

Capacity Development Action Plan to Promote Low Carbon, Climate Change Resilient Development in the Mbale Region¹

Territorial Approach to Climate Change in the Mbale Region of Uganda Project



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*Empowering lives.
Resilient nations.*

¹ Shortened version of full report prepared by Dr W. Kakuru in 2012

Table of Contents

Acronyms and Abbreviations	iii
Executive Summary.....	v
Part I: Introduction and Background	1
1. Global and Local Context of Climate Change.....	1
1.1 Definition of climate change.....	1
1.2 Climate change impacts and vulnerabilities in Uganda	1
1.3 Impact of climate change on different sectors in Uganda.....	1
1.4 Need to address climate change issues in Uganda.....	2
1.5 Linkages between climate change and development.....	3
1.6 Policy framework for climate change in Uganda	4
2. Processes used for developing the Capacity Development Plan.....	7
2.1 Introduction	7
2.2 Methodology.....	8
3. Background for Districts in the Mbale Region	9
3.1 Bududa District overview.....	9
3.2 Manafwa District.....	10
3.3 Mbale District.....	10
3.4 Economic activities in Bududa, Manafwa and Mbale Districts.....	11
3.5 Poverty analysis	12
Part II: Climate Change Impacts and Development Initiatives and Priorities in the Mbale Region	14
4. Impacts of Climate Change in the Mbale Region.....	14
4.1 Climate change hazards and their related effects in the Mbale Region.....	14
4.2 Gendered adaptation measures to climate change impacts in the Mbale Region	16
5. Key Regional Initiatives and Development Priorities.....	18
5.1 Identified relevant initiatives	18
5.2 Priorities for low carbon emission, climate resilient development strategies	19
5.3 Key stakeholders for promoting a low carbon, climate change resilient development in the Mbale Region	22
PART III: Capacity Building Plan for Low Carbon, Climate Change Resilient Development.....	26
6. Regional Capacity Needs, Constraints and Actions to Promote Low Carbon and CC Resilient Development.....	26
6.1 Existing strengths and opportunities	26
6.2 Capacity gaps, needs and proposed actions at systems level	27
6.3 Institutional capacity gaps and needs.....	28
6.4 Individual level capacity gaps and skills sets to realize low carbon and CC resilient development	29
6.5 Criteria to be used in choosing capacity building activities and target groups	29
6.6 Capacity development operational plan.....	30
6.7 General conclusions.....	31
References	35
Annex	36
Annex 1: CBOs Supported under the TACC Small Grants Initiative	36

Acronyms and Abbreviations

ACCRA	Africa Climate Change Resilience Alliance
ARDI	African Rural Development Initiative
BFP	Budget Framework Paper
BUGIZARDI	Buginyanya Zonal Agricultural Research Institute
CAO	Chief Administrative Officer
CBOs	Community Based Organizations
CC	Climate Change
CCA	Climate Change Adaptation
CC DARE	Climate Change and Development - Adapting by Reducing Vulnerability
CCU	Climate Change Unit
CDM	Clean Development Mechanism
CAN	Capacity Needs Assessment
COP	Conference of the Parties - to UNFCCC
CPAP	Country Programme Action Plan
CSO	Civil Society Organization
DDMR-OPM	Department of Disaster Management and Refugees - Office of the Prime Minister
DDP	District Development Plan
DEAP	District Environment Action Plan
DoM	Department of Meteorology
DPM	Disaster Preparedness and Management
DWRM	Directorate of Water Resource Management
ECOTRUST	Environmental Conservation Trust of Uganda
ENR-SIP	Environment and Natural Resources - Sector Investment Plan
FAO	Food and Agricultural Organization
FACE	Forests Absorbing Carbon Emissions
FGD	Focused Group Discussion
GEF	Global Environment Facility
GHG	Green House Gases
GoU	Government of Uganda
GTZ	Gesellschaft für Technische Zusammenarbeit
IUCN	International Union for the Conservation of Nature
HDI	Human Development Index
HEP	Hydro-Electric Power
HIPC	Heavily Indebted Poor Countries
HQ	Headquarters
IUCN	International Union for Conservation of Nature
IMF	International Monetary Fund
ITCP	Integrated Territorial Climate Plan
LDC	Least Developed Countries
KIFANGO	Kitsi Famers' Non-Governmental Organisation
LGDP	Local Government Development Programme
LGMSDP	Local Government Management and Service Delivery Programme
LPAC	Local Project Appraisal Committee
LVBC	Lake Victoria Basin Commission
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries

MDGs	Millennium Development Goals
MEMD	Ministry of Energy and Minerals Development
MERECp	Mount Elgon Regional Ecosystem Programme
MFPEd	Ministry of Finance, Planning and Economic Development
MLHUD	Ministry of Lands, Housing and Urban Development
MoLG	Ministry of Local Government
MWE	Ministry of Water and Environment
NAPA	National Adaptation Programmes of Action
NARO	National Agricultural Research Organization
NDP	National Development Plan
NEMA	National Environment Management Authority
NFA	National Forest Authority
NGO	Non-Government Organization
NPA	National Planning Authority
nrg4SD	Network of Regional Governments for Sustainable Development
OPM	Office of the Prime Minister
PEAP	Poverty Eradication Action Plan
PFCC	Parliamentary Forum on Climate Change
PMA	Plan for Modernization of Agriculture
PONT CAP	Partnerships Overseas Networking Trust Coalition Against Poverty
PRS	Poverty Reduction Strategy
REDD	Reducing Emissions from Deforestation and Degradation
RSC	Regional Service Centre
SDP	Sub-county Development Plan
SIDA	Swedish International Development Cooperation Agency
SIP	Sector Investment Plan
SLM	Sustainable Land Management
SWAp	Sector-Wide Approach
SWG	Sector Working Group
TOR	Terms of Reference
UNCCD	United Nations Convention to Combat Desertification
UNDAF	United Nations Development Assistance Framework
UNFCCC	United Nations Framework Convention for Climate Change
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WAG	Welsh Assembly Government
UCU	Uganda Christian University, Mukono
UWA	Uganda Wildlife Authority
WFP	World Food Programme
WWF	World Wide Fund for Nature

Executive Summary

Climate change is being experienced in many parts of Uganda, including the Mbale Region, in various forms such as rising temperatures, changing rainfall patterns, increased frequency and intensity of droughts and floods, declining in quantity and quality of water resources, reduced agricultural productivity, spread of vector borne diseases to new areas and heavier storms. Climate change poses serious problems with far reaching social, political, economic and environmental consequences, particularly in least developed countries characterized by low adaptive capacities.

Climate change (CC) impacts are hitting and will continue to hit both developed and developing worlds. The burden of response to CC is spread unequally around the globe, with adapting to existing and future consequences of CC being a greater challenge for developing countries, despite their minor role in the creation of the problem. The developing and Least Developed Countries (LDC) will be affected more than the industrialized world due to their limited capacities to cope with climate change impacts. Building of capacities for mitigating and adapting to climate change should therefore be one of the priorities on the development agenda. This capacity development action plan is to provide a tool to promote low carbon, climate change resilient development in the Mbale region and has potential for replication in other areas of the country.

The capacity development plan was developed through a consultative process involving stakeholders from central and local governments, non-government organizations and local communities. Focus was placed on identification of the local experiences of climate change impacts in the region and existing initiatives related to climate change. The stakeholders also identified appropriate development priorities that are relevant to the promotion of low carbon, climate change resilient development in the region. A capacity needs assessment was conducted, to evaluate the existing capacity, identify gaps in the region and propose actions for a desired future.

The findings of the assessment indicated that the Mbale region have already experienced various effects of climate change including landslides, floods that have led to loss of assets and lives. The impacts of climate change in the region have differing effects on men, women, youth and children and are already having negative effects on their livelihoods. The assessment identified a number of government and non-government initiatives that are implementing interventions to address climate change effects such as soil and water conservation, promotion of energy efficient technologies, biogas, zero grazing, improved agriculture technologies, agroforestry and tree planting. Some platforms and networks have been initiated to co-ordinate the different stakeholders.

It was reported that some gaps exist at systems, institutional and individual level, which are impeding effective implementation of the development priorities. The gaps include limited local level policies, equipment for collecting of weather / climate change data and technical capacity among the technical teams. Proposed actions include the making of ordinances and bye laws, acquisition of equipment for data collection, storage and dissemination and targeted climate change training, awareness and sensitization. The plan proposes career and skills development training for technical teams in areas relevant to the promotion of a low carbon, climate change resilient development areas. It is also proposed that the capacity for development of a low carbon, climate resilient development should involve local communities, including strengthening of agricultural systems such as the shade coffee, banana and zero grazing system. Capacity building at local level is proposed to include having systems of promoting affordable energy saving technologies, agroforestry and tree planting. Implementation of the plan is estimated to cost a total of US\$ 1,333,000 over a period of 3 years.

Part I: Introduction and Background

1. Global and Local Context of Climate Change

1.1 Definition of climate change

The most general definition of climate change is a change in the statistical properties of the climate system when considered over long periods of time, regardless of cause (UNFCC, 1994). In the context of Uganda, climate change is defined as *a change in climate attributed directly or indirectly to human activity, that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods* (Government of Uganda, 2007). Climate change may be limited to a specific region or may occur across the whole Earth.

1.2 Climate change impacts and vulnerabilities in Uganda

Uganda's economy, livelihoods and social wellbeing is highly dependent on the environment and natural resources and is therefore vulnerable to increasing weather variability and the challenges imposed by climate change (NEMA, 2008). Uganda's vulnerability to climate change has been manifested through a number of events resulting from extremes of drought and floods, as reported in Barihaihi, (2010) and Hepworth (2010), who testified that floods have become more frequent. Examples of such floods include in the Teso region, which in 2007 received the heaviest rainfall in 35 years that affected an estimated 50,000 households, leading to food insecurity due to the loss of their harvests. In March 2010, some parts of Eastern Uganda also experienced unusually heavy and prolonged rains that resulted into floods and landslides. For example, in Butaleja District, floods submerged crop fields and vital infrastructure, including some schools and houses. In addition, a tragic landslide occurred in Bududa on the Mt. Elgon slopes in March 2010, burying three villages and causing numerous deaths and loss of property. In 2011, heavy landslides occurred in Bulambuli District, in the Mt. Elgon region, also burying homes and causing loss of property, crops and livestock.

Reports on the damage caused by climate change related hazards indicated that flood and landslide related accidents have led to the death of about 1,000 people; displacement of about 150,000 people from their homes; and caused damage to trunk and rural roads infrastructure estimated at US\$ 400 million (Barihaihi, 2010 and Hepworth 2010). Other impacts of the floods experienced in Eastern Uganda in 2007 included the death of an estimated 525 people and having over 11,000 people hospitalized and treated for cholera (Barihaihi, 2010). The floods and landslides have disrupted lives of thousands of people, destroyed crops, and led to an increase in water borne diseases.

