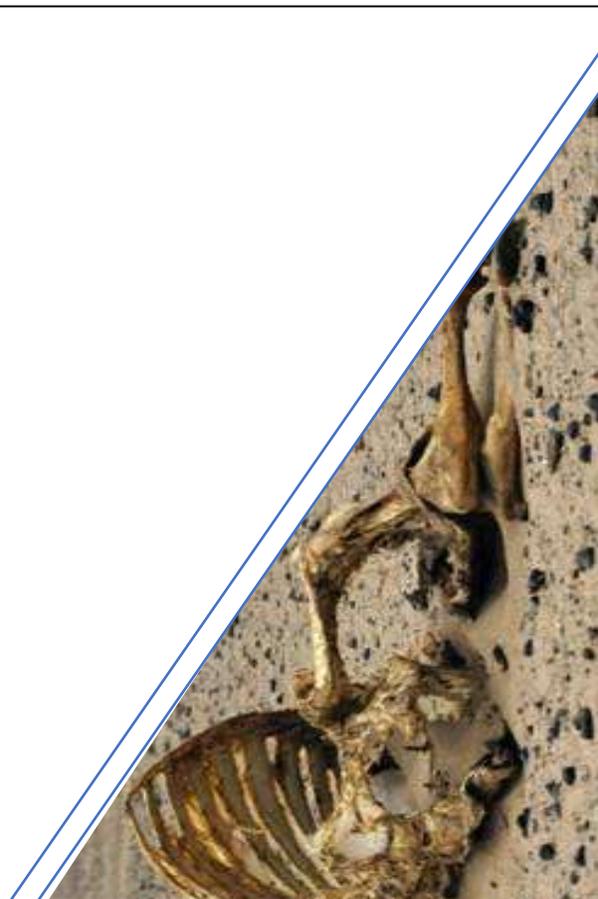


**ANALYSIS OF OPPORTUNITIES FOR INTEGRATION OF CLIMATE CHANGE ISSUES
INTO NATIONAL, COUNTY AND LOCAL SECTORAL DEVELOPMENT PLANNING
PROCESSES**

FOR

**MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND COOPERATIVES
STATE DEPARTMENT FOR CROP DEVELOPMENT AND AGRICULTURAL RESEARCH
RURAL LIVELIHOODS' ADAPTATION TO CLIMATE CHANGE PROJECT (RLACC)**

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ABBREVIATIONS

ADP	Annual Development Plan
AfDB	African Development Bank
AfDF	African Development Fund
Agri FI Kenya CS APP	Agricultural Finance Initiative Kenya Climate Smart Agricultural Productivity Project
AGRI-FI	Agricultural Finance Initiative
AMACO	Africa Merchant Assurance Company
APA	APA Insurance Company
ARUD	Agriculture Rural and Urban Development
ASALs	Arid and Semi-Arid Lands
ASDSP	Agricultural Sector Development Support Programme
ATAR	Adaptation Technical Analysis Report
CA	County Assembly
CAAP	Community Adaptation Action Plans
CADP	County Annual Development Plan
CAP	County Adaptation Plans
CBD	Convention on Biological Diversity
CBOs	Community Based Organizations
CC	Climate Change
CCCAP	County Climate Change Action Plan
CCCF	County Climate Change Funds
CCD	Climate Change Directorate
CEAP	County Environment Action Plan
CEC	County Executive Committee
CIDP	County Integrated Development Plan
CSA	Climate smart agriculture

CSOs	civil society organizations
DRSLP	Drought Resilience and Sustainable Livelihoods Program
EDE	Ending Drought Emergencies
EIA	Environment Impact Assessment
EU	European Union
FAO	Food and Agriculture Organization
FLLoCA	Financing Locally-Led Climate Action
FNSP	Food and Nutrition Security Policy
FSK	Farming Systems Kenya
GCF	Green Climate Fund
GEF	Global Environmental Facility
GESIP	Green Economy Strategy and Implementation Plan
GG	Green Growth
GGEP	Green Growth Employment Programme
GHG	Green House Gas
GIS	Geographic Information System
GIZ	Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
GoK	Government of Kenya
IGAD	Intergovernmental Authority on Development
IPCC	Intergovernmental Panel on Climate Change
JAICA	Japan International Cooperation Agency
KAIP	Kenya Agriculture Insurance Programme
KALRO	Kenya Agricultural and Livestock Research Organization
KAM	Kenya Association of Manufacturers
KCEP- CRAL	Kenya Cereal Enhancement Programme–Climate Resilient Agricultural Livelihoods window
KCSAIF	Kenya Climate Smart Agriculture Implementation Framework

KCSAP	Kenya Climate Smart Agriculture Project
KCSAS	Kenya Climate Smart Agriculture Strategy
KDRDIP	Kenya Development Response to Displacement Impacts Project
KEFRI	Kenya Forestry Research Institute
KEPSA	Kenya Private Sector Alliance
KIPPRA	Kenya Institute of Public Policy Research and Analysis
KOSAP	Kenya Off-Grid Solar Access Project
MTAR	Mitigation Technical Analysis Report
MTP	Medium Term Plan
NAP	National Adaptation Plan
NARIGP	National Agricultural and Rural Inclusive Growth Project
NCCAP	National Climate Action Plan
NCCRS	National Climate Change Response Strategy
NDC	Nationally Determined Contribution
NDMA	National Drought Management Authority
NEMA	National Environmental Management Authority
NG-AWPs	National Government Annual Work Plans
NGOs	Non-Governmental Organizations
NSC	National Steering Committee
NSF	National Stakeholders Forum
OECD	Organisation for Economic Co-operation and Development
PICD	Participatory Integrated Community Development
PLWD	People Living With Disabilities
PPPs	Public Private Partnerships
PSP	Participatory Scenario Planning
R&D	Research and Development
RLACC	Rural Livelihoods' Adaptation to Climate Change

RPLRP	Regional Pastoral Livelihoods Resilience Project
SAII	Sustainable Agricultural Information Initiative
SDGs	Sustainable Development Goals
SHA	Self Help Africa
SWGs	Sector working groups
TC	Technical Committee
TIMPs	Technologies, Innovations and Management Practices
TORs	Terms of References
UAP	UAP Old Mutual Insurance
UNCCD	UN Convention to Combat Desertification
UNDP	United Nations Development Project
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate
WPCs	Ward Planning Committees

DEFINITION OF TERMS

- Adaptation:** adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects which moderates harm or exploits beneficial opportunities. It covers all actions aimed at coping with climatic changes that cannot be avoided and at reducing their negative effects. Adaptation measures include the prevention, tolerance or sharing of losses, changes in land use or activities, changes of location, and restoration.
- Climate Change:** a change in the climate system which is caused by significant changes in the concentration of greenhouse gases as a consequence of human activities and which is in addition to natural climate change that has been observed during a considerable period.
- Greenhouse Gas:** includes but is not limited to—carbon dioxide; methane; nitrous oxide; hydrofluorocarbons; perfluorocarbons; sulphur hexafluoride; and indirect greenhouse gases.
- Integration:** the mainstreaming of adaptation strategies, policies or measures so that they become part of the national and county development policies, processes and budgets.
- Mainstreaming:** the integration of adaptation strategies, policies or measures so that they become part of the national and county development policies, processes and budgets.
- Mitigation:** efforts that seek to prevent or slow down the increase of atmospheric greenhouse gas concentrations by limiting current and future emissions and enhancing potential sinks for greenhouse gases.

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EXECUTIVE SUMMARY

This report is divided into eight sections. Section one is an introduction section. It gives the background and context of the assignment and the methodology used. Section two presents the National Legal and Policy Framework for National Climate Change Actions. It further presents the opportunities available to counties for purposes of integration into the County Integrated Development Plan (CIDP). Some of the Plans and Policies discussed include - the Constitution of Kenya; the Vision 2030; the Third Medium Term Plan; the Climate Change Act; National Climate Change Response Strategy; Nationally Determined Contribution and the National Adaptation Plan. In this section, some of the adaptation/mitigation interventions available to counties for integration into the CIDP include: fertilizer subsidy; promotion of traditional high value crops; crop and livestock insurance; irrigated fodder and pasture production; and climate-proofed infrastructure; and enhanced financial and technical support to the Orphan Crops Programme.

Section three presents national government sectoral policies and plans. The plans and policies analyzed in this section include - the Kenya Climate Smart Agriculture Strategy; the Kenya Climate Smart Agriculture Implementation Framework; the Agricultural Sector Transformation and Growth Strategy; the Crop Act and the Irrigation Act. In this section, some of the adaptation/mitigation strategies available to counties for integration into the CIDP include: provision of accurate, timely and reliable climate/weather information to inform decisions of actors on crops, livestock and fisheries value chains; promotion of crop varieties, livestock and fish breeds and tree species that are adapted to varied weather conditions and tolerant to associated emerging pests and diseases; and promotion of energy-efficient technologies and innovations. Other interventions include -identification, dissemination and upscaling existing climate smart agricultural technologies and practices; use of efficient water technologies in irrigation; promotion of conservation agriculture; promotion of low-cost green energy for the agriculture sector; drought and floods preparedness; and promotion of Climate Smart Agriculture.

Section four analyses the Baringo county government policies and plans including the County Integrated Development Plan; the County Annual Development Plan; the County Agriculture Policy and the County Livestock Policy. The county government should upscale and where possible fully implement the climate change related interventions highlighted in these policies and

plans. These interventions include – expansion of irrigation schemes; technology expansion strategy; soil and water conservation; control of pollution; agro-forestry; diversification of livelihoods; safety net programs; and establishment of pasture, fodder and legumes for county feed formulations.

Section five analyses the Turkana County Government Policies and Plans. In this Section the following policies and plans are analyzed - the County Integrated Development Plan; the County Annual Development Plan; the County Climate Change Policy; and the County Water and Urban Sewerage Strategic Plan. Likewise, for Turkana County, the county government should upscale and where possible fully implement the climate change related interventions highlighted in these policies and plans. These interventions include – diversification of livelihoods; promotion of climate smart irrigation technologies for production; improving of early warning systems; and promotion of the adoption of climate-resilient crop varieties by supporting research and investment.

Section six analyses Climate Change Programmes in Turkana and Baringo counties and the opportunities that they present to the counties. Some of the programmes discussed here are - the Kenya Climate Smart Agriculture; the Rural Livelihoods' Adaptation to Climate Change in the Horn of Africa project; the National Agricultural and Rural Inclusive Growth Project; the Drought Resilience and Sustainable Livelihoods Programme; the Regional Pastoral Livelihood Resilience Project; and the Agricultural Sector Development Support Programme. County governments are encouraged to integrate into the CIDPs some of the interventions which are currently being implemented under these programmes. These interventions include - upscaling Climate Smart Agricultural Practices; strengthening climate-smart agricultural research and seed systems; supporting agro-weather, market, and advisory services; integration of climate change issues into the Community Action Development Plans; provision of social monetary transfers to households without productive assets; and sustainable land management and value chains.

Section seven presents the planning and policy development processes and the opportunities for integration of climate change. These opportunities are identified in the entire policy development cycle. During policy formulation, there is need to place climate change issues as part of the agenda of the government and apply a climate lens in the national policies and strategies. In the planning stage it is important to incorporate concrete climate change actions and apply a climate lens in

formulating sector plans. During resource allocation, there is need to provide financial resources to climate change specific interventions. The final phase in the policy development cycle is the programming phase that involves the implementation of the interventions. Opportunities have also been identified in the planning process. These include, the periodicity in planning, composition of the sector working groups, community engagement during the preparation of the CIDPs among others.

Finally, Section eight presents integration of climate change and the framework for climate change integration. This is meant to address the “how to” integrate by specifying the climate change entry points. It also acts as a framework for planning and a tool for advocacy.

SECTION ONE: INTRODUCTION

1.1 BACKGROUND AND CONTEXT

Climate Change is a global challenge that threatens ecosystems of the World. Its impact has brought about serious economic and social challenges for many countries. Different communities have been exposed to climate related risks with majority of them having limited adaptive capacities.

Kenya is susceptible to climate related risks and is highly vulnerable to climate change especially for communities living in arid and semi-arid areas and those living along the coastal strip. According to the Intergovernmental Panel on Climate Change (IP), the global climate is projected to continue changing over the coming years. The Government of Kenya (GoK) is committed to addressing climate change issues by recognizing adaptation and resilience as priority response to climate change with mitigation as a co-benefit.

Kenya recognizes that climate change can undermine the achievement of the Vision 2030 and its other global commitments such as Sustainable Development Goals and the Nationally Determined Contributions as contained in the Paris Agreement of 2015. To this end the Government has put in place an array of policies, strategies and programmes for climate change mitigation and adaptation.

The Multinational Rural Livelihoods' Adaptation to Climate Change in the Horn of Africa-Kenya (RLACC) is one of the projects intended to address some of the climate change related issues in Turkana and Baringo Counties. The project is being undertaken by the Government of Kenya (GoK) through funding from the African Development Bank (AfDB) under the African Development Fund (AfDF) specifically the Global Environmental Facility (GEF). The project builds on the ongoing Drought Resilience and Sustainable Livelihoods Program (DRSLP) by supporting certain dimensions of climate change resilience. The project focuses on improved resilience to climate change and increased adaptive capacity of the livelihoods of pastoral and agro-pastoral communities in the two target counties.

This particular assignment seeks to carry out an analysis of opportunities that exist for integrating climate change (CC) issues in planning processes including into National, County and local

sectoral plans. Among others the assignment aims to develop a framework for integrating CC issues in policy development and planning processes. This will enable stakeholders to effectively put CC at the core of their day-to-day work and decision making.

1.2 METHODOLOGY TO THE IMPLEMENTATION PROCESS

The delivery of the assignment was organized into the following phases:

Phase 1: Preparation and presentation of an inception report

This was the initial phase of the assignment and it entailed the following two key activities:

- a) Initial/inception meeting with Project Coordinating Unit.
- b) Preparation and presentation of an inception report.

The output of this phase was the development of an inception report.

Phase 2: Review of National, County and Sectoral policies, strategic plans and programmes

During this phase, the National, County and Sectoral policies, strategic plans and programmes relevant to climate change within the agricultural sector were analyzed. This review was important in establishing the government's preparedness in addressing issues of climate change in the sector. This was conducted through desk review of existing information/documents within the government. Specifically, the following were reviewed:

- a) National government policies, plans and programmes. Some of the documents reviewed include – The Constitution, the Vision 2030, Medium Term Plan (MTP), National Climate Change Action Plan 2018-2022, the National Adaptation Plan 2015-2030, Climate Change Act 2016. In addition, climate change related programmes in agricultural sector implemented in Baringo and Turkana counties were also reviewed.
- b) Baringo and Turkana counties' policies, plans and programmes. Some of the documents reviewed include – The County Integrated Development Plans, The County Annual Development Plans, Baringo County Livestock Policy, Turkana County Water and Urban Sewerage Strategic Plan and the Turkana County Climate Change Policy.
- c) Agriculture sector specific policies, strategic plans and programmes in both National and County governments. Some of the documents reviewed include – Baringo County

Agriculture Policy, the Crop Act, 2013, the Irrigation Act, 2019 and the Kenya Climate Smart Agriculture Implementation Framework.

The output of this phase is a detailed report indicating the opportunities for integration of climate change related issues into National, County and Sectoral policies, strategic plans and programmes.

Phase 3: Review of County Integrated Development Plans (CIDPs) for Baringo and Turkana Counties

The CIDP is a five-year development plan for Counties. The current CIDPs cover the period 2018-2022. This phase was conducted through desk review. During this phase:

- a) County specific County Integrated Development Plan of Baringo and Turkana counties were reviewed; and
- b) The extent to which the CIDPs have mainstreamed/integrated climate change adaptation and mitigation determined.

The output of this phase is a detailed report indicating the extent to which the two CIDPs have integrated climate change issues in agriculture sector.

Phase 4: Policy Development and Planning Processes

This phase looked at the policy development and planning processes in both levels of government. It was conducted through desk reviews and interviews. An interview guide was developed to aid in this process. The respondents were people charged with the responsibility of policy development and planning processes at the National and County level specifically those in the Ministry/department of Economic Planning, the Kenya Institute of Public Policy Research and Analysis (KIPPRA) and the department of agriculture staff at the county level. The process was meant to determine the opportunities for integration of climate change issues into policy development and planning processes especially with regard to the agriculture sector. This was in addition to the gaps that existed in the process. A detailed report together with the opportunities and gaps for integration of climate change was developed.

Phase 5: Design a Framework for Integration of Climate Change Issues

This phase involved the development of a framework for integration of climate change issues into policy development and planning processes. The framework is meant to assist policy makers in

Baringo and Turkana counties in identifying the extent to which climate change issues have been integrated in policy-making, budgeting, implementation and monitoring processes. It ensures that climate change adaptation and mitigation are embedded in the counties sectoral policies, strategies and development planning processes in a way that it is effective and feasible.

SECTION TWO: NATIONAL LEGAL AND POLICY FRAMEWORK FOR NATIONAL CLIMATE CHANGE ACTIONS

2.1 INTRODUCTION

Kenya faces serious threats as a result of climate change and variability. This is manifested by the frequent droughts and flooding the country has been experiencing in the recent past. The country's mean annual temperature is expected to increase by between 0.8 and 1.5°C by the 2030s and from 1.6°C to 2.7°C by the 2060s. The average rainfall is expected to increase from 2% to 11% by the 2060s (Kenya National Adaptation Plan, 2015-2030). To address these challenges, the government has put in place the necessary legal, institutional and policy framework. This Section reviews the National Legal and Policy Framework for National Climate Change Actions with a view to identifying the opportunities for integration of climate change issues into planning and policy development processes.

2.2 THE CONSTITUTION OF KENYA

The Constitution of Kenya is the supreme law of the country and binds all persons and all State organs at both levels of government. It sets out the general principles upon which the country is governed. The constitution addresses itself to the issues of climate change. Article 61(1) obligates the State to work towards achieving and maintaining a tree cover of at least ten per cent of the land area of Kenya. In addition, various Articles under the Bill of Rights alludes to issues requiring the government to address issues related with climate change. Article 42 designates as a fundamental right a clean and healthy environment. Article 43(1)(c) and (d) on economic and social rights provides as a right of every person freedom from hunger and adequacy of food of acceptable quality. In Article 43(1)(d) provides a right to clean and safe water in adequate quantities to every person. Further, the State is obligated under Article 43(3) to provide appropriate social security to persons who are unable to support themselves and their dependants. Climate Change has the potential of adversely restricting access to these basic rights. The State is therefore obligated to provide social security safeguards in the event persons cannot access these.

In Article 69(1)(g) the State is expected to eliminate processes and activities that are likely to endanger the environment. Climate Change is one such activity that poses danger to the environment, the people and their livelihoods. It is incumbent upon the Government to take necessary actions to mitigate and adapt to Climate Change.

The achievement of the ten percent tree cover is important to the agricultural sector as trees act as carbon sinks. As such, this acts in mitigating the effect of climate change that would adversely affect the agriculture sector. The agriculture sector can contribute towards the tree cover through initiatives such as agroforestry.

2.3 THE KENYA VISION 2030

The Vision 2030 is Kenya's long-term development blueprint whose implementation began in 2008 upon the successful implementation of the Economic Recovery Strategy for Wealth and Employment creation. It aims at transforming Kenya into, "a newly-industrializing, middle-income country providing a high quality of life to all its citizens in a *clean and secure environment*".

Issues on Climate Change

From the mission statement, the country envisages providing its citizens with a high quality of life in a clean and secure environment. The mission in itself already sets the tone for climate change related interventions.

The Vision 2030 recognizes the threat climate change poses to the country's economic growth and the need to build adaptive capacity as a way of mitigating its adverse effects. This is because, Kenya's economy is heavily dependent on climate-sensitive sectors and the means to cope with climate hazards is weak. It notes that over 70% of natural disasters are weather related.

The economic pillar of the Vision 2030 recognizes agriculture sector as one of the sectors that the country aims to focus on to enable it meet its aspirations. However, the sector is one of the sectors highly affected by the vagaries of climate change. The Vision, through its medium-term plans, therefore addresses the effect of climate change in the sector through various adaptation and mitigation interventions. The Vision also addresses climate change issues in other sectors. For instance, in environment sector, the country aims to plant not less than *seven billion trees* during the Plan period as a means of addressing climate change related challenges.

