

**REPUBLIC OF KENYA**



**MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES  
AND COOPERATIVES**



**RANGE MANAGEMENT AND  
PASTORALISM STRATEGY  
2021 – 2031**



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## FOREWORD

This Strategy is a result of various consultations among stakeholders who converged to develop a National Rangeland Management and Pastoralism Strategy. It addresses challenges and shortcomings arising from practices in the Arid and Semi-Arid Lands. The national government and the county governments sought to work together with stakeholders and development partners with the aim of developing strategies that provide long term solutions to rangeland degradation and low productivity for the benefit of pastoral communities and the economy of Kenya. This document is consistent with the provisions of the Agricultural Growth and Transformation Strategy, and is developed within the overall framework of the Sessional Paper No 2 of 2008 on livestock policy and the draft National livestock bill.

The development of the Range Management and Pastoralism Strategy (RMPS) is a positive step towards the realization of these needs, and more so, clearly links to the need for climate change adaptation and mitigation for better livelihoods, which is part of Kenya's obligation as a signatory to the United Nations Framework Convention on Climate Change. The strategy has clear objectives of reducing land degradation while increasing land productivity; sustainably exploring the existing natural resources, development and adoption of appropriate technologies; support enterprises development and marketing of products; and promotion of other sustainable livelihoods in the rangelands besides livestock production.

Additionally, it provides a clear road map for implementation, coordination, and strategic partnerships needed and the roles that if well implemented, the contribution of Kenya's rangelands to the vibrancy of the country's economy will be achieved. To this end, the government of Kenya through the Ministry of Agriculture, Livestock, Fisheries and Cooperatives (MoALF&C) and the county governments will fully support the investments and implementation of strategies and activities in the context of the current agriculture sector governance structure.

I take this opportunity to invite all the relevant stakeholders to play their respective roles in ensuring the successful implementation of this Strategy for the well-being of all Kenyan citizens.



**Hon. Peter Munya, EGH**

Cabinet Secretary,

Ministry of Agriculture, Livestock, Fisheries and Cooperatives

## **PREFACE**

Productivity of the rangelands in Kenya has been under threat in the recent decades due to various factors. These include climate change and variability especially frequent droughts and floods; land degradation and loss of biodiversity. These have threatened the sustainability of rangeland resources and created economic and environmental challenges that need urgent attention to safeguard the well-being of the communities especially the pastoralists. Urgent measures and interventions are therefore required to protect the rangeland resources and enhance their sustainable utilization.

The Kenyan rangelands, especially the ASALs, are poorly developed. This is characterized by high incidences of poverty and malnutrition requiring frequent relief assistance. The situation has been worsened by increasing human population and consequent shrinkage of the rangeland resource base and rural urban migration in search of alternative livelihoods. Investments in the rangelands rehabilitation and improvement will greatly contribute to the attainment of food and nutritional security as envisaged in the Constitution of Kenya and the Vision 2030.

The development and adoption of proven technologies for rangeland resource exploitation, management and utilization together with strengthening of governance and management at community level is an opportunity that needs to be explored to ensure sustainability in the rangelands. The Rangeland Management Strategy is envisioned to provide a short term (3years), midterm (6years) and long-term (10 years) interventions for implementation with the support of all the stakeholders. The success of this strategy requires the participation of all stakeholders and development partners to help realise its objectives.

The strategy has been developed to provide what has been lacking for years and has given adequate attention to the avenues for sustainable utilization of rangelands resources, together with the inclusion of the views and needs of the inhabitant communities. The strategy has been prepared through participatory and consultative process by all the relevant stakeholders. This process ensured that all the community development objectives have been considered and the implementation framework developed. The strategy offers the opportunity for the National Government and County Governments and all the stake holders to work together towards sustainable rangeland development and contribute to the economy while shielding the pastoralists from climate change and variability impacts.



Harry Kimtai, CBS  
Principal Secretary

## **ACKNOWLEDGEMENT**

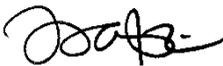
The development of this Range Management and Pastoralism Strategy was achieved through a highly consultative and participatory process involving stakeholders from development partners, the universities, research organizations, the national, county and community levels, whose resolute efforts, inputs and contributions culminated in its success.

Special thanks are due to the Principal Secretary, State Department for Livestock, Mr. Harry Kimtai CBS, the former Director of Livestock Production, Mr. Julius Kiptarus EBS, the former Chief of Range Resources Development Division, Mr. Ernest Mbogo. Special appreciation are also due to The Project Coordinator of Regional Livelihood Resilience Project (RPLRP), Mr. James K. Tendwa, and the National Project Coordinator of Kenya Climate Smart Agriculture Project (KSCAP), Mr. Francis Muthami, both of whom funded critical phases during the development and distribution of this strategy.

Specifically, I wish to acknowledge and appreciate the efforts and commitment of the taskforce that prepared this strategy: Mr. Blaise P. Okinyi, Ms. Jane Gakure, Mr. Stanley Humaiya, Mr. Fredrick Aloo, Mr. Michael Oyugah, Ms. Pamela Ndeda, Mr. Joel Leposo (SDL), Dr. Oscar Koech (UON), Dr. George A. Keya, Mr. Michael Okoti, Dr. Simon Kuria (KALRO) and Ms. Gladwell Mwemba Mwasi (NCC).

Finally, I wish to thank all the Stake holders and Development Partners who participated in the development of this Strategy. Worth of mention include FAO, ASF, USAID-AHADI, KFS (MENR), KWS, County Governments and Community Groups.

Your efforts are gratefully acknowledged.



Mr. Bishar Fille Elmi,  
Director of Livestock Production (Ag)

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## **EXECUTIVE SUMMARY**

Kenya's rangelands account for over 83% of the country's land mass and support over 70% of the country's livestock and 85% of wildlife populations. Unfortunately, the productivity of these rangelands has been greatly affected by the frequent droughts and floods that characterize the impacts of climate change and variability. This has resulted to major threats to the integrity of these critical ecosystems that support over 10 million people who directly derive their livelihoods from the existing natural resources. The impacts of the droughts on the population have been increasing exponentially from 1970s to date. In the quest to address these challenges, the two levels of governments and other development organizations have been working with pastoral communities in areas of resilience and livelihood support. Sadly, despite these efforts, little has been attained, from the development of many policies and acts that recognize the need for rangeland production systems support. This has seen rangeland inhabitants and pastoralists still struggling with meeting their daily needs, and heavily burdening the already constrained government budget during the harsh conditions of droughts and floods when need for humanitarian assistance is needed as a result of disasters.

Experts and stakeholders having identified the many challenges in the rangelands that include; Inadequate and fluctuating availability of fodder and water, encroachment of crop production into pastoral land, alienation of pastoral lands, inadequate markets and marketing infrastructure, inadequate extension service delivery in ASALs area, inadequate research in rangeland resources, uncoordinated drought response including restocking initiative, inappropriate legal and regulatory framework and Insecurity, realized the need to develop a responsive and inclusive strategy that will guide and ensure that national government, county governments, development partners and other stakeholders invest and support strategies that contribute to sustainable rangeland resource utilization and management in Kenyan rangelands.