Uganda's vulnerability to climate change in the recent past has also been manifested in declining levels of Lake Victoria, a situation that affects the Ugandan and wider regional economy (Namanya, 2009; Barihaihi, 2010 and Hepworth 2010). For example, in 2004/05, the water level in Lake Victoria dropped by approximately one metre, leading to a significant drop in hydro power production of 148MW, worth thirty seven (37) billion Uganda Shillings (US\$14.8 million). Furthermore, as a result of the drop in hydro power production, Uganda spends about 92 billion Shillings (US\$ 36.8 million) on thermal generation of electricity. The economic loss associated with climate change induced disasters is currently estimated at 120 billion Uganda Shillings (US\$ 48 million). The health sector has also exhibited its vulnerability to climate change, with the increasing incidence of malaria cases. Statistical data from the Ministry of Health reveals that malaria epidemics have increased in areas originally considered malaria-free zones like the South Western and the Eastern highlands of Uganda; including the districts of Bududa, Manafwa and Mbale (Namanya, 2009).

1.3 Impact of climate change on different sectors in Uganda

The Ugandan economy and welfare of the people are intricately linked to and dependant on natural environment and, therefore highly vulnerable to climate variability and climate change (GoU, 2007).

Furthermore, the International Climate Risk Report identified Uganda as one of the least prepared and most vulnerable country in the world (CIGI, 2007). Climate change is likely to continue to have a wide range of impacts on the environment, economy and livelihoods in Uganda. The likely key impacts from climate change in the different sectors are summarized in Table 1.

Table 1: Impacts of climate change in Uganda by sector

Effect Sector	Higher temperatures	Increased drought	Increased rainfall & shift in seasonality	Impacts
Human health	Shifts in areas / incidence of malaria; respiratory problems	Increased risk of water related disease; food shortage; famine	Increased risk of waterborne disease; flood/landslide risk	Conflict; health burdens and risks; economic costs; poverty; inequity
Agriculture & food security	Shifts in the viable area for coffee and other crops; reduced crop production	Crop failure; reduction in grazing potential within the cattle corridor	Elevated erosion, land degradation; crop loss; change in crop yields/disease	Food insecurity; economic shocks; loss of incomes and livelihood options; poverty
Environment & biodiversity	Biodiversity loss as niches are closed out; changing ecosystem dynamics and production	Additional pressure on natural resource use through fallback on forests	Shift in habitats and growing seasons	Impacts on biodiversity and agro-ecological systems; fishery productivity; deforestation

Source: Hepworth (2010)

Through its adverse effects on livelihoods and agricultural productivity, climate change is also set to increase food insecurity and consequently hunger and malnutrition (NEMA, 2008). An increase in the intensity and frequency of heavy rains and floods expose the population to challenges such as unsafe waste disposal and waterborne diseases including cholera, dysentery and diarrhea. Temperature changes also have significant impacts on health as well as agriculture, for example the highlands areas in Uganda including Mbale, which were previously malaria-free, are now prone to malaria due to rise in temperature. The heat strain has gradually rendered areas that were previously favorable for some crops such as coffee unfavorable, thus reducing their productivity (UNFPA, 2009).

1.4 Need to address climate change issues in Uganda

Uganda is highly vulnerable to climate change and variability, given that its economy and the wellbeing of its people are tightly bound to climate sensitive sectors such as agriculture, fisheries and natural resource management (NEMA, 2008). It is therefore pertinent that climate change adaptation and mitigation measures should be considered among the Government of Uganda's development priorities. Addressing climate challenges requires adequate funding, technological assistance and appropriate institutional arrangements to build resilience and support adaptation and mitigation. The provision of financing for adaptation and mitigation has become a major issue in international and local climate policy and agenda. Although the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) have not provided binding agreements, it has provided a platform for promises of substantial finance to address climate change issues, which justify the need for preparedness by the beneficiaries to allocate the mobilized resources to well planned and budgeted frameworks. Efficient use of such resources justifies the need to bring together different administrative units, an approach that is being piloted under the Territorial Approach to Climate Change (TACC) Project.

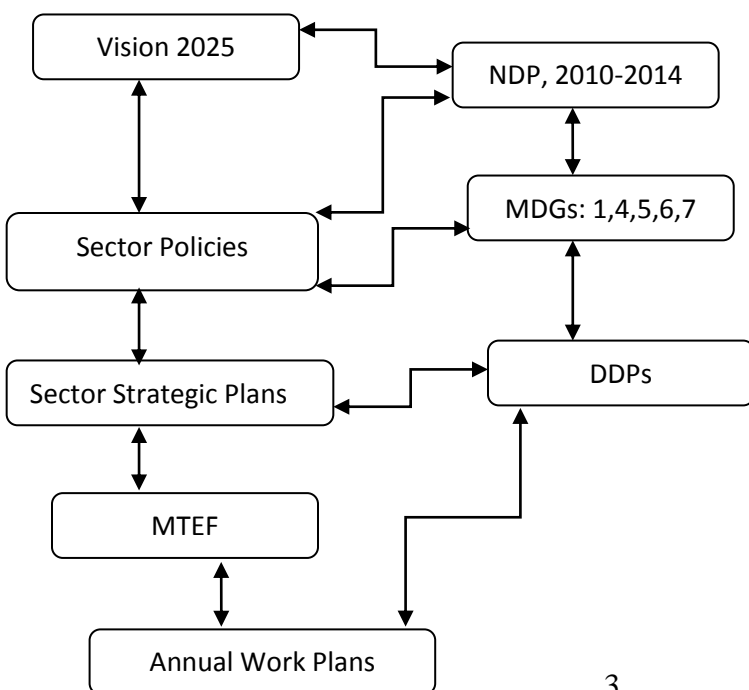
1.5 Linkages between climate change and development

Though issues of climate change have been echoed at different fora, they have not attracted the related political influence and priority during planning and budgeting, compared with other common problems such as poverty and disease. However, climate change can have a significant effect on the efficiency and effectiveness of resource investments aimed at promoting different development agenda (GoU, 2007). For example, the projected impact of climate change on access to natural resources and spread of vector-borne diseases such as malaria has direct implications for the achievement of the Uganda National Development Plan and the Millennium Development Goals (Table 2). The different development paths also have implications for the vulnerability of societies. Moreover, the effects of climate change are critical to the achievement of development objectives and have greatest impact upon the most vulnerable groups and communities. Adaptation to the impacts of climate variability and climate change must therefore be considered as a priority intervention and should be brought into the mainstream of economic and development policies, projects and programmes at global, national and local levels, given the close linkages (Figure 1). Consideration should be made to different sectoral activities such as taking into account current and future climatic risks during the design of agricultural projects, siting and design of bridges and other infrastructure.

Table 2: Relevance of Climate Change Impacts to MDGs and the NDP

Millennium Development Goals
1. Eradicate extreme poverty and hunger 7. Ensure environmental sustainability 8. Develop a global partnership for development
National Development Plan Objectives
1. Increasing household incomes and promoting equity 5. Promoting science, technology, innovation and ICT to enhance competitiveness 8. Promoting sustainable population and the use of environmental and natural resources.

Figure 1: Linkages between policies and development plans at global, national and local levels



1.6 Policy framework for climate change in Uganda

Uganda does not have a specific climate change policy or legislation and the process for its development is on-going and is expected to be completed in 2013. However, Uganda has a number of relevant policies, laws, and regulations that can be strengthened to take into account (mainstream) climate change issues. Relevant plans and policies include: 1) National Adaptation Programme of Action (2007); 2) National Development Plan (2010); 3) National Environment Management Policy (1994); 4) Uganda Forestry Policy (2001); 5) Energy Policy for Uganda (2002); 6) Renewable Energy Policy for Uganda (2007); 7) National Health Policy (1999); 8) Disaster Management and Preparedness Policy (1999-revised in 2003); 9) Agriculture Sector Development Strategy and Investment Plan (2010) and 10) Environment Natural Resources Sector Investment Plan (ENR-SIP) (2007).

Relevant laws for management of climate change issues include: 1) Constitution of Uganda (1995); 2) National Environment Act (Cap 153); 3) National Forestry and Tree Planting Act (Act No 8 of 2003); 4) the Water Act (Cap 152); 5) Land Act (Cap 227); 6) Local Governments Act (Cap 243); 7) Soil Conservation Measures and Guidelines (2000); 8) National Environment (Mountainous and Hilly Areas Management) Regulations (S.I No 153-6); and 9) National Environment (Wetlands, River Banks and Lake Shores Management) Regulations (S.I No 153-5).

Tables 3 and 4 provide examples of the key policies and legislation with provisions of climate change adaptation and mitigation.

Table 3: National Legal and Regulatory Framework relevant to Climate Change Adaptation and Mitigation

Legal Framework	Key articles and provisions related to climate change adaptation and mitigation
The constitution of the republic of Uganda, 1995	The state shall promote sustainable development and public awareness of the need to manage land, air, water resources in a balanced and sustainable manner for the present and future generation
	Parliament shall, by law, provide for measures intended to protect and preserve the environment from abuse, pollution, and degradation, to manage the environment for sustainable development and to promote environmental awareness
The Land Act Chapter 227, 1998, amended 2009	A person who owns or occupies Land shall manage and utilize the land in accordance with the forests Act, the mining act, the National Environment act, the Water act, the Uganda Wildlife Act and any other law
The National Forestry and Tree Planting Act, 2003	To create an integrated forest sector that will facilitate the achievement of sustainable increases in economic, social and environmental benefits from forests and trees by all the people of Uganda
	To ensure that forests and trees are conserved and managed in a manner that meets the needs of the present generation without compromising the rights of the future generations by safeguarding forest biological diversity and the environmental benefits that accrue from forests and trees
	Offers directions to the District Councils for planting and growing of trees
The National Environment Act, Chapter 153, 1995	To assure all people living in the country the fundamental right to an environment adequate for their health and well being
	To encourage the maximum participation by the people of Uganda in the development of policies, plans and processes for the management of the environment
	To reclaim lost ecosystems where possible and reverse the degradation of natural resources
The National Environment (Wetlands,	Ensure water catchment conservation and flood control
	Identification of riverbanks at risk from environmental degradation
	Promoting soil conservation measures along river banks, including bunding, terracing, mulching, tree planting, grassing, zoning and planning and control of livestock

