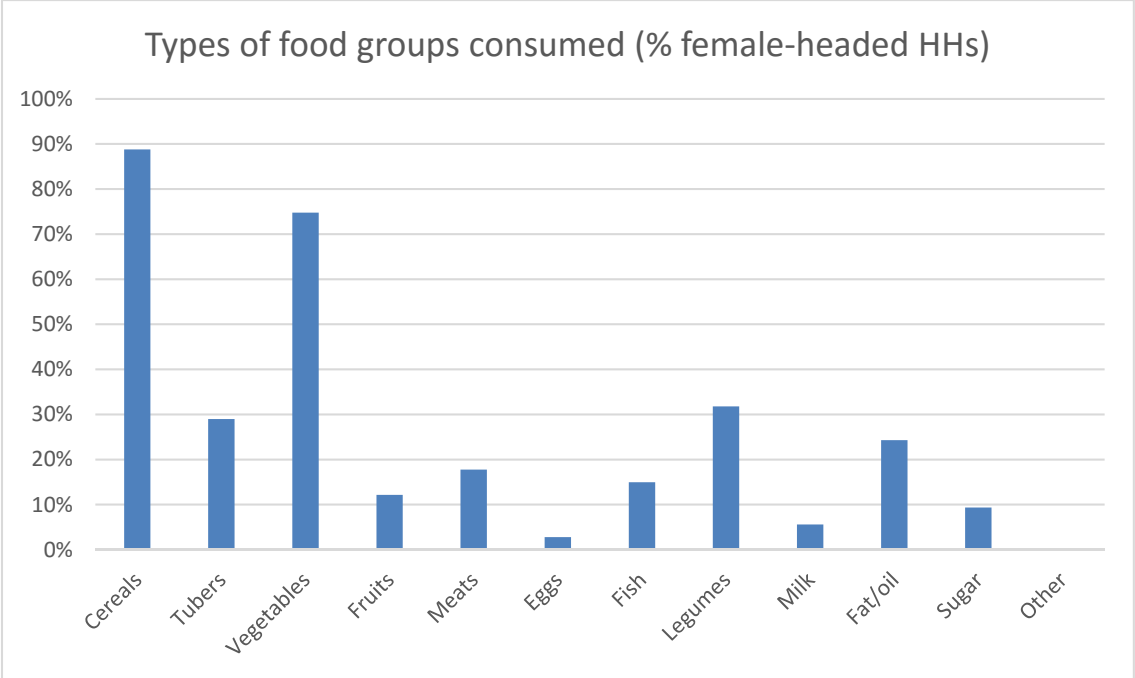




Female-headed HHs

2 food groups	25% HHs
3 food groups	33% HHs
4 food groups	26% HHs
Cereals	89% HHs
Vegetables	75% HHs
Legumes	32% HHs





Comments:

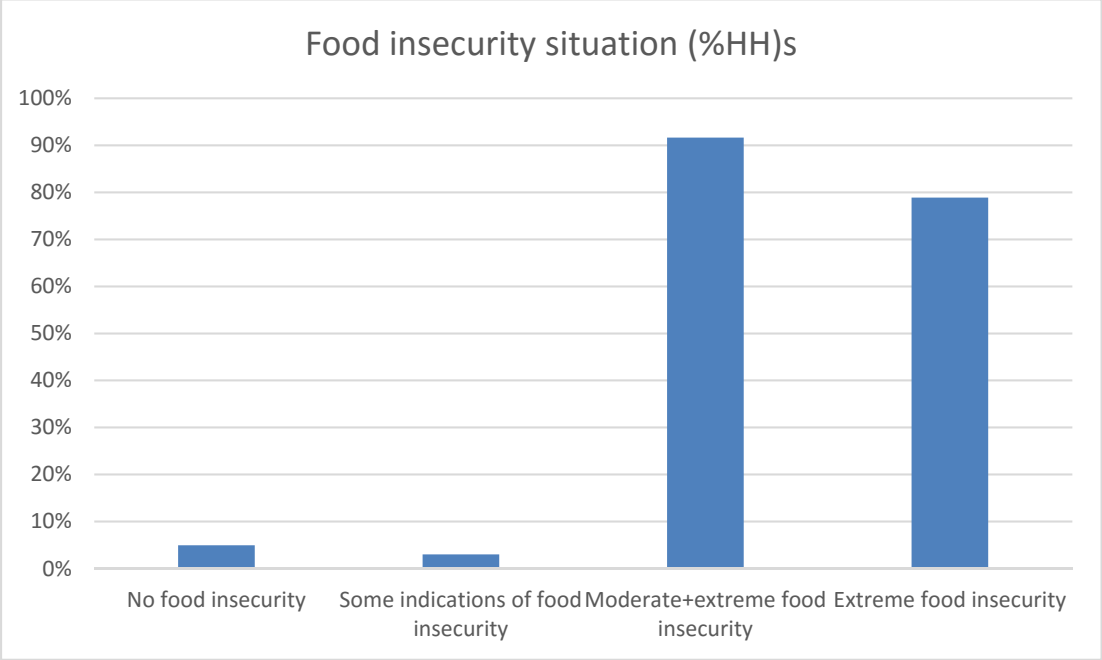
- Most households consume 2 (25%), 3 (35%) or 4 (23%) food groups during the day. The situation does not vary much according to gender of household head.
- Cereals(91%), vegetables (77%) and legumes (34%) are the most consumed food groups, regardless the gender of household head.
- Dietary variations between male- and female-headed households (table below) concern tubers (20% vs 29%), fruits (22% vs 12%), meat (12% vs 18%) and sugar (14% vs 9%).
- In general, there is a low consumption of foods that provide animal protein.
- Conclusion: households daily consume a limited number of food groups, i.e. cereals, vegetables and legumes, regardless the gender of household head. Diets of female-headed households are only very slightly more diversified. Consumption of foods providing animal protein is very low, which is an aspect IAP may try to address.