This rangeland and pastoralism strategy has been developed in consultation with all the stakeholders in the rangelands, including the resource users who participated in a validation workshop. The strategy seeks to guide decisions in land use, planning and investments to ensure sustainable development in the rangelands of Kenya, with a clear roadmap of resource exploitation and management. The strategy aims at ensuring that rangeland resources are managed sustainably with the active involvement of all the stakeholders from the National government, county governments, development partners and the user groups. The strategy is anchored in national livestock policy, with a focus to strengthen range resource utilization, in line with the provisions of the constitution of Kenya and other related policies and acts that govern natural resources in Kenya. The strategy recognizes the gaps that exist in policies and acts that relate to the management of rangeland ecosystems and addresses the gaps by presenting strategies to be developed with clear mandates and

responsibility to specific stakeholders. The strategy also strengthens mechanism for linkages and coordination between the policies on rangeland development matters and among stakeholders and inhabitants. This strategy aims at supporting the ongoing efforts by all stakeholders, enhance co-ordination of interventions and support to rangeland resource use and management planning for better livelihoods. Pastoralism issues and challenges have also been addressed to recognize traditional resource management systems that over the years have successfully been practiced. These includes practices which embrace use of pastoral indigenous knowledge that have been consistent with range resources and environment preservation, conservation and management.

The broad objective of the strategy is to provide an effective framework for strengthening institutions to develop sustainable interventions, mitigation and adaptation measures that preserve, protect and sustain the rangelands productivity. The specific strategic objectives for the RMPS are: i) to institute measures to increase rangeland health for sustainable productivity ii) to revitalize pastoralism production systems; iii) to develop mechanisms for sustainable Rangeland management; iv) to mainstream climate change adaptation and mitigation measures for enhanced productivity and sustainable Rangeland management; v) to increase marketing of rangeland resources for improved livelihoods of rangeland inhabitants; vi) to increase sustainable exploitation of alternative rangeland resources for improved livelihoods.

The coordination framework and implementation mechanism for the rangeland management strategy will be harmonized with the inter-governmental coordination structure between the national government and the county governments to ensure clarity in flow of information, policy direction and funds. The implementation of this strategy will be majorly coordinated by the Counties who will seek to downscale to their available rangeland resources and develop their county rangeland management strategy for implementation with the support of all the stakeholders. The source of investment resources to implement the RMPS Strategy will be mobilized from diverse sources and appropriate mechanisms established for access, disbursement and utilization. The strategy provides a detailed implementation framework with clear stakeholder roles and responsibilities, with the establishment of an M & E framework at all levels of implementation.

## ACRONYMS

|        |   |   |
|--------|---|---|
| ASALs  | - | Arid and Semi-Arid Lands  |
| ASF    | - | ASAL Stakeholders' Forum  |
| ASDS   | - | Agricultural Sector Development Strategy  |
| CBOs   | - | Community Based Organizations   |
| CIDP   | - | County Integrated Development Plans   |
| COG    | - | Council of Governors  |
| CSO    | - | Civil Society Organizations   |
| DRSRS  | - | Department of Remote Sensing and Resource Survey                                |
| DVS    | - | Directorate of Veterinary Services  |
| EAC    | - | East African Community  |
| EIA    | - | Environmental Impact Assessment   |
| FAO    | - | Food and Agriculture Organization of the United Nations                         |
| FBO    | - | Faith Based Organizations   |
| GDP    | - | Gross Domestic Product  |
| GOK    | - | Government of Kenya   |
| ICPALD | - | Inter-Governmental Authority Center on Pastoral Areas and Livestock Development |
| ICRAF  | - | World Agroforestry (ICRAF)  |
| IFAD   | - | International Fund for Agricultural Development                                 |
| IGAD   | - | Intergovernmental Authority Development   |
| ILRI   | - | International Livestock Research Institute                                      |
| KALRO  | - | Kenya Agricultural and Livestock Research Organization,                         |
| LT     | - | Long Term   |
| MT     | - | Medium Term   |
| NEMA   | - | National Environmental Management Authority                                     |
| RMPS   | - | Range Management and Pastoralism Strategy                                       |
| RPLRP  | - | Regional Pastoral Livelihood Resilience Project                                 |
| SDL    | - | State Department for Livestock  |
| ST     | - | Short Term  |
| UON    | - | University of Nairobi   |

## GLOSSARY

**Alternative Livelihoods:** This refers to other sources income and means of life to Pastoralists to reduce over reliance on Livestock as the only means of livelihood. In the Rangelands, alternative sources of livelihood include beekeeping, gum Arabica production, handiwork, dryland agriculture and ecotourism.

**Biodiversity:** The total diversity of all organisms and ecosystems at all various spatial scales, or the variety of plant and animal life in a particular range ecosystem or habitat, a high level of which is usually considered to be important and desirable.

**Carbon sequestration:** the process of removing carbon from the atmosphere and depositing it in the reservoir, such as soil or trees.

**Carrying Capacity:** The carrying capacity of an ecosystem is the size of the population that can be supported indefinitely upon the available resources and services of that ecosystem.

**Climate change:** Change in the state of climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to persistent anthropogenic changes in the composition of the atmosphere or in land use.

**Disaster Risk Management:** the systematic processes of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and possibility of disaster.

**Disaster Risk Reduction:** the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and environment and improved preparedness for adverse occurrences.

**Disaster:** A serious disruption in the normal functioning of a community, society or livestock involving widespread human, material, economic or environmental losses and impacts which exceeds the ability of the affected community or society to cope using its own resources.

**Drought:** The phenomenon that exists when precipitation is significantly below normal recorded levels, causing serious hydrological imbalances that often adversely affect land resources and production systems. In Range areas, this is manifested by both human and livestock deaths arising from prolonged lack of forage, water and food.

**Ecosystem Services:** Ecological functions or processes that have that have monetary or non-monetary value to individual, community or society at large, e.g. cultural services such as tourism, or spiritual and aesthetic appreciation.

**Ecosystem:** The interactive system formed from all living organisms and their physical and chemical environment within a particular area.

**Nomadic Pastoralism:** Is a form of pastoralism where livestock are herded in order to find fresh pastures on which to graze. Nomadic Pastoralists follow an irregular pattern of movement.

**Pastoralism** refers to both an economic activity and a cultural identity. As an economic activity, pastoralism is an animal production system which takes advantage of the characteristic instability of rangeland environments through strategic mobility, where key resources such as pastures, nutrients and water for livestock becomes available in short-lived and largely unpredictable concentrations. Crucial aspects of pastoralism specializations are; the interaction of people animals and the environment, particularly mobility of livestock while grazing/browsing and watering at intervals; and the development of flexible resource management systems, particularly communal land management and non-exclusive entitle

**Ranching:** Livestock production enterprise where a group jointly owns freehold title to land and herd their livestock collectively though they own them individually. Selection of members to ranches in Kenya was based on kinship and traditional land rights. Ranching is a concept in the Rangelands that is slowly gaining popularity due to its sustainable approach and the immense benefits it offers its members.