2.4 THIRD MEDIUM TERM PLAN

The Kenya Vision is implemented through a series of five-year medium-term plans (MTP). Currently, the third generation of the MTP for the period 2018 – 2022 is being implemented.

Integration of Climate Change

The MTP III identified climate change as one of the challenges that may impede the achievement of the country's development goals. In compliance with the requirement of the Climate Change Act 2016 and other international commitments such as United Nations Framework Convention on Climate Change - Paris Climate Change Agreement of 2015 and the Sustainable Development Goal Number 13 on climate Action, the MTP III has therefore integrated climate actions in the agriculture sector. These are in form of adaptation and mitigation interventions which are meant to be implemented within the Plan period. These interventions are opportunities available to Baringo and Turkana counties from which they can integrate into their respective CIDPs.

Adaptation/Mitigation Interventions

- ❖ Fertilizer subsidy -This is meant to improve agricultural productivity through accessible, affordable and quality fertilizers.
- ❖ Irrigated pasture development programme – This is meant to provide adequate pasture to pastoralists during dry period.
- ❖ Pastoral resilience building – This includes construction/rehabilitation of livestock sale yards and hays sheds/fodder banks. This is meant to build resilience for pastoral and agro-pastoral communities in drought prone areas.
- ❖ Promotion of traditional high value crops – This is meant to improve farmers access to quality seeds and planting of materials of drought tolerant traditional high value crops in arid and semi-arid areas.
- ❖ Crop insurance – This is meant to manage risks and losses amongst smallholder farmers and to increase crop productivity.
- ❖ Livestock insurance – It is meant to mitigate risks from drought related disasters and build resilience of pastoralists for enhanced and sustainable food security.
- ❖ Soil and water conservation – This is meant to promote sustainable use of natural resources for agricultural production. It involves the development of agricultural soils management policy, soil and water conservation strategy and programmes.
- ❖ Climate smart agriculture – This is meant to promote adaptive capacity of farmers and minimize emissions from agriculture systems. It involved the use of climate smart agriculture technologies and practices.

- ❖ Early warning and monitoring and evaluation system for food security – This is meant to track climatic events, pests, drought or disasters.

2.5 MTP III SECTOR PLAN FOR ENDING DROUGHT EMERGENCIES

The Sector Plan for EDE is a subset of the MTP III. It is meant to provide additional information with respect to EDE interventions in the MTP III. A number of agriculture sector interventions have been identified in this particular area. These interventions provide valuable opportunities for which Baringo and Turkana counties can borrow from.

Agriculture Sector Climate Change Interventions

- ❖ Fodder and pasture production – This mainly targets the counties of Turkana, Garissa, Isiolo, Wajir, West Pokot, Mandera, Marsabit and Samburu.
- ❖ Production and marketing of drought-tolerant crops - This is implemented under the Crop Enterprise Diversification and Intensification Project in ASALs and is meant to increase the acreage under drought-tolerant crops mainly sorghum and green grams in 23 ASAL counties by 30%.
- ❖ National livestock insurance scheme – This scheme is meant to help reduce the risk from drought-related disasters. This is done in partnership with the private sector.
- ❖ Climate-proofed infrastructure. These include –
 - Integrated water management system – ground water mapping; construction of small water supply systems that target communities in ASAL counties; rehabilitation and reclamation of land in Turkana, Baringo and other counties prone to landslides, floods and heavy soil loss.
 - Multi-purpose dams: This is meant to provide water for human consumption, irrigation and livestock.
 - Irrigation development: This will be achieved through community-based smallholder irrigation projects.
- ❖ Rangeland restoration: This is done through re-seeding, tree planting, water conservation and control of invasive species.
- ❖ Hunger safety net programmes: This is meant to protect and support chronically food insecure households.

2.6 MTP III THEMATIC PLAN FOR CLIMATE CHANGE

The Thematic Plan for climate change is a subset of the MTP III. The Plan is themed, “enhance climate actions towards a low carbon and climate resilient development.” There are a number of climate change agriculture sector specific interventions in the Plan that counties can integrate in their planning processes. These can therefore act as an opportunity for Baringo and Turkana counties.

Agriculture Sector Climate Change Interventions

The Plan has identified projects and programmes that will be implemented during the MTP III period with respect to climate change. They touch on the following broad areas:

- ❖ Climate Change Monitoring, Reporting and Verification: The Programme aims at enhancing climate change information dissemination. The key activities under the programme include Establishment of the tracking tool for climate change action and support.
- ❖ Green Economy Strategy and Implementation Plan: The initiatives to be undertaken include – the Green Innovations and Technologies Programme.

2.7 CLIMATE CHANGE ACT

In recognition of the challenge caused by climate change, Parliament enacted the Climate Change Act in 2016. It provides a regulatory framework to facilitate response to climate change and provides measures to achieve low carbon climate development.

Opportunities for Agriculture Sector

The Climate Change Act offers a number of opportunities for county governments with respect to integration of climate change into planning and policy development process.

- Section 19 of the Climate Change Act requires County governments to mainstream climate change actions into their functions. Specifically:
 - ❖ County governments are required in the performance of their functions, to integrate and mainstream climate change actions, interventions and duties set out in the Act, and the National Climate Change Action Plan into various sectors.
 - ❖ County governments are required in developing, updating and approval of the CIDP and the County Sectoral Plans mainstream the implementation of the National Climate Change Action Plan, taking into account national and county priorities.

- ❖ County governments may also enact legislation that further defines implementation of its obligations under the Act, or other climate change functions relevant to the county.
- The Act establishes the Climate Change Fund which is a financing mechanism for priority climate change actions and interventions. The Fund consists of monies appropriated from the Consolidated Fund; monies received by the Fund in the form of donations, endowments, grants and gifts; and monies under an Act payable to the Fund.
- Climate Change Directorate – offers technical backstopping to county governments.

Agriculture sector is likely to benefit immensely from the above opportunities offered by the Climate Change. Adaptation and mitigation interventions in the agriculture sector are likely to be implemented.

2.8 NATIONAL CLIMATE CHANGE RESPONSE STRATEGY

The National Climate Change Response Strategy (NCCRS) was developed in 2010 in recognition of the fact that government policies and plans then had not adequately integrated climate change adaptation and mitigation. It was the first guide towards climate change agenda in the country. It strengthened and focused the country towards climate change adaptation and mitigation.

It focuses on ensuring that adaptation and mitigation measures are integrated in all government planning, budgeting and development objectives. It aims to make the country prosperous and climate change resilient. The Strategy has been used to inform all other climate change related laws and policies including the Climate Change Act, 2016, National Adaptation Plan and the NCCAP.

Opportunities for Agriculture Sector

The NCCRS offers a number of strategies that counties can benefit from. These are in terms of adaptation and mitigation Interventions.

Adaptation Interventions

Interventions in this sector include:

- Support for community-based adaptation strategies, e.g., building or enhancing systems for conveying climate information to rural populations. Timely dissemination of projected and downscaled weather information to farmers will enhance farmers'

resilience to the impacts of climate change, e.g., through altering the timing of planting dates to adapt to changing conditions.

- Enhanced financial and technical support to the Orphan Crops Programme so that indigenous and more drought tolerant food crops like cassava, millet, sorghum sweet potatoes are re-introduced into the farming systems.
- Promoting economic diversification among pastoral communities e.g., cultivation of drought-tolerant crops such as millet.
- Promoting irrigated agriculture by developing irrigation schemes along river basins and construction of water basins and pans. Irrigation production systems should also be reconfigured to use water more efficiently.
- Addressing land degradation by building soil and stone bunds, creating grass strips and contour levelling as well as incorporating trees or hedgerows.
- Diversifying rural economies, e.g., through value addition to agricultural products and financial support for sericulture and apiculture with the aim of reducing reliance on climate-sensitive agricultural practices.
- Enhancing agricultural extension services to train farmers on how to better cope with climate variability and change.
- Developing proper food storage facilities to cater for surplus harvest while promoting traditional and modern food preservation methods.
- Setting up measures to institutionalize Early Warning Systems on droughts, floods and disease outbreaks.

Mitigation Interventions

Mitigation measures to adopt in the agricultural sector include but are not limited to the following:

- ❖ Applying agricultural technologies to increase food production while simultaneously limiting or reducing GHG emissions, e.g., through the appropriate use of biotechnologies.
- ❖ Proper management of agricultural waste that includes using waste to produce biogas, which consequently also reduces the direct release of methane emissions into the atmosphere.

- ❖ Encouraging improved crop production practices, e.g., mulching instead of repeated tilling to control weeds.
- ❖ Promotion of intercropping in plantations especially tree-based intercropping as an agro-forestry system.

2.9 NATIONAL CLIMATE CHANGE ACTION PLAN

The NCCAP is a product of the Climate Change Act, 2016 prepared in accordance with Section 13 of the Act. It is a five-year iterative tool for the integration of low carbon climate resilient interventions across different sectors. The NCCAP 2018 – 2022 is the second plan developed after the successful implementation the NCCAP 2013 – 2017. It presents detailed actions that the country will embark on to address climate change issues during the period. The Plan is made up to three volumes, volume I being the NCCAP, volume II being the NCCAP Adaptation Technical Analysis Report (ATAR) and volume III being the NCCAP Mitigation Technical Analysis Report (MTAR). The Plan offers the most comprehensive climate change interventions for each sector of the commodity. The interventions are expected to be implemented by both levels of the government hence offering a valuable opportunity for county governments of Turkana and Baringo to either cascade the interventions to the county level in terms of the development of the County Climate Change Action Plan or simply integrate the interventions in their CIDP. Presented in the next section is a list of interventions relevant to the agriculture sector that counties can take advantage of and integrate in their various policies and plans.

2.9.1 Adaptation Technical Analysis Report

ATAR 2018-2022 is one of the two technical reports underpinning NCCAP 2018-2022. The report details all adaptation actions required to be implemented by each sector within the Plan period. The following are a few of the adaptation actions relevant to the agricultural sector. These actions seek to increase food and nutrition security and incomes for value chain actors by, ensuring that agricultural productivity is maintained or increased, agriculture infrastructure is climate-proofed, and the value of agricultural products and produce is enhanced, despite the changing climate.

Table 1: Adaptation Actions in the Agriculture Sector ATAR 2018-2022

Opportunity/Main Action	Sub-actions/activities
Increase access to climate-related resilience and safety net programmes	<ul style="list-style-type: none"> ❖ Strengthen and cascade the downscaling of agro-climate information services to sub-counties. ❖ Promote the uptake of climate information in agricultural decision-making at all levels. ❖ Agricultural inputs subsidies. ❖ Crop insurance and livestock insurance.
Increase adoption of Sustainable Land Management	<ul style="list-style-type: none"> ❖ Sustainable land management for agriculture. ❖ Reclamation of degraded land for climate-smart agricultural production, using agro-ecology approaches. ❖ Promotion of agroforestry at farm level. ❖ Conduct adaptive research to strengthen understanding of adaptability of crop varieties.
Increase on-farm water harvesting and storage, waste water recycling, and area under irrigation.	<ul style="list-style-type: none"> ❖ Water harvesting for agricultural use among value chain actors and households. ❖ Promotion of water harvesting, water storage, soil moisture conservation, climate-smart irrigation infrastructure, and efficient water use with emphasis on: <ul style="list-style-type: none"> ❖ Promoting community-managed small scale irrigation systems in all Counties. ❖ Promoting water recycling in all Counties. ❖ Utilizing controlled flooding technology to improve production through floodplain farming.
Promote the adoption of diversified adaptive enterprises/ value chains, including drought tolerant value chains, for sustained	<ul style="list-style-type: none"> ❖ Promotion of diversified adaptive enterprises/value chains among households. ❖ Lobbying for tax zero rating on the development of traditional, climate resilient crop value chains.

livelihoods and nutrition security. ❖ Establishment of price stabilization schemes and strategic livestock-based food reserves in pastoral Counties.

Reduce agricultural losses along the production and supply chains. ❖ Reduce climate-induced agricultural harvest losses through:

- ❖ Developing and promoting the adoption of effective, climate-smart post-harvest technologies such as milk coolers and green energy powered cold storages.
- ❖ Strengthening commodity funding for adaptive crops by developing an inclusive warehouse receipt system.

2.9.2 Mitigation Technical Analysis Report

MTAR 2018-2022 is one of the two technical reports underpinning NCCAP 2018-2022. The report details all mitigation actions required to be implemented by each sector within the Plan period. The following are a few of the adaptation actions relevant to the agricultural sector.

Table 2: Mitigation Actions in the Agriculture Sector MTAR 2018-2022

Opportunity/Main Action	Sub-actions/activities
Agroforestry	❖ Increase the total area under agroforestry at farm level. It targets existing arable cropland and grazing lands that have high or medium agricultural potential.
Sustainable Land Management	❖ Increase farm area under sustainable land management
Aquaculture production	❖ Increased number of farmers using low-carbon (recirculation) aquaculture systems.

2.10 NATIONAL ADAPTATION PLAN

The National Adaptation Plan (NAP) 2015-2030 is the first plan that specifically addresses the issues of adaptation. It is meant to ensure that adaptation to climate change is integrated in all sectors and in policy development and planning processes at both levels of the government. Adaptation has been prioritized by African countries as a key response to climate change. The

NAP was one of the first priority actions under the Adaptation Technical Analysis Report (ATAR) of the first NCCAP.

Among other objectives, the NAP highlights the significance of adaptation and resilience building actions in development; and integrates climate change adaptation into national and county level development planning and budgeting processes. Further, it is meant to enhance resilience of vulnerable populations to climate shocks through adaptation and disaster risk reduction strategies.

Opportunities for Agriculture Sector in the Counties

The NAP offers counties opportunities for integrating climate change into their planning and policy development processes. It identifies agriculture sector-based adaptation interventions that counties can integrate into their CIDPs and other sector plans. At the same time, counties may develop, their County Adaptation Plans (CAP) from priority actions presented in NAP and customize them to suit their county context. Counties can also include adaptation actions not prioritized in the NAP as long as they do not lead to maladaptation. These adaptation actions are categorized into short-term (1-2 years), medium-term (3-5 years) and long-term (>6 years).

The adaptation actions available to Baringo and Turkana counties for agriculture sector include but not limited to:

Table 3: Summary of Adaptation Actions in the National Adaptation Plan

Time span	Adaptation Action
Short term	❖ Promote awareness on climate change impacts in the water sector including promoting public awareness on water conservation and efficient water use for agricultural production.
	❖ Promote the use of efficient irrigation systems.
	❖ Promote indigenous knowledge on crops.
	❖ Increase awareness on climate change impacts on the agriculture value chain.
	❖ Conduct climate risk and vulnerability assessments of the agriculture value chain.

	❖ Coordinate and mainstream climate change adaptation into agricultural extension.
	❖ Promote new food habits.
	❖ Conduct capacity building in indigenous knowledge, livestock insurance schemes, early warning systems, early action, livestock management and breeding.
Medium term	❖ Establish, maintain and promote the uptake of climate change related information on agriculture.
	❖ Develop and up-scale specific adaptation actions - promotion and bulking of drought tolerant traditional high value crops; water harvesting for crop production; index-based weather insurance; conservation agriculture; agro-forestry; and Integrated soil fertility management.
	❖ Develop and apply Performance Benefit Measurement methodologies for adaptation and development for the sector;
	❖ Support adaptation of private sector agricultural value chain actors through capacity building efforts.
	❖ Establish price stabilization schemes and strategic livestock-based food reserves.
	❖ Develop new feeds.
	❖ Establish price stabilization schemes and strategic livestock-based food reserves.
	❖ Restore degraded grazing lands.
Long term	❖ Promote and implement climate smart agriculture practices.

2.11 NATIONALLY DETERMINED CONTRIBUTION

Kenya submitted its first Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate (UNFCCC) Secretariat on 28th December 2016. The NDC was updated and submitted to the Secretariat on 24th December, 2020. The development of an NDC is a requirement under the UNFCCC. In the first NDC, Kenya's mitigation contribution was to reduce emission of Green House Gases (GHG) by 30% by 2030. In the updated NDC, this has been increased to 32% over the same period.

The contributions in the NDC builds upon the NAP 2015-2030, and the initiative captured in the NCCAP 2018-2022 and other national plans and policies.

Opportunities for Counties

Like in the other plans and policies discussed so far, the NDC offers an array of actions upon which counties can leverage on. These actions are both adaptation and mitigations.

Adaptation actions in the agriculture sector include:

- ❖ Enhancing the adaptive capacity and climate resilience in the agriculture sector.
- ❖ Exploring innovative livelihood strategies for enhancing climate resilience of local communities through financing of locally led climate change actions.
- ❖ Enhancing generation, packaging and widespread uptake and use of climate information in decision making and planning in agriculture sector with a robust early warning system.
- ❖ Enhancing uptake of adaptation technology in agriculture sector especially of women, youth and other vulnerable groups, incorporating scientific and indigenous knowledge.
- ❖ Transformation of agriculture (crops, livestock and fisheries) into an innovative, commercially oriented, competitive and modern sector.
- ❖ Building resilience of the agriculture (crops, livestock and fisheries) systems through sustainable management of land, soil, water and other natural resources as well as insurance and other safety nets.
- ❖ Strengthening communication systems on CSA extension and agro-weather issues.

Mitigation actions in the agriculture sector include:

- ❖ Enhancement of energy and resource efficiency in the agriculture sectors.
- ❖ Making progress towards achieving a tree cover of at least 10% of the land area of Kenya.
- ❖ Climate smart agriculture (CSA) in line with the Kenya CSA Strategy with emphasis to efficient livestock management systems.
- ❖ Increasing use of renewable energy in the agricultural sector.

2.12 NATIONAL CLIMATE CHANGE FRAMEWORK POLICY

The National Climate Change Framework Policy was approved by Parliament in February 2018. It was developed within the framework of the first NCCAP which aimed at encouraging low carbon climate resilient development through implementation of the NCCRS. The goal of this Policy therefore is to enhance adaptive capacity and resilience to climate change and promote low carbon development for the sustainable development. This will be done through mainstreaming of climate change issues into planning, budgeting, implementation and decision-making at both levels of government and across all sectors is achieved. A number of policy interventions relevant to agriculture have been proposed. These interventions offer opportunities that counties may adopt in order to deepen climate change resilience in the sector. The interventions include:

- ❖ Mainstreaming of climate change into national and county planning processes at both national and county level.
- ❖ Establishing the institutional framework and build capacity to coordinate and enhance mainstreaming in the agriculture sector.
- ❖ Enhancing the capacity of the public and private sectors, civil society and research institutions to develop and utilize technological innovations.

2.13 NATIONAL POLICY ON CLIMATE FINANCE

The National Policy on Climate Finance was developed in 2016 with the aim of ensuring that the country is better placed to access climate finance to enable it advance its adaptive capacity and resilience to climate change and promoting low carbon sustainable development. It also advances the achievement of the fundamental rights of a clean and healthy environment under the Bill of Rights.

The importance of climate finance cannot be overemphasized. The Paris Agreement estimates that USD 100 billion is required each year to support mitigation and adaptation activities in developing countries alone. Climate finance has the potential to support priority activities and investment strategies in the agriculture sector. Agriculture sector make significant contributions to Kenya's broader development goals, and investments in the sector can help the country transition toward a low carbon climate resilient development pathway.

Below are examples of climate friendly actions that require increased investment:

- ❖ Mainstreaming of climate change into agricultural extension systems.

- ❖ Establishment and maintenance of climate change related information pools or centres for crops, livestock and fisheries.
- ❖ Promotion of Climate Smart Agriculture, including, drought tolerant high value and alternative crops; water harvesting for crop production; efficient irrigation systems; index-based weather insurance; conservation agriculture: agroforestry; soil management; animal breeding; and integrated farming systems including aquaculture.
- ❖ Price stabilization schemes for livestock and crop farmers.
- ❖ Post-harvest management of crop, livestock and fisheries products.
- ❖ Protection and conservation of fish critical habitats and breeding grounds, and re-stocking as required.

2.14 GREEN ECONOMY STRATEGY AND IMPLEMENTATION PLAN

The Green Economy Strategy and Implementation Plan (GESIP) runs from 2016 to 2030. The Plan is meant to support a competitive low carbon development path through the promotion of economic resilience, resource efficiency and sustainable management of natural resources. GESIP is developed around the following thematic areas. These thematic areas include: promoting sustainable infrastructure, building resilience, sustainable natural resource management, promoting resource efficiency, and social inclusion and sustainable livelihoods. Some interventions in a number of thematic areas are targeted towards agriculture sector. These interventions are therefore opportunities which are available to both Turkana and Baringo counties. Some of these interventions include:

Thematic Area 1: Promote sustainable infrastructure

- ❖ Increase irrigation using appropriate technologies for enhanced food production.

Thematic Area 2: Building resilience

- ❖ Technology development and transfer including promotion of locally available knowledge technologies.
- ❖ Grow fast maturing, high value crops.
- ❖ Promote drought tolerant food crops.

Thematic Area 3: Sustainable Natural Resource Management

- ❖ Move towards a 10% tree cover.

SECTION THREE: NATIONAL GOVERNMENT SECTORAL POLICIES, STRATEGIES AND PLANS

3.1 INTRODUCTIONS

This section reviews the national government's policies, strategies and plans at the sectoral level with respect to the extent to which climate change issues have been integrated.

3.2 KENYA CLIMATE SMART AGRICULTURE STRATEGY

Climate-Smart Agriculture (CSA) is defined by FAO as an agriculture that “sustainably increases productivity, enhances resilience, reduces/removes greenhouse gas emissions, and enhances the achievement of national food security and development goals”. The agricultural sector in Kenya is highly vulnerable to extreme weather conditions and climate change. The sector is also a contributor to the problem of climate change since it is the highest contributor to GHG emissions. Climate change leads to declining crop production and loss of livelihoods due to loss of livestock. The country therefore adopted the CSA to transform agricultural systems to make them more productive, resilient and competitive in generating incomes under a changing climate.

In this regard, the Kenya Climate Smart Agriculture Strategy (KCSAS) was developed and covers the periods 2017-2026. The Strategy is aimed at ensuring that the Sector adapts to climate change and resilience is built in the agricultural systems while minimising emissions of GHGs. CSA is defined as agriculture that “*sustainably increases productivity, enhances resilience, reduces/removes GHG emissions, and enhances the achievement of national food security and development goals*”. The Strategy helps in assist the Sector in implementation of the CC Act and the NCCAP.

This is one of the most important Strategy in the agriculture sector especially with respect to climate. It identifies both adaptation and mitigation interventions from which counties can select and integrate into the CIDPs.

Adaptation Strategies

- ❖ Provision of accurate, timely and reliable climate/weather information to inform decisions of actors on crops, livestock and fisheries value chains. Activities include - integration of scientific and indigenous technical knowledge in weather forecasting; and provide early warning information on seasonal weather patterns.

- ❖ Promote crop varieties, livestock and fish breeds and tree species that are adapted to varied weather conditions and tolerant to associated emerging pests and diseases. Activities include - breeding of crop varieties, livestock and fish breeds, and tree species, that are adapted to weather variations and tolerant to pests and diseases; and facilitate the adoption of crop varieties, livestock breeds and fish and tree, species, that are adapted to weather variations and tolerant to pests and diseases.
- ❖ Diversification of enterprises and alternative livelihoods. This strategy involves the following activities – promote integrated farming systems comprising crops, livestock, aquaculture and farm forestry; and promote nonagricultural, enterprises as alternative livelihoods.
- ❖ Develop and use index-based agricultural insurance. This strategy includes the following activities - identification and development of suitable agricultural insurance products; and promote the use of agricultural insurance as a means of risk transfer by farmers, pastoralists, and fisher-folk.
- ❖ Promote water harvesting and storage, irrigation infrastructure development and efficient water use. The activities here include - promote effective and efficient agricultural water use, including waste water management; and development of appropriate irrigation infrastructure and technologies (including use of clean energy) as per the prevailing farming and pastoral systems.

Removal of Greenhouse Gas Emissions

- ❖ Mainstream Sustainable Natural Resource Management to reduce emissions as a co-benefit. The activities include – promotion of agroforestry for reduction of emissions from deforestation and forest degradation; develop and implement agricultural sector Nationally Appropriate Mitigation Actions; and minimize use of fires in rangelands and croplands management.
- ❖ Promotion of energy-efficient technologies and innovations. Activities include - reduce rate of emissions associated with processing and transportation of agricultural inputs and products; and promote alternative techniques/innovations along agricultural value chains that either use fuel efficiently or green energy.

3.3 KENYA CLIMATE SMART AGRICULTURE IMPLEMENTATION FRAMEWORK

The government developed the Kenya Climate Smart Agriculture Implementation Framework, 2018-2027 (KCSAIF) supports the implementation of the KCSAS 2017-2026 and to provide guidance in mainstreaming Climate Smart Agriculture. The Framework aims to achieve a climate resilient and low carbon growth sustainable agriculture that ensures food security and contributes to national development goals in line with Kenya Vision 2030. In summary the Framework provides climate smart practices relating to sustainable intensification of crop, agroforestry, adaptation and mitigation practices in livestock production systems; efficient management of agricultural commodity value chains; opportunities to leverage climate finance for CSA; strengthening key institutions and systems for CSA initiatives; and mainstreaming CSA elements into national policies and development planning process.

The summary actions outlined in the framework provide broad guidelines from which the counties of Baringo and Turkana together with other stakeholders in the sector are expected to develop appropriate activities towards building the resilience of the agricultural systems and value chain actors in order to cope with effects of the current and projected climate change patterns based on specific climate change vulnerabilities.

Adaptation Interventions

- ❖ Identify, disseminate and upscale existing climate smart agricultural technologies and practices.
- ❖ Introduce diversified and improved crop varieties (high yielding, short duration, disease and pest tolerant, high nutritive value, flood tolerant), including indigenous varieties.
- ❖ Improve production of indigenous fruits and vegetables.
- ❖ Improved nutrition through supplementation, forage and fodder conservation and irrigated pastures and fodder.
- ❖ Upscale climate smart fish culture technologies.
- ❖ Use of efficient water technologies in irrigation.
- ❖ Design and develop water harvesting and storage structures.
- ❖ Climate proof water harvesting, storage structures and infrastructure.
- ❖ Promote development of flood control infrastructure.
- ❖ Promote soil and water conservation practices.

- ❖ Develop and implement innovative index-based agricultural insurance packages for crop, livestock and fisheries value chains.
- ❖ Establish and strengthen climate risk appropriate safety nets.
- ❖ Develop insurance legislations within the agricultural sector.
- ❖ Minimize use of fires in rangelands and croplands management.
- ❖ Promote production of climate smart alternative livelihoods.
- ❖ Strengthen production of downscaled efficient Early Warning Systems.
- ❖ Develop and upscale appropriate climate/weather infrastructure.

Mitigation Interventions

- ❖ Enhance use of low greenhouse gas emitting crop production technologies and practices.
- ❖ Promote adoption of low emission technologies from the livestock value chain.
- ❖ Promote integrated farming systems comprising crops, livestock, aquaculture and farm forestry.
- ❖ Increase use of appropriate renewable energy technologies in irrigation systems.
- ❖ Promote conservation agriculture.
- ❖ Support agro-forestry.
- ❖ Protect and restore water catchment areas through afforestation and reforestation.
- ❖ Promote adoption of low-cost climate smart technologies that minimize GHG emission and enhance removals.
- ❖ Promote low-cost green energy for the agriculture sector.
- ❖ Promote use of energy efficient technologies in production, harvesting, processing and transportation of agricultural inputs and products.
- ❖ Promote climate smart practices that contribute to reduction of emissions from deforestation and forest degradation.

3.4 CROPS ACT 2013

The Crop Act was enacted by Parliament to consolidate and repeal various statutes relating to crops; and to provide for the growth and development of agricultural crops. The Act is meant

to among others: promote competitiveness in the crops subsector and to develop diversified crop products and market outlets; and attract and promote private investment in crop agriculture. It demarcates clearly the role of the National and County governments with regard to agriculture in line with the Constitution.

The Act offers opportunities for county governments of Baringo and Turkana to leverage on. These opportunities include the establishment of the Commodities Fund. The Fund is meant to provide sustainable affordable credit and advances to farmers for farm improvement; farm inputs; farming operations; and price stabilization. These initiatives are adaptation measures meant to reduce the effect of climate change on the pastoral and agro-pastoral communities.

3.5 IRRIGATION ACT, 2019

This Act was enacted in 2019 to provide for the development, management and regulation of irrigation activities and support sustainable food security and socioeconomic development in the country.

Turkana and Baringo counties may partner with the National Irrigation Authority to enhance their own irrigation infrastructure. This is because, the Authority is charged with the development and improvement of irrigation infrastructure for national or public schemes; and provide irrigation support services to smallholder schemes, in consultation with county governments. With climate change, there are increased incidences of drought, so in order to for communities to adapt, provision of irrigation infrastructure becomes key.

3.6 AGRICULTURAL SECTOR TRANSFORMATION AND GROWTH STRATEGY

This Strategy covers the period 2019 to 2029 and it is meant to transform agricultural sector through modernization. Agricultural sector is the backbone of the rural economy as it creates jobs for the rural communities and is essential to satisfying the nutritional needs all the people.

The Strategy has identified various interventions for which the counties of Baringo and Turkana may leverage on for purposes of integration into the CIDPa and other agriculture sector specific plans and policies. These interventions are in terms of flagship projects mainly in the area of adaptation. One of the flagship projects is to boost food resilience of 1.3 pastoral and agro-pastoral households in ASALs through community-driven design of interventions.

Other interventions include – increased use of drought-resistant crop, improve animal health and availability of feeds, increase availability of water and management and increase the uptake of index-based insurance. All these are important aspects of adaptation.

3.7 NATIONAL FOOD AND NUTRITION SECURITY POLICY

The National Food and Nutrition Security Policy (FNSP) was developed in 2011 to provide an overarching framework covering all key dimensions of food and nutrition security, and addresses the synergy that links food and nutrition security with poverty eradication. It recognizes the need for public and private sector involvement, and notes that hunger eradication and nutrition improvement is a shared responsibility of all Kenyans.

The FNSP outlines the range of priority areas and principles for Government interventions to ensure all citizens' right and access to food. The Policy offers opportunities from which county governments may borrow to enable them address some of the climate related challenges affecting agriculture sector. The interventions proposed in the Policy may be integrated in the CIDP and agriculture sector policies. These interventions are listed below.

Adaptation Policy Interventions

- ❖ Early warning and emergency management: The government aims to protect vulnerable populations and address food insecurity concerns through early warning and emergency management using cost-effective safety nets and emergency relief programmes.
- ❖ Integration of climate change adaptation in agricultural programmes and policies.
- ❖ Improvement in forecasting of climatic change and support communities to respond to new opportunities and challenges.
- ❖ The government to support the development of water harvesting infrastructure as a way of controlling floods and providing water for human and agricultural development.
- ❖ Drought and floods preparedness through capacity building programs aimed at creating awareness and capabilities at all levels.
- ❖ Sinking of boreholes in the ASALs to support irrigation schemes.
- ❖ Promotion of rainwater harvesting for use in irrigation and by livestock especially the ASALs.
- ❖ Promote and support sustainable irrigation and water management systems.

3.8 MINISTRY OF AGRICULTURE, LIVESTOCK AND FISHERIES STRATEGIC PLAN

The Strategic Plan for the Ministry of Agriculture, Livestock and Fisheries recognizes climate change as one of the global and national constraints that hinder the development of agricultural sector. It outlines various interventions that need to be implemented in order to address the problem of climate change in the agriculture sector. These interventions are listed below.

Adaptation Interventions

- ❖ Promotion of crops and livelihoods diversification – this involves planting of drought tolerant high value crops in ASALs.
- ❖ Promotion of rangeland management and conservation – this involves range conservation and reseedling.
- ❖ Promotion of CSA – involves adoption of practices that are meant to enhance resilience and improve food security while mitigating impacts of climate change. The Ministry is expected to carry out a baseline survey to establish the national status of adaptation and mitigation then build capacity of staff on appropriate climate proofing measures.
- ❖ Promotion of crop and livestock insurance, off-take programmes and strengthening early warning information systems especially in ASALs.

Mitigation Interventions

- ❖ Reduction of emissions of carbon dioxide from agricultural activities.
- ❖ Promotion of agro-forestry and afforestation and reduction of deforestation.
- ❖ Reduction of the use of methane and nitrous oxide.

3.9 OTHER INTERVENTIONS

There are a number of policies which are currently being developed. These include the National Agriculture Soil Management Policy 2020 and Climate Change Regulations (Climate Change (Duties and Incentives) Regulations 2021, Climate Change (Monitoring, Reporting and Verification) Regulations 2021) and the National Agricultural Insurance Policy.

3.10 GENERAL OBSERVATION ON LEGAL AND POLICY FRAMEWORK AT THE NATIONAL LEVEL

Kenya has shown its commitment in addressing climate change by formulating and implementing a climate change policy, legal, and institutional frameworks. National sectoral level plans, policies and strategies have also been developed and climate change has been mainstreamed in them. Various policy documents including policies, strategies have been developed to address climate change issues in agriculture sector. These documents have prioritized a number of adaptation and mitigation innovations. These interventions offer the opportunity to integrate them into the CIDP and other agriculture sector plans and policies.

SECTION FOUR: BARINGO COUNTY GOVERNMENT POLICIES AND PLANS

4.1 INTRODUCTION

Baringo is one of the 47 counties in Kenya. It is situated in the Rift Valley region. It borders Turkana and Samburu counties to the North, Laikipia to the East, Nakuru and Kericho to the South, Uasin-Gishu to the Southwest, and Elgeyo-Marakwet and West Pokot to the West. It is located between longitudes 35 30' and 36 30' East and between latitudes 0 10' and 140' South. The Equator cuts across the county at the southern part. Baringo covers an area of 11,015.3 sq km of which 165 sq km is covered by surface water from Lake Baringo, Lake Bogoria, and Lake Kamnarok.

Baringo County has diverse climatic condition is characterized by humid highlands to arid lowlands while some regions are between these extremes. The rainfall varies from 1,000mm to 1,500mm in the highlands to 600mm per annum in the lowlands. Due to their varied altitudes, the sub-counties receive different levels of rainfall. Koibatek sub-county receives the highest amount of rainfall. The lowland sub-counties of Mogotio, East Pokot and Baringo North receive relatively low amounts of rainfall. The temperatures range from a minimum of 10°C to a maximum of 35°C in different parts of the county. Average wind speed is 2m/s and the humidity is low. The climate of Baringo varies from humid high-lands to arid lowlands while some regions are between these extremes.

The county is classified as ASAL as most part receives little or no rainfall. This makes Baringo county vulnerable to climatic effects and therefore efforts to ensure the county is resilient to climatic change effects should be adopted by both the county and national governments.

The county government of Baringo has developed various policies and strategy documents to address the problem of climate change. This section reviews the CIDP, Strategic Plans and other policy documents with respect to agriculture sector to determine the extent to which climate change issues have been integrated in them.

4.2 BARINGO COUNTY INTEGRATED DEVELOPMENT PLAN

The Baringo CIDP 2018-2022 is the 2nd generation plan for the county that outlines the county's development agenda for the period. The county's vision as stipulated in the CIDP is to be the most attractive, competitive and resilient county that affords the highest standard of living and security for the people of its people. Baringo county has fully integrated climate change adaptation and mitigation in the CIDP.

Agriculture sector plays a critical role in Baringo county. It contributes to its economic and social development through enhancing food security; income generation; employment and wealth creation; foreign exchange earnings as well as security of land tenure and public land management. It also contributes to economic growth through forward and backward linkages with other sectors such as trade, manufacturing and distribution.

The sector is faced with various challenges including inadequate funding and delays in disbursement of exchequer; low uptake of technology; competing land use; inadequate markets and infrastructure; limited access to financial services; delay in enactment of crucial bills; plant and livestock diseases, impacts of climate change, degradation of environment, limited value addition, high production costs and inadequate strategies for implementation of policies and enforcement of legislation.

4.2.1 Climate Change issues affecting agriculture sector in Baringo county

The following climatic issues in Baringo county affects agriculture sector:

- a) **Land degradation** - This is manifested in the form of soil erosion, vegetation degradation and sedimentation of open water sources which pose a threat to the livelihood of residents. Overgrazing, overstocking, deforestation, uncontrolled charcoal burning and cultivation on steep slopes degrade the land.
- b) **Drought** - Drought occurs frequently in the county causing livestock deaths and loss of farm produce. It is ranked as the county's leading hazard exposure in terms of magnitude and spread. Droughts has been linked to climate change trends majorly as a result of routine delays and unpredictability of the long rains season. Adverse societal factors such as poor land-use practices, conflicts, poverty and lack of traditional coping mechanisms are disasters associated with drought.
- c) **Floods** - Floods associated with extreme climate events can have devastating effects on the socio-economic well-being of a community. In the county floods have caused displacement of both households and livestock while submerging crop and pasture.
- d) **Landslides and mudslides**- Landslides mostly occur during the rainy season on hilly areas of the county.
- e) **Forest Fires**- In the county, forest fires mainly affect the forested parts of Mochongoi and Koibatek. The main causes include charcoal burning, illegal grazing and illegal logging.

4.2.2 Integration of Climate Change in the Agriculture Sector

The CIDP has integrated climate change adaptation and mitigation interventions in various sectors within the county. These sectors include – Environmental protection, Water & Natural Resources; Agriculture Rural and Urban Development (ARUD); and Lands, Housing and Urban Development. In ARUD both adaptation and mitigation actions have been prioritized. Environmental protection, Water & Natural Resources sector has also prioritized certain climate change interventions with direct effect on ARUD sector.

Table 4: Sector specific adaptation and mitigation measures

Programme	Sub-programmes	Specific objectives	Interventions
Crop development and management	Farm input support programme	To improve food diversification.	<ul style="list-style-type: none"> • Expansion of irrigation schemes. • Technology expansion strategy.
	Food security Initiatives	To improve resilience of the communities through Soil and water management for Asset Creation.	<ul style="list-style-type: none"> • Soil and water conservation.
		Rehabilitation and restoration of farm lands-soil and water conservation targeting the gulley eroded areas with support from other partners.	
	Disaster risk reduction for agricultural emergency management and climate change	To improve response to agricultural emergencies.	
		Strategic food reserve funds	
		To mitigate climate change and build community resilience.	

Irrigation and drainage development. To improve farm productivity and income through Support new/existing irrigation schemes through demonstration purposes.

Livestock development and management	Pasture and fodder development.	To Increase availability of livestock feed through pasture and fodder development.	Infrastructure improvement-water development, pasture establishment and conservation.
Water resource development and management	Water Supplies infrastructure	Improve and expand water services.	Construction of water storage structures.
	Water harvesting storage and floods control	Increase access to water for livestock and irrigation.	

Irrigation Infrastructures	Expanded National Irrigation Programme.	Increase water available for irrigation.	Development of irrigation infrastructures.
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Natural resource conservation, exploitation and management	County Forest conservation and management.	To increase vegetation cover. To rehabilitate and protect degraded county forests.	<ul style="list-style-type: none"> • Promotion of soil and water conservation. • Management of invasive species. • Control of pollution. • Agro forestry.
	Climate change adaptation and mitigation.	To develop cost effective and sustainable climate change management measures. To integrate climate change management in all sectors. Mainstreaming of the national Climate policy and legislations to county climate change Policy and legislations.	<ul style="list-style-type: none"> • Establish Integrated Drought Early Warning and Response System. • Construct and rehabilitate water supply systems. • Range rehabilitation, fodder production and management. • Rain water harvesting expansion and construction of sand dams. • Marketing, value addition and agro processing.

- Dry land production through drought resistant crops.
- Development of land use/land cover assessments and County spatial plan.

4.3 BARINGO COUNTY ANNUAL DEVELOPMENT PLAN

The County Annual Development Plan (CADP) is a short-term plan derived from the CIDP that outlines priority programmes and projects for a given financial year. It identifies key projects for implementation and allocates resources for the same in order to ensure prudent management of funds and align planning with budgeting. The ADP 2019-2020 identified a number of priority interventions which were partly implemented due to budget constraints. In the agriculture sector, the following adaptation and mitigation interventions were prioritized.

- ❖ Food security development programme- farm input support to vulnerable households and horticulture (affruitation project).
- ❖ Diversification of livelihoods including aquaculture and apiculture development. This involves rehabilitation of inactive ponds, restocking fish ponds, purchase of supplementary feeds; and building landing beaches, equipping of landing beaches with cold storage facilities and fishing gear.

Even though a number of projects in the agriculture sector were planned in the financial year, very few were actually addressing climate change issues in the sector. There is therefore need for agriculture sector players to ensure that climate change related interventions are mainstreamed into budgeting.

4.4 BARINGO COUNTY AGRICULTURE POLICY

The Baringo County Agricultural policy was developed in 2017 to guide agricultural development in the County as envisaged in the Kenya Vision 2030 and CIDP. Agriculture is the major driver of economic development in the County, as it forms the basis of food security and significantly contributes to growth of the County economy. The Agricultural policy highlights the challenges, opportunities and proposes interventions for sustainable development of the agricultural sector. The interventions are mainly in the area of climate change adaptation and include the following.

Food and Nutrition Security

- ❖ Promotion of the use of modern and appropriate technologies to increase and diversify food and feed production and use.
- ❖ Promotion of production and utilization of diversified food and feed resources in the agricultural sector.
- ❖ Support safety net programs to enable rural poor resist to shocks, create assets and become food self-sufficient.
- ❖ Promotion of the use of diversified technologies to increase crop, livestock and fisheries production.

Water for Agriculture

- ❖ Increase investment in irrigation and irrigation infrastructure including water harvesting and conservation to increase production in the face of climate change.
- ❖ Encourage and regulate protection of the water towers, catchments, wetlands and riparian areas to ensure availability of safe water for sustainable crop, livestock and fisheries production.

Agricultural Insurance

- ❖ Develop policies, laws and strategies to support sustainable Agricultural insurance.
- ❖ Promote uptake of agricultural insurance through targeted incentives including sensitization programs in partnership with private insurance providers.

Agriculture in a changing climate

- ❖ Promote adoption of climate change research findings relevant to the sector.
- ❖ Provide early warning, response and ensure preparedness for adverse climate change effects in collaboration with other government agencies.
- ❖ Promotion of adoption of CSA.
- ❖ Promotion of climate financing and broadening mechanisms to attract investments in climate-smart agricultural practices along the commodity product value chains.

4.5 BARINGO COUNTY LIVESTOCK POLICY

The Policy recognizes the vulnerability of the sector to the adverse effects of climate change. It notes that temperature variations and changes in rainfall across the county have led to reduced livestock productivity due to reduced feed and water availability. Livestock has been affected

by drought resulting to deaths of livestock and emergence of new diseases. The effect of climate change in the sector has been exacerbated due to inadequate early warning system; inappropriate breeds varieties; and inadequate support mechanisms for the pastoral communities.

Policy interventions contributing to climate change are discussed in the following thematic areas -livestock feed and nutrition security, livestock production system, livestock feed resources, livestock insurance, Climate Change

1) *Livestock feed and nutrition security*

- ❖ Promote establishment of pasture, fodder and legumes for county feed formulations.
- ❖ Enhance water availability for livestock use at all livelihood zones.
- ❖ Promote establishment of County feed strategic reserves for use during emergency.
- ❖ Develop county specific medium and long-term plans for emergency preparedness including drought resilience strategies.

2) *Livestock production system*

- ❖ Promote alternative livelihood systems within the pastoral areas.

3) *livestock feed resources*

- ❖ Enhance pasture and fodder production and conservation.

4) *Livestock insurance*

- ❖ Establish an effective livestock insurance scheme.
- ❖ Promote private sector investment in livestock insurance.
- ❖ Promote awareness and uptake of insurance services by the farmers.

5) *Other Interventions*

- ❖ Promote adoption of climate smart livestock production technologies /practices.
- ❖ Mainstream climate change issues in all livestock development plans.
- ❖ Support implementation of policies, legislations and action plans relating to climate risk management.
- ❖ Support adoption of early warning systems for disaster preparedness.

- ❖ Support investment in climate change adaptation interventions relevant to livestock sector.
- ❖ Establish a contingency fund for control of emergence of climate change related pests and diseases.
- ❖ Develop initiatives to enhance community capacity for resilience to climate risk.

4.6 OTHER INITIATIVES IN THE COUNTY

The county has also developed a number of policies in other sectors which have a bearing on agriculture sector. climate change. These include Baringo County Sustainable Charcoal Production Act and Baringo County Environment Policy. Other policies which are currently being developed include the Baringo County Climate Change Bill and Baringo County Climate Change Regulations.

GENERAL OBSERVATION ON BARINGO COUNTY GOVERNMENT POLICIES AND PLANS

Baringo County is affected by extreme and erratic weather patterns due to climate change effects. This has rendered Baringo County vulnerable to climate change as leads to loss of lives and livelihoods. At the planning level, the County has mainstreamed climate change issues in the CIDP and other agriculture sector policies. The County Annual Development Plan analyzed above does not however seem to contain sufficient climate change interventions in agriculture sector.

In terms of implementation, a number of initiatives have been implemented although the budgetary provisions for climate change interventions have not been adequate. Some of the interventions which have been implemented include green school programmes, affruiation (planting of mangoes), urban beautification, tree planting along rivers and springs, promotion of agroforestry and green economy, use of permits to control tree felling and zoning of charcoal production to Marigat as a strategy to curb deforestation.

SECTION FIVE: TURKANA COUNTY GOVERNMENT POLICIES AND PLANS

5.1 INTRODUCTION

Turkana County is the second largest county in Kenya, covering an area of 71,597.6 km² and accounting for 13.5% of the total land area in the country. It is located in the Northwest of Kenya and borders Uganda, South Sudan and Ethiopia. It lies between Longitudes 34° 30'E and 36° 40'E and between Latitudes 10° 30'N and 50° 30'N. Internally, it borders West Pokot and Baringo Counties to the south, Samburu County to the southeast, and Marsabit County to the east.

Turkana has a hot, dry climate with temperatures ranging between 20°C and 41°C and with a mean of 30.5°C. Rainfall in the area is bimodal and highly variable. The long rains occur between April and July and the short rains between October and November. Annual rainfall ranges between 52 mm and 480 mm with a mean of 200 mm. Rain patterns and distributions are erratic and unreliable. Rain usually comes in brief, violent storms that result in flash floods. The driest periods are in January, February and September and the county is highly prone to drought.

Turkana County is susceptible to the adverse weather conditions that may arise due to climate change. The County's main socio-economic activity is pastoralism which is affected by severe weather conditions such as drought and flooding. This calls for action at both levels of government to develop climate change adaptation and mitigation measures to support the community to be resilient, adapt and mitigate against the effects of climate change. The County has experienced a noticeable climate change in the last 40 years. This is evidenced by a general rise in the in the minimum and maximum temperatures over the last four decades.

The impacts of Climate Change in the County is evidenced by - increased poverty due to effects of disasters such as droughts which lead to death of livestock; increased incidences of conflicts over access to water sources and pasture; proliferation of harmful alien species; food insecurity due to environmental disasters such as droughts and floods and increased incidences and prevalence of diseases.

In response to the threat of climate change, the county has developed policy and strategy documents meant to address this. This section reviews the CIDP and other agriculture sector policies to determine the extent to which the sector has integrated climate change adaptation and mitigation.

5.2 TURKANA COUNTY INTEGRATED DEVELOPMENT PLAN

The CIDP identifies programmes and projects that have the potential of spurring economic growth and ensure the society is economically empowered in the county within the period 2018-2022. To ensure that agriculture sector is resilient to the effects of climate change the county has mainstreamed climate change adaptation and mitigation in the CIDP and other policies though not directly related with agriculture.

5.2.1 Causes/Effects of Climate Change in the Turkana County

The CIDP has identified the following climate change impacts/causes in the county:

- a) **Environment/land degradation** - Environmental degradation stems from unsustainable land management practices. These practices include: overgrazing; poor farming practices; presence of invasive species; burning of fossil fuels, deforestation; poor irrigation practices resulting in soil salinization; and non-reclamation of mining sites. Land degradation in the county is estimated at 50% of the county and threatens among others climate change mitigation and adaptation, and livelihood resilience.
- b) **Droughts** - Drought occurs frequently in the county causing livestock deaths, loss of farm produce resulting to increased rates of malnutrition and loss of human life. In 2016, the county faced a very severe drought which resulted in the collapse in the price of livestock. Drought incidences occur on a regular basis in Turkana County due to erratic climatic conditions and ineffective water cycle.
- c) **Floods** - Turkana suffers from floods resulting in economic losses, loss of life and livestock and social disruption. Flooding has been exacerbated by extensive environmental degradation in the county.

5.2.2 Integration of Climate Change in CIDP

The CIDP has integrated climate change issues in a number of ways including:

- ❖ Climate change has been identified as one of the issues undermining the ability of households to make livelihoods from nomadic pastoralism. The County is subject to the impacts of climate change, contributed to by mainly deforestation and burning of fossil fuels.
- ❖ The CIDP is aligned to national goals such as Vision 2030, MTP III and the Big Four Agenda that have all mainstreamed issues of climate change. It also recognizes other regional and international commitments on climate change such as Sustainable

Development Goals (SDGs), the UN Framework Convention on Climate Change (UNFCCC), the UN Convention on Biological Diversity (CBD), the UN Convention to Combat Desertification (UNCCD).

The CIDP has integrated climate change adaptation and mitigation interventions in various sectors within the county. These sectors include – Office of The Governor; Agriculture, Pastoral Economy and Fisheries; water services environment and mineral resources; and Tourism, Culture and Natural Resources. Some of the sub-programmes prioritized are - asset creation through soil and water conservation and rainwater harvesting management; livestock risk management; irrigation and land reclamation; climate change and adaptation; wildlife conservation, protection and Management and management of mining and quarrying activities.

In the Agriculture, Pastoral Economy and Fisheries sector the following climate change adaptation actions have been identified.

Adaptation Interventions in Agriculture Sector

- ❖ Diversification of livelihoods: Promotion of fruit trees and vegetables; poultry production; bee keeping and rabbit keeping.
- ❖ Construction of flood control structures to protect irrigation infrastructure.
- ❖ Establishment of drip irrigation systems and construction of spate irrigation schemes.
- ❖ Construction of soil and water conservation and rainwater harvesting structures and management.
- ❖ Innovation, research and adoption of new technologies.
- ❖ Provision of in-kind or cash transfers.
- ❖ Promote climate smart irrigation technologies for production, a crop insurance.
- ❖ Promoting production of drought tolerant crops (sorghum, pigeon peas, cassava, cow peas, and sweet potatoes) and high value crops, agro forestry and fruit tree production.
- ❖ Pasture/fodder reseeded; strategic livestock feed stores; purchase of supplementary livestock feeds.
- ❖ Restocking; off-take response; livestock insurance.

5.3 TURKANA COUNTY ANNUAL DEVELOPMENT PLAN

The CADP is a one-year plan derived from the CIDP that specifies the county’s priority programmes and projects for a particular financial year. It identifies key projects for implementation and allocates resources for the same in order to ensure prudent management of funds and aligning budgeting with planning. The CADP 2020-2021 identified the following climate change interventions in agriculture sector.

- ❖ Land reclamation and soil and water conservation: uptake of drip irrigation technology; spate technology.
- ❖ Livestock diversification: Promotion of fruit trees and vegetables; poultry production; bee keeping and rabbit keeping.
- ❖ Rangeland management, pasture reseeding, seed bulking and hay production.
- ❖ Climate proofing of households.
- ❖ Acquisition of water storage facilities and strategically located in dry grazing zones.

5.4 TURKANA COUNTY WATER AND URBAN SEWERAGE STRATEGIC PLAN

Turkana County Water Supply and Urban Sewerage Strategic Plan 2021-2025 is meant to provide the framework for sustainable investment in the water sector, emphasising domestic and industrial water supply and urban sewerage. It recognizes the anticipated fast growth of the urban population in the new era of devolved governance, whose aim is to bring services closer to the people and reveal opportunities that will appeal to the private sector and open up the county for private sector investment. We cannot overemphasize the importance of water to the agriculture sector. The success of agriculture sector relies predominantly to the availability and access to water resources for use in the agriculture sector. The interventions listed in Table 5 are climate related interventions with a bearing on the agriculture sector.

Table 5: Strategic outcomes geared towards climate change mitigation and adaptation

Key Result Area	Strategic Objectives	Strategies
Water supply and sanitation	To Implement rainwater harvesting systems to collect and store rainwater for drinking or recharging underground aquifers.	<ul style="list-style-type: none"> • Harvest rainwater in pans and dams. • Carry managed artificial recharge of groundwater. • Promote roof harvesting and storage. • Build wells to extract groundwater from underground aquifers.

	Disaster resilience building and response	<ul style="list-style-type: none"> • Coordination of water supply response intervention during emergencies at the county, sub county and wards levels. • Contingency planning – frequent reviews of the water development plan. • Drought cycle management. • Resilience building – enhancing the development of water infrastructure.
Water catchment protection	Protect water catchment for sustainable water in Turkana County	<ul style="list-style-type: none"> • Mapping and protecting all water catchment sources. • Supporting local Water Resource Management and water catchment protection. • Water catchment protection plan. • Rehabilitate and protect riparian and degraded water catchment areas. • Increasing tree cover in the water catchment areas. • Land title & demarcation.

5.5 TURKANA COUNTY CLIMATE CHANGE POLICY

The county has developed the Climate Change Policy. The Policy is meant to enhance resilience of the community by enhancing their adaptation capacity; promote the County’s transition towards low carbon development pathways; and promote effective mobilization and utilization of resources towards implementing climate change adaptation and mitigation strategies. The Policy has identified an array of initiatives meant to address climate change issues in the agriculture sector.

Adaptation Interventions relevant to Agriculture Sector

- ❖ Diversification of livelihood (aloe, handicrafts, gum arabic, indigenous fruits, forage trees, ecotourism, honey, livestock, and livestock products).
- ❖ Improve early warning systems to save lives and protect assets.
- ❖ Invest in social protection e.g., poverty benefit schemes and insurance-based solutions.
- ❖ Promote adoption of climate-resilient crop varieties by supporting research and investment.
- ❖ Promote agricultural insurance to manage the financial cost of disasters to the farmers.

- ❖ Promote water harvesting to ensure better utilization of rainwater for increased crop productivity.
- ❖ Implement Kenya Climate-Smart Agriculture Strategy 2017-2026.
- ❖ Promote adoption of climate-resilient animal breeds.
- ❖ Develop a programme for livestock feed supplements especially during droughts.

Mitigation Actions

- ❖ Promote agroforestry and use of legumes.
- ❖ Increase tree cover through afforestation programmes.
- ❖ Increase carbon stocks in the soil by promoting bio char application to increase soil fertility, workability and water holding capacity.
- ❖ Conserve and rehabilitate water catchment areas.
- ❖ Promote low carbon technologies in agricultural systems such as solar-powered irrigation.

5.6 OTHER INITIATIVES IN THE COUNTY

The county is in the process of developing a number of policies in other sectors which may have a bearing on agriculture sector with respect to climate change matters. These draft policies include the Turkana County Water and Sewerage Policy which seeks to provide a broad framework for the sustainable development of water and sanitation in the county; and Turkana County Climate Change Bill. The county has also developed the Turkana County Environment Policy and the Turkana County Strategic Environment Action Plan, Turkana County Climate Change Action Plan (CCCAP) and Turkana County Disaster Risk Management Policy.

GENERAL OBSERVATION ON TURKANA COUNTY GOVERNMENT POLICIES AND PLANS

From the review of the Turkana County plans and policies, it is evident that the county has taken cognizance of the effect of climate change in the county economy. There are a number of agriculture sector specific climate change interventions which have been integrated into the CIDP and later cascaded to the CADP. However, these interventions are quite few and not well formulated making it difficult to be clearly understood.

Even in circumstances where the interventions are clear, it is further observed that these have not been implemented according to plan. Budgetary allocation has been insufficient to the sector making it difficult to implement the climate change interventions in the sector. For instance, in the financial year 2019/2020 the county failed to implement interventions climate smart farming and urban forestry programs despite being planned for the period. The County should upscale its resource mobilization efforts and ensure that funds set aside for adapting and mitigating to the effects of climate change are not diverted to other projects. This will enhance the sector's resilience to climate change.

SECTION SIX: CLIMATE CHANGE PROGRAMMES IN TURKANA AND BARINGO COUNTIES

6.1 INTRODUCTION

The government has put in place mechanisms to mobilize domestic and international finance to fund specific climate change related interventions. Specific climate change programmes are being implemented by both levels of government in conjunction with other development partners in the counties of Turkana and Baringo. There is a lot the counties can learn from in these ongoing programmes. For instance, best practices in one programme may be upscaled to other parts of the county where the programmes are not currently being implemented in. These programmes therefore offer counties with the opportunity of upscaling to other regions. In addition, the lessons learnt from these programmes may also be used for future programming. In this section we review climate change programmes implemented in the agriculture sector by both the national and county governments in Baringo and Turkana counties.

6.2 KENYA CLIMATE SMART AGRICULTURE PROJECT

Kenya Climate Smart Agriculture Project (KCSAP) is a project financed by the government of Kenya in conjunction with the World Bank with a funding of US\$ 297 million. It is a five-year project covering the periods 2017-2022 under the Agriculture Sector Development Agency framework and the NCCRS. The project is meant to benefit 522,500 households consisting of small farmers, pastoralists and agro-pastoralists as direct beneficiaries. It is implemented by the Ministry of Agriculture, Livestock, Fisheries and Cooperatives. The project is implemented in Baringo county alongside other 23 counties.

KCSAP Objective: The objective of the project is to increase agricultural productivity and enhance resilience to climate change risks in the targeted smallholder farming and pastoral communities in Kenya.

Project's Components

(i) *Upscaling Climate Smart Agricultural Practices:* Provides support to programmes which promote the use of improved agricultural Technologies, Innovations and Management Practices (TIMPs) to increase agricultural productivity, enhance resilience and reduced GHG emissions. This component is made of the following subcomponents:

Subcomponent 1.1: Building Institutional Capacity and Strengthening Service Delivery. This subcomponent finances the following activities:

- (i) Strengthening the capacity of county and ward to deliver agricultural services. Sub activities include: building technical capacity of staff through training as well as exposure visits; and providing equipment to county- and ward-level technical staff.
- (ii) Supporting CSA planning and prioritization at county and ward levels.
- (iii) Contracting private advisory service providers. It includes promoting Public Private Partnerships (PPPs) for competitive, demand driven extension service delivery.
- (iv) Facilitating community institutions.

Subcomponent 1.2: Supporting Investments in Smallholder Agro-pastoral Production Systems. Activities under this subcomponent include activities meant to:

- (a) Improve water and soil management - water management (dredging waterways, building reservoirs, installing boreholes, and constructing and rehabilitating small, farmer managed irrigation schemes).
- (b) Promoting livelihood and crop diversification.
- (c) Constructing and rehabilitating small-scale farmer-managed irrigation schemes.
- (d) Producing and conserving pasture and fodder crops.
- (e) Supporting market linkages, value addition, and post-harvest management.

Subcomponent 1.3: Supporting Investments in Pastoral Production Systems. Activities under this subcomponent include: forage production, storage, and marketing; small-scale fattening operations; water resource development (water pans, sand dams, water harvesting, tube wells, or boreholes); community rangeland management; community pasture production and storage; and livelihood diversification (poultry, beekeeping, value addition of livestock product

(ii) Strengthening climate-smart agricultural research and seed systems: It supports the generation and dissemination of improved agricultural TIMPs and building sustainable seed systems including supporting climate smart agricultural research and innovations. This component has three subcomponents: supporting climate-smart agricultural research and innovations; building competitive and sustainable seed systems; and strengthening technical and institutional capacity.

Subcomponent 2.1: Supporting Climate-Smart Agricultural Research and Innovations This subcomponent finances Research and Development (R&D) activities in the following five thematic areas: climate-smart crops; climate-smart livestock and aquaculture; socio-economic research on CSA; land, water, and agroforestry; and sustainable bio-energy.

Climate-smart Crops: Activities under this project include: strengthening surveillance of plant pests, weeds, and diseases, and promoting climate-smart TIMPs related to crop health; and developing, validating, and optimizing postharvest technologies to meet quality and food safety standards.

Climate-smart Livestock and Aquaculture: Activities under this project consist of: testing and adapting forage varieties tolerant to both biotic and abiotic stresses resulting from climate change; conserving and upgrading local livestock and aquaculture genetic resources; promoting TIMPs that increase honey productivity and improve bee ecosystem management; and developing and promoting TIMPs for fish-crop integration; and promoting post-harvest conservation.

Socio-economic Research: The project is meant to finance socio-economic studies to improve the understanding of opportunities and constraints related to adoption of climate-smart TIMPs. The studies to be undertaken include: undertaking baseline studies of various CSA technologies; market research to provide market information for development of CSA TIMPs; policy research and advocacy by producing policy briefs; and establishment and maintenance of an M&E system for CSA TIMPs related to crops and livestock.

Sustainable Land, Water, and Agroforestry: More specifically, the project will finance R&D in the following activities: assessment and promotion of land and water TIMPs; development and promotion of simple mechanization technologies; introduction and evaluation of agroforestry tree species suitable for soil health restoration and livestock feed; and determination of the carbon sequestration capacity of grassland, planted forages, and crops.

Sustainable Bio-energy: The project will finance R&D of low-cost, environmentally friendly options for energy, including developing and promoting efficient technologies for the conversion of agricultural waste into useful forms of energy; introducing, evaluating, and promoting improved kilns and *jikos* for the production and use of charcoal to reduce biomass consumption; and developing VCs that produce biofuel/biodiesel and other sources of renewable energy, including charcoal.

Subcomponent 2.2: Building Competitive and Sustainable Seed Systems: The interventions financed under this subcomponent include among others – development of a grant system to support early generation seed and livestock breeds; promotion of improved seed i.e., high value traditional crops; and production of certified seed and enhancement of seed quality.

Subcomponent 2.3: Strengthening Technical and Institutional Capacity: This involves long term trainings in areas such as animal and pasture breeding, bee science, value addition, economic analysis, social and gender analysis, policy research, statistical analysis, data management, seed science and business development.

(iii) Supporting agro-weather, market, and advisory services: It aims at promoting access to quality/agro-weather, market information from farmers/herders. This is meant to improve decision making. It is made up of the following sub-components: improvement of agro-meteorological forecasting and monitoring; developing integrated weather and market information system; and building technical and institutional capacity. This component consists of three subcomponents:

- (a) Improving agro-meteorological forecasting and monitoring;
- (b) Using big data to develop a climate-smart agro-weather and market information system and advisories; and
- (c) Building institutional and technical capacity for agro-meteorological observation and forecasting.

Some of the activities being implemented in this component include: mapping existing automated weather stations; establishing agro-meteorological and hydro-meteorological centers; installing new automated agro-weather stations; developing and upgrading the Early Warning System; and installing new automated agro-weather stations; developing big data for climate-smart agriculture; and sensitizing stakeholders on CSA concepts and climate change risks.

(iv) Contingency emergency response: This component provides support to artificial and natural disasters such as floods, drought, disease and pest outbreak and land slide. Through this the KCSAP supports up-scaling climate smart agricultural practices.

Examples of TIMPs for scaling up CSA

Sustainable Landscape Management: The specific interventions under this Agricultural Technologies, Innovations, and Management Practices (TIMPs) - conservation agriculture;

crop rotation and diversification; use of drought resistant/tolerant crops; forage production, storage, and marketing; small-scale, farmer-managed irrigation; compost production plant; windbreaks, hedgerows, enhanced clearing, live-hedge establishment; promotion of non-timber forest products; creating agro-forestry parks; promoting alternative domestic energy/reducing wood energy utilization; rangeland management and restoration; supporting breeding programs (heat- and drought-tolerant livestock breed); feed and water buffer improvement, fodder banks; promoting dry season grazing.

Water Management: The specific interventions under this TIMPs - Development/rehabilitation of small-scale irrigation schemes; promotion of water and energy conservation technologies for water lifting (solar and energy-efficient pumps); drip irrigation and California system; water pans/sand dams; cattle dips; dredging of waterways; development of ponds; and rehabilitation of small and medium-size irrigation schemes.

Crop-livestock Integration: The specific interventions under this TIMPs - crop residue chopping, storage material, and facilities; manure storage; and feed storage facility.

Energy: The specific interventions under this TIMPs - promoting biogas, renewable energy and energy efficiency in agricultural operations.

Livelihood Diversification: Fisheries; beekeeping; small scale irrigation along the river; value addition of livestock and crop products; crop diversification; off-farm employment.

6.3 MULTINATIONAL RURAL LIVELIHOODS' ADAPTATION TO CLIMATE CHANGE - KENYA PROJECT

The Multinational Rural Livelihoods' Adaptation to Climate Change in the Horn of Africa (RLACC) – Kenya is a project undertaken by the GoK through funding from the African Development Bank (AfDB) under the African Development Fund (AfDF) specifically the Global Environmental Facility (GEF). The project focuses on improved resilience to climate change and increased adaptive capacity of the livelihoods of pastoral and agro-pastoral communities in the counties of Baringo and Turkana.

Project's Components

(i) Increased resilience of pastoral and agro-pastoral communities to climate change in the target areas

This component seeks to integrate the adaptation to climate change of pastoral and agro-pastoral communities in the target areas into their development planning. This is done through

raising awareness of stakeholders by sharing information on climate change and training government officials at national, regional and local levels on the management of climate risks and planning resilience. Specifically, the component involves the following activities:

- (a) Training of local Non-Governmental Organizations (NGOs) and Community Based Organizations (CBOs) on resilience to climate change in an agro-pastoral context.
- (b) Awareness raising of local communities on resilience to climate change, through support to the NGOs and CBOs and local media campaigns;
- (c) Training of officials at central and decentralized levels on climate risk management and resilience planning.
- (d) Development and distribution of technical manuals on resilience-building in ASALs for use by stakeholders.
- (e) Analysis of opportunities for integration of climate change issues into national, regional or local development or sectoral planning processes.
- (f) Integration of climate change issues into the CIDPs including sectoral plans.
- (g) Integration of climate change issues into the Community Action Development Plans
- (h) Organization of regional, national and/or international study- tours for policy makers, project managers, communities and/or producer groups to get familiar with the lessons learned from the project.

(ii) Investment in sustainable measures to increase the resilience to climate variability and change of the pastoral and agro-pastoral communities in the target areas

The component seeks to set up an integrated watershed management by providing grants to local communities to fund micro-adaptation projects in the fields of water and grazing resources, livestock and income-earning activities. The integrated watershed management aims at ensuring a holistic approach to natural resources that identifies alternative subsistence strategies and conducts reforestation activities with the participation of local communities. It also includes social monetary transfers to increase the resilience of to the poorest and most vulnerable households. Specifically, the component involves the following activities:

- (a) Support the development of producer groups and development of alternative livelihoods strategies.

- (b) Provision of grants to scale up and disseminate community-based water harvesting and micro-facilities, including technologies, equipment and infrastructure
- (c) Acquisition and dissemination of resilient seed varieties to support the development of agro-pastoral perimeters.
- (d) Rehabilitation of rural roads taking into account climate change.
- (e) Provision of grants to producer groups for the acquisition of productive assets.
- (f) Support to the development of community-based natural resources management systems.
- (g) Implementation of anti-erosion and reforestation measures in the watersheds.
- (h) Provision of micro-loans and weather-index livestock insurance products to households which are not poor but may rapidly fall into poverty because of their exposure to climate hazards.
- (i) Cash for work schemes for households which have economically active members and some productive assets but do not have adequate capacity to repay micro-loans.
- (j) Provision of social monetary transfers to households without productive assets and are not economically active.

(iii) Monitoring, evaluation and project management

It seeks to support the other two components by developing in local language the required information products and coordinating, monitoring and evaluating the activities of the project. Specifically, the component involves the following activities:

- (a) Development of information products in local languages on climate resilience and adaptive approaches to ASAL development.
- (b) Support for additional Monitoring and Evaluation consultancies.
- (c) Additional support for project management and operations.

6.4 NATIONAL AGRICULTURAL AND RURAL INCLUSIVE GROWTH PROJECT

The National Agricultural and Rural Inclusive Growth Project (NARIGP) is implemented by the GoK with funding from the World Bank/International Development Association. It is a five-year project which began in 2017. The project is implemented in Turkana alongside twenty other counties.

NARIGP Objective: To increase agricultural productivity and profitability leading to improved livelihoods and reduced vulnerabilities of targeted rural communities in selected counties.

Project Components

(i) *Supporting Community-Driven Development:* It is aimed at building the capacity of community-level institutions to plan, implement, manage, and monitor agricultural and rural livelihood development interventions. It is also meant to finance physical investments in the form of community micro-projects that increase agricultural productivity, improve livelihoods, reduce vulnerability and include a strong nutrition focus. Specifically, the activities include:

- (a) Facilitating community institutions and creating awareness of the Participatory Integrated Community Development (PICD) process through which priority interventions will be identified.
- (b) Development of and training on standardized training modules for Value Chain development, fiduciary management, and environmental and social safeguards.
- (c) Facilitation of county technical departments.
- (d) Sustainable land management and value chains. These projects include – tree planting, agroforestry, terracing, soil conservation practices, water harvesting practices such as rainwater pans, earth/check dams, water conservation practices e.g., mulch, cover crops, organic manure, reforestation, drip irrigation, greenhouse farming, use of early maturing, more drought-resistant crops/varieties and/or deep rooting crops, and planting of fodder crops and (fruit) trees.

(ii) *Strengthening Producer Organizations and Value Chain Development:* This component is to strengthen producer organizations and development of prioritized value chains to increase agricultural profitability in the targeted rural communities in 21 counties. It is aimed at building the capacity of the producer organizations and public private partnerships in the development and implementation of value chain upgrading action plans, networks and linkages among the value chain and support of value chain stakeholders' platforms. Specific activities include:

- ❖ Value Chain support - poultry, dairy, red meat, apiculture; fruits and vegetables, cereals, pulses, and roots, tubers; aquaculture, handicrafts and brickmaking. Support includes input supply, technology development, post-production and storage facilities, value addition and processing.

- ❖ Identification and selection of value chains to livestock and crop products e.g., honey packaging, fish processing, fruit canning, aquaculture and beekeeping.
- ❖ Value Chain mapping and strategy development.
- ❖ Support to Value Chain stakeholder platforms.

(iii) Supporting County Community Led Development: The objective of this component is to strengthen the capacity of county governments to support community-led development initiatives. It is implemented through capacity building of counties and county investments and employment programs. Specific activities include:

- (a) Providing technical advisory services e.g., public extension and irrigation services.
- (b) Multi-community investments: as water harvesting and storage facilities and rehabilitation of degraded areas.
- (c) Flood control infrastructure: This includes flood protection works, such as dykes/small canals; drainage to remove water from regularly flooded land; and storm water and sewerage systems.
- (d) Employment programs: These are short-term employment opportunities during the off-season in the form of cash-for-work.

6.5 DROUGHT RESILIENCE AND SUSTAINABLE LIVELIHOODS PROGRAMME IN THE HORN OF AFRICA PROJECT

The Drought Resilience and Sustainable Livelihoods Programme in the Horn of Africa (DRSL) project is financed by AfDB and implemented by the Ministry of Agriculture, Livestock and Fisheries. The programme is meant to enhance drought resilience and improve sustainable livelihoods of the communities in the arid and semi-arid lands of Kenya. The project will be implemented over a period of 5 years from 2013-2017. The project was extended and ends on 30th June 2022. The programme covers six ASAL counties namely including the two target counties, namely Turkana, West Pokot, Baringo, Samburu, Isiolo and Marsabit.

Programme Components

Natural Resources Management: This is made up of two sub components - water supply development and Management; and irrigation infrastructure development. This particular component consists of the following activities:

- (a) Technical studies and impact assessments.

- (b) Development of multi-purpose water infrastructure for livestock and domestic consumption.
- (c) Rehabilitation/expansion of small-scale irrigation systems.
- (d) Formation/strengthening of Water Users Association for management of water supply and irrigation schemes.
- (e) Sanitation, Hygiene and Social Environment campaigns.
- (f) Protection of water reservoirs and conservation of water catchment areas.

Improvement of Livestock Infrastructure and Management: This is made up of the following sub components - infrastructure for market access; improved rangeland management; and improved livestock health.

- (a) Development of feeder roads.
- (b) Establishing a comprehensive animal health service delivery system.
- (c) Development of feed and feed- related infrastructure.
- (d) Strengthening institutional capacity in disease management
- (e) Range re-seeding and bush control and clearing.
- (f) Soil and water conservation activities.

Project Management and Capacity Building: This consist of the following sub components - National Project Management and Capacity Building; and support to IGAD Secretariat-Enhanced regional cooperation and coordination on trans-boundary water resources.

- (a) Develop policies and legislations that will enhance community participation.
- (b) Develop policies and regulations to enhance cooperation and coordination of trans-boundary water resources.
- (c) Development of a regional market information system.
- (d) Community livelihoods initiatives support.
- (e) Enhance access to basic services and encourage entrepreneurial approach to pastoral livestock production.
- (f) Facilitate knowledge generation.
- (g) Contribute to and help in facilitating peace building and conflict management.

(h) Mitigation and adaptation to Climate Change Sustainability.

6.6 REGIONAL PASTORAL LIVELIHOOD RESILIENCE PROJECT

The Regional Pastoral Livelihoods Resilience Project (RPLRP) Kenya is a World Bank funded project implemented by the Ministry of Agriculture, Livestock and Fisheries. RPLRP objective is to enhance livelihoods resilience of pastoral and agro pastoral communities in drought prone areas of selected counties. The project was originally meant to end 2019 but is set to end in December 2021. The project is implemented in Baringo county alongside thirteen other counties.

Project's Component

The following components of the project contribute to climate change mitigation and adaptation:

Natural Resource Management: It is meant to enhance sustainable management and secure access of pastoral and agro-pastoral communities to natural resources (water and pasture) with trans-boundary significance. Activities include - reseeding of degraded rangelands, establishment of strategic feed reserves through construction of hay stores and develop/rehabilitate water infrastructure facilities. The specific activities implemented under this component include:

- (i) Development of water infrastructure e.g., valley tanks and valley dams
- (ii) Rangeland improvement.

Livelihoods Support: This is meant to enhance the livelihoods of pastoral and agro-pastoral communities through feed and fodder production, breed improvement and promotion of alternative livelihoods. The key activities include - develop irrigation schemes for fodder production, construct hay sheds for pasture banks and Support for alternative livelihoods like poultry production and beekeeping.

- (i) Feed and fodder production. This includes distribution of fodder crop seeds
- (ii) Livelihood's diversification including apiary, poultry and aquaculture.
- (iii) Livestock production and health.
- (iv) Eradication of Peste des Petits Ruminants.

Pastoral Risk Management: This aims at enhancing drought-related hazards preparedness, prevention and response through dissemination of early warning information on drought disasters. Key activities include - strengthening and harmonizing the early warning and response systems; harmonizing, mainstreaming and institutionalizing policies related to Disaster Risk Management and build longer term capacities for climate change prediction and adaptation through better knowledge management; and integrate traditional early warning into the conventional early warning system in each county. The specific activities in this component include:

- (i) Drought Disaster Contingency Planning.
- (ii) pastoral risk early warning & response system,
- (iii) Contingent Emergency Response.
- (iv) Drought disaster risk management.

6.7 AGRICULTURAL SECTOR DEVELOPMENT SUPPORT PROGRAMME

The Agricultural Sector Development Support Programme Two (ASDSP II) is a five-year Programme running from 2017-2022. The programme is financed by the GoK, the Government of Sweden and the EU. The programme's implementation strategy overarches agricultural policy for the national and county governments focusing on resilience-focused and climate smart approaches to value chain development; rights-based integration of smallholder women and youth in Value Chain Development; partnership-based investment and implementation; demand-driven and stakeholder-led Value Chain Development; inter-sectorial focus and has considered the exit strategy as a basis for sustainability. The programme is implemented in all the 47 counties.

One of the key focus areas of the project is *enhancing climate smart agriculture and green growth interventions, practices and technologies*. This is an agricultural development that increases value chain productivity while GHG emissions. The programme supports the CSA and Green Growth (GG) technologies through participatory scenario planning (PSP) processes in order to come up with mitigation/adaptation measures.

The specific activities which are climate change related and can be adopted in the agricultural sector by counties include:

- ❖ Solar powered water pumps for irrigation.

- ❖ Solar powered cooling systems in dairy.
- ❖ Silage making.
- ❖ Water conservation technologies e.g., drip irrigation; pasture conservation.
- ❖ Bio gas generation.
- ❖ Drought tolerant crop varieties and livestock species.
- ❖ Utilization of climate forecasts for local decision making.

6.8 AGRICULTURAL FINANCE INITIATIVE

Agricultural Finance Initiative (AGRI-FI) is a project funded by the European Union, SlovakAid and Kenya Agricultural and Livestock Research Organization (KALRO) at a cost of 45 million Euros. The Challenge is a countrywide project, targeting more than 30 counties.

AGRI-FI Objective: To achieve productive, adapted and market integrated smallholder agriculture with the aim of reducing national food deficit and improving agriculture sector competitiveness in the country.

Components of Agri-FI

(i) *Agri-FI Kenya Challenge Fund:* This component aims at improving the capacity of small-scale holders to undertake climate smart agriculture/environmentally friendly agriculture. This is implemented by providing financial support to Agri-enterprise.

(ii) *Agri-FI Food Safety:* This component aims at strengthening value chain actor's capacities through vocational trainings and technical education.

(iii) Agricultural Finance Initiative Kenya Climate Smart Agricultural Productivity Project

The Agricultural Finance Initiative Kenya Climate Smart Agricultural Productivity Project (Agri FI Kenya CS APP) aims at strengthening Climate change adaptation, promote productivity; integrating market for smallholder agriculture with the aim to improve food security and promote competitiveness in agricultural sector. It is implemented by the Kenya Agricultural and Livestock Research Organization (KALRO). The project became effective on 4th January 2019. KALRO is responsible for the first result area which aims at producing climate change adapted and innovative agricultural technologies with potential for market integration.

6.9 KENYA AGRICULTURE INSURANCE PROGRAMME

The Kenya Agriculture Insurance Programme (KAIP) is implemented by Ministry of Agriculture, Livestock, Fisheries and Cooperatives together with private insurance firms. The government has partnered with six insurance companies to facilitate this project. These companies are: APA, UAP, CIC, AMACO and Kenya Orient. It is funded by the Government of Kenya and the World Bank. This is nation-wide programme covering all the counties which aims to shield farmers from the effects of climate change by offering insurance cover.

6.10 NATIONAL FOREST PROGRAMME

The National Forest Programme is a cross-sectoral and multi-sectoral programme implemented by the government of Kenya through the Kenya Forest Service together with other stakeholders. The programme runs from 2016-2030. National Forest Programme is as a result of local, regional and international measures and desires to manage the ecosystem so as to avert the effects of climate change.

Sustainable management of forests and other allied natural resources for socio-economic growth and climate resilience.

Programme Objectives: To increase forest and tree cover and to reforest; promote forest-based socio-economic and environmental benefits; promote research, capacity development, and adoption to technologies; increase investments in forestry for forest development; and integrate national principles and values of good governance into forest development.

The programme covers a number of strategies which are relevant to agriculture sector. County governments of Turkana and Baringo can integrate these strategies into the CIDP and other agriculture sector plans and policies. Such strategies offer opportunities for Some of these programmes include:

- (a) Promotion of the use of clean energy technology in agriculture sector.
- (b) Restoration of degraded forest areas.
- (c) Promotion of climate smart agriculture/conservation practices.
- (d) Afforestation and reforestation with improved, drought-resistant and multi-purpose tree species.
- (e) Promotion of climate smart agroforestry systems.
- (f) Diversification of livelihood opportunities in rural areas.

- (g) Promotion of farm forestry and woodland management on community land.

6.11 FINANCING LOCALLY-LED CLIMATE ACTIONS PROGRAM

Financing Locally-Led Climate Action (FLLoCA) Program is a new programme under the National Treasury. The objective of the program is to strengthen local resilience to the impact of climate change, natural hazards, and other shocks by building local capacity to plan, budget, implement and monitor resilience investments in a way that promotes collaborative partnerships between communities, national and county governments. Turkana is one of the counties where the program is implemented.