	Cereals	Tubers	Vegetables	Fruits	Meats	Eggs	Fish	Legumes	Milk	Fat/oil	Sugar	Other
Male-headed HHs	92%	20%	78%	22%	13%	4%	13%	35%	8%	27%	14%	1%
Female-headed HHs	89%	29%	75%	12%	18%	3%	15%	32%	6%	24%	9%	0%

Uganda – Karamoja Region
Kaabong, Kotido, Moroto, Napak and Nakapiripit Districts
384 HHs – 277 male-headed and 107 female-headed HHs
Food Insecurity Experience Scale (0-14)[52]

0 = no food insecurity
<4 = some indications of food insecurity
≥4 = moderate+severe food insecurity
≥7 = severe food insecurity

No food insecurity	5%
Some indications of food insecurity	3%
Moderate+extreme food insecurity	92%
Extreme food insecurity	79%

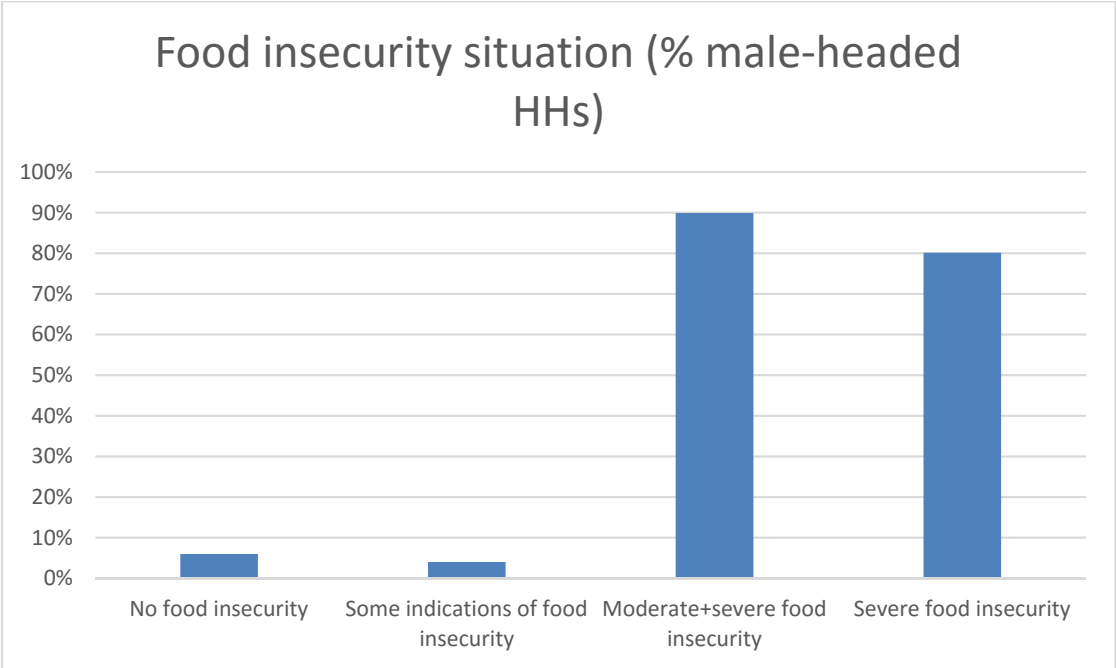


Male-headed HHs

No food insecurity	6%
Some indications of food insecurity	4%
Moderate+severe food insecurity	90%

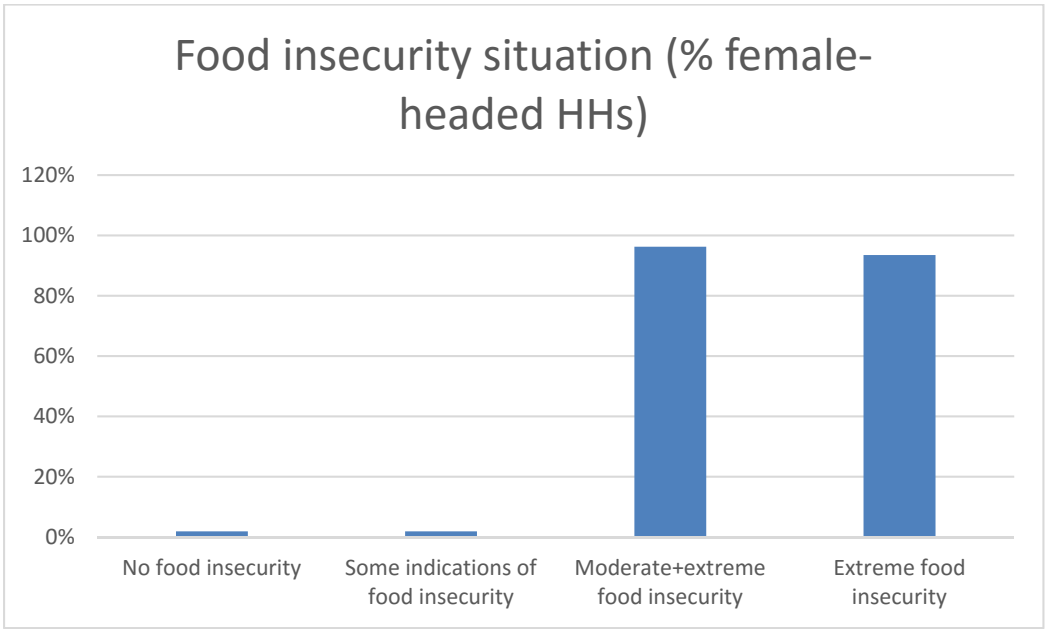
[52] The Food Insecurity Experience Scale (FIES), developed by the Voices of the Hungry (VoH) project, is an experience-based metric of severity of food insecurity that relies on people's direct responses. These responses are collected through eight questions regarding people's access to adequate food in the last twelve months plus two questions on the frequency of most severe situations of lack of access to sufficient food.

Severe food insecurity	80%



Female-headed HHs

No food insecurity	2%
Some indications of food insecurity	2%
Moderate+extreme food insecurity	96%
Extreme food insecurity	93%



Comments:

- A very high percentage of the sample is either moderately or extremely food insecure (92%)
- Male-headed HHs are slightly more food secure (10% of male-headed HHs do not experience moderate or severe food insecurity)
- Female-headed HHs are more food insecure (only 4% of the relative sub-sample does not experience moderate or extreme food insecurity)
- 93% of female-headed HHs are under extreme food insecurity situation, compared to 80% of male-headed HHs
- Conclusion: there is a relationship between gender of HH head and extreme food insecurity – IAP should adopt a gender-specific focus.

Psychometric assessment of the FIES in the 2016 Uganda SHARP survey

Voices of the Hungry (VoH), FAO
02 May 2016

The household version of the Extended Food Insecurity Experience Scale (FIES-EX-H) was included in a SHARP survey of 384 households in Karamoja, Uganda in 2016. Questions were asked with reference to the previous 12 months. The Voices of the Hungry (VoH) project of the United Nations Food and Agriculture Organization (FAO) was asked to assess the quality of the FIES data and to provide guidance for classification of food security status in this survey

The assessment includes three parts:

- Assessment of the quality of the FIES-H measure in the Uganda SHARP data for use within the survey (and, by extension, the potential usefulness of the same measure in future surveys of similar populations).
- Assessment of the comparability of the FIES-H measure in Uganda SHARP data with Uganda national results and global results from the 2014 and 2015 Gallup World Poll (GWP).

Psychometric statistical methods based on the Rasch measurement model are the main basis of the assessment, readers who are not familiar with these statistical methods may want to consult the VoH report, *Introduction to item response theory applied to food security measurement: Basic Concepts, Parameters and Statistics*, available at http://www.fao.org/3/a-i3946e.pdf for further information on the statistics.

Questionnaire
The standard FIES-EX-H survey module referenced to the previous 12 months was used in the SHARP survey.

Data and Missing Responses
Data were provided to VoH for 384 households and there were no missing responses to any of the 8 base questions. Ninety-two respondents (23.9 percent) missed one or more of the "how often" follow-up questions.

Psychometric results are based on the subsample with complete and non-extreme responses (N=77) i.e., omitting those who said "no" to all items and those who said "yes" to all 8 items. This sample is extremely small and item severity parameters, item-fit parameters may not be as precise.

Comparison data
Item severity parameters of the FIES-H scale calculated from the Uganda SHARP data were compared with those of the VoH Global Standard, based on data from 151 countries in the 2014 and 2015 pooled Gallup World Poll (GWP). Item severity parameters were also compared with those from the 2014-2015 GWP Uganda data.

These comparisons assess the extent to which severity measures and prevalence rates are comparable with rates published by VoH for Uganda and other countries.
Statistical methods

Valid answers to each of the questions in the standard FIES-H model are "Yes" or "No," coded 0 and 1, respectively. There were a large number of cases with raw score 8 in the standard FIES (288 cases, or 75 percent). With this huge proportion in raw score 8, the standard FIES does not provide an adequately precise estimate of the prevalence of severe food insecurity.
Statistical methods based on the single-parameter Rasch model were used to assess data quality for the standard FIES-H was used to assess data quality (i.e., consistency with the measurement model). The measurement model provides estimates of the severity level measured by each item as well as the severity of food insecurity experienced by each respondent ("respondent severity parameters"). Item and respondent parameters are on the same continuum of severity. Respondent parameters are sometimes referred to as "raw-score parameters" because, for a given set of items, they are the same for all respondents with the same raw score. The methods also provide fit statistics for each item, overall measure reliability, and inter-item residual correlations.

Quality of the FIES-H measure in the Uganda SHARP data
In this section, I report statistics that assess the consistency of the data with assumptions of the one-parameter logistic (Rasch) measurement model and overall reliability of the measure. The extent to which data are consistent with assumptions of the Rasch model is important, as those assumptions justify the use of raw score as an ordinal indicator of severity of food insecurity and the respondent parameter as an interval-level measure of severity.

Item "infit" statistics assess the important Rasch-model assumption that all items discriminate equally (i.e., are have the same strength of association with the latent trait of food insecurity). Infit is an information-weighted chi-square-type statistic that compares the observed responses to the item with the expected responses given item severities as estimated in the model and the raw score of the respondent. The expected value is 1.0 for all items. Higher values indicate weaker association with the latent trait (i.e., higher chi square). Values between 0.8 and 1.2 are generally considered to indicate good consistency with the model assumption of equal discrimination, and 0.7 to 1.3 indicate acceptable consistency for positive contribution to the measure.

The infit statistics for these data are quite good. All items had infits between 0.7 and 1.3. The lowest was 0.70 for the Runout item while the highest was 1.14 for the Healthy item (Table 1).

Item "outfit" statistics are similar to infits except that, since they are not information-weighted, they are very sensitive to unexpected outliers. Such outliers may indicate idiosyncratic conditions, careless responses, or incorrect coding of responses.

The second model assumption to be tested is conditional independence of items. The Rasch model assumes that responses to any two items are correlated only because of their mutual association with the underlying latent trait. In practical terms, this means that we do not want two questions that ask about essentially the same behaviour or condition caused by food insecurity. Conditional correlations among items may also indicate a second dimension in the response data, whereas the Rasch model assumes unidimensionality. Conditional independence is assessed by comparing observed correlations among items with the correlations expected given item and raw-score parameters and the distribution of cases across raw scores. On this assessment, there was no area of concern.

Finally, the reliability of the measure is assessed by Rasch reliability statistics. The standard Rasch reliability statistic is, conceptually, the proportion of total variance of severity of food insecurity *in the sample* (actually, in the sample omitting extreme raw scores 0 and 8) that is accounted for by the measure (i.e., by the difference in raw-score severity parameters of respondents). A modified version of Rasch reliability that weights each raw score equally (rather than by the proportion of the sample in each raw score) is highly correlated with overall model fit across surveys using the same scale. this "equal-weighted" Rasch reliability statistic is used as a proxy for model fit by the VoH project, since the standard Rasch reliability and other measures of model fit such as the likelihood ratio, are affected by the distribution of cases across raw scores as well as by model fit.

In general, higher reliability indicates response patterns that are more consistent with the severity-order of the items. It is expected that if a respondent says "yes" to an item, he or she will also say "yes" to all items that are less severe, and if a respondent says "no" to an item, he or she will also say "no" to all items that are more severe. It is not expected that this pattern will be absolute—only probabilistic. The extent to which this pattern predominates increases the dispersion of item parameters, which, in turn, increases the dispersion of respondent parameters relative to measurement error and, thus, increases reliability. In practical terms, high reliability indicates that respondents understood questions consistently, responded thoughtfully, that responses were recorded accurately, and that the way food insecurity is experienced and described in the sample is consistent across respondents.

The Rasch reliability in the Uganda SHARP data was .72, and the equal-weighted statistic was .76 (analysis not shown).

In summary, the performance of the FIES-H in the Uganda SHARP data was good. However, due to the small sample size and limited number of complete and non-extreme cases, increasing the sample size will strengthen the reliability of the analysis. Raw score can be used as an ordinal measure of severity of food insecurity of respondents and for categorizing respondents as to food security status. Respondent (raw-score) parameters are an interval-level measure of severity of food insecurity, suitable for analyses such as regression and correlation analysis, with caveats as discussed in the next section. (Note that raw score is ordinal, but not interval, with respect to the latent trait and is not suitable for regression or correlation analysis.)

Respondent parameters: The measure of severity of food insecurity

Statistics for respondents by raw score on the FIES-H are presented in Table 2. Respondent severity parameters are an interval-level (i.e., linearized) measure of severity of food insecurity and are suitable for use in analyses such as regression and correlation that require an interval-level measure. The parameters shown for raw scores zero and 8 are somewhat rough approximations, based on the standard VoH 2014 methodology. (In fact, the parameter and error for raw score zero are unimportant in the VoH standard methodology because for classification purposes such respondents are assumed to be highly food secure with no measurement error.) A modelling alternative that is often preferable is to represent food insecurity as a set of dummy variables to indicate either raw score or raw-score-based categories of food insecurity. This allows for a more flexible fit, since associations of many outcomes with food insecurity may not be linear. If food insecurity is the dependent variable, it may be modelled as a binary variable based on raw score, using logistic or probit regression. Two or more analyses can be conducted at different levels of severity to provide a more complete picture of associations.

Comparability of FIES -H results in the Uganda SHARP data with national and global results from other surveys using the same or similar instruments

Figure 1 shows the comparison of the Uganda SHARP data with the VoH 2014-2015 global standard, using the methods described above. The Uganda scale is quite readily adjusted to the VoH Global Standard scale, with only two items, Worried and Skipped specified as unique.
The specifications of food security status by raw score as presented in Table 2 are based on the adjustment of the Uganda SHARP scale to the VoH Global Standard depicted in Figure 1. Given the good match of the FIES-H Uganda SHARP scale to the VoH Global Standard scale, the food security status as specified in Table 2, and prevalence rates based on those specifications, will be fairly consistent with corresponding statistics indicated for Uganda and other countries in the forthcoming VoH report on the 2014 GWP survey data.

Figure 2 compares the Uganda SHARP scale with the FIES-I scale calculated from the 2014-2015 GWP Uganda data. Three items; Worried, Skipped, and Ateless were specified as unique.

Table 1. Item parameters and fit statistics for the FIES-H calculated from the Uganda SHARP data

Item[1]	Severity parameter	Std. error of parameter	Infit	Std. error of infit	Outfit
Worried food would run out	-0.32	0.36	0.99	0.21	2.46
Could not afford healthy nutritious meals	-1.52	0.43	1.14	0.27	3.76
Ate only a few kinds of food	-2.39	0.50	0.96	0.29	0.82
Skipped meals	-1.07	0.40	0.89	0.26	2.43
Ate less than should	-0.55	0.37	0.79	0.23	0.77
Household ran out of food	0.59	0.32	0.70	0.15	0.54
Hungry and did not eat	1.42	0.32	0.96	0.17	1.99
Did not eat for whole day	3.85	0.48	0.98	0.37	0.61
Standard deviation	1.95				
N[2]	77				

Notes:
[1]Full wording of each question included a reminder of the 12-month reference period and the specification that the behaviour or condition occurred "because there was not enough money or other resources to get food."
[2]Respondents with raw score 0 (n=19) or raw score 8 (n=288) were omitted from the psychometric analysis. They will be included in substantive analysis, classified as being very food secure and very food insecure, respectively, but their responses provide no information about the relative severity of items.

Table 2. Respondent parameters and measurement errors in the FIES-H based on the Uganda SHARP data

Raw score	Severity parameter	Measurement error[1]	Number of cases	Provisional food security status[2]
0[3]	-3.64	1.52	19	
1	-2.78	1.16	6	
2	-1.74	0.93	4	
3	-0.95	0.87	5	
4	-0.20	0.87	2	
5	0.59	0.93	18	Moderately food insecure
6	1.58	1.08	17	
7	3.09	1.41	25	Severely food insecure
8[3]	4.28	1.52	288	

Notes:
[1]Measurement error can be thought of as the standard deviation (around the severity parameter—which is the mean severity within the raw score) of true severity of food insecurity of respondents represented by the sampled individual.
[2]Provisional food security status is based on the thresholds used by the Voices of the Hungry project to classify respondents in the Gallup World Poll. Those thresholds are used with probabilistic assessment to estimate national prevalence rates after adjusting each country's scale to the global standard. The raw-score assignment indicated here most nearly approximates the prevalence rates calculated by adjusting the FIES-H scale based on the Uganda SHARP data to the global standard for 2014-2015. NOTE: The VoH thresholds on which these raw-score-based food-security status categories are based are more severe than those for similarly labelled categories in most countries that use experiential measures of food security for official national monitoring. For example, raw scores 3 and higher would correspond more closely to food insecurity as measured in the U.S., raw scores 2 and higher would correspond more closely to food insecurity as measured in Canada, and 6-10 would approximate the severity range of "very low food security" in the United States and severe food insecurity in Canada.
[3]Severity parameters and measurement error cannot be calculated for raw scores 0 and 8 using the conditional maximum likelihood methods used in this analysis.

Figure 8: Comparison of Uganda SHARP scale with VoH Global Standard

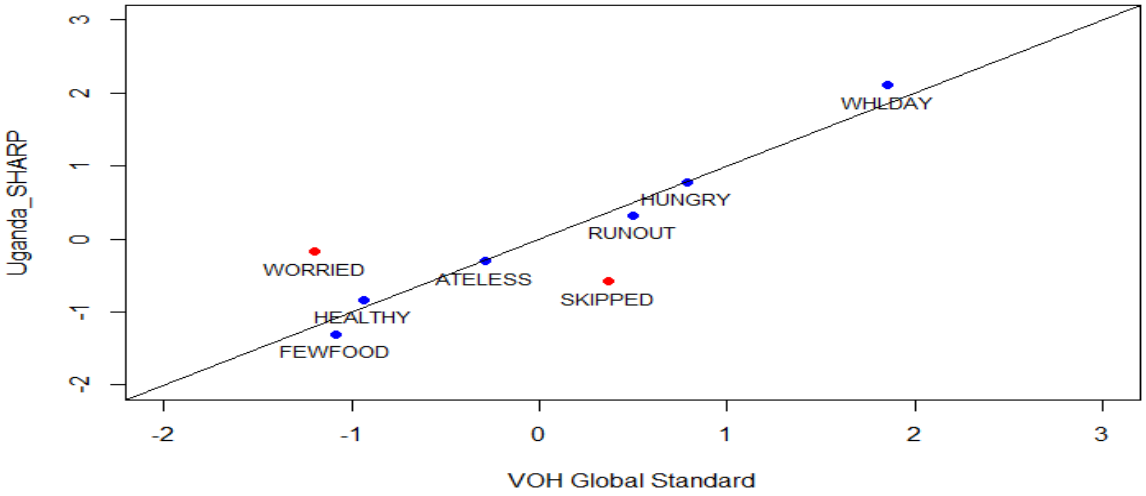
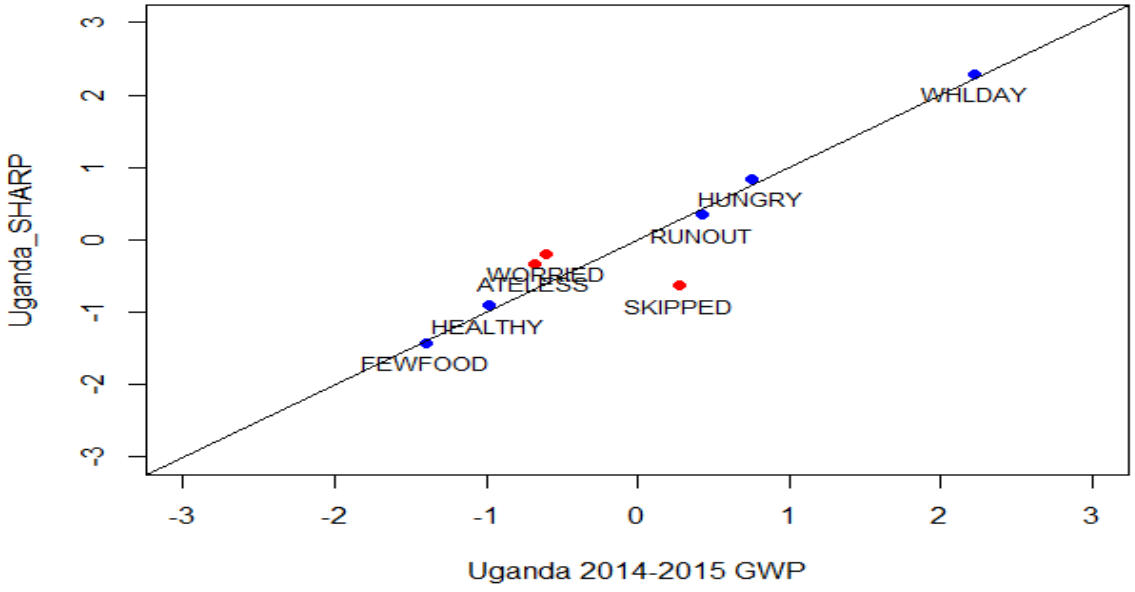