Legal Framework	Key articles and provisions related to climate change adaptation and mitigation
Riverbanks and lakeshores Management) Regulations, 2000	
The National Environment (Mountainous and Hilly Areas Management) Regulations, 2000	To facilitate the sustainable utilization and conservation of resources in mountainous and hilly areas by and for the benefit of the people and communities living in the area Promote the integration of wise use of resources in mountainous and hilly areas into the local and national management of natural resources for socio-economic development
The Water Act, Chapter 152, 1997	Promote the rational management and use of the waters of Uganda Allow for orderly development and use of water resources for purposes other than domestic use, such as the watering of stock, irrigation, agriculture, industrial, commercial and mining purposes, energy, navigation, fishing, preservation of flora and fauna and recreation in ways which minimizes harmful effects to the environment
The Local Governments Act, 1997	Aims at giving effect to the decentralization and devolution of functions, powers and services so as to ensure good governance and democratic participation Reiterates the position in the Constitution, provides for the participation of local government in decision-making and management of ecosystems

Table 4: Examples of Policies related to Climate Change Adaptation and Mitigation in Uganda

Policy	Relevant provisions
The National Environment Management Policy (1994)	Provides guiding principles on the management of the environment in Uganda To enhance the health and quality of life of all people in Uganda and promote long-term, sustainable socio-economic development through sound environmental and natural resource management and use; To integrate environmental concerns in all development policies and planning activities at national, district and local levels, with full participation of the people.
Forestry Policy, 2001	Institutionalizes community forestry and addresses the concern of forests on private land Pillars of Uganda's Forest Policy of 2001 include Forestry on government land, Forest on private land , Commercial forest plantations, Forest products processing industries, Collaborative forest management, Farm forestry, Forest biodiversity conservation, Watershed management, Urban forestry, Education, training and research, and Supply of tree seed and planting material
Draft Land Policy, 2007	Articulates on the fact that land is an essential pillar of human existence and national development that needs systematic planning Proposes emphasis on ownership of land and land use for orderly land development and stipulates incentives for sustainable and productive use, as well as fiscal measures to achieve the land management and land development objectives
Food and Nutrition Policy	Recognizes that food should be treated as a national strategic resource and that food and nutrition security is necessary to promote nutrition and normal health
Wildlife Policy, 1995	Promote the long term conservation of the country's wildlife and diversity in a cost effective manner which maximizes the benefits to the people of Uganda
The National Water Policy,	Guides use of water resources, including use of water for agricultural production

1999	
Decentralisation Policy, 1997	Provides a basis for the development of the Local Governments Act and administrative mechanisms for devolution of power from the Central Government to Local Governments
	Encourages local community participation in decision making, achieving good governance and taking political and administrative control over services to the point where they are actually delivered

2. Processes used for developing the Capacity Development Plan

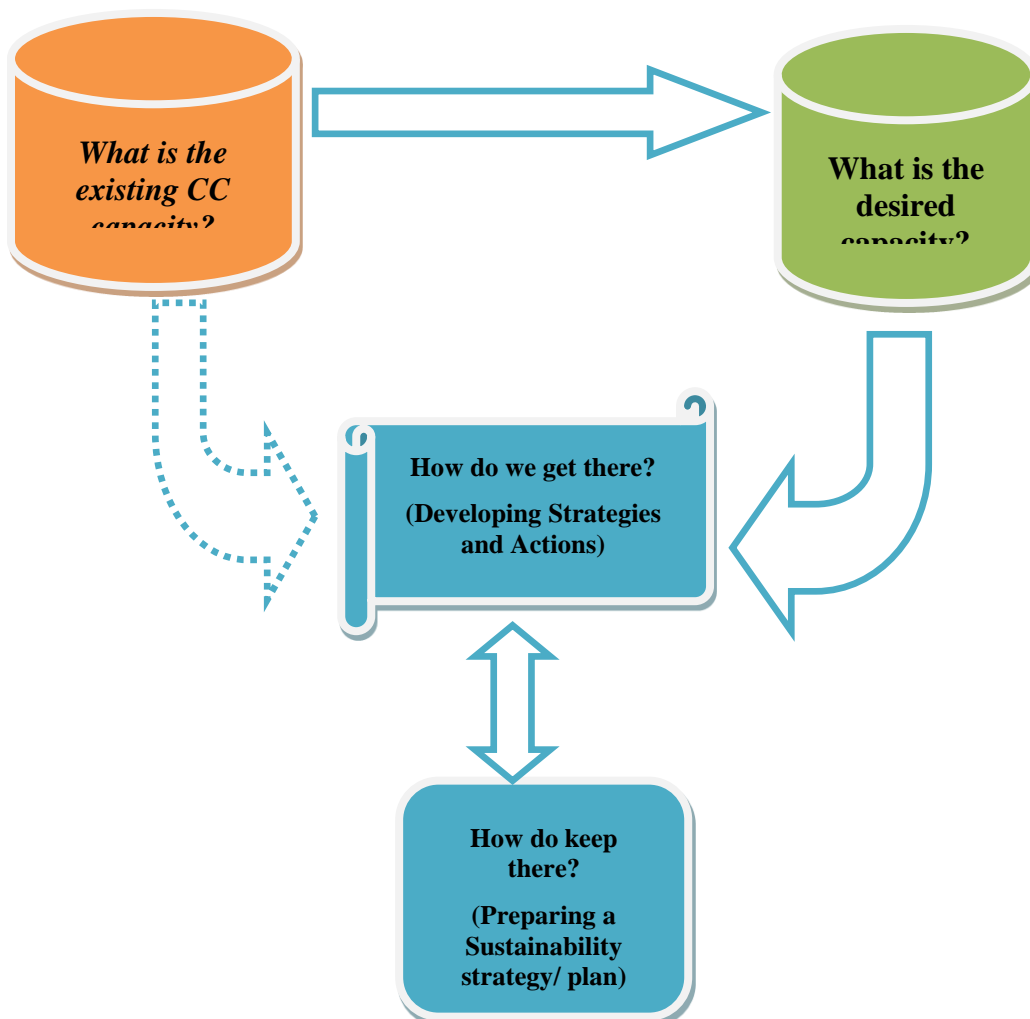
2.1 Introduction

The Capacity Needs Assessment (CNA) was used to provide information to guide the selection of the point of entry, the core issue(s) and the cross-cutting functional capacities needed to promote low carbon and climate change resilient development in the Mbale region. The capacity assessment team was composed of District and Sub-county staff, representatives of NGOs and CBOs, the private sector and local community representatives. The capacity assessment gave special consideration to:

- Assessing the existing capacity level;
- Defining the desired future capacities; and
- Defining the level of desired future capacities.

Results from the CNA were used to guide actions needed to achieve the desired capacity towards a low carbon, climate change resilient development. It was also appreciated that there is need to have strategies for the developed capacity to provide continued benefits for sustainable development. Figure 2 summarizes the process used for the capacity needs assessment.

Figure 2: Strategic Framework for Capacity Building for Low Carbon Emission and CC Resilient Development



2.2 Methodology

Two main approaches were used to undertake the assignment. The first approach was based on primary and technical data collection, assessment and analysis. The second approach was based on consultations at national, regional and local levels. The methodology involved a triangulation of individual and participatory assessments, based on the participation of the key stakeholders; analysis of climate change initiatives and the existing and desired capacity; and a deep understanding of the assignment objectives and issues. The key tools used included stakeholder analysis, mapping and consultations; structured questionnaires; group discussions; key informant interviews; and observations.

2.2.1 Stakeholder analysis, mapping and consultations

Participatory and consultative approaches involved many stakeholders, with a specific focus put on institutions and individuals related to climate change. Stakeholder analysis and mapping was conducted to characterize and differentiate the different actors in the sector, basing on objectives, interest and influence, importance as well as networks and coalitions between the stakeholders. A stakeholder matrix was constructed to assist in visualizing stakeholder categories and how the existing stakeholders can be involved in interventions related to promotion of a low carbon, climate change resilient development.

2.2.2 Field surveys and data collection

In addition to the review of published literature and archival data research, interviews and site visits were conducted in the study areas. The main research methods used during the field surveys included structured questionnaires, group discussions, key informant interviews and observations.

Key informant interviews, focus group discussions (FGDs), one-on-one interviews and participatory rural appraisal techniques were used to capture data and information from the field. Participatory rural appraisal (PRA) techniques were used for gathering information on climate change related aspects in local communities. The techniques also included the use of historical profiles; transect walks, maps, calendars, matrices and diagrams using locally available materials. PRA methods were particularly used to gather information on local knowledge and enable local people to make their own appraisal, analysis and plans. FGDs participants were mixed, involving men and women from different age groups of respondents.

3. Background for Districts in the Mbale Region

Background information about the three districts was derived from existing literature of the respective local governments such as District and Sub-county Development Plans, District Capacity Building Plans and District State of Environment Reports.

3.1 Bududa District overview

3.1.1 Location

Bududa District is located in Eastern Uganda between longitudes 34° 16' 18" and 34° 32' 67" East, and latitude 0° 5' 45" and 10° 7' 22" North respectively. It borders the Republic of Kenya in the East, Mbale District in the West, Sironko District in North and Manafwa District in the South. The District has a total land area of about 274 km².

3.1.2 Historical background

Bududa District was carved out of Manafwa District in July, 2006. The latter, which comprised two counties of Bubulo and Manjiya, was carved out of Mbale District in July 2005. Bududa District comprises Manjiya County and derives its name from Bududa Sub-County which was the seat of the County Head-quarters. Bududa Town Board being the Head-quarters of Bududa District was automatically upgraded to Town Council Status effective July, 2006.

3.1.3 Topography and climate

The district lies at an average height of 1800m above sea level on the slopes of Mt. Elgon in Eastern Uganda. The scenery is characterized by stand – alone volcanic cones interlocking spurs, V- shaped valleys and ridges both gently undulating and rugged.

The area receives on the average 1500mm of rainfall, with the majority falling in the first season from March to May and the second, which is normally lighter from September to November respectively. It is punctuated by a short dry spell between June and July and a long dry spell between December and February respectively. The population and economic activities are supported by rich volcanic soils, conducive climate and natural vegetation (tropical forest, bamboo forest and alpine forest) at different levels of Mt. Elgon.

3.1.4 Population

The human population of Bududa District according to projections for 2010 is 167,000 (UBOS, 2011). The highest population in the District is composed of 0-18 age group which accounts for 56% of the total population with the least age group aged 60 and above accounting for 4.6%. This gives over 60% dependant populations (youth and aged) compared to less than 40% economically active population. Up to 98% of the population lives in rural areas while only 2% lives in Bududa Town Council and other Urban Centres.

The main economic activities include arable farming, composed of mainly subsistence farming (mainly coffee and banana growing), livestock rearing and bee keeping. Others include employment in public and private sector, retail trading, local beer (*malwa*) and *waragi* sales, sand mining, timber decking and limited tourism in Mt. Elgon forest reserve.

3.1.5 Literacy rate

The average literacy rate is below 50% although differs between the sexes. The male literacy rate is higher than the female literacy rate. The difference is partly explained by historical factors where males were preferred in accessing school compared to females who remained at home to assist in the daily chores and also married early as a source of income (Bride wealth) to the family. The literacy gap is however narrowing due to the Government Policy of Universal Primary Education (UPE), Universal Secondary Education (USE) and Affirmative Action (AA) of the Girl – Child Education.

3.1.6 Administrative / local government units

Bududa District comprises Manjiya County and 16 lower local governments namely Bududa, Bushika, Bulucheke, Bukigai, Bubiita, Bumayoka and Bukibokolo, Nakatsi, Bushiyi, Bukalasi, Buwali, Nalwanza, Bushiribo, Nabweya and Bumashet and Bududa Town Council, 94 parishes and 951 Villages.

3.2 Manafwa District

3.2.1 Location and size

Manafwa District is located in the Eastern region of Uganda bordering the Republic of Kenya on the East, Bududa District on the North, Mbale District on the West and Tororo in the Southwest. The District has a land area of about 452km².

3.2.2 Relief

The district land area can be divided into three distinct topographical regions, namely lowland Manafwa, upland Manafwa and the mountainous landscapes. On average, the plain runs along the Southern and Western points of the District on the Mbale and Tororo borders. The Northern and Eastern parts of the District have an undulating topography, made up of hills and valleys.

3.2.3 Climate

The district has a bi-modal type of rainfall, with the highest falling in the months of March to June and the short rain season in the months of September to November. This is accompanied by two dry seasons with the long one of December to March and a short one of July to August. Generally, Manafwa experiences mild temperature ranges, due to its location near the equator and Mt. Elgon though this trend is changing due to modifications brought about by climate change.

3.2.4 Vegetation

There is a variety of vegetation due to the physical and climatic factors which can be divided into vegetation zones i.e. moving from the south to the north the variation in vegetation patterns is evident (i.e. the plain savanna and the mountainous parts also have short grass savanna that changes into montane vegetation approaching Mt Elgon).

3.2.5 Minerals

This district is well endowed with phosphates on Bukusu Hills, vermiculite at Namekhala in Butiru and Bugobero sub-counties, there are also iron deposits in the same areas. Sand quarry sites are spread all over the district along rivers and streams. The district also has stone quarries on Walanga, Sibanga and Bunashirwe Hills in Manafwa T/C, Bugobero S/C and Kaato S/C respectively.

3.2.6 Demography

According to UBOS (2012), the total human population of Manafwa District is 343,200, with up to 98% of the population is rural based with only 2% living in the mushrooming trading centers of Manafwa and Lwakhakha Town Councils. The population predominantly comprises of Bamasaba who are the indigenous peoples of the area and other tribes who have migrated and co-existed with the Bamasaba for a very long time. The rate of population growth of the district is 3.4% due to high birth rates and immigration.

3.3 Mbale District

3.3.1 Location and size

Mbale District is located in the Eastern Region of Uganda, bordering several districts, Manafwa and Bududa in the East; Sironko in the North; Bukedea in the Northwest; Budaka and Pallisa in the West and Tororo and Butaleja in the Southwest. It lies between the longitudes of 340 E, 350E and latitudes

000450N with land area of about 534 km², thus a population density of about 620 persons per square km.

3.3.2 Relief and climate

Mbale District is divided into three distinct topographical regions, namely lowland, upland and the mountainous landscape. The most striking topographical feature is Mount Elgon, with magnificent craters, deep valleys and ridges. The district experiences bimodal type of rainfall, with most precipitation falling in the period March-June and September-November and an average rainfall of 1500mm per annum.

3.3.3 Vegetation

The vegetation is mainly savannah, ranging from tropical, grassland, plain with forests and alpine vegetation towards the mountain summit. The different vegetation zones include grasses, forests and swampy vegetation.

3.3.4 Natural resources

The district is well endowed with fresh water supplies from the Mt. Elgon water shed with numerous rivers flowing to the lowlands, fertile volcanic soils especially on the ridges transcending the slopes and ridges of the Mt Elgon, a good climate, and good scenery for which is a tourist attraction. The lowlands have numerous wetlands that receive the overflows from the ridges though they are along most valleys where rivers and streams flow to differing extents. There are sand and stone quarry sites that have been established at Busiu, Busoba, Namagumba, Bungwokho and Namanyonyi where people partly derive their livelihoods. The district has three forest reserves, Kolonyi, Namatale and the Mbale peri-urban plantation.

3.3.5 Demography

The district has a total human population of about 416,600 people, of which 90% live in rural areas and 10% live in urban and peri-urban areas with the number of females almost equaling the number of males. There are several ethnic groups, including Bamasaba, Banyole, Bagwere, Baganda, Bateso, Luo speakers and Karamonjongs.

3.4 Economic activities in Bududa, Manafwa and Mbale Districts

Agriculture is the backbone of the economy in the three districts of Bududa, Mbale and Manafwa. Agriculture in the area is favored due to the fertile volcanic soils and the abundant rainfall, which ensure good yields of both cash and food crops. Table 5 summarizes the key crops grown in the 3 districts.

In the three districts, livestock farming is practiced, mainly using the zero grazing system, given the land scarcity in the area. During this study, it was reported that there is a reliable market for agricultural produce in the area, with most of the products sold in Mbale and other towns in Uganda and some exported to Kenya.

Table 5: Major Crops grown in Bududa, Manafwa and Mbale Districts

District	Major crops grown
<i>Bududa</i>	Coffee, Matooke/ Bananas, Beans, Cabbage, Tomatoes and other green vegetables
<i>Manafwa</i>	Coffee, Matooke/ Bananas, Cotton , Maize , Beans, Pineapples , Potatoes, Millet
<i>Mbale</i>	Coffee, Matooke/ Bananas, Maize, Rice, Irish Potatoes, Carrots, Beans, Onions, and Sweet potatoes

In addition to crop and livestock farming, a number of other economic activities are carried out. Table 6 shows reported gender roles in different economic activities in the region, which compete for labour from the agricultural activities, depending on the different gender roles.

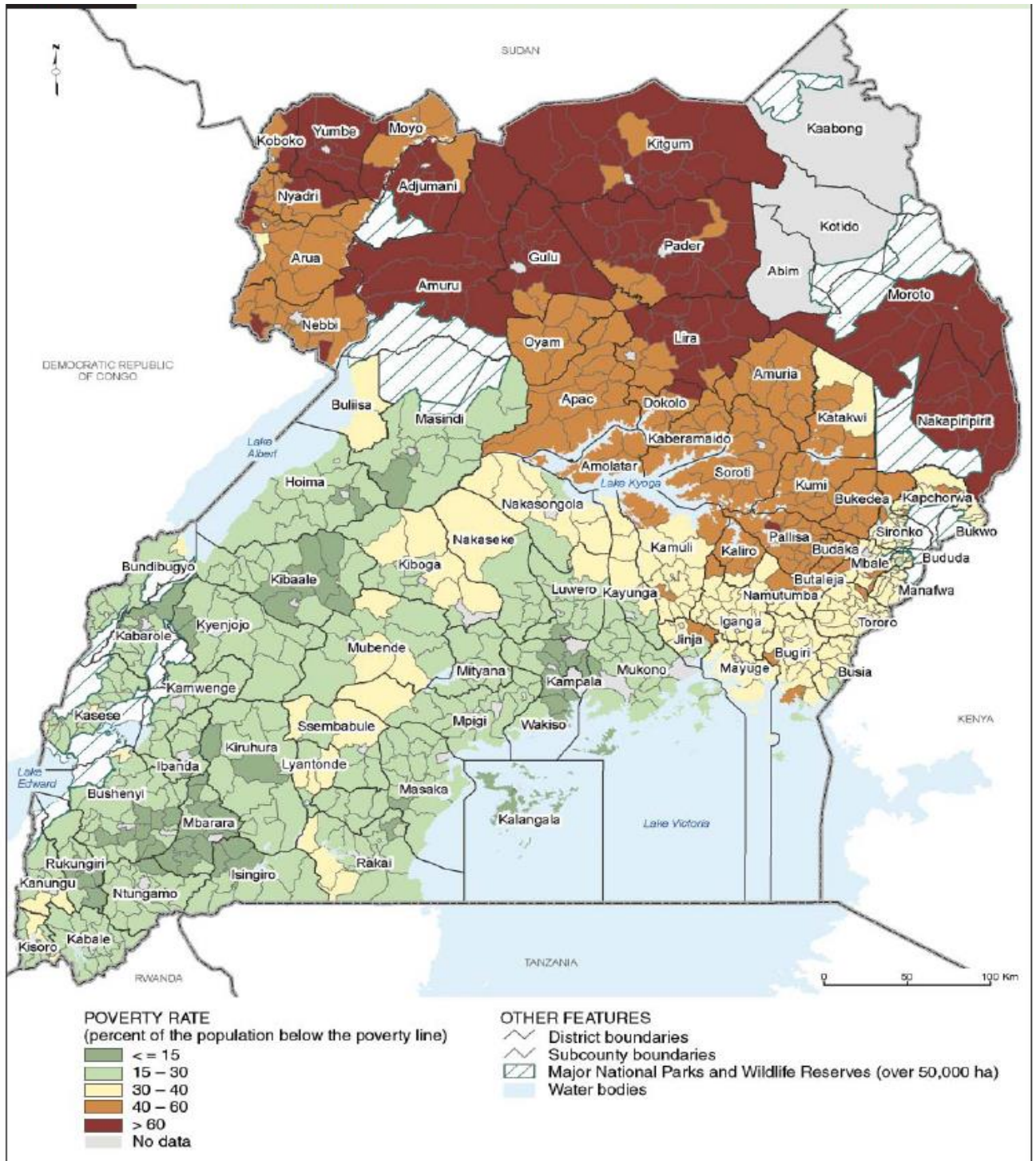
Table 6: Key Economic Activities in the three districts

Economic Activity	Dominant Group		
	Men	Women	Youth
Crop farming	✓	✓	
Dairy farming	✓	✓	✓
Retail shops	✓	✓	✓
Stone Quarrying	✓		✓
Brick making	✓		✓
Jua Kalis	✓		✓
Boda Bodas			✓
Sand mining	✓		✓
Pottery		✓	

3.5 Poverty analysis

According to data from the Uganda Bureau of Statistics (UBOS), the 3 districts of the Mbale region have 30-40% of their rural sub-counties population below poverty line (Figure 3). Consideration was given to the fact that poverty limits the capacity to obtain adequate food and shelter and other dimensions of well-being, including good health, security, social acceptance, access to opportunities, and freedom of choice. The definition of poverty used was the lack of these dimensions of well-being (MA, 2005). The high poverty incidences in the region increase levels of vulnerability to climate change for the population in the area. Poverty in the region also has implications on the target of having low carbon climate resilient development.

Figure 3: Percentage of Rural Population below the Poverty Line in Uganda in 2005



Source: Wetland Management Department et al (2009)

Part II: Climate Change Impacts and Development Initiatives and Priorities in the Mbale Region

4. Impacts of Climate Change in the Mbale Region

4.1 Climate change hazards and their related effects in the Mbale Region

Responses from this assessment identified the key climate change impacts and hazards in the Mbale region to be landslides, prolonged drought, strong winds, wild fires, erratic and heavy rains and hail stones, flood and increased incidences of diseases e.g. malaria. Details of the predictions of the different hazards are in the TACC vulnerability assessment study for the Mbale Region. It was reported that the different hazards affect the different community groups differently (Table 7). For example, the women and youth experienced a greater impact from the hazard of prolonged droughts by having a bigger burden walking longer distances to collect water, which at times leads to constrained relationships as narrated by one of the community members in Budwale sub-county, Mbale District (Box 1). However, such an effect is not equally felt by men, who are traditionally not practically involved in collecting water. The different effects of climate change produced lasting impacts on the different households through food insecurity; famine; death; malnutrition; diminishing soil fertility due to soil erosion and overuse; economic losses and costs; poverty and reduced livelihood options.

Box 1: Impact of prolonged drought on women in Budwale and other areas in the Mbale region

On the contrary, the men were only quick to point out key impacts that are related to loss of income, which strongly relates to the

Over the last twenty years, our parish has had strong impact from changes in weather, with strong droughts, which have led to drying of three of the six springs and wells. This has had a big impact on women in our area, because we have to walk longer distances of up to 4 kilometers to fetch water. Our husbands, who are not aware of this problem (because after all they don't fetch water), normally beat us for spending the long hours and we have witnessed some cases of women being beaten for that.... As narrated by Aisha, one of the house wives in Budwale.

traditional gender role of men in the area as the bread winner of most households for example reduced income from cash crops. The impacts of climate change on youth included missing out on education, which has strong implications on meeting the development goals related to universal education (Table 7).

Information from the survey on gender related impacts of climate change on men, women and youth should be given due consideration, when developing and implementing capacity development strategies for achieving low carbon, climate change resilient development in the Mbale region. This should guide decisions on target groups for different interventions. For example, interventions related to addressing shortages of water would be best achieved if targeted to women and youth who understand the problem, as compared to men, who have limited experiences on the effects of shortage of water.

Table 7: The main climate change hazards and related effects/consequences in the Mbale Region

HAZARDS	Main effects/consequences		
	Men	Women	Youth and Children
Landslides	Destruction of shelter, houses, school, crops and lives	Loss of lives, crops, houses and bridges	Children become homeless
	Disruption of social set ups	Burden to look after affected families (orphans and relatives)	Miss out on social services e.g. health and education
	Land degradation and loss of farming land	Food shortage	Poor transport and communication
	Migration/ homelessness	Migration/homeless	Migration
	Bridges washed away and roads cut off		Bridges, lives and crops
	Destruction of human lives, crops and livestock		
Prolonged Drought	Reduction in water supply	Water for domestic use is reduced	Effects on agriculture e.g. horticulture
	Wells, springs and rivers dry up	Walk long distances to get water for domestic use	Water borne diseases from dirty water
	Crop failures	Inability to grow cash and food crops	Children eat less food
	Crop destruction	Women eat less food	Increased levels of school drop outs
	Reduced crop yields	Maternal malnutrition	Increased cases of absenteeism
	Devote more money looking for money to buy food		
	Long distances for grazing	Increased food prices	
	Reduction on pasture for grazing	Food insecurity	
			Dust related diseases
Strong wind	Disrupted businesses	Create a dirty environment	Disruption in domestic work
	Destruction of property	Destruction of food crops, famine and burden of feeding the family	
Wild fires	Destruction of grazing lands	Destruction of crops	
Erratic and heavy rains and hail stones	Poor crop yields	Difficulty in saving seed and planting materials for subsequent seasons	Insufficient quality and quantities of food
	Accelerated soil erosion		
Floods	Destruction of human lives, crops and animals	Safety compromised	Children cannot go to school
	Outbreak of water borne diseases such as cholera	Pollution of water sources	
	High reconstruction costs of infrastructure		
	Destruction of infrastructure such as washing of bridges and cutting off of roads		
Increased incidences of diseases e.g. malaria	Loss of productive time for income generation	Devoting more time to caring for the sick	Disrupt life processes

Source: TACC 2012 CNA for this study

4.2 Gendered adaptation measures to climate change impacts in the Mbale Region

Results from the assessment indicated that different adaptation measures have been practiced in the Mbale region to sustainably manage and mitigate climate change impacts. The different coping mechanisms were developed in different sectors, based on the impacts and the available means and capacity. Table 8 gives the key adaptation and mitigation measures that have been used in the Mbale region. The different adaptation measures serve as a baseline for the existing capacity and can be used to guide the process of building capacity for promoting a low carbon, climate resilient development in the area. The adaptation measures are implemented at systems, institutional and individual levels, which are the levels considered for the capacity assessment and development in this report. It should be noted that the different adaptation measures have either strengthened the traditional coping mechanisms, or adjusted future livelihood options.

Table 8: Sector-based adaptation measures practiced from the Mbale Region

Sector	Adaptation Measures		
	Men	Women	Youth
Crop farming	Watering	Watering	Watering
	Soil and water conservation	Changing planting dates	
	Improved methods of Sustainable Land Management (SLM)	Adoption of resistant and fast growing crop varieties	
	Application of fertilizers	Store food	Improved seedlings varieties
	Engaging in other IGAS	Engaging in other IGAS	Engaging in other IGAS
	Growing of horticultural crops, easier to irrigate e.g. cabbages and tomatoes	Growing of crops in wetlands and near streams increasing risks of soil erosion	Alternative employment e.g. Boda boda ² riding
	Small scale irrigation	Use drought resistant crops e.g. yams	
	Exchange of livestock for food	Use food that is easy to store	
	Mixed farming (diversification) to reduce amount of destruction	Crop diversification	
	Introduce new crops	Introduce new crops	
Live stock	Zero grazing technique	Planting elephant grass (drought resistant)	
	Introduction of better breeds of livestock		
	Grazing in wetland areas during drought	Alternative feeds (pasture)	
	Feed livestock on banana pseudo stems and other crop residues		
	Sale of livestock		
Forestry	Tree planting	Planting trees	
	Growing of faster growing tress	Alternative sources as fuel e.g. bio gas	
	Practise agro forestry	Non-timber forest products	
	Planting of indigenous trees, especially		Planting of trees

² Motor scooter taxis

Sector	Adaptation Measures		
	Men	Women	Youth
	on boundaries		
Energy Industry	Alternative sources as fuel e.g. bio gas	Use energy saving stoves	
	Raising Eucalyptus woodlots	Buying firewood from elsewhere	
		Walk long distances in search of fuel	Produce and transport charcoal
	Reduce number of meals	Avoid food that need a lot of fuel such as beans	
	Agro-related small scale industries	Use of grass and crop residues for cooking	
Communication/ infrastructure	Improving the road drainage channels so that water can flow easily without stagnating	Use of longer routes	
	Use of motorcycles, bicycles during bad conditions	Walking on foot	Walking on foot
	Re-opening of broken roads and bridges		
	Use logs over rivers		
	Use of donkeys for transport		
Housing	Planting of wind breaks	Strong roofs	
	Reconstruction		
	Building strong permanent structures		
Water and sanitation	Water harvesting and storage	Open drainage channels	Use water economically
	Stay with relatives	Stay with relatives	Stay with relatives
	Improved wells/protected spring	Alternative sources with permanent water source	
	Reduce bathing and washing frequency	Trekking longer distances for clean water	Trekking longer distances for clean water
Health	Ensure proper sanitation	Pregnant women use ITUs	Clearing bushes
	Sleeping under treated mosquito nets	Sleeping under treated mosquito nets	Sleeping under treated mosquito nets
	Use government health centres	Use government health centres	Use government health centres
	Use local herbs	Use local herbs	
Education	UPE, ESE, FAL	UPE, ESE, FAL	Idling and gambling to make ends meet UPE, ESE, FAL
	Locate schools safer areas		Study under trees/ shade

Source: TACC 2012 CNA for this study

5. Key Regional Initiatives and Development Priorities

5.1 Identified relevant initiatives

During the assessment, it was reported that there are a number of initiatives that are already being implemented in the Mbale that are relevant to low carbon, climate change resilient development. Table 9 outlines some of the identified initiatives in the 3 districts of the Mbale region and key interventions that they implement. It was proposed that the actions to be recommended from the TACC Project should build on lessons and experiences from these initiatives.

Table 9: Key initiatives relevant to low carbon, climate change resilient development in the Mbale Region

Initiative/ Project/ Programme	Lead Institutions	Partner Institutions	Key Intervention
Territorial Approaches to Climate Change	UNDP	LGs of Bududa, Manafwa and Mbale, a number of CBOs	Development of an ITCP, policy and investment package and carbon finance schemes as sustainable ways of climate change adaptation and mitigation
			Support to livelihood projects such as tree planting, energy conservation, zero grazing
			Providing technical guidance on carbon trade in collaboration with ECOTRUST and Plan Vivo
Uganda Domestic Biogas Project (UDBP)	HI, SNV, WVI, LGs	LGs of Bududa, Manafwa and Mbale	Promotion of use of biogas
	Heifer International		Zero grazing, Promotion of use of biogas
	SNV		Promotion of use of biogas
	World Vision		Promotion of use of biogas
UWA/ FACE	UWA		Planting of indigenous tree species under <i>Taungya</i> system
UWA Conservation Education	UWA		SWC, Tree planting, Fuel/ energy saving, zero grazing
UWA Collaborative resource management and revenue sharing	UWA		Income generating activities: bee keeping, sustainable non-timber resource utilisation and management, resource, ecosystem protection
Mount Elgon Regional Ecosystem Conservation Programme (MERECP)	EAC/ LVBC	Central Government Agencies and LGs around Mt. Elgon	Providing economic incentives to communities who live in harmony with Mt. Elgon ecosystem, livelihood plantations, enrichment planting of degraded areas in Mount Elgon ecosystem with indigenous trees, providing a community revolving fund
Namatule Forest Restoration and protection	NFA	LGs, Local communities	Forest protection and restoration, bee keeping
Crop husbandry	Hunger Project and WVI		Crop husbandry extension and inputs support
Information, Education and	Uganda Christian University (UCU) Mbale Branch	Makerere and Busitema Universities	Public lectures on climate change