The program focuses on capitalizing the National and County Climate Change Funds; building county level capacity for planning, budgeting, reporting and implementation of local climate actions in partnership with communities; and strengthening of national level capacity for coordination, monitoring and reporting. The program will be implemented by the National Government in collaboration with County Governments. The program offers counties an opportunity to help in implementing local actions and adaptation activities across different sectors particularly the agriculture sector. This is especially so considering that the second component on “locally-led climate action grants” will be implemented through offering grants to finance locally identified interventions from County Climate Change Funds (CCCF). The program will help counties establish CCCFs.

Programme components

a) County readiness for supporting locally-led climate action: This area covers activities meant to put in place the mechanisms, policies, regulations, and capacities at the county level for participatory climate risk planning, implementation and monitoring.

b) Locally-led climate action grants: This is meant to support local actions and adaptation activities in the counties as prioritized by communities and counties. The interventions will then be funded with funds from the program. CCCF investments will be used to support resilience focused on livelihoods, livestock, water, natural resource governance, climate information services among others.

c) Building cross-government team to support local climate action and capacity for coordination and reporting: Support would be provided to strengthen linkages between the Climate Change Directorate (CCD), the Council of Governors, National Drought Management

Authority (NDMA) and other actors who play key roles in coordinating, monitoring, and reporting on climate change and disaster risk management activities in the country.

6.12 KENYA DEVELOPMENT RESPONSE TO DISPLACEMENT IMPACTS PROJECT

The Kenya Development Response to Displacement Impacts Project (KDRDIP) is a climate change related projects implemented in Turkana County. It seeks to address social, economic and environmental impacts of forced displacement on the counties and communities in Kenya that are hosting refugees. It targets communities in refugee-hosting areas with investments benefitting both the host and refugee communities. The project is funded by the World Bank and is expected to come to an end in 2023. The project is overseen by the Executive Office of the President. The project covers Turkana County alongside nine counties.

Project's Components and Activities

The project has four components namely:

- (i) Social and economic infrastructure and services – expansion/establishment of irrigation infrastructure; water infrastructure such as water tank and water supply schemes; and support communities to grow drought resistant and other horticultural crops.
- (ii) Livelihoods program – pasture development, livelihood diversification.
- (iii) Environmental and natural resource management – provision of clean energy sources.

6.13 KALOBYEI INTEGRATED SOCIO-ECONOMIC DEVELOPMENT PROGRAMME

The programme aims ensuring that refugees and the host communities live together in peace. It is co-funded and implemented by the government of Kenya, County Government of Turkana and the United Nation High Commissioner for Refugees. The Plan upon which the programme is based is an integral part of the CIDP 2018-2022. It is a 15-year implemented in phases of five years with the first phase covering the period 2018-2022.

The main goal of KISEDIP is to enhance the economy of the Turkana West through creation of enabling environment, capacity building and skills aimed at promoting self-reliance of the refugees and the host community and to be able to access better national government services.

The Plan is built around eight components, with the seventh component on sustainable energy solutions addressing climate change mitigation.

It enhances provision and access to affordable, clean and reliable energy; this includes both hydroelectric power connectivity and expansion of renewable energy in the region. Some of the projects under this component include:

- ❖ Facilitate the adoption of clean cooking technologies.
- ❖ Maximize the utilization of renewable energy sources for electricity generation.
- ❖ investment in large scale solar Farm for industry, commerce and institutions.

6.14 AFFRUITATION PROGRAMME

The programme focuses on fruit tree enterprise development across the value chain with the goal of increased fruit production, increased income, improved nutritional status and environmental conservation in the County. Through environmental conservation and provision of alternative livelihoods, the programme contributes to climate change mitigation and adaptation. The programme is implemented in Baringo county.

The specific objectives of the programme are to: increase production and productivity of fruit trees; increase the number of farmers growing fruits in Baringo County; empower local nurseries and create employment through certified seedlings production; increase earnings to farmers; and produce high quality fruits for processing and export.

The programme is divided into the following phases:

Supply of grafted fruit tree seedlings

identified farmers are supplied with certified grafted seedlings by the County government for free. For every seedling given by the county government, farmers are expected to purchase an extra seedling from commercial nurseries within the county who will have been identified by the county government. This matching concept is meant to ensure the sustainability and ownership of the programme.

Establishment of fruit tree nurseries

This involves the establishment of one model nursery at Koibatek Agricultural Training Centre and establishment of other satellite outlets in strategic areas within the county.

Fruit value addition

This involves the construction of a fruit value addition factory in the county

6.15 BARINGO LIVELIHOOD RESILIENCE PROJECT

The project is implemented by Gorta-Self Help Africa (SHA) in conjunction with Farming Systems Kenya (FSK) and Sustainable Agricultural Information Initiative (SAII) with support from European Commission. It is meant to support to Resilience for Sustainable Livelihoods in the county.

The specific objective of the project is to ensure that 60,000 households in County adopt productive, *climate-resilient* and nutrition sensitive agriculture and livestock production strategies. The outputs of the project are aimed at building the adaptive capacity at the household and community level for greater resilience.

The project aims at increasing the number of pastoralists and agro-pastoralist households engaging in crop production due to low livestock productivity caused by rangeland degradation and frequent drought vulnerability and natural resource-based conflicts.

The project is expected to have the following impacts: increased access to crop and livestock extension services; increased production; increased productivity; improved dietary diversity; and reduced post-harvest losses.

GENERAL OBSERVATION ON CLIMATE CHANGE PROGRAMMES AT THE NATIONAL AND COUNTY LEVEL

Kenya has shown its commitment in addressing climate change by formulating and implementing programmes geared towards ameliorating the effect of climate change. Majority of the programmes are national government programmes. The programmes are mostly donor funded with some level of government support. These programmes offer counties opportunities in terms upscaling and lessons learnt to inform future programming.

The CIDPs of Turkana and Baringo counties and other Plans. In term of programme implementation, it is noted that quite a majority of programme usually face time overruns during implementation due to a number of unforeseen challenges arising from delay in funding and challenges associated with administration. These need to be addressed for the full benefit of the programmes to be realized.

SECTION SEVEN: PLANNING PROCESSES AND OPPORTUNITIES FOR INTEGRATION OF CLIMATE CHANGE

7.1 INTRODUCTION

Development planning involves the prioritization by an entity on certain measurable goals the entity intends to achieve within a given time period. Usually, the government uses development plans in order to actualize their development commitments to the citizens.

In Kenya, Planning takes place at different levels of government including the national level, sectoral level and the county level. Planning can either be long term, medium term and short term. At the national level, the Vision 2030 represents the country's long-term development. It is implemented through the MTPs which usually covers a period of five years. At the county level MTPs are implemented through the CIDP which are county specific identifies county priorities within the confines of the MTP. In addition to the Vision 2030 there are other sector specific long-term plans such as Kenya National Spatial Plan and NAP.

At the Sectoral level, Sectoral Plans, which usually run for a period of five years, are prepared both at the county and at the national level. Specific Ministries at both levels of government also prepares their own Ministerial Strategic Plans. The MTPs and the CIDPs are implemented through an annual workplans. In this section, I analyze the planning and policy development processes with a view to identifying opportunities and gaps for integration of climate change adaptation actions into pastoral and agro-pastoral systems in the target areas.

7.2 POLICY DEVELOPMENT PROCESS AND OPPORTUNITIES FOR INTEGRATION OF CLIMATE CHANGE

The policy development process consists of the following four stages: policy formulation, planning, resource allocation and implementation. The policy formulation entails the following processes: collection of data, information and evidence; identification of the issue to be addressed; linking the problem to the causes and effects; undertaking policy analysis; development of the policy; validation; approval and legitimization; publication; and dissemination. This section summarizes the policy development process and the opportunities it offers for integration of climate change. The Planning, resource allocation and implementation of the policy development process are discussed in details in the next sections.

7.3 POLICY DEVELOPMENT STAGES AND OPPORTUNITIES

The Policy Development stages and the opportunities it presents for integration of climate change are described in Table 6.

Table 6: Policy Development Stages and Opportunities

Policy development stages	Opportunities for integration of climate change
Policy formulation	<p>At the National level policy formulation entails development of the country's long-term vision and strategies for development which broadly outlines policy priorities of the government within a specific period of time. These provide a framework for development of shorter-term plans and accompanying resource allocation.</p> <ul style="list-style-type: none">• This is an important opportunity to place climate change issues as part of the agenda of the government. Key words such as the challenge posed by climate change are included.• A climate lens needs to be applied in the national policies and strategies being formulated and recognising climate change related challenges. <p>At the sectoral level, the policy formulation stage sets out the broad objectives to be pursued in a given sector.</p> <ul style="list-style-type: none">• It provides a key entry point for climate change adaptation and mitigation.• A climate lens needs to be applied in the sectoral policies and strategies being formulated and recognising climate change related challenges.• Counties need to domesticate and implement national CC policies.
Planning	<p>It involves formulation of shorter-term plans including the MTP and operational work plans. The plans are derived from the long-term development plans and the sectoral plans.</p> <ul style="list-style-type: none">• Provides an opportunity to integrate specific climate change interventions.

	<ul style="list-style-type: none"> • At the agriculture sector level, the plans provide an opportunity to incorporate concrete climate change actions and apply a climate lens in formulating sector plans. The agriculture sector in the counties need to domesticate the agriculture sector policies at the national level.
Resource allocation	<p>It involves translating of annual work plans into budget usually through the MTEF.</p> <ul style="list-style-type: none"> • Provides an opportunity funding climate change specific intervention. • At the sector level this stage involves costing of a project to be implemented within a given period of time. Sector plans and budgets presented to the county should first and foremost reflect CC interventions. This is the basis of resource allocation.
Programming/implementation	<p>From the national level, it involves translation of priorities at the national level and budgetary allocations into sectoral and county government plans and budgets.</p> <ul style="list-style-type: none"> • It provides potential entry points for climate change integration. <p>At the county level, it involves translation of priorities at the county level and budgetary allocations into sectoral plans and budgets.</p> <p>Counties need to initiate development of projects to address climate change risks affecting them.</p>

7.4 NATIONAL PLANNING PROCESSES AND OPPORTUNITIES FOR INTEGRATION OF CLIMATE CHANGE

Planning is an iterative process involving specific steps. In this sub section we are therefore going to discuss these steps and identify opportunities for climate change integration. Any planning process at the national level will go through the following processes but not necessary in the order listed below. The process of MTP development has been taken as an example for illustration purpose. However, the steps are generally the same. Before looking at the steps, it is important to make a general observation on the periodicity of the planning process and how this can be used as an opportunity for integration of climate change.

Planning Cycle: Development planning is done periodically usually after every five years for MTPs and NCCAPs. The current MTP and NCCAP cover the period 2018-2022. For National Government sectors are expected to come up with annual sector reports that will inform Annual Work Plans (NG-AWPs), the Planning cycle is one year.

The periodicity in planning is significant in the sense that it offers an important opportunity for integration of climate change adaptation and mitigation in the planning process. It gives the government the opportunity to periodically review the climate change interventions in the plans.

Establishment of a coordinating body: the preparation of the plan is usually spearheaded by a steering committee established specifically for the purpose. For instance, the National Steering Committee (NSC) chaired by the Chief of Staff and Head of Civil Service coordinates the preparation of the MTPs. This is a high-level committee comprising of all Principal Secretaries, Head of the Presidential Delivery Unit and the Director General Vision Delivery Secretariat. The NSC provides the necessary guidance and advise at all stages of the planning process.

This is the first avenue for climate change integration into the national government planning process. This is so because of the multisectoral nature of this coordinating committee. A champion for climate change within the committee will ensure that at this high-level climate change related issues are given the publicity and the prominence it deserves.

Establishment of National Stakeholders Forum: The National Stakeholders Forum (NSF) is usually established with a multiplicity of representation from the public sector and private sector. In addition, the representatives of: - Development Partners, religious organizations, civil society organizations (CSOs), women, youth and people living with disabilities (PLWD), the media and trade unions are also members of the NSF. For MTP, the NSF is chaired by the Cabinet Secretary for Planning, and co-chaired by Chairman Kenya Private Sector Alliance (KEPSA). The NSF is meant to provide a forum to obtain views of all key stakeholders and build consensus on the Plan.

This forum is critical for climate change integration in planning processes. The inclusion of representation from the CSOs, women, youth and PLWD is very critical and strategic. CSOs are advocators of the problem of climate change at local level. On the other hand, women, youth and PLWDs bear the brunt of the effect of climate change. These categories of representation in the NSF have the potential of not only raising the issues on climate change

but equally formulate climate change interventions relevant to the needs of the local communities.

Establishment of Technical Committee: The Technical Committee (TC) comprises of Secretaries of the Sector Working Groups (SWGs). The TC is usually chaired by a senior member of staff the State Department of Planning and the Head Macro Planning Division serves as the Secretary. The TC will meet monthly. It will also prepare briefs and the necessary documents for NSC and NSF meetings.

Formation of the Macro Working Group: The Macro Working Group is peculiar to the development of the MTP. The group is expected to among other things: generate the Medium Term Macro-Fiscal Framework, targets for job creation and poverty reduction, identify the main policies/reforms needed to achieve the macro forecasts/targets and develop the medium-term financing framework.

Formation of the Sector Working Groups: Sector working groups (SWGs) consist of representatives of particular government Ministries. Private Sector Organizations such as KEPSA and Kenya Association of Manufacturers (KAM), NGOs, universities, and research institutions are also represented in the SWG. Development partners, civil society organizations, youth, women and disadvantaged groups are invited to participate in the SWG deliberations.

The SWG are expected to identify the priority programmes and projects to be included in the guided by the Vision 2030, reports from County consultations, and other government priorities. It is expected to identify the reforms required to enable implementation of the plan. Each SWG is required to identify the risks and adverse shocks which are likely to negatively impact on the achievement of the sector targets and propose mitigation measures. Crucially, each SWG is required to mainstream Sustainable Development Goals and climate change issues into sector reports/plans and identify and cost climate change mitigation and adaptation interventions in its sector plan implementation matrix. This is the best opportunity for climate change integration as this is one of its mandates.

Stakeholder Consultations: The development of planning document has an inbuilt mechanism for stakeholder consultations. This is in line with the requirement of the constitution. Once the NSF has been established, it facilitates the collection of views from the public on the plan. This entails identification of development priority which will inform the formulation of policies, programmes and projects.

All key stakeholders including government, private sector, NGOs, Community Based Organization (CBOs), faith-based organizations, women and youth groups, and development partners are invited to participate in the county consultation forums. In addition to county consultations, the public and stakeholders are given the opportunity of presenting their views on line to the secretariat. This is therefore an important entry point for climate change integration into national plans. Stakeholders can recommend climate change related interventions for inclusion into the plan.

Validation: Once the draft plan is prepared it is subjected to a validation and endorsement process involving a Committee of all Principal Secretaries and accounting officers, national Stakeholders Coordination Forum, the Cabinet, Parliamentary committees, a National Consultative Forum and the Summit.

At this stage though the Plan is essentially complete, there is still some limited chance of bringing in new interventions to address critical issues on climate change. In addition, the process also involves the firming up of the proposals which have already been identified.

Publication and Launch: Once the Plan is finalized, it is published then launched. A Sessional Paper is then prepared and tabled in Parliament for validation and endorsement of the Plan. The Sessional Paper will also identify Economic Bills to be fast tracked for enactment by Parliament to facilitate implementation of the Plan.

Implementation: Once the Planning phase described above is complete, implementation of the CIDP begins. This is done through the Medium-Term Expenditure Framework (MTEF).

Mid-term review of the Plan: Plans are supposed to be reviewed in their mid-term strategic reflection on the progress made in implementing the programmes and projects spelled out in the Plans. This includes a thorough review of the design, implementation modalities, financing strategies, coordination framework, stakeholder participation, and cross-sector linkages. The mid-term review enables the government come up with measures to address existing challenges and ensure achievement of the development goals in efficient, effective and economical ways within the stipulated time frame. The lessons learnt and best practices are documented and recommendations for improvement made for better informed future decision making.

7.5 COUNTY PLANNING PROCESSES AND OPPORTUNITIES FOR INTEGRATION OF CLIMATE CHANGE

The County Government Act, 2012 Section 108 requires county governments to prepare 5-year CIDP and the annual county budgets to implement them. Further, the Public Finance

Management Act stipulates that no county should allocate or spend its funds without a planning framework. The CIDP provides a planning framework for county governments. It is a medium-term plan covering a period of five years. Like in the national level, the planning process at the county level follows specific steps akin to those followed at the national level. The process of CIDP development has been taken as an example for illustration purpose. However, the planning process is usually the same for other Plans. Before looking at the planning process, it is also important to make a general observation on the periodicity of the planning process at the county level and how counties can use as an opportunity for integration of climate change.

Planning Cycle: Development planning is done periodically usually every five years. The current CIDPs cover the period 2018-2022. The CADP on the other hand covers one year.

Periodicity in planning is significant in the sense that it offers an important opportunity for integration of climate change adaptation and mitigation in the planning process. It gives the government the opportunity to periodically review the climate change interventions in the plans.

The county planning process involves the following phases:

❖ **Preliminaries:** The preliminary phase usually spearheaded by the County Department responsible for Economic Planning involves the following steps:

- (i) *Issuance of a circular:* This is issued by the County Executive Committee Member responsible for Economic Planning to all Accounting Officers giving specific instruction on the preparation of the CIDP. The circular further gives specific timelines within which specific deliverables are to be achieved.
- (ii) *Establishment of the CIDP preparation secretariat/technical steering committee:* The Steering committee mainly consists of officers from the department of Economic Planning. There is also representation from other departments in the Steering Committee. The Committee is expected to backstop SWGs and essentially lead the entire process.
- (iii) *Establishment of SWGs:* The composition and Terms of Reference of the SWG circular. Membership of the SWGs is diverse with representation from County Government Department sector leads, representatives of National Government and Non-State Actors such as the private sector, NGOs, CBOs and Development Partners active in that sector. *This is critical opportunity for climate change integration as they will essentially spearhead the entire process.*

❖ **Data Collection and Analysis:** This phase focuses on the development needs of the communities living in the county. The needs identified are assessed to inform identification and prioritization of programmes and projects. Resource availability is also assessed during this phase. This phase is spearheaded by the SWG and involves among others the following key steps:

(i) *Primary data collection:* This is done through stakeholder consultations in line with the dictates of the Constitution. The SWGs are supposed to facilitate the collection of views from the public which would entail identification of development priorities to inform the formulation of policies, programmes and projects. This is usually done at the ward level. The Ward Planning Committees (WPCs) in some counties such as Turkana augment the effects the leadership of the Ward Administrator augment the work of the SWGs in collection of views at the county.

All key stakeholders including government representatives, private sector, NGOs, CBOs, faith-based organizations, women and youth groups, and development partners are invited to participate in the ward consultation forums.

This is an important opportunity for climate change integration into county development planning. It is at this point where stakeholders are supposed to identify and ensure incorporation of climate change adaptation and mitigation into the plan.

(ii) Analysis of inputs: The SWGs are expected to analyze the inputs from the public participation forums in order to ensure that they are in line with the development agenda of the county and other county priorities.

(iii) Analysis of existing spatial plan and sectoral plans; Vision 2030, and its MTPs, sector policy frameworks, and identify opportunities and development challenges in the sector.

❖ **Development of Objectives and Strategies:** In this phase the SWGs are expected to: develop the sector objectives and outcome targets; criteria for prioritization and resource allocation among sectors; and list major programmes and sub-programmes.

In this phase, the SWGs are expected to ensure that cross-cutting issues like Climate Change, Environmental Degradation, Disaster Risk Management, Ending Drought Emergencies (EDE) are mainstreamed in the identified programmes and projects.

At this particular point, it is important to ensure that the challenge brought about by climate change is clearly articulated and appropriate interventions are identified in terms of

programmes are identified. This is the point at which failure to clearly identify the necessary climate change interventions may result into non-integration of climate change into the plans.

- ❖ **Programmes and Projects:** In this phase, the content of the programmes and projects are identified from the list developed in the last phase. This process is carried out by the SWGs. The output of this process are sector reports which are then handed over to the CIDP secretariat.
- ❖ **Integration:** The Programmes/projects formulated are to be verified by the Steering Committee to ensure consistency with the County Performance Management Framework e.g., they contribute to long term objectives, have clear outcomes, indicators with the available resources. At the end of this phase, the secretariat should have a final draft CIDP.
- ❖ **Validation:** The final draft CIDP is subjected for validation by stakeholders. Validation is done at two levels – the departments and general public. This may be done at the ward or county level. The stakeholders will verify the extent to which the CIDP captures the interventions they had prioritized.

At this stage though the Plan is essentially complete, there is still some limited room of including new climate change interventions into the Plan. It is another opportunity for integration of climate change.

- ❖ **Adoption:** The Steering Committee presents the draft CIDP to the County Executive Committee (county cabinet) for consideration and adoption.
- ❖ **Approval:** Once the CIDP is adopted by the cabinet, it is presented to the County Assembly for approval. At the County Assembly (CA), the CIDP is committed to the Finance and Planning Committee which reviews it and conduct public hearings on the same. The Approval by the CA with or without amendments.

Although the CA may not fundamentally change the CIDP there is still little chance that limited amendments to bring in issues climate change may be introduced.

- ❖ **Assent and publication:** The Governor issue a memorandum that the CIDP will be the main planning document for the period. The CIDP is then published in the Kenya Gazette.
- ❖ **Implementation:** Once the Planning phase described above is complete, implementation of the CIDP begins. This is done through the Medium-Term Expenditure Framework (MTEF).

❖ **Mid-term review of the Plan:** Plans are supposed to be reviewed in their mid-term strategic reflection on the progress made in implementing the programmes and projects spelled out in the Plans. This includes a thorough review of the design, implementation modalities, financing strategies, coordination framework, stakeholder participation, and cross-sector linkages. The mid-term review enables the government come up with measures to address existing challenges and ensure achievement of the development goals in efficient, effective and economical ways within the stipulated time frame. The lessons learnt and best practices are documented and recommendations for improvement made for better informed future decision making.

7.6 SECTORAL DEVELOPMENT PLANNING – COUNTY AND NATIONAL GOVERNMENT

Sectoral Planning is also iterative and follows the following phases: It goes through the following processes/phases.

Preliminary stage

- (a) *Issuance of a circular:* This is issued by the County Executive Committee Member responsible for economic planning in the county and the Cabinet Secretary National Treasury and Planning. The circular initiates preparation process County Sector Plans and outlines county sectors, composition of SWGs and their TORs and specific timelines for key deliverables in the preparations of the Sector Plan.
- (b) *Constitution of SWGs:* This is done by the County Executive Committee (CEC) members/Cabinet Secretary responsible for each sector. SWG is responsible for spearheading the process.

Data collection and analysis – review of relevant policies, laws and development strategies review sector performance, consolidate and analyze the collected data and information, and draft the Sectoral Plan.

Validation: The Draft Sectoral Plan is subjected to stakeholders for input and comments to be incorporated by the SWGs.

Approval, dissemination and implementation: The SWG will present the Draft Sectoral Plan for consideration and adoption before submission to the legislature for approval. Once the Plan is approved, it should be disseminated to various stakeholders followed by implementation, monitoring, evaluation and reporting.

Review of the Plan: The Sectoral Plan should be reviewed every five years and updated annually.

7.7 MEDIUM TERM EXPENDITURE FRAMEWORK

Once the Plans have been developed, there is need to translate the plans into action by allocating sufficient resources to enable their implementation. This is done through the Medium-Term Expenditure Framework (MTEF) at both levels of government. It is critical process for translating policies and plans into expenditure and action.

Preparation of the CADP: One of the key documents in the budget process is the CADP. It is a subset of the CIDP prioritizing the programmes and projects to be implemented in any given year. The preparation of the CADP follows a similar process to the planning process described above. It provides an avenue for prioritizing climate change interventions and allocating funds for those interventions.

Sector Working Groups: SWGs for purposes of the budgeting process are established with specific ToRs. Resources are bided for with the Sector Working Group framework. Departments are expected to bid for resources within the SWGs. No spending proposal is factored in the budget unless approved and considered within the SWGs process. It is within the SWG where funding for climate change interventions is allocated. There is need therefore to advocate for increased funding at this level.

Public participation: During the deliberations of the SWGs, sub-counties, wards and other stakeholders are involved. Public participation is also undertaken by County Assemblies. The stakeholders should therefore prioritize climate change intervention and ensure they are prioritized and funding allocated to them.

7.8 COUNTY SPECIFIC OPPORTUNITIES/GAPS FOR INTEGRATION OF CLIMATE CHANGE ISSUES

7.8.1 Turkana County

Turkana county has some unique features which may be utilized in deepen the integration of climate change. Similarly, there are equally gaps that need to be addressed in order to ensure that climate change issues are adequately addressed.

Opportunities for integration of Climate Change

- ❖ Existence of donor-based funding: There is a huge presence of international donors and other international NGOs including the World Bank, United Nations bodies and AfDB.

They have been undertaking specific programmes in the county. These agencies provide a critical mass of institutional capacity to drive climate change adaptation and mitigation forward. They implement programmes meant to ameliorate the effects of refugees and climate change related issues in the county. The county can leverage on this in order to prioritize the implementation of other climate change related interventions in line with the County Climate Change Action Plan. Some of the programmes with climate change components being implemented through donor support include KDRDIP.

- ❖ International funding sources: A number of international funding sources exist which counties may leverage on to finance their climate change interventions. These include the Green Climate Fund (GCF) and other bilateral and multilateral sources.
- ❖ Increased Advocacy/awareness on climate change: Both local and international NGOs and the national government have been active in creating awareness on the vagaries of climate change in the county. This knowledge can be harnessed to deepen climate change integration in the county especially at the community level.
- ❖ Realization of the value of integration: There is growing awareness at both levels of government on the added value of integrating climate change within policy, planning, budgeting, implementation and monitoring processes.
- ❖ Community awareness: There is a high level of awareness among community members on the effects of climate change. This can be used as an opportunity to deepen the integration of climate change interventions at the local community.
- ❖ Robust legal framework: The county has developed/initiated the development of a number of legal instruments addressing climate.
- ❖ Institutional framework: The County has designated the County Executive Committee Member responsible for Water, Empowerment and Mineral Resources to be in charge of Climate Change in the County. In addition, there is an interim County Climate Change Committee chaired by the County Officer responsible Water.
- ❖ Community Adaptation Action Plans (CAAP): RLACC has supported the development of the CAAPs for specific communities in the county. These action plans contain agriculture sector specific interventions relevant to climate change which need to be integrated into the CIDP.

- ❖ National level interventions opportunities for counties: These opportunities are in terms of technical expertise from national government agencies; national government projects and programmes; and devolved funding such as the National Government Constituency Development Fund. In addition, the Climate Change Directorate offers technical backstopping to counties on issues such as coordination, development and implementation of adaptation and mitigation policies, strategies and plans on CSA to enhance adaptation and mitigation.
- ❖ Devolved system of government: Counties are able to identify their local climate change interventions and allocate sufficient funds to implement them. In addition, Turkana County has established the Ward Development Fund which should address the ward-specific interventions.
- ❖ Resource abundance/local assets: This includes:
 - (a) Presence of local sorghum land races which are tolerant to drought;
 - (b) Presence of aquifers - Napuu, Lotikipi, Kachoda, Kangatotha, Meiyen, Tarach and Kaisamalit.
- ❖ Donor support in the area of research: A number of research work is currently being undertaken including:
 - (a) Research on alluvial aquifer: This is done by Oxford University and the University of Nairobi.
 - (b) GIS borehole mapping: This is being undertaken by JAICA.

Gaps impeding integration of Climate Change

- ❖ Differences in timeframes between the County Climate Change Action Plan and the County Integrated Development Plan. This is because the CIDP was developed earlier in 2018 while County Climate Change Action Plan was developed in 2019. Climate change interventions which are not aligned to the CIDP are therefore unable to secure funding from the government unless through donor support.
- ❖ Lack of mechanism coordination: The county has not established a proper mechanism of coordination the activities of agencies implementing climate change interventions in the county. This is due to lack of funding for coordination purposes. The Climate Change Bill establishes a coordination mechanism and creates the climate change fund pegged at 2% of the county's development budget.

- ❖ Inability to access fundings form international sources: This is mainly due to limited technical capacity coupled with stringent conditionalities. The conditions attached to funding access especially from international bodies are very tough. In addition, some funding agencies such as GIZ, World Bank would prefer to giving loans for climate change interventions instead of grants.
- ❖ Limited funding: Climate change interventions have suffered from resource constraints mainly arising from reallocation of funding for climate change related interventions to address other emergencies in the county.
- ❖ Legal instruments: Various legal instruments meant to deepen climate change actions are still awaiting approval by the County Assembly. This may affect the implementation of such pieces of legislations by the county. The county has not domesticated certain laws which have implications on climate change. For example, the Irrigation Act.
- ❖ Though CC interventions have been integrated into the CIDP, some of these are not clearly defined. In addition, the county does not have clear county specific indicators on climate change.

7.8.2 Baringo County

Baringo county has some unique features which may be utilized in deepen the integration of climate change. Similarly, there are equally gaps that need to be addressed in order to ensure that climate change issues are adequately addressed.

Opportunities for integration of Climate Change

- ❖ Realization of the Value of integration: There is growing awareness at both levels of government on the added value of integrating climate change within policy, planning, budgeting, implementation and monitoring processes.
- ❖ Existence of donor-based funding: There is a huge presence of international donors and other international NGOs including the European Commission; World Food Programme; Food and Agriculture Organization and World Bank. These agencies provide a critical mass of institutional capacity to drive climate change adaptation and mitigation forward. They have been undertaking specific programmes in the county. They implement programmes meant to ameliorate the effects of refugees and climate change related issues in the county. The county can leverage on this in order to prioritize

the implementation of other climate change related interventions in line with the County Climate Change Action Plan.

- ❖ Devolved system of government: Counties are able to identify their local climate change interventions and allocate sufficient funds to implement them. In addition, Turkana County has established the Ward Development Fund which should address the ward-specific interventions.
- ❖ Community Adaptation Action Plans (CAAP): RLACC has supported the development of the CAAPs for specific communities in the county. These action plans contain agriculture sector specific interventions relevant to climate change which need to be integrated into the CIDP.
- ❖ International funding sources: A number of international funding sources exist which counties may leverage on to finance their climate change interventions. This includes the Green Climate Fund (GCF) and other funding from bilateral and multilateral sources.
- ❖ National level interventions opportunities for counties: These opportunities are in terms of technical expertise from national government agencies (KALRO, NDMA, KEFRI, National Irrigation Board and Trust Fund); national government projects and programmes; and devolved funding such as the National Government Constituency Development Fund. In addition, the Climate Change Directorate offers technical backstopping to counties on issues such as coordination, development and implementation of adaptation and mitigation policies, strategies and plans on CSA to enhance adaptation and mitigation.
- ❖ Robust legal framework: The county has developed/initiated the development of a number of legal instruments addressing climate change.
- ❖ Institutional framework: The draft Climate Change Bill proposes the establishment of various institutions in line with the Climate Change Act 2016. The CEC member in charge of Environment has been designated to be in charge of climate change matters.
- ❖ Advocacy/awareness: Both local and international NGOs and the national government have been active in creating awareness on the vagaries of climate change in the county. This knowledge can be harnessed to deepen climate change integration in the county especially at the community level.

- ❖ Technical personnel: The county has a good number of county and national government staff with vast knowledge on climate change. These personnel cut across various sectors.
- ❖ Devolved system of government: Counties are able to identify their local climate change interventions and allocate sufficient funds to implement them.
- ❖ Resource abundance/local assets: For instance, the presence of Lake Baringo and other run offs for irrigated agriculture and pasture.

Gaps impeding integration of Climate Change

- ❖ Lack of mechanism coordination: The county has not established a proper mechanism of coordination the activities of agencies implementing climate change interventions in the county. This is due to lack of funding for coordination purposes. The Climate Change Bill establishes a coordination mechanism.
- ❖ Inability to access funding form international sources. This is mainly due to limited technical capacity coupled with stringent conditionalities.
- ❖ Legal instruments: Various legal instruments meant to deepen climate change actions are still awaiting approval by the County Assembly. This may affect the implementation of such pieces of legislations by the county.
- ❖ Limited funding: Climate change interventions have suffered from resource constraints mainly arising from reallocation of funding for climate change related interventions to address other emergencies in the county.
- ❖ Concentration of partner support in particular areas of the county leaving other areas vulnerable. This may unfairly disadvantage other regions.
- ❖ The county does not have a county climate change resource centre. This is important for ease of access of climate change related information.
- ❖ Funding conditionalities: The conditions attached to funding access especially from international bodies are very tough. This makes it difficult to access. In addition, some funding agencies such as GIZ, World Bank would prefer to giving loans for climate change interventions instead of grants.

7.9 CONCLUSION

It is evident that both levels of government have put in place the necessary mechanisms to address the effects of climate change. These are in terms of policies, strategies, plans and programmes. There is need however to ensure that those policy instruments which have not been fully operationalized be operationalized. In terms of programmes, there is need to adhere to the timelines set.

SECTION EIGHT: INTEGRATION OF CLIMATE CHANGE

8.1 INTRODUCTION

Climate change integration into development planning has been gaining currency within the public and private sectors in recent years. Integration is viewed as the best way of addressing challenges brought about by climate than addressing it in isolation through specific sector climate change policies, strategies and plans. Integrating climate change into development planning processes ensures that climate change related risks do not undermine the development gains. Further, it offers an opportunity to build adaptive capacity and resilience to climate change in order to minimize its future adverse effects. Presented here is a framework for integrating climate change into development planning. It addresses the “*how*” to integrate question by specifying the climate change entry points. Complete integration of climate change encompasses addressing all its different components and sub-components. The framework will enable governments and other development partners to integrate climate change into development planning in order to utilize the opportunities identified in the national and county planning processes.

8.2 CLIMATE CHANGE INTEGRATION

Climate change integration is the process of mainstreaming climate change issues into policy-making, budgeting and implementation at national, sectoral and county levels. Its success is dependent on the collaboration of both from the government and non-governmental actors (UNDP-UNEP, 2011). ‘Integrating’ something into development means ‘doing development better’ by mainstreaming additional qualitative considerations into the way we define, implement and evaluate development projects and programmes. “Integration” and “mainstreaming” are usually used interchangeably.

8.2.1 Objectives of Climate Change Integration

- ❖ To improve performance and contribution of each Ministry, sector and county departments by considering climate change risks reduction as an integral part of development, gains from development activities are likely to be enhanced.
- ❖ To help identify win-win opportunities for adaptation and mitigation.
- ❖ To create awareness of climate change threats at planning and policy development levels and thereby avoid maladaptive development.

8.2.2 Approaches for Climate Change Integration

Climate change integration can take place at different levels including National, sectoral and county levels. Integration at each of these levels is important for particular reasons (OECD, 2009).

National level: Integration at this is crucial since it is at this level that overall policy framework within which sectoral and county governments operate are developed; medium to long term development planning and strategies are set; co-ordination of sectoral policies and counties are done; and linkages with international development partners are provided.

Sectoral level: This level is important because climate change adaptation and mitigation activities are prioritized and implemented at this level. Integration can be done at this level during sectoral policy formulation and planning processes. A climate lens is applied to the strategies, plans and policies in order to avoid cases of maladaptation.

County and local level: This level is important for integrating climate change since climate change impacts are mostly felt at these levels; vulnerability and adaptive capacity are determined by conditions at the local levels; and climate change intervention activities are best observed at these levels.

8.3 FRAMEWORK FOR CLIMATE CHANGE INTEGRATION

8.3.1 Objectives of the Climate Change Integration Framework

- a) To address the “how to” integrate question by specifying the climate change entry points.
- b) To give guidance to stakeholders on the process of integrating climate change into planning processes.
- c) To offer an open and transparent planning and decision-making process that can be repeated, built upon and replicated
- d) To acts as a framework for planning and a tool for advocacy.

8.3.2 Climate Change Integration Principles

- a) Climate change integration is guided by the following principles:
- b) It is not a linear process; the spheres (in the framework) are interlinked;
- c) It is a continuous process;

- d) It requires multi-stakeholder approach; flexible in its application; and
- e) It is applicable at all levels of intervention.

8.3.3 Entry points for Climate Change Integration

This is the first part of integration and it sets the stage for integration. It focuses on activities meant to help in identifying entry points into the development planning process.

Table 7: Possible Entry Points for Integrating Climate Change into Planning Processes

Planning level	Entry points
National government and cross-sector ministries	<ul style="list-style-type: none"> • National development plan e.g., the Vision 2030. • The Medium Term Plans. • Medium Term Expenditure Framework. • Public expenditure reviews. • National government policies e.g., the NCCAP, NAP.
Sector Ministries	<ul style="list-style-type: none"> • Sector strategies, plans and policies. • Sector budgets. • Preparation of sector budgets.
County governments	<ul style="list-style-type: none"> • County Integrated Development Plans. • County Annual Integrated Development Plans. • Medium Term Expenditure Framework. • County Sector strategies, plans and policies. • County Sector budgets.

Source: UNDP-UNEP2011

8.4 CLIMATE CHANGE INTEGRATION FRAMEWORK

This framework is meant to guide policy makers on how to integrate. It is made up of five components/overarching areas with sub-components.

Framework Components

Policy Component/Sphere

Political component is exhibited through: enactment of legislation and regulations with respect to climate change; formulation of policies, strategies and planning for climate change; leadership and political commitment for climate change; and resource mobilisation and allocation for climate change.

- ❖ *Political commitment and leadership:* This is crucial to successful integration of climate change. It is the most important of the other components of the policy component. The enabling political leadership is crucial to ensuring that the reform process gains momentum and also encourages high levels of participation which leads to a higher emphasis on vulnerability reduction in the final legislation. For successful integration there should be explicit and clear top-level commitment.
- ❖ *Legislation and regulations:* This is an indicator of political commitment from the leadership on climate change. Legislative reform relating to climate change is a crucial starting point for climate change integration. What legislation/ regulations are in place? Legislations should define roles and responsibilities and provides incentives for the integration of climate change into strategies policies and plans.
- ❖ *Resource Mobilisation and Allocation:* A result of political commitment, and legislative framework. Climate change constitutes future investment which may which may not appeal to political class whose focus are short term in the midst of resource constraints. Resource mobilization and allocation is critical for integration of climate change. Commitments to climate change in development plans including annual work plans should be reflected in budget allocations and specific budget allocations provided. A key step in the integration of climate change is resources from various sources are identified and mobilized in key departments.
- ❖ *Strategies, Policies and Planning for climate change:* The political and financial commitment and a robust legislative framework should be able to be translated into strategies, policies and planning for successful climate change integration. Adaptation and mitigation relevant objectives should be part and parcel of the long-term development planning and sector and counties strategies and plans. In the formulation and implementation of strategies and policies a climate lens needs to be applied. Here, we assess whether climate change is integrated in national, sector or county policies. Climate change integration in these documents will ensure funds are allocated to viable climate change related interventions. A breakthrough in this is, therefore critical for successful integration of climate change in development.

Organization Component/Sphere

Organization component is exhibited by: location of climate change responsibility; capacity development for climate change; institution of internal procedures and incentives for climate change; and coordination of partnership.

- ❖ *Locating Climate Change Responsibility/Leadership:* Climate change should be included within the mainstream functions of the department/ministry. This meant to reinforce and support integration of climate change into both policymaking and resource allocation. The starting point for this is to create a network of climate change focal points or ambassadors within the departments and Ministries. Once the focal points/ambassadors are in place, then a strategy to ensure accountability of other staff to the focal point through proper reporting mechanisms should be developed. The focal points are supposed to push the climate change agenda within the organization and negotiate for resource allocation for climate change interventions. Senior people who have been in the organization long enough may adequately perform this function.
- ❖ *Internal procedures and Incentives/Development of internal procedures and incentives:* For climate change to be fully integrated into planning processes within the department, there must be procedures and incentives to do so. This will ensure that planning activities do not remain one-off but take place at regular intervals. The incentive may be in form of budget allocation to climate change for it to be institutionalized in each department.
- ❖ *Capacity Development for climate change:* This involves developing staff capacity in the area of climate change including the importance of integration. They should have the necessary capacity to carry out responsibilities associated with appropriate policies. Capacity development should focus on improving planning skills including risk assessments of key personnel to enable them integrate climate change into development plans and sectoral. Academic institutions should be able to develop courses related to climate change and help develop the capacity of the staff. Capacity development should also extend to institutional strengthening.
- ❖ *Coordination and Partnerships:* Climate change being a cross cutting issue requires interdisciplinary and multi-sectoral approach for it to be integrated adequately. There is need to develop appropriate mechanisms to stimulate inter-agency and inter-sectoral cooperation at all levels of government. It is important to place coordination for climate change into a central body with convening and/or decision- making powers over line ministries preferably

the office of the president. the ministry of finance, the ministry/department of planning. Coordination should be done preferably through an existing inter-sector mechanism. This will allow better integration of climate change considerations in key social and economic sectors.

If all the four elements of the Organisation Sphere are addressed, climate change is said to have been institutionalised i.e., it is incorporated into the structures and activities of relevant institutions.

- ❖ *Advocacy and Knowledge Component/Sphere:* Advocacy and knowledge is one of the components of climate change integration. Climate change awareness sessions should be part of professional trainings courses for civil servants and other professionals. The components of this sphere include awareness-raising for climate change; methods and analytical tools for climate change; research and education for climate change; and promotion of good practices in climate change.
- ❖ *Awareness-raising for climate change:* This is a precursor to integrating climate change into development activities. There is a lack of awareness among policy makers about the risks posed by climate change. Thorough awareness creation on climate change will ensure that communities and policy maker understand and accept the climate change agenda. A clear advocacy strategy should be developed to bring about the desired changes. Advocacy campaigns should focus on making climate change integration a priority in government policies; and developing legislation on climate change.
- ❖ *Methods and analytical tools for climate change:* Improved practical methods, tools for the integration should be developed. These tools include: Community Risk Screening Tool – Adaptation and Livelihoods; and Climate Change and Environmental Degradation Risk and Adaptation Assessment.
- ❖ *Research and education for climate change:* Climate change-related research institutes and university programmes should be developed. This may also involve the incorporation of climate change into the school curricula.
- ❖ *Promotion of good practices in climate change:* The good practices to be promoted are in different sectors. These should be promoted at both national and county level. These practices include: integrated water management system - diversifying water supply by maximizing rainwater harvesting, water reuse and water desalination; power generation through renewable energy; and increased afforestation and reforestation.

Implementation Component/Sphere

It aims at ensuring that climate change is mainstreamed into budgeting, implementation and monitoring Financing climate change interventions means integrating them into national systems and taking advantage of special funding sources. This sphere consists of risk-proofing investments; compliance and enforcement for climate change; monitoring and evaluation of climate change; and pilot projects.

- ❖ *Risk-proofing investments*: This involves increased budgetary allocations and public expenditures for climate change interventions in sector Ministries and counties. Increased budget allocations and public expenditures for adaptation policy measures of non-environment ministries and subnational bodies.
- ❖ *Compliance and enforcement for climate change*: This has to do with the enforcement of laws and regulations relating to climate change. The extent to which laws and regulations are enforced determines the extent of climate change integration.
- ❖ *Monitoring and evaluation of climate change*: It involves the integration of adaptation and mitigation in the national monitoring system in order to track climate change trends and implementation of policies. Development of performance indicators and benchmarks to monitor progress. Adaptation and mitigation indicators derived from the planning documents should be integrated in the national monitoring system.
- ❖ *Pilot/demonstration projects*: This involve putting in place pilot projects that show the relevance and effectiveness of adaptation and mitigation measures can make a difference in convincing policy makers to accordingly act. Evidence from local demonstration projects is often a powerful means to foster interest and commitment at both the subnational and higher institutional levels. These projects should be based on local understanding of climate change and its impact. Collaborating between the public and private sector can help convince policy makers of the relevance of climate change and promote learning from results demonstrated.

Citizen Component/Sphere

This sphere consists of: accountable political structures to climate change; participation of communities in climate change issues; pressure of communities; and representative civil society.

- ❖ *Accountable political structures to climate change*: Political accountability is one of the key indicators of climate change integration. Political structures at both the national and county

level should be accountable for climate change. Political leadership is very important in addressing climate change related issues. However, there should be structures to ensure that accountability of political leaders. Climate change will have been integrated if sub-sphere is achieved.

- ❖ *Participation of communities and representative civil society:* The participation of communities and civil society representatives in development planning is key to the integration of climate change into planning processes. They are better placed to identify and articulate their needs with respect to climate change adaptation and mitigation interventions.
- ❖ *Pressure of communities:* This includes the involvement of vulnerable groups and other pressure groups in planning and decision making. y pressure in site collection for housing project.

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ANNEX 1: SUMMARY OF OPPORTUNITIES

Opportunity	Action	Responsibility
Third Medium Term Plan	<p>Adaptation Interventions</p> <ul style="list-style-type: none"> Fertilizer subsidy; irrigated pasture development programme; Promotion of traditional high value crops; and crop and livestock insurance. Climate smart agriculture; and climate-proofed infrastructure; Hunger safety net programmes; and early warning and monitoring and evaluation system. 	<ul style="list-style-type: none"> CEC responsible for Agriculture. CEC responsible for Economic Planning.
Climate Change Act	<ul style="list-style-type: none"> Requirement for county governments to mainstream climate change actions into functions. Climate Change Fund – Source of funds to finance agriculture sector interventions. Climate Change Directorate – offers technical backstopping to county governments 	<ul style="list-style-type: none"> CEC responsible for Agriculture. CEC responsible for Economic Planning.
National Change Strategy	<p>Climate Response</p> <p>Adaptation Interventions</p> <ul style="list-style-type: none"> Timely dissemination of projected and downscaled weather information to farmers. Enhanced financial and technical support to the Orphan Crops Programme. Promoting irrigated agriculture. Enhancing agricultural extension services. Institutionalize Early Warning Systems on droughts, floods and disease outbreaks. <p>Mitigation Interventions</p> <ul style="list-style-type: none"> Appropriate use of biotechnologies. Encouraging improved crop production practices, e.g., mulching instead of repeated tilling to control weeds. 	<ul style="list-style-type: none"> CEC responsible for Agriculture. CEC responsible for Economic Planning.
National Change Action Plan	<p>Climate Response</p> <p>Adaptation Interventions</p> <ul style="list-style-type: none"> Promote the uptake of climate information in agricultural decision-making. Agricultural inputs subsidies. Crop insurance and livestock insurance. Reclamation of degraded land for climate-smart agricultural production, using agro-ecology approaches. Promotion of agroforestry at farm level. Promotion of diversified adaptive enterprises/value chains among households. Establishment of price stabilization schemes. 	<ul style="list-style-type: none"> CEC responsible for Agriculture. CEC responsible for Economic Planning.

		<p>Mitigation Interventions</p> <ul style="list-style-type: none"> • Agroforestry. • Sustainable Land Management. • Increasing the number of farmers using low-carbon aquaculture systems. 	
National Plan	Adaptation	<ul style="list-style-type: none"> • Promote the use of efficient irrigation systems. • Promote indigenous knowledge on crops. • Conduct climate risk and vulnerability assessments of the agriculture value chain. • Establish, maintain and promote the uptake of climate change related information on agriculture. • Establish price stabilization schemes and strategic livestock-based food reserves. • Promote and implement climate smart agriculture practices. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture. • CEC responsible for Economic Planning.
Nationally Determined Contribution		<p>Adaptation Interventions</p> <ul style="list-style-type: none"> • Enhancing the adaptive capacity and climate resilience in the agriculture sector. • Enhancing uptake of adaptation technology in agriculture sector. • Building resilience of the agriculture (crops, livestock and fisheries) systems through sustainable management of land, soil, water and other natural resources as well as insurance and other safety nets. <p>Mitigation Interventions</p> <ul style="list-style-type: none"> • Enhancement of energy and resource efficiency in the agriculture sectors. • Promotion of climate smart agriculture. • Increasing use of renewable energy in the agricultural sector. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture. • CEC responsible for Economic Planning.
National Change Policy	Climate Framework	<ul style="list-style-type: none"> • Mainstreaming of climate change into national and county planning processes at both national and county level. • Establishing the institutional framework and build capacity to coordinate and enhance mainstreaming in the agriculture sector. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture. • CEC responsible for Economic Planning.
National Policy on Climate Finance		<ul style="list-style-type: none"> • Mainstreaming of climate change into agricultural extension systems. • Promotion of Climate Smart Agriculture, including, drought tolerant high value and alternative crops. • Price stabilization schemes for livestock and crop farmers. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture. • CEC responsible for Economic Planning.

<p>Green Economy Strategy and Implementation Plan</p>	<ul style="list-style-type: none"> • Post-harvest management of crop, livestock and fisheries products. <p>Adaptation Interventions</p> <ul style="list-style-type: none"> • Technology development and transfer including promotion of locally available knowledge technologies. • Grow fast maturing, high value crops. • Promote drought tolerant food crops. <p>Mitigation Interventions</p> <ul style="list-style-type: none"> • Move towards a 10% tree cover. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture.
<p>Kenya Climate Smart Agriculture Strategy</p>	<p>Adaptation Interventions</p> <ul style="list-style-type: none"> • Promote crop varieties, livestock and fish breeds and tree species that are adapted to varied weather conditions. • Diversification of enterprises and alternative livelihoods. • Promote water harvesting and storage, irrigation infrastructure development and efficient water use. • Develop and use index-based agricultural insurance. <p>Mitigation Interventions</p> <ul style="list-style-type: none"> • Promotion of energy-efficient technologies and innovations. • Mainstream Sustainable Natural Resource Management to reduce emissions as a co-benefit. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture.
<p>Kenya Climate Smart Agriculture Implementation Framework</p>	<p>Adaptation Interventions</p> <ul style="list-style-type: none"> • Identify, disseminate and upscale existing climate smart agricultural technologies and practices. • Introduce diversified and improved crop varieties; use of efficient water technologies in irrigation. • Climate proof water harvesting, storage structures and infrastructure. • Promote development of flood control infrastructure. • Promote soil and water conservation practices. • Promote production of climate smart alternative livelihoods. • Strengthen production of downscaled efficient Early Warning Systems. <p>Mitigation Interventions</p>	<ul style="list-style-type: none"> • CEC responsible for Agriculture.

	<ul style="list-style-type: none"> • Enhance use of low greenhouse gas emitting crop production technologies and practices. • Promote adoption of low emission technologies from the livestock value chain. • Promote integrated farming systems comprising crops, livestock, aquaculture and farm forestry. • Increase use of appropriate renewable energy technologies in irrigation systems. • Promote conservation agriculture; support agroforestry. • Promote use of energy efficient technologies in production, harvesting, processing and transportation of agricultural inputs and products. 	
Crops Act 2013	Establishes the Commodities Fund which provide sustainable affordable credit and advances to farmers for farm improvement; farm inputs; farming operations; and price stabilization.	<ul style="list-style-type: none"> • CEC responsible for Agriculture • CEC responsible for environment.
Irrigation Act 2019	Establishes the National Irrigation Authority charged with the development and improvement of irrigation infrastructure and provide irrigation support services to smallholder schemes. The counties of Turkana and Baringo can partner with the Authority in order to enhance their own irrigation infrastructure.	<ul style="list-style-type: none"> • CEC responsible for Agriculture. • CEC responsible for Environment.
National Food and Nutrition Security Policy	<ul style="list-style-type: none"> • Integration of climate change adaptation in agricultural programmes and policies. • Improvement in forecasting of climatic change and support communities to respond to new opportunities and challenges. • Promote and support sustainable irrigation and water management systems. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture.
County Integrated Development Plan/County Annual Development Plan	Replication and implementation of climate change interventions in other parts of the county.	<ul style="list-style-type: none"> • CO responsible for Economic Planning
Baringo County Agriculture Policy	Replication and implementation of climate change interventions in other parts of the county. These interventions include: <ul style="list-style-type: none"> • Promotion of the use of modern and appropriate technologies to increase and diversify food and feed production and use. • Promotion of the use of diversified technologies to increase crop, livestock and fisheries production. 	<ul style="list-style-type: none"> • CO responsible for Agriculture.

		<ul style="list-style-type: none"> • Promotion of the use of diversified technologies to increase crop, livestock and fisheries production. • Promotion of the use of diversified technologies to increase crop, livestock and fisheries production. 	
Baringo County Livestock Policy		<p>Replication and implementation of climate change interventions in other parts of the county. These interventions include:</p> <ul style="list-style-type: none"> • Promote establishment of pasture, fodder and legumes for county feed formulations. • Enhance water availability for livestock use at all livelihood zones. • Promote establishment of County feed strategic reserves for use during emergency. • Promote alternative livelihood systems within the pastoral areas. • Enhance pasture and fodder production and conservation. • Establish an effective livestock insurance scheme. 	<ul style="list-style-type: none"> • CO responsible for Agriculture.
Turkana County Water and Urban Sewerage Strategic Plan		<p>Replication and implementation of climate change interventions in other parts of the county. These interventions include:</p> <ul style="list-style-type: none"> • Promote roof harvesting and storage. • Drought cycle management. 	<ul style="list-style-type: none"> • CO responsible for Water.
Turkana County Climate Change Policy		<p>Replication and implementation of climate change interventions in other parts of the county.</p> <p>Adaptation Interventions</p> <ul style="list-style-type: none"> • Diversification of livelihood. • Improve early warning systems to save lives and protect assets. • Invest in social protection e.g., poverty benefit schemes and insurance-based solutions. • Promote adoption of climate-resilient crop varieties by supporting research and investment. <p>Mitigation Interventions</p> <ul style="list-style-type: none"> • Promote agroforestry and use of legumes. • Increase tree cover through afforestation programmes. • Increase carbon stocks in the soil by promoting biochar application to increase soil fertility, workability and water holding capacity. • Conserve and rehabilitate water catchment areas. 	<ul style="list-style-type: none"> • CO responsible for Agriculture.

Kenya Climate Smart Agriculture Project	<p>Replication and upscaling of project's components/activities in other parts of the county.</p> <ul style="list-style-type: none"> Upscaling Climate Smart Agricultural Practices - promoting livelihood and crop diversification; constructing and rehabilitating small-scale farmer-managed irrigation schemes. <p>Examples of potential TIMPs for scaling up CSA</p> <ul style="list-style-type: none"> Conservation agriculture; crop rotation and diversification. Creating agro-forestry parks. Dredging of waterways 	<ul style="list-style-type: none"> CO responsible for Agriculture.
Rural Livelihoods' Adaptation to Climate Change Project	<p>Replication and upscaling of project's components/activities in other parts of the county.</p> <ul style="list-style-type: none"> Training/awareness raising of communities, local NGOs and CBOs on resilience to climate change. Provision of grants to scale up and disseminate community-based water harvesting and micro-facilities. Rehabilitation of rural roads taking into account climate change. Implementation of anti-erosion and reforestation measures in the watersheds. 	<ul style="list-style-type: none"> CO responsible for Agriculture.
National Agricultural and Rural Inclusive Growth Project	<p>Replication and upscaling of project's components/activities in other parts of the county.</p> <ul style="list-style-type: none"> Value Chain support - poultry, dairy, red meat, apiculture. Employment programs. Flood control infrastructure. Value Chain mapping and strategy development. 	<ul style="list-style-type: none"> CO responsible for Agriculture.
Drought Resilience and Sustainable Livelihoods Programme in the Horn of Africa Project	<p>Replication and upscaling of project's components/activities in other parts of the county.</p> <ul style="list-style-type: none"> Sanitation, Hygiene and Social Environment campaigns. Protection of water reservoirs and conservation of water catchment areas. Range re-seeding and bush control and clearing. Soil and water conservation activities. Facilitate knowledge generation. 	<ul style="list-style-type: none"> CO responsible for Agriculture.
Regional Pastoral Livelihood Resilience Project	<p>Replication and upscaling of project's components/activities in other parts of the county.</p> <ul style="list-style-type: none"> Development of water infrastructure e.g., valley tanks and valley dams. 	<ul style="list-style-type: none"> CO responsible for Agriculture.

		<ul style="list-style-type: none"> • Feed and fodder production. This includes distribution of fodder crop seeds. • Livelihood's diversification including apiary, poultry and aquaculture. 	
Agricultural Development Programme	Sector Support	<p>Replication and upscaling of project's components/activities in other parts of the county.</p> <ul style="list-style-type: none"> • Solar powered water pumps for irrigation. • Solar powered cooling systems in dairy. • Silage making. • Water conservation technologies e.g., drip irrigation; pasture conservation. 	<ul style="list-style-type: none"> • CO responsible for Agriculture.
Affruiation Programme		<p>Replication and upscaling of project's components/activities in other parts of the county.</p> <ul style="list-style-type: none"> • Supply of grafted fruit tree seedlings. • Establishment of fruit tree nurseries. • Fruit value addition. 	<ul style="list-style-type: none"> • CO responsible for Agriculture.

Policy Development Process and Opportunities for Integration of Climate Change

Policy formulation		<ul style="list-style-type: none"> • Place climate change issues as part of the agenda of the government. • Applying a climate lens to national/sectoral policies and strategies being formulated and recognizing climate change related challenges. • Key entry point for climate change adaptation and mitigation. 	<ul style="list-style-type: none"> • CEC responsible for Agriculture.
Planning		<ul style="list-style-type: none"> • Provides an opportunity to integrate specific climate change interventions. 	<ul style="list-style-type: none"> • CO responsible for Agriculture. • CO responsible for Economic Planning.
Resource allocation		<ul style="list-style-type: none"> • Provides an opportunity funding climate change specific intervention. • Involves costing of a project to be implemented within a given period of time. 	<ul style="list-style-type: none"> • County Executive Committee. • County Assembly.
Programming/implementation		<ul style="list-style-type: none"> • It provides potential entry points for climate change integration. 	<ul style="list-style-type: none"> • CO responsible for Agriculture. • Director responsible for Agriculture.

Planning Process and Opportunities for Integration of Climate Change

Planning Process and opportunities for integration of Climate Change		<ul style="list-style-type: none"> • Periodicity in planning processes – done every five years. Offers an opportunity to integrate climate change. • Formation of the Sector Working Groups and other technical working groups – multisectoral representation. 	<ul style="list-style-type: none"> • CEC responsible for Economic Planning.
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		<ul style="list-style-type: none"> Stakeholder consultations – identification of climate change interventions at the community level and integration into planning processes. Data Collection and Analysis – Collection of both primary and secondary data. 	
County Opportunities	Specific	<ul style="list-style-type: none"> Existence of donor-based funding. Increased advocacy/awareness on climate change. Realization of the value of integration. Community awareness. Community Adaptation Action Plans. National level interventions opportunities for counties – Climate Change Directorate. 	<ul style="list-style-type: none"> CEC responsible for Economic Planning. CEC responsible for Agriculture. CEC responsible for Environment.

ANNEX 2: SUMMARY OF GAPS

Gaps	Action	Responsibility
Other Interventions	There are a number of sector-based policies which are currently being developed. These include the National Agriculture Soil Management Policy 2020 and Climate Change Regulations (Climate Change (Duties and Incentives) Regulations 2021, Climate Change (Monitoring, Reporting and Verification) Regulations 2021); Baringo County Climate Change Bill and the National Agricultural Insurance Policy; Turkana County Water and Sewerage Policy; Turkana County Climate Change Bill.	County Assembly.
County Specific Gaps	<p>Lack of mechanism coordination of matters climate change</p> <p>Differences in timeframes between the County Climate Change Action Plan and the County Integrated Development Plan.</p> <p>Lack of presence of Climate Change Directorate</p> <p>Inability to access funding form international sources</p> <p>Non-domestication of agriculture related policies and laws.</p>	<p>County Assembly.</p> <p>CEC responsible for Environment.</p> <p>CEC responsible for Environment.</p> <p>CEC responsible for Economic Planning.</p> <p>Climate Change Directorate</p> <p>CEC responsible for Environment.</p> <p>CEC responsible for Economic Planning.</p> <p>Ministry of Agriculture.</p> <p>CEC responsible for Agriculture.</p> <p>County Assembly.</p>