Figure 9: Comparison of Uganda SHARP scale with the 2014-2015 GWP Uganda data



ANNEX 9: RESULTS OF LAND DEGRADATION ASSESSMENT FOR DRYLANDS QUESTIONNAIRE FOR MAPPING LAND DEGRADATION AND SUSTAINABLE LAND MANAGEMENT WORKSHOP: MOROTO, JANUARY 2016

LUS Area Trend	LUS Intensity Trend
2: area coverage is rapidly increasing in size (i.e. > 10% of the LUS area / 10 years); **1**: area coverage is slowly increasing in size (i.e. < 10% of the LUS area / 10 years); **0**: area coverage remains stable **-1**:area coverage is slowly decreasing in size (i.e. < 10% of the LUS area / 10 years); **-2**:area coverage is rapidly decreasing in size (i.e. > 10% of that specific LUS area / 10 years).	**2**:Major increase (e.g. from manual labour to mechanisation, from low external inputs to high external inputs etc.); **1**:Moderate increase (e.g. a switch from no or low external inputs to some fertilizers/ pesticides; switch from manual labour to animal traction); **0**: No major changes in inputs, management level etc.; **-1**:A moderate decrease in land use intensity (e.g. a slight reduction of external inputs); **-2**:A major decrease in land use intensity (e.g. from mechanisation to manual labour, or a large reduction of external inputs).

District: Kaabong

Mapping Unit	LUS Area Trend	LUS Intensity Trend	Comment	LD Types	Extent	Direct causes	Indirect causes	Impacts on productive & ecological services	Impacts on livelihoods services	Comment
Grassland	2	1	Relative peace and migration of the population to fertile land for cultivation	➢ overgrazing ➢ bush fires ➢ poor agric. practices	50%	➢ agriculture ➢ poaching / hunting ➢ livestock pop	➢ settlement ➢ natural factors	➢ biodiversity loss ➢ low soil productivity	➢ low productivity ➢ water crisis ➢ diseases out-breaks ➢ eventually famine	In last 10 years there has been influx of livestock by Turkana, Jie and Sudanese
Protected Grassland	2	0	A very great proportion of land cover in district lies in the protected areas under UWA & NFA	➢ poaching ➢ human-animal conflicts ➢ charcoal production	60-70%	➢ agriculture ➢ poaching ➢ wire fires	➢ consumption patterns	➢ human & animal diseases ➢ habitat losses ➢ biodiversity loss	➢ low production ➢ family breakdown	Lack of landuse planning and poor land tenure systems to harmonise competing land usage (i.e park vs humans)
Bushlands	2	2	The entire pop of Kaabong depend on livestock and agriculture esp. within the	bush fires soil water and wind erosion	60%	➢ gullies ➢ hunters ➢ settlement	➢ poor cultural practices	➢ water stress loss of soil fertility ➢ habitat destruction	➢ low production ➢ human and animal diseases	influx of humans and livestock from the adjacent district and countries (Kenya

			green belt so bushland is the resource for their survival							& S. Sudan)
Wetlands	2	2	-	➢ farming ➢ drought	5%	➢ deforestation ➢ poor farming practices ➢ poor waste mgt		➢ water stress ➢ loss of aquatic spp.	➢ low production ➢ human and animal diseases	influx of humans and livestock from the adjacent district and countries (Kenya & S. Sudan)

District: Kotido

Mapping Unit	LUS Area Trend	LUS Intensity Trend	Comment	LD Types	Extent	Direct causes	Indirect causes	Impacts on productive & ecological services	Impacts on livelihoods services	Comment
Grassland high livestock		Area coverage slowly decreasing	Communities are tending more to agro-pastoral system	➢ soil erosion by water (loss of topsoil, gully erosion) ➢ biological degradation (reduction of vegetation cover, detrimental effects of fires, quality and species composition /	20-30%		➢	➢	➢	

				diversity decline) ➢ physical soil deterioration (compaction, sealing and crusting)						
Subsistence farmland high livestock				➢ deforestation ➢ soil erosion	50 - 60% Tenure issues - 20%	➢ over-exploitation of woodlands for domestic use ➢ poor soil control measures ➢ land tenure insecurity	➢ Human population pressure ➢ poorly defined tenure security	➢ loss of top soil	➢	
Bushland high livestock				➢ deforestation ➢ reduced plant cover ➢ bush encroachment ➢ long grazing periods ➢ deterioration of soil structure	60 - >70 %	➢ excess firewood collection ➢ uncontrolled charcoal production	➢	➢	➢	

District: Nakapiripirit

Mapping Unit	LUS Area Trend	LUS Intensity Trend	Comment	LD Types	Extent	Direct causes	Indirect causes	Impacts on productive & ecologica	Impacts on livelihoods services	Comment

								l services		
Bushland				➢ Biological degradation (Loss of habitats, quantity / biomass decline, detrimental effects of fires			➢	➢	➢	
Protected land				➢ Biological degradation (detrimental effects of fires , quality and species composition / diversity decline ➢ Physical soil deteriorati on (loss of bio-productive function due to other activities)			➢	➢	➢	
Grassland for livestock				➢ Soil erosion by water (riverbank erosion, offsite degradation effects) ➢ Physical soil deteriorati on (compaction, sealing and crusting) ➢ Biological degradation (detriment			➢	➢	➢	

				al effects of fires) ➢ Chemical soil deteriorati on (acidificati on)						
Subsisten ce farmland				➢ Biological degradatio n (reduction of vegetation cover) ➢ Soil erosion by water (loss of topsoil / surface erosion) ➢ Soil erosion by wind (loss of topsoil) ➢ Physical soil deteriorati on (compactio n, waterloggi ng) ➢ Chemical soil deteriorati on (fertility decline and reduced organic matter content)			➢	➢	➢	