**Range management** is the science and art of ensuring the sustainable use of range resources. It relies on ecological principles in dealing with the use of rangelands and range resources for a variety of purposes. These purposes include use as grazing for livestock, as wildlife habitat, watersheds, recreation and other associated uses. Rangelands are managed principally with extensive practices such as managed livestock grazing and nomadic pastoralism rather than more intensive agricultural practices of seeding, irrigation, and the use of fertilizers

**Rangelands** are vast undisturbed natural resources and landscapes in the form of grasslands, bushland, woodlands, wetlands and deserts. They grow primarily indigenous vegetation, rather than plants established by humans. Rangelands comprise about 89% of all the lands in Kenya.

**Tropical Livestock Units (TLU):** Tropical Livestock Units are livestock numbers converted to a common unit. It is based on a weight of 250 kgs. Conversion factors are: cattle = 0.7, sheep = 0.1, goats = 0.1, pigs = 0.2, chicken = 0.01.

# **CHAPTER ONE: INTRODUCTION**

## **1.1 Background information**

Kenya has a landmass of 582,650 square kilometers. The savannah and grassland eco-systems collectively referred to as Arid and Semi-Arid Lands (pastoral rangeland) constitute about 84 percent of the land mass. The key defining feature of Kenyan rangelands is their aridity. They represent ecosystems characterized by low, erratic, variable precipitation (with high temporal and spatial variability) and high inter-annual climatic variability. Temperatures in these areas are high throughout the year, resulting in high rates of evapotranspiration. Additionally, the soils are shallow, of light to medium texture, low-fertility and susceptible to erosion, compaction and capping. The Kenyan rangelands have many functions, but environmentally the most important one is that it provides a vegetation cover and thus protection for the soil, which also ensures sustainable economic production of feed for animals, firewood and other indirect benefits. The dominant vegetation types are grasslands, shrublands and scattered woody vegetation. The rangeland ecosystems also act as watersheds and recreation sites, are home to various wild animals that form the basis of tourism and harbor sacred and spiritual sites that have cultural values.

## **1.2 Economic importance of rangelands**

These areas support more than 10 million (about 36 percent) of the human population, 70% of the country's livestock herd, and home to 85% of total wildlife population. Around 70% of the human population is primarily or partly dependent on livestock. Kenya has an estimated population of 14 million beef cattle, 17 million sheep, 24 million meat goats and 3 million camels. Livestock accounts for 53% of the agricultural capital stock and contribute 30% to agricultural GDP. The main mode of production systems in the rangelands is Pastoral, Agro pastoral and Ranching. The rangeland communities solely depend on natural resources for their livelihoods. Sustainable livelihoods need to take cognizance of the alternatives available for livelihood diversification that is vital for enhancement of food security and household incomes among other benefits. Though there is great potential for the production of rangeland products, the institutional and technological capacity is often poor, and the policy and legal framework unfavourable to progress in production and marketing of dryland products.

The rich plant diversity in the rangelands is a source of various economic products, including fuelwood, timber, medicine, honey, dye, resins, gum, fruits and vegetables. They also hold significant natural resources such as oil, gas and sunshine and wind which could be harnessed as renewable energy to improve livelihoods. Improved production and access to markets for rangeland products coupled with sustainable management of natural resources will greatly contribute to alternative livelihoods. Among the key rangeland products are animal based (skins, wool and milk among others), plant based genetic resources such as *Aloe vera*, frankincense, myrrh, gum arabica, dyes and medicinal herbs, honey, handicrafts and minerals all of which have a ready market locally and internationally. Private sector participation through partnership with local communities has been found to be an important ingredient in successful trade/marketing of dryland products. Apart from these biophysical resources, the pastoral communities present huge opportunities to be exploited for their development and transformation. These include the immense capital of social cohesion, indigenous technical knowledge about their environment and customary rules for natural resources management and conflict resolutions, particularly for rangeland and water resources.

However, Kenyan rangelands as elsewhere in the world, are undermined and threatened by various challenges such as land fragmentation, encroachment, invasive plant species, poaching, over-stocking, and over-grazing.; Additionally, degradation, negative impacts of climate variability characterized by persistent and recurrent droughts and floods, loss of traditional adaptive resource use strategies, limited development initiatives and policy dilemmas.

The pastoralists are faced with perennial scarcity of livestock feeds; high transaction costs and are unable to compete fairly in local, national or global markets due to inadequate investments in infrastructure and basic services. Other challenges include long distances to processing plants, limited access to formal markets, poor access to information and fair contracts, limited access to financial services such as credit facilities, and insufficient and inadequate extension services. The recent outbreak of the covid 19 (corona) virus worldwide also has increasingly affected the pastoralists to such an extent that their livelihood sources including tourism, cultural events,

livestock trade and sale of artifacts reduced drastically as visitors were blocked from accessing their products due to lockdowns and curfews.

### **1.3 Policy initiatives**

Over the years, the government implemented several policy interventions that would help reduce pastoral poverty and maintain the ecosystem integrity of the rangelands. From 1900-1964, the colonial government initiated grazing control, establishment of disease quarantines and livestock destocking programmes, but all these interventions were unpopular with the pastoralists. During the years of 1964-1980, the government pursued an economic integration strategy, which aimed at transforming nomadic pastoralism to commercial ranches for supplying meat for export outside the pastoral zones. During this phase, there was investment in water development, stock route development and stratification of the production system strategy, whereby young stock from more arid zones were sold to commercial and group ranches for fattening before slaughter. In the years of 1980-1992, the focus was on development of human resources; exploitation of the productive potential of ASALs; natural resource conservation; and integration of ASALs in the national economy. From the 1992-2002, policies addressed socio-economic vulnerabilities, the environmental degradation, integration of environment and development approaches; water resources development; social and community development. The policy initiatives from 2004-2012 supported interventions to improve access to markets and market opportunities for the poor, enable economic growth and reduce the poverty and vulnerability of marginal groups in ASALs. Since 2012, the government is fast-tracking the sustainable development of ASALs by increasing investment in the region and ensuring the use of these resources is fully reconciled with the realities of people's lives. These include expansion of social protection interventions, development of financial services that include both human and livestock insurance and support to alternative livelihood strategies.

Though there are policy efforts to address rangeland and pastoral production systems, there are no specific strategies anchored on these policies. This has been hampered effective policy implementation and affected their sustainable exploitation and management.

## **CHAPTER TWO: SITUATION ANALYSIS**

### **2.1 Overview**

Kenya's Rangelands commonly referred to as the Arid and Semi-Arid Lands occupy about 84 percent of the country and are home to about 36 percent of the human population. They are home to 70% of the national livestock herd and 90% of the wild game that supports the country's tourism industry. The basic foundations for development in these areas are inadequate and social indicators including literacy levels, income, health, water and sanitation and infrastructure are below the national average. Over 60 percent of ASAL inhabitants live below poverty line compared to the national poverty incidence of 49.8 percent. Counties in the rangelands such as Isiolo, Tana River, Wajir, Mandera, Marsabit and Turkana have poverty levels of 71.6, 76.9, 84.87.6, 91.7 and 94.9% respectively.

The rising population in the ASALs given the declining natural resource base poses a great challenge for the sustainability of these areas. In addition, land degradation, droughts, high livestock disease incidences, conflicts and household food insecurity are common features. As a result Kenya is no longer self-sufficient in red meat production and relies considerably on inflow of livestock from neighboring countries.

The dominant production systems in the Rangelands are agro pastoralism, nomadic pastoralism and ranching. However, the conservancy concept is taking root and is increasingly being embraced by the pastoralists as an alternative means of gaining benefits from vast landmass through partnership with private developers. Agro-pastoralism is practiced in semi-arid counties which receive rainfall between 500 – 750mm. The agro-pastoralists keep both livestock and practice crop farming in private owned land. Cattle and small stock are kept through free natural grazing in open pastures. Drought tolerant crops are grown and irrigation agriculture is practiced in areas where perennial rivers exist.

Nomadic pastoralism is practiced in the low rainfall zone (Arid) receiving 200 - 350mm of rainfall annually. Nomadic pastoralists move from one area to another while grazing their livestock on sparse vegetation and watering their herds at intervals of two to five days depending on the livestock species being herded and derive their livelihoods from livestock. This system is

practiced in communal land ownership structures based on traditional customs.

Ranching is a large scale commercial livestock production system, which is practiced mainly in the medium rainfall zones of the Rangelands. Ownership of the ranches is in three forms; private ranches which are owned by individuals or limited companies, group ranches and cooperative ranches. The potential of many group & cooperative ranches has not been fully utilized because of poor management and lack of adequate skills and ability to transform production systems to market demands. A good number of private and community ranches have successfully converted themselves into conservancies specializing in livestock production and wildlife tourism earning themselves much needed revenue.

The rangelands have enormous resources that can be harnessed not only to sustain the inhabitants but also to contribute to national economic development. What has been lacking is adequate investment and proper coordination of relevant stakeholders spearheading development activities across these areas.

Notable changes have been experienced in the last few decades that have transformed property rights within the many ASALs of Kenya, from communal property rights to formalized and individual property rights, with notable shift experienced from communal pastoral systems to agro-pastoral systems or conservancies. These changes have been partly as a result of climatic and non-climatic processes; driven by a combination of changing population density and structure, climate, market and socio-political conditions, and technological changes.

The formalization of land ownership in the ASALs of Kenya has been seen as a way of enhancing property rights of the communities and the potential for investment for poverty alleviation and wealth creation. However, this may not necessarily show the results if not well planned, with dangers of the learned and elite exploiting the structured legal system in conflict resolution through formalized legal systems. Therefore, blanket formalization of property rights should be taken with caution to ensure support of existing communal resource exploitation strategies and arrangements are recognized and protected.

## 2.2 Challenges to Rangelands productivity

Challenges facing sustainable management and development of the rangelands include:

- i) *Inadequate and fluctuating availability of fodder and water:* Most livestock development activities carried out in the Rangelands are faced with frequent droughts that affect the availability of feed and water resource. Inadequate conservation and lack of strategic feed reserve facilities constrain livestock production especially in the drought periods.
- ii) *Encroachment of crop production into pastoral land:* Crop farming in the Rangelands has led to increased opening up of the fragile rangeland ecosystems. Rainfall scarcity results into crop failures that eventually make the productivity of land unviable
- iii) *Alienation of pastoral lands:* The rangelands are being subdivided into uneconomical units due to increased settlements and migration from high population areas. The development activities undertaken do not take into consideration socio –cultural issues and hardly involve the relevant stakeholders. Privatization drive of land threatens the traditional management strategies that were sustainable in many rangelands of Kenya, the main driver of alienation
- iv) *Inadequate markets and marketing infrastructure:* The domestic market is small and fragmented and lacks effective marketing information system and infrastructure. The dependence on few external market outlets has also denied pastoralists full benefits from livestock production
- v) *Inadequate extension service delivery in ASALs:* Vastness and rough terrain of Rangelands coupled with staff shortage who are inadequately facilitated, impact negatively on the development of rangeland resources exploitation. Pastoralists are unable to access and adopt technology recommendations on improved animal husbandry practices, in particular the use of inputs as well as technologies for other important economic land use options.
- vi) *Inadequate research in rangeland resources:* Research is important for enhancing increased productivity and competitiveness in rangelands, including research in livestock resources and other important economic activities like apiculture, plant products, medicinal products among others. Rangeland resource industry is

growing at a slower pace compared to the world average mainly due to inadequate research among other factors. It is envisaged that Kenya Agricultural Livestock Research Organization(KALRO) together with other national research organization will address rangelands research needs and spearhead development of appropriate technologies suited to the Rangeland areas

- vii) *Uncoordinated drought and floods response*: There is an absence of a coordinated restocking initiative within the offtake process especially after drought periods. This contributes to food insecurity and impacts negatively on the livelihoods of the ASAL communities
- viii) *Inappropriate legal and regulatory framework*: The rangeland resource management sector has been operating with an outdated legal and regulatory framework that has constrained productivity, trade and effective competition. There is no comprehensive land policy covering use and administration, tenure and security, and delivery systems of land in the Rangelands. This has resulted in over-exploitation of resource leading to environment degradation.
- ix) *Insecurity*: Insecurity has resulted in cattle rustling and displacement of people thus contributing to non-sustainable resource utilization and development, many areas have been left unutilized due to frequent insecurity threats, hence a loss to inhabitant communities affecting their livelihoods
- x) *Pollution of water and air*: Pollution from urban centers and towns, air pollution from transport sector and water pollution from explorations have far much negative impacts to the productivity of rangelands in Kenya.
- xi) *Land degradation*: Land degradation from over grazing, under grazing, deforestation has greatly affected rangelands productivity in Kenya. Loss of grazing lands has been a major threat to livelihoods of pastoralists.
- xii) *Loss of important biodiversity*: The rangelands of Kenya have been experiencing loss of important biodiversity, especially of important trees and grass species that has been of great value to communities. Poor management lead to land degradation, unsustainable harvesting of resources and climate change are also responsible for biodiversity loss.

## **2.3 Policy, legal and institutional framework**

### **2.3.1 Policy Framework**

The Kenya Government has in place relevant policies that seek to harmonize resource management and exploitation in rangelands in line with sustainable development plans. When the existing policies are well synergized and implemented, it becomes easy to sustainably use the Rangelands and ensure better quality of life for ASAL communities. This strategy seeks to explore the opportunities in the existing policies with the aim of enhancing rangeland productivity, conserving biodiversity, arresting desertification and mitigating effects of disasters all of which are aimed at maintaining an ecological balance. The balance will lead to food self-sufficiency and quality of life for man and other animals.

Kenya has over 77 statutes that relate to environmental issues and most of them are sector specific. The statutes cover issues such as agriculture, public health, soil erosion, protected areas, endangered species, water rights and water quality, air quality, noise and vibrations, cultural, historical, scientific and archeological sites, land use, resettlements; etc. Initially rangeland management activities were implemented through a variety of instruments such as policy statements and sectoral laws. With the enactment of community land act 2016, Environmental Management Coordination Act among other laws, the institutional framework for environmental management in the Rangelands was strengthened.

#### **2.3.1.2 Kenya ASAL Policy-Sessional Paper No. 8 of 2012**

The national policy titled ‘Releasing our full potential’, has five key elements among them affirmative action that equitable development needs the support of all Kenyans; an enabling environment for accelerated investment in ‘foundations’ to reduce poverty and build resilience & growth; a responsive government to the uniqueness of arid lands which include ecology, mobility, population distribution, economy and social systems.

*The policy also focuses on challenges facing the pastoral communities in rangelands and come up with measures to manage drought & strengthen livelihoods. All these elements are hinged on an institutional framework for their delivery.*

### **2.3.1.3 Vision 2030 Development Strategy for Northern Kenya and other Arid Lands**

The strategy was developed to complement Vision 2030 by explaining how its goals would be realized in the specific context of Northern Kenya and other ASALs. The main policy challenge is to ensure food and nutrition security in a sustainable manner in environments that are prone to drought, insecure access to and control over livelihood resources such as land, and support livelihoods where climate change has increased unpredictability.

*The strategy envisions a holistic and sustainable management of land and natural resources across the Rangelands to allow for maintenance of their traditional movement arrangements. The proposed interventions include: integration of traditional systems of natural resource management in all other policies affecting the natural resource base; recognition in law of the role of traditional institutions in dispute resolution;*

### **2.3.1.4 The National Livestock Policy (Revised 2019)**

The policy recognizes that ASAL's have an enormous potential but are characterized by low development indicators and high incidences of poverty. Other factors that have negatively affected the development of the ASALs include: shift from pastoralism due to increase in human population; increased settlement of pastoralists; increased cultivation and land subdivision; land degradation; resource use conflicts; reduced dry seasons grazing reserves and human wildlife conflicts.

The policy proposes a number of measures to support Rangeland Management. These include: that the county governments undertake *initiatives* to increase the feed availability by encouraging appropriate grazing management strategies, fodder and pasture conservation; and proposes that the national and county governments promote production of irrigated forages and taking steps to mitigate the effects of pests and diseases.

*The policy notes the fragility of the range environment and the need to develop strategies that will protect the range resources. It recommends that county governments institutionalize the involvement of the communities in planning, development, utilization and monitoring of range resources. It also provides for the two levels of governments, in partnership with other*

*stakeholders, to continue supporting pastoralism and agro-pastoralism and develop strategies to ensure sustainable utilization of the range resources.*

### **2.3.1.5 Agricultural Sector Transformation and Growth Strategy (ASTGS) 2018-2028**

The Agricultural Sector Transformation and Growth Strategy blue print is anchored in the belief that food security requires a vibrant, commercial and modern agricultural sector that sustainably supports Kenya's economic development and commitments to the Big Four presidential agenda. The strategy is meant to address the challenges that constrain agricultural output, productivity, natural resource management, and the effects of climate change in Kenya today.

*The ASTGS prioritizes three anchors as follows: increase small-scale farmer, pastoralist and fisherfolk incomes; increase agricultural output and value add; and Increase household food resilience.*

## **2.4 Legal Framework**

There are several pieces of legislation and policy documents related to Rangeland Management in Kenya. These include, but not limited to the Constitution of Kenya 2010, the Environmental Management and Coordination Act (No 8 of 1999), Sessional Paper No 9 of 1999 on Environment and Development, the Penal code (Cap 63), the Public Health Act (Cap.242) the County Government Act (No 17 of 2012), the Community Land Act (No 27 of 2016), Sustainable Development Goals (SDGs) and Land Degradation Neutrality

### **2.4.1 Constitution of Kenya 2010**

**Article 42** of chapter four, recognizes a healthy environment as a right to every person and calls for "sustainable exploitation, utilization, management and conservation of the environment and natural resources and establishes the National Environmental Commission (NEMA???) to conduct research on the environment and natural resources and examine and regulate resource use policies, practices and measures.

**Article 69 (2)** of the Constitution of Kenya places a duty on every person to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of

natural resources. The constitution also vests the state to ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits by communities.

#### **2.4.2 The Community Land Act, 2016**

The Community Land Act (2016) provides that the County governments shall hold in trust all unregistered community land on behalf of the communities. This provision does not however give the County Governments any authority to dispose off any Community Land. This part would be contradictory to the provision vesting the land with the Community and needs careful management. The County Government is simply expected to protect the Community Land against annexation while at the same time receiving financial compensation for any community land that may be taken out for infrastructure development or mining after adequate discussions and agreement by the respective community.

*The strategy, recognizes that more than 80 percent of the Rangelands are located in communal lands and for the communities to utilize their land sustainably, they must have ownership of the land, and be engaged in decisions for sustainable utilization and protection.*

#### **2.4.3 County Government Act 2012**

The act gives effect to Chapter Eleven of the Constitution, which provides the county governments the powers to function and take responsibilities for the delivery of services within their designated counties including management of environment and natural resources among other responsibilities. The functions provided for in Article 186 of the constitution as assigned in the Fourth Schedule of the Constitution. *This include management of natural resources, biodiversity, forests and water resources among others. Livestock production and extension services are under the docket of the county government*

#### **2.4.4 Kenya Agricultural and Livestock Research Act, 2013**

This act provides for the establishment of the Kenya Agricultural and Livestock Research Organization; to take leadership roles in the co-ordination of agricultural research activities in Kenya which establishes lead institutes and centres within the organization with clear mandates for

different agricultural sectors (crop and livestock research) based on their strengths and regional activities.

*The strategy have a bearing with the KALRO Act as one of its dockets is to research on appropriate Rangeland management e.g livestock breeds, Range livestock feeds, pasture/ fodder grass seed varieties for higher productivity in rangelands and other regions*

## **2.5 Institutional framework**

Different institutions address range management and pastoralism at various levels including National and County Governments, Multinational organizations, Private Sector, Development Partners, Regional and Global institutions as well as other stakeholders. These institutions and stakeholders undertake and or participate in policy development, formulation and review, regulatory functions, research and technology development, advisory and service provision, implementation, capacity building, financing, monitoring and evaluating related activities.

### **2.5.1 Institutions involved in development, formulation and review of RMPS related policies and strategies?**

These include institutions both at national, county and community levels which participate in development of relevant policies, frameworks and strategies targeting RMP practices and activities. They include: Ministry of Environment and Forestry, Ministry of Agriculture, Livestock, Fisheries & Cooperatives, Ministry of Water and Irrigation Ministry of Lands and Physical Plann., The National Treasury, Ministry of Devol. And Planning, Ministry of Energy and Petroleum and Council of Governors.

### **2.5.2 Institutions involved in regulatory activities?**

These include institutions involved in regulatory activities aimed at ensuring that operational procedures are followed as per set rules, laws and standards. These include: National Env., Management Authority, Water Resources Authority, Water Services Regulatory Authority, National Land Commission, Agriculture and Food Authority, Kenya Plant Health Inspect. Service, Kenya Forest Services and Kenya Water Towers Agency

### **2.5.3 Institutions, organizations and establishments involved in Research activities related to Range Management and Pastoralism**

These include organizations undertaking research activities and services related to agroforestry both at farm level, national level and county level. These are: Kenya Agric. And Livest. Res. Org., Kenya Forestry Research Institute, International Livest. Res. Institute, World Agroforestry (ICRAF), Center for Intl. Forestry Research, Intern. Cent. of Insects Phys. & Ecol. Universities, National Council for Science and Technology, Centre for Training and Integrated Research in ASAL Development.

### **2.5.4 Institutions and stakeholders involved in advisory and support services?**

These include bodies and stakeholders engaged in provision of advisories and support services to players in the sector. They include: Regional Dev. Authorities, Regional Cent. For Mapping Of Res. For Dev., Non-Governmental Organizations, Community Based Organizations, Faith Based Organizations, National Dairy Board, Intern. Union for Conserv. Of Nature, Conservation International, Northern Rangelands Trust, World Wildlife Fund, National Beekeeping Institute, The Food and Agriculture Organization of the United Nations.

### **2.5.5 Training Institutions**

These include institutions involved in training, capacity building and general provision of academic and extension services. They are: Universities, Medium Level College, Bukura/ Baraka agricultural Colleges, National Beekeeping Institute, Kenya School of Agriculture, Dairy Training Institute, Kenya Forestry College, Kenya Meat Training Institute, Animal, Health and Indust. Tr. Inst. and Genetic Research Institute

### **2.5.6 Financial organizations**

These include organization that provide monetary and other financial services and support to the institutions, stakeholders, projects and programmes in the Range Management and Pastoralism sector. They are: Both Levels of Government, United nations development program, United states agency for int. dev., Japan international cooperation agency Danish Intl Development Agency, International Fund for Agric. Dev., African Development Bank, Department for Intl Development, German Interl.

Dev. Agency, German Gov. Bank, Australian Agency for Internl. Dev., Adventist Devpt Relief Agency and The European Union.

The Range Management Division of the Directorate of Livestock Production has the mandate to promote, regulate and facilitate sustainable rangeland resources for social economic development and industrialization. With special focus on resources surveys, mapping, monitoring, support to community & stakeholder planning and action, capacity building and technical support to Counties on Rangelands; development of technologies for soil and water conservation, range fodder/pasture production and conservation and participatory range resource management.

In the execution of its mandate it has undertaken the development of this Range Management and Pastoralism Strategy (RMPS).

## **2.6 Justification for the Rangeland and Pastoralism Strategy.**

80% of the Rangelands are located in communal lands and for the communities to utilize their land sustainably, they must have ownership of the land, and be engaged in decisions for sustainable utilization and protection. Moreover, over 36% of the Kenyan population derives their livelihood from the rangelands. In addition, they constitute over 80% of the Kenyan land mass that support 70% of the national livestock herd and 90% of the wildlife that supports the country's tourism industry. However, they lack the basic foundations for social and economic development, and are food and nutrition insecure. The rising population in the ASALs and declining natural resource base, poses a great challenge to the sustainability of these areas.

The Constitution of Kenya 2010 provides for the sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits by communities (article 69(2)). Current policies and Acts only mention rangelands as critical ecosystems that need to be sustainably managed and developed. However, there has been no strategy developed to ensure actualization and implementation of proposed interventions with clear mandates and responsibility to specific stakeholders to make this a reality. There is also inadequate mechanism for linkages and coordination between the policies on rangeland development matters and among stakeholders and

inhabitants, this resulted in overlaps and inefficiency in implementation of rangeland improvement programmes.

The rangelands also face a myriad of challenges that need coordinated and proper planning by all the stakeholders to secure community livelihoods. The recent outbreak of desert locusts and the Covid 19 (Corona) virus pandemic impacted untold suffering among the pastoral communities as reported from a case study done on the Globally Important Agricultural Heritage System at Oldonyonyokie in Kajiado which resulted in the community losing over 60% of their alternative livelihood options.

There is therefore need to develop a strategy to address the challenges in the rangelands and which adversely affect pastoral community livelihoods. This strategy will also provide options for resilience building and coping strategies should emergencies occur.

The range management and pastoralism strategy therefore aims at ensuring the rangeland resources are managed sustainably with the active involvement of all the stakeholders from the National government, county governments, development partners and the user groups. This strategy is anchored to the national livestock policy to focus exclusively on issues of rangeland resources management, pastoralism, and the livestock/wildlife interactions which are part and parcel of the rangelands.

## **2.7 MISSION, VISION AND OBJECTIVES OF THE RANGE MANAGEMENT AND PASTORALISM STRATEGY**

### **Vision**

A ‘Sustainable, Resilient and Vibrant Rangeland Ecosystems for Improved Livelihoods’

### **Mission**

To provide a framework and guidance on sustainable utilization, preservation, conservation, development and management of rangeland resources for improved livelihoods.

### **STRATEGIC OBJECTIVES**

The broad objective of RMPS is to promote sustainable range resources management and improvement of livelihoods of pastoral communities.

The specific objectives of RMPS are to:

1. Institute measures to increase rangeland health for sustainable productivity
2. Revitalize pastoralism production systems
3. Develop mechanisms for sustainable Rangeland management
4. Mainstream climate change adaptation and mitigation measures in Rangeland management for enhanced productivity and sustainability.
5. Increase marketing of rangeland resources for improved livelihoods of rangeland inhabitants
6. Increase sustainable exploitation of alternative rangeland resources for improved livelihoods

## 2.8 SWOT analysis

This SWOT analytical framework provides an overview of areas of strengths within the larger range management and pastoralism area which actors can take best advantage of and focus in order to consolidate gains and weaknesses that require addressing, as well as potential opportunities and threats that exist within the operating environment in order to establish the strategic issues that will inform strategic focus, the SWOT analyses issues of Rangeland health, institutional framework, rangeland products, cross cutting issues like climate change, gender and marketing.

| <b>STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT) ANALYSIS</b>  |  |   |   |
|--|--|---|---|
| <b>STRENGTH</b>  | <b>ISSUE TO ADDRESS</b>                                      | <b>WHAT TO DO WITH STRENGTH</b>   | <b>THREATS</b>  |
| <b>Rangeland health</b>  |  |   |   |
| <b>I. Increased deterioration and reduced productivity of rangelands</b>   |  |   |   |
| Existence of knowledge on rangeland management within line ministries, higher learning institutions, departments and research institutions | -Inadequate research and dissemination                       | Disseminate knowledge on sustainable rangeland management interventions/technologies<br>Support research on sustainable rangeland resource management | <ul style="list-style-type: none"> <li>• Lack of proper documentation and dissemination</li> <li>• Adapting the new knowledge to community situations/low adaptation</li> </ul> |
| Existence of plants and animals adapted to the rangelands  | Low Conservation and protection of the existing biodiversity | Promote conservation measures on existing biodiversity  | <ul style="list-style-type: none"> <li>• Climate change</li> <li>• Existing Unsustainable livelihoods</li> </ul>  |

|   |   |  |   |
|---|---|--|---|
| Availability of vast rangeland                              | Rangeland degradation   | Sustainable utilization of the rangeland                                       | <ul style="list-style-type: none"> <li>• Due to the vastness, management is a challenge</li> <li>• Decline in soil health and water quality due to climate change and extreme weather events</li> </ul> |
| Existence of adapted technologies for rangeland management  | Low adoption of the available suitable technologies in rangeland management | Promote the adoption of the existing technologies by the rangeland inhabitants | <ul style="list-style-type: none"> <li>• Low adoptability of technologies</li> <li>• Socio-cultural systems</li> <li>• Heterogeneous rangeland types</li> </ul>   |
| Availability of diverse natural resources for multiple uses | Underutilization of the diverse natural resources                           | Support sustainable exploitation of the diverse natural resources              | <ul style="list-style-type: none"> <li>• Diminishing access to the resources</li> <li>• Over exploitation by immigrants</li> <li>• Increasing demand of some non-renewable resources</li> </ul>         |
| <b>WEAKNESSES</b>   | <b>ISSUE TO ADDRESS</b>   | <b>WHAT TO DO WITH WEAKNESS</b>  | <b>THREATS</b>  |
| The fragile rangeland ecosystems                            | Sensitivity of the rangeland ecosystems                                     | Develop and support measures that support sustainable resource utilization     | <ul style="list-style-type: none"> <li>• High variability of ecosystem drivers</li> <li>• Uncontrolled development</li> </ul>   |

|  |   |  |  |
|--|---|--|--|
| Low and highly variable precipitation                    | Inadequate and unreliable water supply  | Soil and water conservation  | <ul style="list-style-type: none"> <li>• Dynamic climate changes which is beyond our control</li> </ul>  |
| Low adoption/uptake of rangeland management technologies | Low productivity due to inappropriate technologies  | Increase access and uptake of appropriate rangeland management technologies  | <ul style="list-style-type: none"> <li>• Low literacy levels</li> <li>• Cultural mindset that limit adoption</li> </ul>  |
| High degradation   | Loss of productivity  | <ul style="list-style-type: none"> <li>-Put in place measures to reduce land degradation</li> <li>-Rehabilitate degraded landscapes</li> </ul>                                 | <ul style="list-style-type: none"> <li>• Limited resources</li> <li>• Changing climatic conditions</li> </ul>  |
| Reduced mobility and increased sedentarization           | Land degradation, loss of productivity  | Enhanced rangeland management technologies on water harvesting and feed development/management   | <ul style="list-style-type: none"> <li>• Political interference</li> <li>• Land tenure policies</li> <li>• Increase in population</li> <li>• Lack of spatial plans</li> </ul>  |
| Conflict over rangeland resource use                     | <ul style="list-style-type: none"> <li>Loss of livestock and human life</li> <li>Loss of rangeland productivity and products</li> </ul> | <ul style="list-style-type: none"> <li>Enhanced conflict resolution initiatives</li> <li>Put in place appropriate water harvesting and feed initiative technologies</li> </ul> | <ul style="list-style-type: none"> <li>• Political interference</li> <li>• Ethnicity</li> <li>• Low uptake of technologies on water harvesting and feed development</li> </ul> |
| Invasive species   | Loss of productivity  | Adopt technologies to control  | <ul style="list-style-type: none"> <li>• Inadequate research</li> </ul>  |

|   |  |  |  |
|---|--|--|--|
|   | Loss of biodiversity   | Undertake research on invasive species   | <ul style="list-style-type: none"> <li>• Inadequate funds to control the species and lack of community involvement</li> </ul>  |
| Livestock feed reserves                                   | Lack of strategic livestock feed reserves                                  | Put in place livestock feed reserves<br>Promote livestock feed conservation structures and storage facilities                    | <ul style="list-style-type: none"> <li>• Frequent droughts and Climate variability</li> <li>• Inadequate certified quality pasture seeds for pasture production</li> </ul> |
| Breakdown of traditional resource management institutions | Unsustainable utilization of resources                                     | Promote and support traditional practices consistent with sustainable utilization of resources                                   | <ul style="list-style-type: none"> <li>• Resource based conflicts</li> <li>• Political interference</li> </ul>   |
| <b>OPPORTUNITIES</b>                                      | <b>ISSUE TO ADDRESS</b>  | <b>WHAT TO DO WITH THE OPPORTUNITY</b>   | <b>THREATS</b>   |
| High rangeland biodiversity                               | Unsustainable utilization of biodiversity                                  | Sustainably manage the existing biodiversity   | <ul style="list-style-type: none"> <li>• Cultural mindset</li> <li>• Land use changes</li> </ul>   |
| Increasing demand for rangeland products                  | -Low and unsustainable resource exploitation<br>-Low marketing of products | --Support efficiency of resource exploitation<br>-Promote marketing and develop marketing structures for the rangeland resources | <ul style="list-style-type: none"> <li>• Unsustainable exploitation</li> </ul>   |

|  |   |   |   |
|--|---|---|---|
| Availability of the vast land for sustainable resource utilization           | Unsustainable utilization of vast rangeland resources | Support sustainable utilization of the resources in the rangelands                        | <ul style="list-style-type: none"> <li>• Land use changes</li> <li>• Cultural mindset</li> </ul>  |
| Existence of diverse eco-friendly technologies for exploitation of resources | Low adoption of eco-friendly technologies             | Promote adoption of eco-friendly resource exploitation technologies                       | <ul style="list-style-type: none"> <li>• Cultural mindset</li> <li>• Capacity to adopt technologies</li> <li>• Limited resources</li> </ul>                                     |
| Devolved system of resource use governance                                   | Uncoordinated resource management                     | Involve stakeholders in management of rangeland resources                                 | <ul style="list-style-type: none"> <li>• Resource use conflicts</li> <li>• Political interference</li> </ul>  |
| <b>II. Pastoralism Production Systems</b>                                    |   |   |   |
| <b>Unsustainable Pastoral Production System</b>                              |   |   |   |
| <b>STRENGTHS</b>   | <b>ISSUE TO ADDRESS</b>                               | <b>WHAT TO DO WITH STRENGTH</b>   | <b>THREATS</b>  |
| Adapted for the exploitation of the vast rangelands                          | Inadequate support for sustainable pastoral system    | Develop mechanisms that support efficient resource utilize in pastoral setup              | <ul style="list-style-type: none"> <li>• Cultural mindset that doesn't respond with changes in time</li> <li>• Conflicts</li> <li>• Breakdown of traditional systems</li> </ul> |
| Main source of livelihood in the rangelands                                  | Limited livelihood options                            | -Support the production system to ensure sustainability -Strengthen the livelihood option | <ul style="list-style-type: none"> <li>• Land use changes</li> <li>• Population increase</li> </ul>   |

|  |  |  |   |
|--|--|--|---|
| Dependent on natural resources           | Declining natural resources  | -Promote sustainable natural resource management and improve production of pastures --<br>Sustainably manage the natural resources supporting the system | <ul style="list-style-type: none"> <li>• Climate changes</li> <li>• Population increase</li> </ul>  |
| <b>WEAKNESSES</b>                        | <b>ISSUE TO ADDRESS</b>  | <b>WHAT TO DO WITH WEAKNESS</b>  | <b>THREATS</b>  |
| Breakdown of traditional grazing systems | Land use changes e.g. human settlements, crop production, conservancies etc.<br>Poor governance of the grazing systems | Strengthen the institutions managing grazing systems<br>Policy on land use   | <ul style="list-style-type: none"> <li>• Land fragmentation</li> <li>• Land tenure</li> <li>• Breakdown of socio-cultural systems</li> <li>• Conflicts and insecurity</li> <li>• Overgrazing</li> </ul> |
| Requires vast land                       | Land fragmentation and land tenure changes   | Support strategies that address pastoral land tenure systems   | <ul style="list-style-type: none"> <li>• Land tenure</li> <li>• Cultural mindset</li> <li>• Land use changes</li> </ul>   |
| Inadequate commercialisation of          | Inadequate market information systems  | Capacity building for commercialization of the production system   | <ul style="list-style-type: none"> <li>• Resource use conflicts</li> <li>• Cultural mindset</li> </ul>  |

|  |   |   |   |
|--|---|---|---|
| the pastoral production system                         | and physical infrastructures  | Strengthening of the existing livestock marketing information system  |   |
| <b>OPPORTUNITIES</b>                                   |   |   |   |
| Regional good will for pastoralism                     | Insufficient support for the good will<br>-Inadequate institutional support | -Strengthen regional agenda that support pastoralism<br>-Recognize and embrace pastoralism as a way resource exploitation | <ul style="list-style-type: none"> <li>• Politics</li> <li>• Weak legislative framework</li> </ul>  |
| High demand for pastoral products                      | Low productivity of rangelands  | Promote sustainable range resource exploitation to supply the demanded products   | <ul style="list-style-type: none"> <li>• Limited access to financial services</li> <li>• Un-sustainable exploitation</li> </ul>                   |
| Availability of experts in pastoral production systems | -Low engagement of the experts  | Capacity development in pastoral production system<br>Increase knowledge sharing and adoption                             | <ul style="list-style-type: none"> <li>• Financial resources</li> <li>• Dynamic system</li> <li>• Inadequate synergy among the experts</li> </ul> |

|  |  |   |   |
|--|--|---|---|
| Availability of livestock breeds adapted to the rangeland conditions           | Underutilization of the existing breeds  | Improve, protect and conserve the existing breeds   | <ul style="list-style-type: none"> <li>• Financial constraints</li> <li>• Climate change</li> <li>• Risk of extinction of the indigenous breeds</li> </ul>                                      |
| Availability of Traditional Pastoral Institutions and Indigenous knowledge     | <ul style="list-style-type: none"> <li>-Insufficient involvement of traditional institutions</li> <li>-Underutilization of indigenous knowledge</li> </ul> | Formal recognition of traditional pastoral institutions and utilization of their indigenous knowledge | <ul style="list-style-type: none"> <li>• Pastoral institutions not registered</li> <li>• Indigenous knowledge not documented</li> <li>• Modernization threatening traditional values</li> </ul> |
| <b>STRENGTH</b>  | <b>ISSUE TO ADDRESS</b>  | <b>WHAT TO DO WITH STRENGTH</b>   | <b>THREATS</b>  |
| <b>Governance and Institutional Framework</b>                                  |  |   |   |
| <b>III Poor Institutional framework and governance in rangeland management</b> |  |   |   |
| Existence of traditional governance institutions                               | Inefficiencies in the governance institutions  | Strengthen governance institutions  | <ul style="list-style-type: none"> <li>• Weak leadership</li> <li>• Not anchored in law thus subject to violation</li> </ul>  |
| Ongoing efforts to strengthen existing institutions                            | Lack of coordination in these efforts  | Fast track, intensify, and improve coordination efforts   | <ul style="list-style-type: none"> <li>• Resistance against ongoing efforts</li> </ul>  |

|   |   |  |   |
|---|---|--|---|
| Existence of policy documents on governance in rangeland management                 | Limited awareness and sharing of information                      | Improve document sharing and create awareness on their existence   | <ul style="list-style-type: none"> <li>• Conflicting interests by different stakeholders</li> <li>• Political interference</li> </ul>     |
| Ongoing efforts to develop policy documents   | Lack of coordination in these efforts                             | Fast track, intensify, and improve coordination efforts by identifying specific coordinating body to lead. | <ul style="list-style-type: none"> <li>• Resistance against ongoing efforts</li> </ul>  |
| Awareness on the need to better govern rangelands                                   | Insufficient awareness  | Capacity building and awareness creation   | <ul style="list-style-type: none"> <li>• Ignorance and low levels of literacy</li> <li>• Unsupportive socio-cultural practices</li> </ul> |
| <b>WEAKNESSES</b>   | <b>ISSUE TO ADDRESS</b>   | <b>WHAT TO DO WITH WEAKNESS</b>  | <b>THREATS</b>  |
| Existence of policy documents on governance in rangeland management in few counties | Limited policy document on rangeland management in ASAL Counties. | Fast tracking development of policy document on Range Management in all ASAL counties                      | <ul style="list-style-type: none"> <li>• Lack of specific funding for policy development</li> <li>• Lack of political goodwill</li> </ul> |

|  |   |   |   |
|--|---|---|---|
| Partial/poor implementation of policy documents                  | Lack of implementation                              | Place deliberate to implementation                | <ul style="list-style-type: none"> <li>• Political goodwill</li> <li>• Adherence to legal framework</li> </ul>                                |
| Poor representation of stakeholders                              | Lack of inclusivity                                 | Ensure gender and institutions representation     | <ul style="list-style-type: none"> <li>• Resistance against existing institutions by excluded parties</li> <li>• Cultural barriers</li> </ul> |
| Poor leadership of existing institutions                         | Low leadership capacity                             | Capacity building of leaders                      | <ul style="list-style-type: none"> <li>• High level of illiteracy</li> <li>• Cultural barriers</li> </ul>                                     |
| Lack of supportive legal frameworks for traditional institutions | Lack of legal recognition                           | Develop appropriate legal frameworks              | <ul style="list-style-type: none"> <li>• Difficulties in implementation of any decisions made</li> <li>• Socio-cultural adherences</li> </ul> |
| Weak existing traditional governance institutions                | Low capacity of committees and corrupt committees   | Capacity building                                 | <ul style="list-style-type: none"> <li>• Presence of gate keepers</li> <li>• Inadequate funding</li> </ul>                                    |
| Low literacy levels and limited technical know-how               | Limited capacity                                    | Capacity building of communities and institutions | <ul style="list-style-type: none"> <li>• Socio-cultural practices</li> </ul>  |
| Insecurity   | Banditry, Cattle rustling, Resource based conflicts | Provision of rangers/home guards                  | <ul style="list-style-type: none"> <li>• Politics</li> <li>• Commercialization of cattle rustling</li> <li>• Clanism</li> </ul>               |

| <b>OPPORTUNITIES</b>                        | <b>ISSUE TO ADDRESS</b>                           | <b>WHAT TO DO WITH THE OPPORTUNITY</b>                                     | <b>THREATS</b>  |
|---|---|--|---|
| Devolved government systems                 | Inefficiencies in running of devolved governments | Improve running efficiencies of devolved units                             | <ul style="list-style-type: none"> <li>• Politics</li> </ul>  |
| Supportive and progressive New constitution | Limited awareness and understanding               | Capacity building and awareness creation on provisions of the constitution | <ul style="list-style-type: none"> <li>• Politics</li> <li>• Cultural mindsets</li> </ul>   |
| Presence of vested interested organizations | Uncoordinated efforts                             | Enhance coordination   | <ul style="list-style-type: none"> <li>• Politics</li> <li>• Corruption</li> <li>• Prescribed solutions</li> </ul>                                    |
| Effects of climate change and variability   | Low utilization of climate change information     | