CLIMATE CHANGE MAINSTREAMING GUIDELINES

DISASTER RISK REDUCTION SECTOR

Contents

FOREWORD

Green Africa Foundation was founded in Kenya in the year 2000 with a focus of implementing practical community driven projects towards greening Africa. The organization has actively been implementing a number of projects covering; Climate Change, Policy Advocacy, Environmental Conservation, Agriculture, Water and Energy. The organization has been very instrumental in policy advocacy that has seen through a number of policies coming to fruition both at the county and the national level and with agenda of mainstreaming climate change at the county level taking precedence.

The project that enabled the formulation of these guidelines was a DFID StARCK+ Extension Programme, funded through the Act Change Transform (Act! - NRM component) and implemented by Green Africa Foundation. The project's overall goal was to consolidate prior efforts towards completion of climate change legislation and cross sectoral coordination for enhanced climate change mainstreaming. The objective was to support selected counties, namely Garissa, Marsabit and Wajir to move forward with completion of their climate change legislations and also develop the sectoral climate change mainstreaming guidelines for priority sectors with a view to help give input to the review process of counties CIDPs 2018-2022. This objective was achieved through a programmatic approach and in partnership between Green Africa Foundation and the county governments of Garissa, Marsabit and Wajir, as well as other stakeholders including national government agencies, the private sector and Civil Society Organizations.

These guidelines are intended to assist the County Government of Garissa to attain climate change mainstreaming in the water and sanitation sector by providing a framework for integrating climate change responses for the sector into county planning processes, especially the 2018- 2022 CIDP, as well as other processes such as performance contracting and budget making.

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Hon. CEC Environment and Natural Resource Garissa County Government

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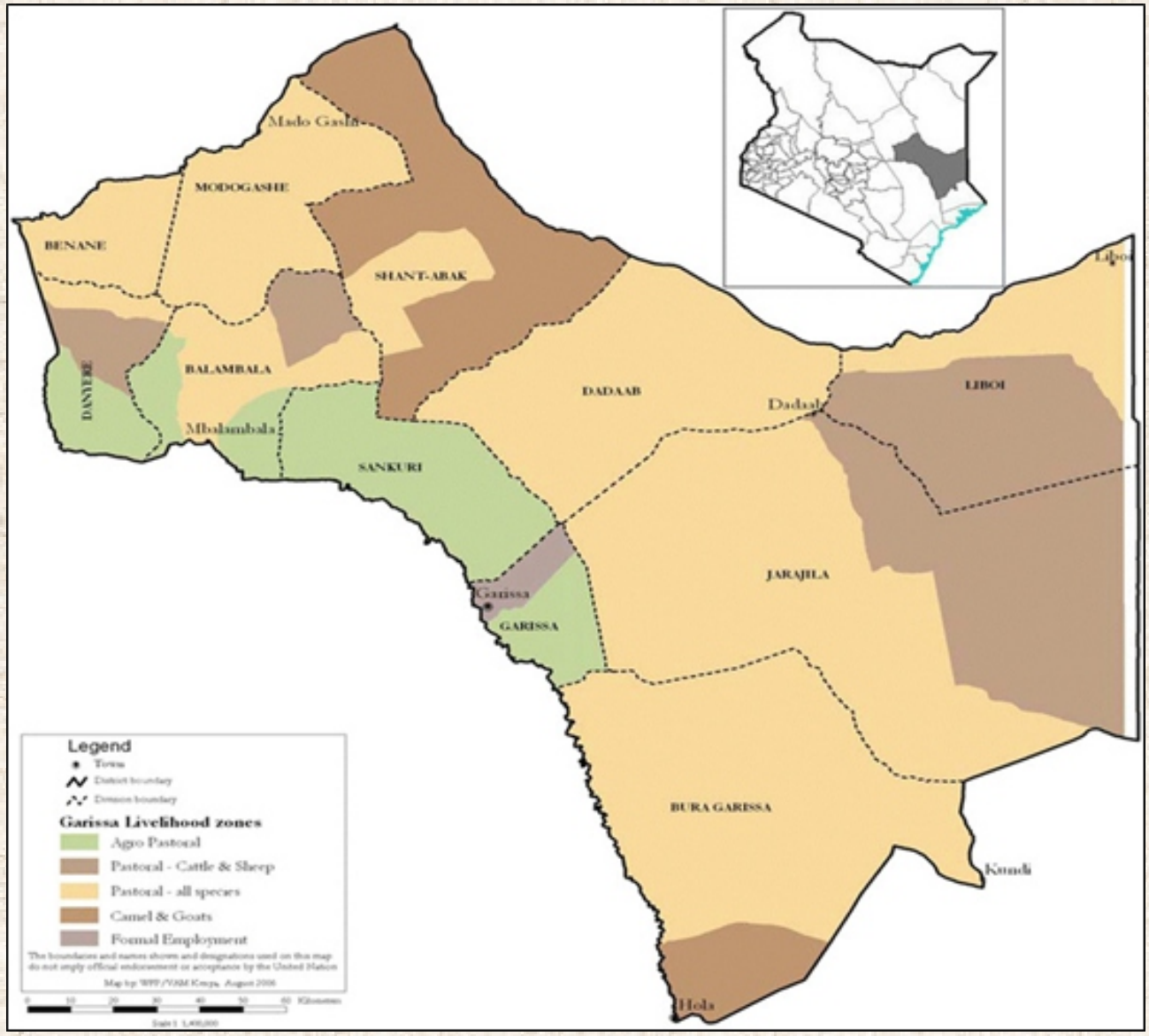
DISCLAIMER

Much attention has been taken in the production of this Disaster Risk Reduction Sector Climate Change Mainstreaming Guidelines Document, however it is provided as general information only and specific advice should be sought on any particular situation. Green Africa Foundation, DFID, ACT! And all other institutions mentioned here disclaims all liability, whether for negligence or otherwise, for any loss, expense, damage or injury caused by any or reliance on this information.

1.0 GARISSA COUNTY BACKGROUND INFORMATION

1.1 Location and Administrative Units

Garissa County is one of the three counties in the North Eastern region of Kenya. It covers an area of 44,174.1 Km² and lies between latitude 1° 58'N and 2° 1' S and longitude 38° 34'E and 41° 32'E. The county borders the Republic of Somalia to the east, Lamu County to the south, Tana River County to the west, Isiolo County to the North West and Wajir County to the north. Garissa County has six sub-counties namely: Fafi, Garissa Township, Ijara, Lagdera, Balambala and Dadaab



Map of Garissa County

1.2 Climate and Topography

Garissa County is generally characterized by high temperatures throughout the year and range from 20°C to 38°C with the average temperature being 36°C. The hottest months are September, January, February and March, while the months of April to August are relatively cooler. The humidity averages 60g/m3 in the morning and 55 g/m3 in the afternoon. Garissa County is principally a semi-arid area and receives an average rainfall of 275 mm per year. There are two rainy seasons, the long rains from October to December and the short rains from March to May. The dry season is usually marked with a general migration of livestock from the hinterland to areas near River Tana where water is readily available. However, some pastoralists move with their livestock to adjacent counties of Tana River and Lamu in search of pasture.

The County is basically flat and low lying with few hills and rocks, valleys and mountains and rises from a low altitude of 20m to 400m above sea level. The major physical features are the seasonal laghas water ways and the Tana River Basin on the western side.

1.3 Population

According to the Kenya 2009 Population and Housing Census, Garissa County was projected to have a total population of 849,457 in 2017. The average population density is 16 persons per km2 in the county with Garissa Township Constituency having the highest population density of 194 persons per square kilometer. The county is sparsely populated with majority of the population being concentrated in areas with infrastructural facilities such as Garissa Township.

1.4 Economic Activities

The main income generating activities practiced in the county includes small scale irrigation crop farming, livestock keeping, fish farming, mining, tourism, and trading. Livestock rearing is the backbone of the county's economy. The main livestock bred are cattle (Boran), goats (Galla), sheep (black headed Persian) and camel (dromedary one humped). The main livestock products are meat, milk, hides and skins. The main crops grown are: watermelons, mangoes, vegetables, tomatoes, paw paws, bananas, cow peas, simsim, maize, beans and green grams.

1.5 Forest Cover and wildlife

Garissa County has two non-gazetted indigenous forests, namely Boni and Woodlands, most of which are woody trees and shrubs which are mainly browsed by camels and goats and to some extent by grazers like cattle and sheep. The county has 40 Community Forest Associations (CFAs) which are currently inactive. The main wild animal types found in the county are: Elephants, Lions, Cheetahs, Leopards, Hippopotamus, Crocodiles, Grants Gazelles, Thompson Gazelle, Gerenuk, servo cat Jackals, Spotted Hyena, Buffalos, Grey Zebras, Topi, Reticulated Giraffes, white Giraffes, Dik-dik, Hirolas, Wild dogs, Warthogs, Monkeys, birds, butterflies and Baboons which move freely since they are not confined to parks.

1.6 Water and Sanitation situation

The main sources of water in Garissa County are River Tana, shallow wells, boreholes, water pans and one dam with the main supplier of treated water being Garissa Water and Sewerage Company (GAWASCO). The other water supply schemes are managed by Water Resources Users Associations (WRUAs) along River Tana. The

county is generally water scarce with acute water shortages experienced during the dry season.
Garissa County is water scarce with only 23.8 per cent of the population having access to safe water. Access to piped water is limited to the sub-county headquarters where approximately 27,725 households have connection. The main sources of water in the county are River Tana, springs and boreholes, seasonal laghas and the average distance to the nearest water point is 25Km. In Garissa County only 49.37 per cent of the population use pit latrines while 50. 63 per cent of the population uses other means of sanitation such as open defecation in bushes. This has often led to spread of diseases such as cholera. A smaller percentage of the population is connected to sewer and septic tanks.

1.7 Waste Management

The most prevalent method of waste disposal among the residents is through open surface dumping at 59.9% followed by open burning at 25.1% and burying at 15%. This implies that there is no proper management and available legislation/laws in place in the county.

1.8 Energy situation

About 78.8 per cent of the county's population use firewood as a source of energy for cooking purposes while 18.2 per cent of the population uses charcoal. Electricity is only available in Garissa, Ijara, Dadaab, Bura East and Modogashe, and their environs with only 0.7 per cent of the population having access to electricity. In Hulugho, plans are under way to install two generators to supply power. The Ministry of Energy and department of environment and natural resource, Garissa County has also installed solar power systems in institutions such as health facilities, schools and watering points. The use of renewable sources of energy such as biogas, wind and solar remain low in the county and the potential is extremely high.

2.0 MAINTREAMING CLIMATE CHANGE IN THE DISASTER RISK REDUCTION SECTOR IN GARISSA COUNTY

2.1 Introduction

Like other counties in Kenya, Garissa County's economy is highly dependent on the natural resource base, and thus is highly vulnerable to climate variability and change. Rising temperatures and changing rainfall patterns, resulting in increased frequency and intensity of extreme weather events such as droughts and flooding, threaten the sustainability of the county's development.
Key economic sectors in Garissa County are particularly susceptible to climate change impacts and this threatens to undermine the county's recent and impressive development gains. It is therefore important that the county builds and enhances its climate resilience and adaptive capacity. Building climate resilience requires that Garissa County's systems of governance, ecosystems and society have capability to maintain competent function in the face of climate change. This would aid a return to some normal range of function even when faced with adverse impacts of climate change. Adaptive capacity is key to improving socio-economic characteristics of communities and households as it includes adjustments in behaviour, resources and technologies, and is a necessary condition for design and implementation of

effective adaptation strategies. The sustainable development of Garissa County therefore significantly depends on the design and implementation of mechanisms that trigger and enhance climate change resilience and adaptive capacity.

Climate change mainstreaming in the various sectors is necessary to equip various coordinating departments in the county government with the tools to effectively respond to the complex challenges of climate change. In this context, mainstreaming implies the integration of climate change policy responses and actions into county sectoral planning and management processes. This requires explicitly linking climate change actions to core planning processes through cross-sectoral policy integration. This integration operates by providing an overarching guidance system that requires all sectors of the government to implement climate change responses in their core functions. Mainstreaming is a process that encourages cooperation across government departments in planning for a longer-term period; rather than fragmented, short-term and reactive budgeting. County governments are required by law to prepare and implement County Integrated Development Plans (CIDPs), through which climate change actions can be mainstreamed.

These guidelines are intended to assist the County Government of Garissa to attain this climate change mainstreaming in the disaster risk reduction sector by providing a framework for integrating climate change responses for the sector into county planning processes, especially the CIDP, as well as other processes such as performance contracting and the budget making process.

2.2 Rationale for Mainstreaming Climate Change Disaster Risk Reduction

In recent years the Kenya Meteorological Department has attributed the phenomena of floods, increased frequency and severity of droughts, and increased food and water insecurity to climatic changes already being experienced in many parts of the country, especially in the arid and semi-arid lands (ASALs). The meteorology department has noted that the current climate is characterized by large variability in rainfall with occurrence of extreme events in terms of droughts and floods.

Climate change adaptation requires that development, social and economic practices be redesigned to respond effectively to new or anticipated environmental changes. Likewise, DRR seeks to influence development decision making and protect development aspirations from environment-related risks. The effectiveness of both adaptation and DRR are limited if they are not viewed within the broader context of sustainable development. Disaster risk reduction has been conceptualized as the first line of defence against climate change. Its relationship with adaptation, however, is very dynamic. Adaptation policies can benefit from proven DRR frameworks and methodologies. Simultaneously, adaptation can support DRR by reducing long-term vulnerability and influencing development potential. In the face of climate change and variability, DRR programmes need to take a long-term perspective to prepare communities for not only current, but also projected climate-related risks.

Garissa County has in recent years experienced climate change related disasters in the form of floods, drought and natural resource conflicts. These impacts will continue to be experienced, in some instances with greater severity and intensity, hence the need to mainstream climate change considerations into the county's disaster risk sector.

3.0 DISASTER RISKS ASSOCIATED WITH CLIMATE CHANGE

3.1 Flooding

For millennia, humans have settled in floodplains in order to till fertile soils, use the flat terrain for settlements, gain easy and safe access to water and use rivers for transport. Whereas riverine floods are natural phenomena that have always occurred, in recent times, humans have become more exposed to flood risk as encroachment into flood plains and lack of flood response plans increase the damage potential. Much of Kenya is vulnerable to flooding including the lower riparian counties such as Garissa due to its location along the River Tana flood plain. Increased incidences of flooding will continue to displace communities, livestock and wildlife, will adversely affect food and potable water sources and may also compromise sanitation situation and built infrastructure such as roads in the county.

3.2 Drought

The term drought may refer to a meteorological drought (precipitation well below average), hydrological drought (low river flows and low water levels in rivers, lakes and groundwater), agricultural drought (low soil moisture), and environmental drought (a combination of the above). The socioeconomic impacts of droughts arise from the interaction between natural conditions and human-induced climate change factors such as changes in land use, land cover, and the demand for and use of water. In some cases the frequency of occurrence of droughts is exacerbated by human induced changes in land cover. Excessive water withdrawals can increase the likelihood and impact of drought. Droughts have both direct and indirect consequences for human livelihoods. A direct consequence is crop and pasture loss, livestock deaths, and in extreme instances can cause starvation if alternative food sources are not available. Indirectly, water shortages contribute to the spread of diseases, because people lack water for basic use and hygiene.

3.3 Natural resources conflicts

A water crisis as a result of climate change will increase the probability of competition between water use sectors and, in the absence of systems regulating such competition, the likelihood of water conflict. Climate change is anticipated to increase conflicts as a result of struggles for water use if increasing supply to meet growing demand for water resources cannot be assured, in addition to other pressures on natural and human systems, e.g. from population growth. In Kenya's ASAL areas such as Garissa County where pastoralism and agro-pastoralism are major economic activities, with pastoral communities migrating in search of water and new seasonal grazing, conflicts over water and grazing fields, and between pastoralists and crop based farmer is likely to rise.

4.0 STRATEGIES AND GUIDELINES FOR MAINSTREAMING CLIMATE CHANGE IN DISASTER RISK REDUCTION SECTOR IN GARISSA COUNTY

STRATEGIC ISSUE 1: VULNERABILITIES DUE TO CHANGES IN TEMPERATURE REGIMES AND PRECIPITATION PATTERNS

Strategic Goal: Enhanced adaptive capacity and resilience of communities to the adverse impacts of climate change

Strategic Objective: Institute measures to reduce the vulnerabilities of communities to changing temperature regimes and precipitation patterns

	Mainstreaming Strategies and Guidelines	Timeline	Responsible
I	The County Government will invest in systems for provision of accurate, timely and reliable climate/weather information to inform decisions of communities and other stakeholders on disaster prevention in situations of possible floods or droughts. This will involve collaboration with national government agencies such as the Kenya Meteorological Department, Water Resources Management Authority and National Drought Management Authority to establish, improve, modernize and maintain climate/weather assessment infrastructure; integration of scientific and indigenous knowledge and skills in weather data analysis, packaging and dissemination of downscaled weather information to communities and other stakeholders through various channels including local radio stations, community barazas, etc., for early decision making on possible flooding or drought disasters as a result of changes in temperatures and precipitation.	By 2020	Departments of Environment, Water, Sanitation

STRATEGIC ISSUE 2: VULNERABILITIES DUE TO EXTREME WEATHER EVENTS

Strategic Goal: Reduced vulnerabilities of communities to extreme weather events

Strategic Objective: Institute measures to reduce the vulnerabilities of communities to extreme weather events

	Mainstreaming Strategies and Guidelines	Timeline	Responsible
I	The County Government will develop and implement systems for early warning and response, and ensure preparedness for extreme weather events. This will involve setting up a well-resourced and technically equipped disaster response department, developing effective early warning systems, producing and disseminating of downscaled	Continuous	Departments of Environment, Water, Sanitation, Agriculture, Livestock, DRR

	weather information on extreme weather events, and the preparation of contingency plans to end flooding and drought emergencies, and use of early warning weather information for decision making on relocation or evacuation of vulnerable communities and distribution of emergency supplies including tents, clothing, food items, water and sanitation facilities, public health services, etc.		
II	The County Government will invest in climate-proofed infrastructure for all construction works including dams, roads, buildings and housing, public institutions such as schools and hospitals, water harvesting, storage and supply lines, storm water drains, waste water and sanitation facilities. This will involve developing infrastructure designs and implementing building technologies that can withstand weather extremes such as excessive precipitation and floods.	Continuous	Departments of Environment, Water, Sanitation, Public Works, Agriculture, Livestock
III	The County Government will invest in flood control infrastructure along River Tana. This will entail collaboration with the national government and other development partners to construct canals, dykes and mega dams along River Tana for flood control purposes.	By 2022	

STRATEGIC ISSUE 3: VULNERABILITIES DUE TO UNSUSTAINABLE NATURAL RESOURCE MANAGEMENT			
Strategic Goal: Enhanced resilience of communities to climate change impacts through sustainable natural resource management.			
Strategic Objective: Mainstream sustainable natural resource management into production systems to enhance resilience of communities to vulnerabilities due to unsustainable natural resource use.			
Mainstreaming Strategies and Guidelines		**Timeline**	**Responsible**
I	The County Government will promote sustainable management and utilization of natural resources such as forests, water, etc. This will involve the development of policy/legal frameworks for responsible natural resources use. This includes integrated natural resources management for various natural resources to ensure equitable access to all in order to reduce or eliminate possible resource conflicts.	By 2019	Departments of Environment, Water, Sanitation

II	The County Government will invest in research, technology development and dissemination for sustainable water resource management. This will entail participatory and collaborative research towards development of suitable sustainable water resource management technologies and innovations as well as technology packaging and transfer to end users, as well as for climate resilient sanitation.	Continuous	Departments of Environment, Water, Sanitation
III	The County Government will establish and implement mechanisms for resolving natural resource use conflicts. This will entail the development of mechanisms for identification and profiling of potential natural resource conflict hotspots, and the development of mechanisms for conflict resolution including policy and legal frameworks, and use of community peace and reconciliation structures.	Continuous	Departments of Environment, Water, Sanitation, Agriculture, Livestock, DRR

THE COUNTY GOVERNMENT OF GARISSA

HAKI IWE NGAO

KENYA