ANNEX 10: ACTION PLAN TO ADDRESS LEGAL AND INSTITUTIONAL FRAMEWORK FOR FOSTERING SUSTAINABILITY AND RESILIENCE FOR FOOD SECURITY IN KARAMOJA SUB REGION

Table 1: Action Plan for Legal and Policy Framework

Sector	Existing legal & Policy Framework	Gaps	Objectives	Output	Activities	Lead Institution(s	Time Frame	Budget in USD$
Land Use	-The Constitution of Uganda 1995 as amended Art. 237 (3) & (4). - The Land Act Cap 227 SS 4, 5, 6, 7,9 & 15 -The Land Regulations, 2004 Regs 3-5.	-Limited customary registration of land titles.	To ensure Security of land users. Strengthening property rights for land	Customary certificates of titles.	-Ensure appointment of District Registrar of Titles in all districts, -Raise awareness to ensure 1/3of the members of the management of CLA are women	-Ministry Lands & Urban Development; -District Councils -Elders -FAO -UNDP	2 years.	4 workshops @5,000=20,000
	-Uganda National Land Policy 2013 - The National Soils Policy for Uganda 1999	No Ordinance & Bye Laws	To ensure proper standards for soil	Reduced soil degradation	Draft Ordinances and Bye laws	-MAAIF, -District Councils -Ministry of Justice & Constitutional Affairs.		Consultancy to draft ordinances & bye laws @ 20,000
	- Draft Range Land Management & Pastoralism Policy 2014	The Policy is not yet adopted by Cabinet	-Ensure that pastoralists to practice optimum stocking rates to sustain the rangeland environment	Proper pastoral activities.	Finalize the Policy for presentation to Cabinet.	MAAIF	6 months	1 stakeholders' meeting,@2000
Agriculture	-The National Agricultural Policy 2013	Unsustainable agricultural production	To Ensure appointment of all staff for the Production & Marketing Dept.	Have adequate staff at the District & sub-county levels.	-Advertise and recruit staff	Ministry of Finance & Economic Development, MAAIF,	2 years.	

Sector	Existing legal & Policy Framework	Gaps	Objectives	Output	Activities	Lead Institution(s	Time Frame	Budget in USD$
	-The National Agricultural Research Policy 2003	Limited institutional framework for the agriculture sector especially at the districts and sub-county levels. -Limited funding for the rural agriculture sector.	To improve agriculture production.		-Conduct research on and indigenous & drought resistant crops.	Ministry of Public Service		
	-The Seeds and Plant Act, 2006	limited implementation especially in the informal seed sector	To ensure effective regulation of distribution of seeds.	Have proper system of seed distribution.	Develop guidelines for seed distribution & management.	MAAIF	1 year.	Consultancy to develop guidelines @5,000
	-The Plant Protection Act Cap 31	no quarantining of areas with infected plants unlike in animals husbandry.	To ensure control of plant diseases.	Have effective mechanisms of controlling plant diseases	Develop guidelines and Regulations for controlling plant diseases.	MAAIF	1 year.	Consultancy to develop guidelines and Regulations @1,0000
	-The Prohibition of Burning Grass Act, Cap 33	The Act is outdated.	To ensure control of bush burning.	Have mechanisms for bush burning.	Draft a new Bill	MAAIF	2 years.	Consultancy to review and draft a new bill @15,000
	The Agricultural Chemicals (Control) Act 2006	Current implementing Regulations are 1989	To ensure effective control of the agricultural chemicals	Have updated mechanisms for the control of chemicals; Control Agrochemical based pollution.	Draft New regulations to implement Agricultural Chemicals (Control) Act 2006.	MAAIF	1 year.	

Sector	Existing legal & Policy Framework	Gaps	Objectives	Output	Activities	Lead Institution(s	Time Frame	Budget in USD$
	Animal Diseases Act Cap 38	Difficult to enforce in pastoral areas like Karamoja were herdsmen move from one place to another.	To ensure effective control of animal diseases.	Have effectively mechanisms for controlling animal diseases.	Update the Animal Diseases Act and develop guidelines for implementing it.	MAAIF	2 years.	Consultancy to develop guidelines @10,000
Climate Change	The Uganda National Climate Change Policy, 2013	There is no comprehensive legislation to implement the Policy	To ensure appropriate measures for controlling climate change that affect agriculture	Have adaptation and mitigation measures for climate change.	Draft Climate Change Act	Ministry of Water & Environment MAAIF	2 years	Consultancy to draft a legal framework for climate change @40,000
Forestry	-The Uganda Forestry Policy 2001 -The National Forestry and Tree Planting Act, 2003 -Draft Forestry and Tree Planting Regulations, 2012 -The Forest Produce Fees and Licences Order, 2000 S.I. No.16	-The policy statement on collaborative partnerships between NFA and rural communities to achieve the sustainable management of forests has not been implemented; -The policy statement on establishment, rehabilitation and conservation of watershed protection by NFA has not	To implement programme for collaborative partnerships between NFA and rural communities	Partnership arrangements between NFA & local communities	Develop & sign memoranda of understanding between NFA and communities who live near Central forest reserves.	NFA, NGOs and MAAIF	1 year.	Consultancy to draft a model memorandum @5,000

Sector	Existing legal & Policy Framework	Gaps	Objectives	Output	Activities	Lead Institution(s	Time Frame	Budget in USD$
		been implemented;						
Water	-The National Water Policy, 1995 -The Water Act, Cap 152 -The Water Resources Regulations 1998 -The Water (waste discharge) Regulations, 1998 -The Waste Management) Regulations, 1999	Prolonged droughts affect water supply for planting and livestock.	To ensure available sources of water for planting crops and livestock.	Have different sources of water.	-Develop guidelines for rehabilitation of valley dams and tanks for animal watering to improve production of livestock; -Develop specific regulations and guidelines to address sustainable pastoral use of the limited water -Develop guidelines for water sources & supply. -Develop guidelines for appropriate water harvesting and storage technologies; -Develop guidelines for use efficient irrigation methods	Ministry of Water, Environment & MAAIF, NGOs, Development Partners & Private Sector.	1 year.	Consultancy to develop guidelines @20,000
Fish/ Aquaculture	-The Fisheries Policy 2004	Limited promotion of private sector led fish farming/ industry	To provide incentives to encourage fish farming To promote sustainable utilization of	Have mechanisms that encourage investment in fisheries industry.	Develop guidelines for -investment in Fisheries; Appropriate fishing gears in use	MAAIF	2 years.	Consultancy to develop guidelines @10,000