Initiative/ Project/ Programme	Lead Institutions	Partner Institutions	Key Intervention
Communication on Climate Change issues			
Management of trans-boundary water systems	Nile Basin Initiative (NBI)		Storm water protection
Water harvesting	Uganda Professional Women in Environment and Agriculture		Promoting appropriate water harvesting technologies
Energy saving	ARDI		Promoting energy saving technologies
Water source protection	NUSAF2 support through DLGs		Water source protection
Agricultural Advisory Services	NAADS/ GoU		Promotion of food security
	CAIIP support through DLGs		Improved roads
River Bank Protection	DLGs	MWE/ WMD	Management of river banks
Network of Institutions			
UWA Inter-district Link Committee, formerly CPAI	UWA, LGS		Disbursement and monitoring of community projects under the revenue sharing arrangements
UWA District Steering Committees	UWA, LGs		Park boundary issues and park protection

5.2 Priorities for low carbon emission, climate resilient development strategies

During the assessment, a number of priority interventions were identified that can promote low carbon, climate change resilient development in the Mbale Region. Table 10 gives a summary of the proposed priority interventions under the different sectors. It was reported that most of the interventions have been piloted by research institutions such as NARO, NGOs including SNV, Heifer International and World Vision, Government Departments and other partners and have proved to be feasible in the Mbale region. It is proposed that efforts to develop low carbon climate change resilient development should be built by scaling-up already successful ventures, to save on resources for duplicating research efforts and minimize on the time and risks of experimenting again. However, some resources should be considered for piloting and research where there seems to be limited knowledge and information and for capturing lessons and experiences from the implemented interventions. During implementation, an action research approach is recommended, to capture data and information on how the relevant interventions contribute to low carbon climate change resilient development.

Table 10: Proposed priority areas for the promotion of a low carbon and climate change resilient development

Sector	Priority Area	Targeted Time Horizon
Trees and Forests	Planting multi-purpose agroforestry tree species, including fruit trees	Short term
	Massive tree planting along available areas such as institutions and road sides	Medium term
	Planting of high carbon absorption tree species	Medium term
	Bye laws to halt deforestation and make every household obliged to plant trees and implement soil and water conservation	Long term
Agriculture	Organic manure application for soil fertility and structure improvement	Short term
	Soil and water conservation, soil erosion control	Short term
	Promoting farming systems with multiple benefits and ecosystem services such as shade coffee with banana farming system	Short term
	Development and promotion of drought resistant and climate resilient crop varieties and cultivars	Short term
	Improved beekeeping such as use of KTB hives	Medium term
	Land use/ ecosystem diversification e.g. different crops / varieties, agroforestry	Medium term
	Rangeland management for lowland areas in the Mbale region	Medium term
Livestock	Scaling-up zero grazing to provide milk and manure (also biogas)	Short term
	Improve fodder and pasture establishment and management	Short term
Energy	Promotion of biogas energy use	Short term
	Promotion of energy efficiency e.g. energy saving technologies such as cook stoves and kilns	Short term
	Development and popularizing renewable energy sources e.g. solar water heaters, PV, biogas	Medium-term
Natural Resources and Ecosystem Management	Landscape planning for increased biodiversity and ecosystem services	Long-term
	Reduce destruction of wetlands and other fragile ecosystems	Medium-term
	Promotion of recreation and tourism as incentives for ecosystem management	Short term
	Community sensitization on the causes and impacts of climate change and increasing the adaptive capacity of communities	Short term
	Capacity building on carbon credits	Short term
	Economic empowerment of local communities to find alternative sources of livelihoods and technologies other than reliance on natural resources	Short term
	River bank protection and construction of dams to reduce flooding	Medium term
	Landscape and ecosystem restoration in an integrated manner	Medium term
Water	Water harvesting and storage	Short term
	Irrigation e.g. by use of water pumps; to help during the dry spells	Short term
	Gravity water flow schemes from the Mount Elgon National Park	Short term
	Strategies of provision of water for production	Medium term

Sector	Priority Area	Targeted Time Horizon
	Watershed management, including protection of water catchment areas	Medium term
	Flood control and drought management	Medium term
Transport, Industry & Communication	Hazard and climate proofing construction e.g. starting with climate change tailored building designs and water management designs	Short term
	Clean production and waste avoidance	Short term
Health	Increasing capacity for managing diseases prevalence e.g. malaria in previously non-prone areas	Short term
	Increasing use of mosquito nets and sensitization on how to control breeding of mosquitoes	Short term
	Management of new diseases/ vectors	Medium term
	Use of trees around homes, including in urban areas, for shade (for people – also livestock)	
	Food security and nutrition	Medium term
	Promotion of reproductive health to reduce the rate of increase in the human population	Short term
Disaster Control and Management	Early warning systems	Short term
	Sensitization and capacity building on disaster preparedness and risk reduction	Short term
	Conducting vulnerability profiling for each sub-county and mapping most vulnerable areas	Short term
	Development of disaster preparedness and risk reduction plans	Medium
Planning and Management	Community sensitization on the causes and impacts of climate change, weather variability and relevant adaptation and mitigation measures	Short term
	School programmes on climate change	
	Mobilization of policy makers and politicians to appreciate the need for adapting to and mitigating effects of climate change and increasing the adaptive capacity of communities	Short term
	Development of district based climate change strategy and action plans	Short term
	Ordinances on control of bush burning and bush fires	Medium term
	The enactment of local level laws and regulations regarding carbon emissions and other climate change issues	Medium term
	Research on culture and climate change adaptation	Long term
	Long term plan for the restoration of Mt. Elgon landscape	Long term
	Weather index insurance system for livestock and crops	Long term

5.2.1 High top-end priority interventions

During the assessment, it was appreciated that due to limited resources, all the identified priorities may not be implemented in the short and medium term. It was therefore proposed that high-top-end priorities be identified that can be started on within two years for promoting low carbon emission, climate change resilient development. The prioritization was harmonized with findings of the consultant on prioritizing adaptation and mitigation. The selected high priorities include:

1. Integrating climate change adaptation and mitigation in development plans and budgets in line with on-going process spearheaded by the Uganda National Planning Authority (NPA).
2. Mobilization of policy makers and politicians to appreciate the need for adapting to and mitigating effects of climate change.
3. Provision of incentives for conserving existing PAs e.g. using Gravity Flow Schemes (GFSs) from the Mount Elgon National Park (MENP) using experiences that already exist in the region.
4. Strengthening existing **Integrated Agricultural systems e.g. the shade Coffee/ Banana/ Zero grazing systems**, which will provide tangible benefits such as milk, bananas/ matooke, coffee, biogas, soil and water conservation, reduced soil erosion, increased soil fertility and carbon credits, in addition to ecosystem services. It should be noted that due to effects of climate change on rising temperatures, yields of coffee are predicted to decline, which justifies the need for promoting the shade coffee system. The needed actions include:
 - a. Training technical teams on the appropriate methods of promoting the shade Coffee/ Banana/ Zero grazing systems
 - b. Training communities on appropriate technologies and methods,
 - c. Providing appropriate start up inputs.
5. Continuous **awareness and sensitization** about climate change.
6. Empowering **women and youth through provision of a seed funding credit scheme for Income Generating Activities (IGAs)**.
7. Promoting different **alternative energy sources e.g. solar, biogas, mini-hydro power generation** projects.
8. Scaling-up experience of **SGP from Tororo on local approaches to promoting solar energy** use.
9. Training local communities and private sector to locally produce **cheaper energy saving technologies e.g. stoves**, creating local employment.

5.3 Key stakeholders for promoting a low carbon, climate change resilient development in the Mbale Region

5.3.1 Stakeholder interests in promoting a low carbon, climate change resilient development in the Mbale Region

During the capacity needs assessment, a number of stakeholders with interests in promoting a low carbon, climate resilient development in the Mbale Region were identified. After identifying all the stakeholders, their interests in climate change aspects were identified. The stakeholder interests in the Mbale are summarised in Table 11. The interests of stakeholders were used to identify the areas that are most appropriate for capacity development. The stakeholder interests are key to their involvement and should be considered during the implementation of the capacity development plan.

Table 11: Identification of key stakeholder and interests relevant to climate change

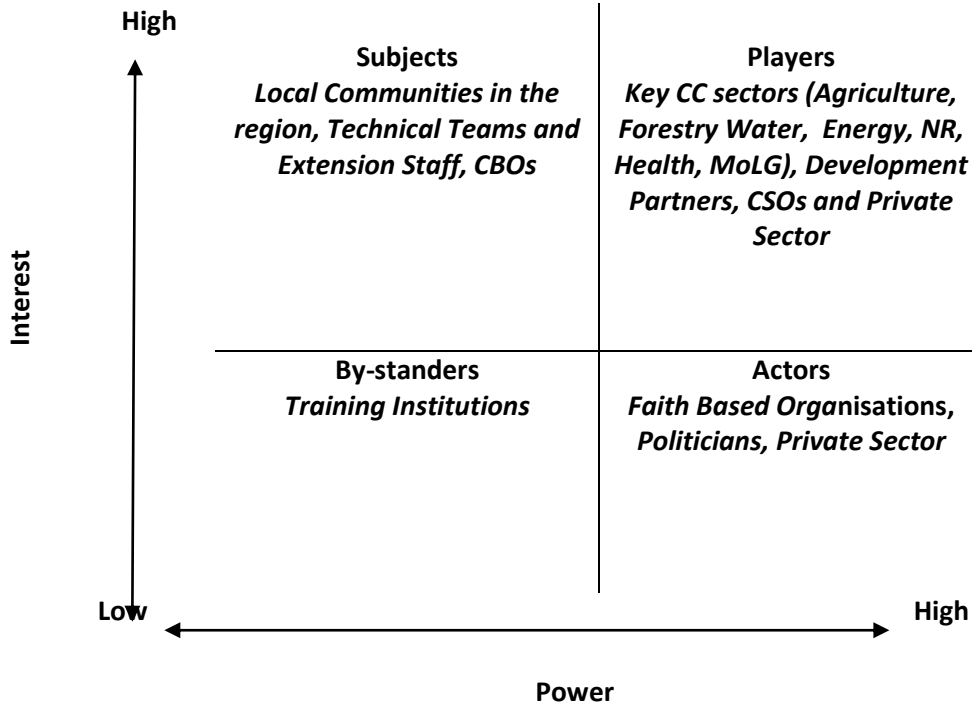
Stakeholder	Interest
Crop farmers (subsistence & cash crops)	<ul style="list-style-type: none"> ⌘ Food production ⌘ Fertile soils ⌘ Income generation
Livestock farmers	<ul style="list-style-type: none"> ⌘ Pasture and water ⌘ Income generation
Tree harvesters	<ul style="list-style-type: none"> ⌘ Wood fuel ⌘ Income generation ⌘ Building materials
Domestic water users	<ul style="list-style-type: none"> ⌘ Clean water ⌘ Irrigation
Ministry of Water and Environment	<ul style="list-style-type: none"> ⌘ Conservation and protection of environment ⌘ Provision of quality water ⌘ Capacity building
Ministry responsible for Wildlife	<ul style="list-style-type: none"> ⌘ Afforestation ⌘ Capacity building ⌘ Wildlife protection
Ministry of Agriculture, Animal Industry and Fisheries	<ul style="list-style-type: none"> ⌘ Food production ⌘ Improved Livestock ⌘ Income generation
Office of the Prime Minister	<ul style="list-style-type: none"> ⌘ Disaster management
Ministry responsible for Health	<ul style="list-style-type: none"> ⌘ Awareness creation ⌘ Provision of health services
Training Institutions	<ul style="list-style-type: none"> ⌘ Capacity Building
NGOs	<ul style="list-style-type: none"> ⌘ Promotion of different interventions
Faith Based Organisations	<ul style="list-style-type: none"> ⌘ Spiritual development ⌘ Capacity Building
District and Sub-county Technical Officers	<ul style="list-style-type: none"> ⌘ Implementation of government programmes ⌘ Implementation of government policies ⌘ Livelihood improvement for communities
District and Sub-county Policy Makers/ Politicians	<ul style="list-style-type: none"> ⌘ Development of policies ⌘ Support to implementation of government policies

Figure 4 gives the stakeholder grid for the Mbale Region, with categorization of the different stakeholders according to their power and interest, which can be used as a basis for prioritizing capacity building in the area.

For example, strategies should be drawn to empower the local communities, who were identified among the subjects category, with high interest but low power to influence success of proposed interventions, to strengthen their power, by putting in place appropriate systems such as bye laws and tailor-made training on climate change adaptation and mitigation. Strengthening the power of technical teams and extension staff, who were also identified as subjects, should also be given priority, by facilitating their operations and giving them relevant training in aspects of climate change adaptation and mitigation. Strategies should also be put in place to strengthen the stakeholders identified in the actors category, who have high power but low interest in promoting a low carbon climate change resilient development, by increasing their interest through awareness and sensitization programmes.

Similar efforts should be put in place to bring on board the by-standers by increasing both their interest and power, for example through actively involving them in the relevant programmes and strengthening their technical capacity in climate change aspects.

Figure 4: Stakeholder grid for promoting a low carbon, climate resilient development in the Mbale Region



5.3.2 Partnerships and networks in the region

During the assessment, it was noted that a number of institutions play a significant role in implementing interventions that are relevant to low carbon climate resilient development in the Mbale region and surrounding areas of the Mount Elgon ecosystem. The different initiatives are implemented by government institutions, Development Partners, NGOs and CBOs. To increase the building of synergies and avoid duplication of efforts, some institutions have come together and formed partnerships, networks and platforms. Table 12 gives some of the popular partnerships and networks in the Mbale Region. The following were reported as the key benefits from operations through networks, as compared to individual operations:

- Increased building of synergies;
- Increased strength to mobilize resources;
- Avoiding duplication;
- Borrowing of lessons and experiences;
- Sharing of expertise.

Table 12: Key partnerships and networks relevant to a low carbon emission, climate change resilient development in the Mbale Region

Initiative/ Project/ Programme	Lead Institutions/ Convenor	Key intervention (s)
Regional Climate Change Forum	UNDP + Others	Share synergies, lessons and experiences on CC interventions
Uganda Domestic Biogas Project (UDBP)	SNV, WVI, HI	Promotion of Biogas energy technologies
UWA Inter-district Link Committee, formerly CPAI	UWA, LGS	Disbursement and monitoring of community projects under the revenue sharing arrangements
UWA District Steering Committees	UWA, LGs	Park boundary issues and park protection
Mt. Elgon Stakeholder Dialogue on Climate change	IUCN +Others	Share lessons and experience on REDD+ interventions
Landcare Chapter and Platforms	AHI, ASARECA, ICRAF, NARO	Scaling up of Sustainable Land Management (SLM) technologies including agroforestry

PART III: Capacity Building Plan for Low Carbon, Climate Change Resilient Development

6. Regional Capacity Needs, Constraints and Actions to Promote Low Carbon and CC Resilient Development

6.1 Existing strengths and opportunities

Reports from the assessment expressed optimism about the future for promoting low carbon, climate resilient development in the Mbale region. It was reported that local government have an enabling legal and institutional framework for using and strengthening of existing capacity and building of new capacity for a low carbon climate resilient development. It was also recommended that all efforts should be made to have the proposed strategies and initiatives integrated in existing institutional mechanisms, which will act as a stimulus for sustaining the developments.

In terms of the institutional and legal framework, the Local Governments Acts establishes a District and Sub-county Councils as Planning Authorities and mandates them to prepare comprehensive and integrated local government development plans and budgets, incorporating plans of lower Local Governments. This includes Capacity Building Plans and Development Plans and Budgets for Local Governments and lower local governments. For the Mbale region, it was noted that with support from the Ministry of Local Governments Capacity Building Grant (CBG) the three districts of Bududa, Manafwa and Mbale have developed and are implementing updated Capacity Building plans for different local government levels. This capacity building plan for low carbon, climate resilient development will therefore not be working in a vacuum, but will be part of the existing planning mechanisms. It was also noted that the National Planning Authority is in the process of developing guidelines for integrating climate change in sector plans and budgets. The proposed actions for promoting a low carbon climate change resilient development should therefore be integrated in local government plans and budget, when the NPA is rolling out implementation of the guidelines. This will ensure sustainability of the proposed actions.

All the Districts Councils have put in place District Service Commissions (DSC), which among other duties, are mandated with staff recruitment and capacity development aspects. The district level civil service is headed by the Chief Administrative Officer (CAO), who under the Local Governments Act is the Accounting Officer of the district. The CAO is responsible for the supervision, monitoring and coordination of the activities of the district and lower council's employees and departments and ensures accountability and transparency in the management and delivery of the council's services. Reports from the assessment indicated that the district and sub-county councils are now conversant with their roles and responsibilities for capacity development and have the good will for using their experiences to implement this capacity development plan. Responses from some members of the DSC interviewed indicated that their teams were strong and always vetted by the Ministry of Local Government to check the levels of competence for individual members.

The District Executive Committee, headed by the District Chairperson, plays an oversight role by monitoring the implementation of council's programmes and taking remedial action where necessary. All the three districts of the Mbale Region have put in place a number of Capacity Building and institutional strengthening initiatives.

The Capacity Building Grant (CBG), an initiative of the Ministry of Local Government has implemented different relevant activities. Activities in the districts are coordinated by the Technical Planning committee (TPC) and the Training Committee. The districts also put in place the District Resource Pool which carries out training following modular courses released by the Ministry of Local Government.

The following were therefore identified as some of the opportunities that can enhance implementation of the capacity building plan for a low carbon, climate resilient development in the Mbale Region:

- Enabling legal and political environment;
- Available Human Resource (Staff, political, leaders, NGOs, CBO, Private Sector);
- Committed and ambitious Human Resource, ready to exploit opportunities;
- Continued technical support by different Central Government sectors and institutions;
- Continued funding of capacity building activities by the Central Government and Ministry of Finance Planning and Economic Development, and the 3 District Local Governments.
- Functional District Service Commissions;
- Presence of Development Partners and NGOs committed to supporting Local Government Teams;
- Availability of scholarship that can benefit relevant staff.

6.2 Capacity gaps, needs and proposed actions at systems level

During the capacity needs assessment, a number of gaps were identified that should be addressed to promote a low carbon emission, climate change resilient development in the Mbale Region. The following gaps were identified as needing urgent attention for promotion of a low carbon, climate change resilient development in the Mbale Region:

- Limited linkage between the central government and local government processes in response to climate change adaptation and mitigation;
- Lack of local-level tailored policies and legislation that can support promotion of low carbon, climate change resilient development;
- Limited experiences and lessons on benefits from promotion of low carbon, climate change resilient development.

The following actions are proposed to address the gaps at systems level.

- Contributing to the climate change policy development process currently on-going at national level in Uganda, led by the Climate Change Unit (CCU);
- Contributing to the process of development of guidelines for integration of climate change in sector plans and budgets currently on-going, led by the National Planning Authority;
- Developing a regional climate level climate risk management strategy, considering the existing mechanisms;
- Reviewing and updating of the draft natural resource ordinances for the 3 districts, to include aspects on climate change;
- Development of bye-laws for climate change adaptation and mitigation in selected sub-counties.
- Documenting lessons and best practices related to promotion of low carbon and climate change development.

It is proposed that the gaps at systems level should be considered to strengthen the processes at national level. Such processes include the on-going process of developing the Climate Change Policy for Uganda and development of guidelines for integration of climate change in sector plans and budgets. It is also appreciated that local governments are mandated to develop and implement local-level tailored laws for different aspects in the form of ordinances at district level and bye-laws at sub-county levels. This capacity development process should be used as an opportunity for the local government to develop ordinances and bye-laws for climate change geared towards development of a low carbon climate change resilient development.

6.3 Institutional capacity gaps and needs

The CNA identified a number of gaps at institutional level that should be addressed to promote a low carbon, climate change resilient development. The institutional level gaps include some equipment and materials and infrastructural developments. The following capacity gaps were identified as fundamental to the process of low carbon climate change resilient development

- Limited equipment for collection and storage of climate change related data such as weather stations and computer hardware and computers and accessories;
- Limited capacity to manage and interpret data that can provide evidence of climate change for planning and policy actions;
- Inadequate co-ordination between different actors working on climate change;
- Lack of information and skills to conduct mapping of vulnerability areas to guide planning and policy actions;
- Limited knowledge on climate change adaptation and mitigation;
- Lack of promotional materials and information dissemination equipment and facilities;
- Limited financial resources to promote climate change adaptation and mitigation interventions;
- Limited planting materials for appropriate tree species.

Proposed actions to address the institutional level capacity gaps were categorized as equipments and materials and infrastructure development and set up.

6.3.1 Equipment and materials

It is proposed that each of the districts in the Mbale region should be facilitated with the following equipment and materials:

- Weather station and equipment e.g. wind vane, rain gauge, mini-max thermometers at secondary and tertiary institutions and district headquarters;
- Desk top computers and accessories for data storage and different soft ware for the climate change focal point office at each of the districts;
- Lap top computers and printers;
- Geographical Positioning Systems (GPS) units;
- Water testing kits;
- Mobile laboratories;
- Software;
- Digital Cameras;
- Photocopying machine;;
- Line levels for facilitating farm planning;
- Office furniture;
- Stationery.

6.3.2 Infrastructure development and set-up

It is proposed that implementation of this capacity development plan should prioritize the following infrastructure set-up in each of the districts in the Mbale region:

- Setting up a data base for data storage, management and reporting to be hosted by the climate change focal point office at each of the districts;
- Strengthen co-ordination between different actors involved in climate change
- Tree seedlings Nursery management tools and equipment;
- Tree seeds;
- Pasture and fodder seeds;

- Communication – E-mail and Internet services;
- Film Van for sensitization;
- Transport for extension services;
- Adequate funding.

It was appreciated that to be able to use the equipment, materials and infrastructure, some capacity building should be considered to impart the relevant skills and knowledge. The following areas were identified for specific tailor made capacity building:

- Prepare awareness and training materials on climate change for different levels of education (primary, secondary and tertiary) also for adults (e.g. via rural radio, newspapers, adult education) in relation to the TACC communication strategy;
- Prepare tailor made awareness and sensitization audio and visual materials translated in local languages;
- Train Teachers as Trainers on how to develop and use the relevant materials and consider use of Teachers as Trainers and Climate Change Extension Agents to communities and Faith Based Institutions;
- Exchange/ Learning visits in Uganda and other countries by the extension agents;
- Documenting lessons learnt and best practices related to promoting low carbon, climate change resilient development;
- Study/ learning tours for local communities to areas where related interventions have been implemented.

6.4 Individual level capacity gaps and skills sets to realize low carbon and CC resilient development

At individual level, the capacity needs assessment found out that there is limited knowledge and skills in a number of sectors and areas important for promoting a low carbon, climate change resilient development. The following areas were identified as being vital to the process:

- Water harvesting techniques;
- Alternative energy and energy saving techniques and technologies;
- Soil and water conservation;
- Water shed management;
- GIS and Remote sensing;
- Data base management;
- Climate change adaptation and mitigation approaches and vulnerability assessment and reporting
- Training on management of CC issues, targeted at Sub-county Teams - CDOs and NAADS Teams;
- Carbon Credit Assessment and monitoring;
- Develop local level awareness and training materials on climate change that can be easily interpreted by extension agents and local communities.

6.5 Criteria to be used in choosing capacity building activities and target groups

The training will be categorized according to the target outputs as either career building, skills building or discretionary training, as used by the existing district capacity development plans. The criteria for choosing priority capacity building activities will be agreed upon by the District Technical Team coordinating implementation of this capacity building plan. This will be guided criteria that may include the following:

- (a) Relevance to the low carbon, climate change resilient development;
- (b) Resource requirement of the activity;
- (c) Importance of the activity in relation to the Local Government mandate and low carbon climate change resilient development;

- (d) Compliance inspection gaps identified during inspection;
- (e) New policy intervention requirement from the local and Central Government.

The target groups for different activities should be based on the roles they play in implementing interventions related to low carbon and climate resilient development (as proposed in Table 13) and will include:

- ✓ District and Sub-county Technical Staff;
- ✓ District and Sub-county policy makers (Councilors);
- ✓ Private Sector;
- ✓ Civil Society Organization;
- ✓ Community based organization;
- ✓ Individual Rural land users;
- ✓ Individual Urban dwellers.

Table 13: Proposed target groups for individual training to promote low carbon and climate change resilient development

Training Category	Proposed Training	Target Group
<i>Career Development at Degree, Diploma and Certificate Level</i>	Soil and water conservation and Water harvesting techniques	Technical Officers responsible for Water, NR, Agriculture and Forestry
	Alternative energy and energy saving techniques and technologies	Technical Officers responsible for Forestry, NR and Environment
	Carbon Credit Assessment and monitoring	Focal Point Officers for Climate Change
	GIS and Remote sensing and database management	Technical Officers responsible for Water, NR, Agriculture and Forestry
	Climate change adaptation and mitigation approaches and vulnerability assessment and reporting	Focal Point Officers for Climate Change
	Nursery Management Techniques	NAADS Sub-county Teams
<i>Skills Development</i>	Development aspects of management of Climate Change issues	CDOs, NAADS Teams, Officer responsible for NR and Agriculture CSO Representatives
	Water shed management principles and approaches	CDOs, NAADS Teams, Officer responsible for NR and Agriculture
	Appropriate energy saving technologies	Private Sector
	Nursery Management Techniques	Private Nursery operators selected from the Private Sector
<i>Discretionary Training</i>	Development aspects of management of Climate Change issues	Policy Makers (Councilors) at District and Sub-county Levels, Traditional Leaders, Faith Based Institution Leaders
	Training of Trainers in Soil and Water Conservation	Selected Local Community and CBOs Representatives
	Training of Trainers in Water harvesting techniques	Selected Local Community and CBOs Representatives
	Training of Trainers in Appropriate energy saving technologies	Selected Local Community and CBOs Representatives

6.6 Capacity development operational plan

Table 14 gives a summary of the operational plan for implementing the capacity development action plan. The plan will be implemented over a period of 5 years, in line with the planning framework of the UNDP and the district capacity building plan. The plan is estimated to cost a total of one million three

hundred thirty three thousand United States Dollars (US\$ 1,333,000). The plan will be revised after 3 years to match with the revision of the Uganda National Development Plan and the existing district capacity building plans.

6.7 General conclusions

Findings from the Capacity Needs Assessment indicate that climate change effects have been experienced by different sectors of society and are recognized by most stakeholders in the Mbale region. Currently, there are a number of initiatives in the Mbale Region are implementing interventions that can act as springboards for promotion of low carbon and climate change resilient development. The initiatives have already created interest among the political system and among local communities. However, some gaps exist in the capacity for implementing the initiatives, which justifies the need for a capacity building plan.

Proposed actions in this capacity building plan have been categorized at 3 levels, systems, institutional and individual levels to promote Low Carbon and CC Resilient Development. The three districts in the Mbale region have general capacity building plans, which would ensure sustainability of capacity development interventions in the ITCP. It is proposed that implementation of the capacity development plan be considered as a component of the general district capacity building plans.

Table 14: Implementation plan for the capacity development

Level of Capacity Building	Desired Capacity	Intervention Needed	Resources Required (US\$) for 5 years	Responsibility	
Systems	Increased linkage between central and local government actions	Contributing to the climate change policy development process	5,000	District Climate Change Focal Point/CCU	
		Contributing to the process of development of guidelines for integration of CC in sector plans and budgets	5,000	District Climate Change Focal Point/NPA	
	Local level tailored policies and legislation	Developing a regional level climate risk management strategy	25,000	District Climate Change Focal Point	
		Reviewing and updating of the draft natural resource ordinances for the 3 districts	15,000	District Natural Resource Officer	
		Development of bye-laws for climate change adaptation and mitigation in 3 selected sub-counties	30,000	District Natural Resource Officer	
		Documenting lessons on climate change	Documenting lessons and best practices related to promotion of low carbon and climate change development	20,000	District Climate Change Focal Point
Institutional	Suitable equipment for collection and storage of climate change related data	Procure 12 GPS units and 12 Digital Cameras	12,000	District Climate Change Focal Point	
		Set up weather stations in 6 schools and 3 district headquarters	45,000	District Natural Resource Officer	
		Procure water testing kit and mobile laboratories for the 3 Districts	30,000	District Natural Resource Officer	
		Procure computers hardware, software and accessories for the 3 Focal Point Offices (one lap top and desk top per district)	12,000	District Climate Change Focal Point	
		Equip 3 offices for District Climate Change \Focal Points	9,000	District Climate Change Focal Point	
		Office utilities and supplies for the 3 District Focal points for 3 years	90,000	District Climate Change Focal Point	
		Increased capacity to manage and interpret data that can provide evidence of climate change	Set up, network and maintain data bases for the 3 districts	40,000	District Planner
		Procure GIS software and conduct GIS training	60,000	District Climate Change Focal Point	

Level of Capacity Building	Desired Capacity	Intervention Needed	Resources Required (US\$) for 5 years	Responsibility
	Improved co-ordination between different actors working on climate change	Facilitate quarterly rotational coordination meeting among the 3 districts	100,000	District Climate Change Focal Point
		Set up a coordination committee comprising of at least a member from each district	30,000	District Climate Change Focal Point
	Increased information and skills to conduct mapping of vulnerability	Training of the Technical Teams in the 3 Districts in vulnerability mapping for Natural Resources	60,000	District Climate Change Focal Point
	Increased knowledge on climate change adaptation and mitigation	Awareness and sensitization materials for schools and communities	60,000	Climate Change Focal Point
		Film van for sensitization	40,000	Climate Change Focal Point
		Training of Trainers involving Teachers, NGOs, FBOs and policy makers	60,000	Climate Change Focal Point
		Study tours for local communities to areas where related interventions have been implemented	30,000	Climate Change Focal Point
		Media programmes for sensitization targeting leaders and other stakeholders	60,000	District Information Officers
		Spot messages on climate change	30,000	District Information Officers
	Increased skills in nursery management among the community nursery operators	Train nursery operators and provide equipment and quality seed	75,000	District Forestry Officer
	Increased facilitation for extension services	Procure and maintain 3 vehicles for the Climate Change Focal Point Offices in the 3 Districts	90,000	Climate Change Focal Point
Individual	Increased knowledge and skills in technical fields of climate change adaptation and mitigation	Degree and Diploma level training for at least 9 Officers from the Districts	90,000	Personnel Officers
		Short term trainings for at least 9 Officers in climate change adaptation and mitigation aspects	45,000	Personnel Officer
		Training for communities and private sector in energy saving technologies, SWC and other technologies in the 3 Districts	60,000	Climate Change Focal Point
		Training for District Level Policy makers on climate change	45,000	Climate Change Focal Point
		Training for sub-county level policy makers on climate change	60,000	Climate Change Focal Point

Level of Capacity Building	Desired Capacity	Intervention Needed	Resources Required (US\$) for 5 years	Responsibility
		GRAND TOTAL	1,333,000	

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Annex

Annex 1: CBOs Supported under the TACC Small Grants Initiative

Count	Community Based Organisation
1	Elgon Education Foundation
2	Kitsi Farmers NGO
3	Community Integrated Health Organisation
4	Bunefule HIV/AIDS Initiative
5	Bupoto Natural Resources Management Initiative
6	Shunya Yetana CBO
7	Budwale Honey Enhancement and Development Project
8	Bushikori Christian Centre
9	Elgon Farmers Association
10	Wesakulira Development Project
11	Sitobo Fal Group
12	African Rural Development Initiative