Sector	Existing legal & Policy Framework	Gaps	Objectives	Output	Activities	Lead Institution(s	Time Frame	Budget in USD$
			fisheries resources. - Improve market and quality control	- Improved livelihoods - Reports on sustainable yields. - Appropriate fishing gears in use - Developed fishponds	-Developing fishpond.			
	The Fish Act Cap 197	Over fishing/ Depletion of fish stock Outdated law	To ensure investment in the fisheries industry.	Update the Law on fisheries	Enact a new Fish Act	MAAIF	2 years	Consultancy to develop a new legal framework @40,000
Apiculture	-The Draft National Apiculture Policy; -The Animal Diseases (control of bee diseases) Rules, 2004	No approved policy and legislation regulating production, marketing and related issue	To promote apiculture.	Have a Policy formulation and a legislation on apiculture	-Develop guidelines for appropriate bee hive and beekeeping system -Submit the Policy for Cabinet approval & enact a legislation	MAAIF	2 years.	-Stakeholders meeting to finalize the Policy @5,000 -Consultancy to develop guidelines @5,000
Wildlife	The Wildlife Policy 2014 The Uganda Wildlife Act Cap 200.	Conflict between human beings & wildlife	To promote harmonious co-existence between human beings & wildlife.	Have mechanisms for partnerships between UWA & local communities.	Develop memoranda between UWA, District Councils & Local Communities • Develop programmes/projects that implement both Wildlife Policy and Act by ensuring that people, livestock co-	UWA, MAAIF, Local Governments, NGOs & private sector	2years.	Consultancy to develop model Memorandum of Understanding. @5,000 Consultancy to develop programmes @10,000

Sector	Existing legal & Policy Framework	Gaps	Objectives	Output	Activities	Lead Institution(s	Time Frame	Budget in USD$
					existence with the wildlife animals; Develop programme/projects the promote collaboration between Local Governments and UWA;			Investment programmes @100,000
Livestock.	The Cattle Grazing Act Animal Cruelty Act	Overstocking Overgrazing	- To promote sustainable livestock production.	- Provision of extension services - Guidelines on stocking capacity	Develop guidelines on the following: -Capacity building - Determination of carrying capacity. - Provide credits, incentives for alternative livelihoods	MAAIF	2 years	Consultancy to develop guidelines @5,000
Wetlands	The National Environment Management Policy (NEMP) 1994; The National Policy for the Conservation and Management of Wetland Resources, 1995; c)The National Environment Act (NEA), Cap 153; (iii) The National Environment (Hilly and Mountainous Area Management) Regulations, 2000	encroachment on wetlands	To promote sustainable utilization of wetlands	Establish mechanisms for benefit sharing	Develop guidelines for benefit sharing schemes with local communities	Ministry of Water & Environment, Local Governments & NGOs	2 years	Consultancy to develop benefit sharing schemes; Investment in benefit sharing schemes@ 100,000

Sector	Existing legal & Policy Framework	Gaps	Objectives	Output	Activities	Lead Institution(s	Time Frame	Budget in USD$
							Sub total	**USD 337,000**

Table 2: Action Plan for Institutional framework

Levels	Gaps / Constraints		Lead institution	Time Frame	Budget
Government Ministries and Agencies	• Conflict of institutional mandates • Limited • Harmonize protocols on information management across borders of Uganda and Kenya • Formulate and enforce environmental and natural resources laws and policies • Limited financing of national research • Limited capacities for information management • Limited linkage between the researcher and policy makers	Review existing institutional mandates and harmonize them; Enhance inter and intra institutional linkages Develop transboundary information management Develop, mainstream and implement environmental policies Improve financial support to research areas Build capacity on information management	MAAIF, NARO & National Planning Authority	2 years	Consultancy to develop strategies of institutional coordination @10,000
Local Governments	Limited human and financial capacity; Limited legal and policy framework	Enhance human and financial capacity	Ministry of Local Government and Ministry of Finance & Economic Development	2 years.	Consultancy for capacity building for local government @10,000
Local Communities	• Limited integration of Indigenous Knowledge Systems (IKS) in natural resource conservation & conflict resolution and sustainable natural resource management; • Limited use of traditional technologies in environmental	Policy recognition of IKS through intellectual property rights, compensation to facilitate IKS sharing Identify and link indigenous technology systems with modern technologies through research Incorporate IK curriculum in learning institutions	Local Governments & NGOs	2 years	Consultancy for capacity building for Local communities@ 20,000

Levels	Gaps / Constraints		Lead institution	Time Frame	Budget
	conservation, natural resources conservation and agricultural practices; • Establish Intergenerational linkages;				
Civil societies (CBOs & NGOs)	• Limited linkange between researchers, communities and policy makers for information flow and advocacy. • Limited coordinated of project implementation by CSOs. • Limited accountability and transparency in information sharing by NGOs.	Enhance the capacity of the NGO Board to ease access to information generated Review legislative and institutional framework for NGO coordination Community empowerment and participation.	Ministry of Internal Affairs & Ministry of Gender, Labour & Social development	1 year.	Consultancy for capacity building of CSOs@ 10,000
Private sector	• Limited compliance to environmental, natural resources and agricultural regulations • Limited participation in environmental and natural management • Limited product stewardship and information sharing	Education and awareness on existing environmental, natural resources & agriculture laws & regulations	Ministry of Local Government	1 year	Consultancy to develop partnership with the private sector@ 10,000
Training & research institutions	• Limited consolidated scientific information collection and dissemination • Limited linkages within learning institutions and other stakeholders	Revamp and enhance the National Council for Science and Technology to be a repository of data and information Enhance integration of IKS into formal knowledge system Prioritization of ICT system	NARO, UBOS & MAAIF	2 years	Consultancy to develop data bank @10,000

Levels	Gaps / Constraints		Lead institution	Time Frame	Budget
	• inadequate budget allocation for research				
Development partners	• Limited information sharing network between development partners	Develop protocols on information sharing	UNDP & FAO	1year	Consultancy to develop a protocol for information sharing @ 5,000
				Sub total	**USD 75,000**
				Grand Total	**USD 412,000**

ANNEX 11: PROFILE OF POTENTIAL WATERSHED SITES IN KARAMOJA FOR GEF/ IAP INTERVENTIONS

SI	District	Potential Watershed Sites	Target Watershed sizes (ha) (to be determined)	Estimated Number of Households	Target number of FFS/ APFS	Status of on-going/ past implementation	Organizations/ NGOs involved Field implementation of watershed related activities
1	Moroto	Musopo watershed	2000	1000	20	Limited mapping/ planning and capacity building NUSAF II - Tree planting, water pond desilting, soil & water conservation by WFP	Caritas COOPI DDG/DRC IIRR
					20	Demarcation and restoration, rainwater harvesting, woodlot, agro-forestry, Mogoth Parish of the watershed, Rupa Sub County	IUCN
3	Kaabong	Kathile watershed	1000	1000	40	Limited mapping/ planning and capacity building NUSAF II – soil and water conservation, access road, disilting ponds by WFP	C&D ACF World Vision IIRR
4	Nakapiritpirit	Kakomongole watershed	1000	1000	40	Limited mapping/ planning and capacity building NUSAF II – soil and water conservation, access road, disilting ponds by WFP	Happy Cow ACTED IIRR
5	Kotido	Loputuk-Panyangara	1000	1000	40	Limited mapping/ planning and capacity building NUSAF II – soil and water conservation, access road, disilting ponds by WFP	ADRA World Vision Caritas Kotido IIRR
		River Dopeth watershed	1000	1000	40	Demarcation and restoration at Naponga Parish, Rengen sub county NUSAF II – soil and water conservation, access road, disilting ponds by WFP	IUCN World Vision Caritas Kotido
Total			6000	5000	200		

ANNEX 12: INCEPTION REPORT (SEE ATTACHED)

ANNEX 13: TRACKING TOOLS (GEF-6 FOOD SECURITY IAP - TRACKING TOOL FOR CHILD PROJECTS, SEE ATTACHED)

ANNEX 14: DESIGN MISSION REPORT (SEE ATTACHED)

ANNEX 15: SITE SELECTION PROCESS

The selection of sites for this project was the object of a lengthy participatory process. The project design team began by designing a set of indicators whose purpose was to determine the most vulnerable districts and sub-counties.

Criteria were grouped as follows:

1. Socio-economic criteria
    a. Proportion of population food insecure
    b. Proportion of female-headed households (no data)
    c. Number of people below poverty line (no data)

2. Environmental criteria
    a. Degree/severity and extent of land degradation by type (no data)
    b. Percent of people with access to water
    c. Number of droughts in past 10 years
    d. Number of floors in past 10 years

3. Feasibility criteria
    a. Evidence of relevant baseline programming
    b. Access to markets (no data)
    c. Availability of farmer organizations (no data)
    d. Availability of organizations/extension (no data)

Where possible, data was compiled for the 52 sub-counties and rankings were attributed according to pre-established scales. Counties were then ranked by the amount of points they scored. Higher-ranking counties are considered as more vulnerable, and therefore potential priorities for intervention.

Another principle that was invoked during the development of this proposal was the requirement, as noted during the inception workshop to maximize impact and avoid dispersion/peppering of project interventions. Ideally, project sites should be in relative geographic proximity, in order to allow for more visible impact and reduced management costs.

Furthermore, sites were intended to represent the broadest possible spectrum of livelihoods zones, so that the project can test interventions in all relevant contexts for future upscaling.

Finally, although this remains to be verified on the ground, the availability of a strong baseline program upon which to anchor this GEF intervention was also taken into consideration.

An initial selection was conducted on the basis of these criteria, based on available information. This was later on supplemented by information gathered during the SLM workshop conducted during the second design mission (see Annex 8), as well as by results from the HH-BAT survey and SHARP analysis (Annex 8). The SLM Committee spearheaded by the MAAIF considered recommendations for sites and approved the final list of sites at its meeting on 24 March 2016.

At the validation meeting, it was noted that there should be a mechanism whereby the project steering committee could, if circumstances dictate, revisit the decisions on project sites (within reasonable limits).

ANNEX 16: GHG ASSESSMENT USING EX-ACT (detail results, input data and assumptions)

Detailed results:

The project activities will avoid 20,178 tons CO2eq emissions, or 1,345 tCO2eq per year and create 480,508 tons CO2eq of carbon sink or 30,689 tons CO2eq sequestered per year.

Total tons CO2eq sequestered over the 15 years (5 years for implementation + 10 year capitalization phase: 480,508

Tons CO2eq sequestered per hectare over the 15 years: 98

Tons CO2eq sequestered per hectare per year: 6.5

See Table 1 for detailed assessment results.

Table 14: Results from EX-ACT simulation according to LDFS's activities

Project Name	Fostering Sustainability and Resilience for Food Security in Karamoja sub region	Climate	Tropical (Dry)	Duration of the Project (Years)	15
Continent	Africa	Dominant Regional Soil Type	HAC Soils	Total area (ha)	4920

Components of the project	Gross fluxes Without All GHG in tCO2eq Positive = source / negative = sink	Gross fluxes With	Balance	Share per GHG of the Balance All GHG in tCO2eq CO2 Biomass	CO2 Soil	CO2 Other	N2O	CH4	Result per year Without	Result per year With	Result per year Balance
				CO2-Biomass	CO2-Soil	CO2-Other	N2O	CH4			
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	-356,915	-356,915	-216,885	-140,030		0	0	0	-23,794	-23,794
Other LUC	0	-14,905	-14,905	7,040	-21,945		0	0	0	-994	-994
Agriculture											
Annual	3,417	-21,974	-25,391	0	-23,100		-116	-2,175	228	-1,465	-1,693
Perennial	0	-49,995	-49,995	-47,520	-2,475		0	0	0	-3,333	-3,333
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	16,761	-16,540	-33,302	0	-32,842		-239	-220	1,117	-1,103	-2,220
Livestocks	0	0	0				0	0	0	0	0
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0	0	0	0	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	20,178	-460,329	**-480,508**	-257,365	-220,392	0	-355	-2,395	1,345	-30,689	-32,034
Per hectare	4	-94	-98	-52.3	-44.8	0.0	-0.1	-0.5			
Per hectare per year	0.3	-6.2	-6.5	-3.5	-3.0	0.0	0.0	0.0	0.3	-6.2	-6.5

Input data and assumptions:

Karamoja: 4 districts	**Hectares**
Croplands	**1800**
Sorghum	900
Maize	900
Sorghum	
Traditional sorghum cultivation	900
Improved sorghum	600
Perennial tree/crop (Agroforestry)	300
Maize	
Traditional maize cultivation	900
Improved maize	600
Perennial tree/crop (Agroforestry)	300
Rangelands	**720**
Traditional rangeland management to improved without inputs	360
Traditional rangeland management to improved with inputs	360
Forest	**2400**
Reforestation from degraded land	2400
TOTAL	4,920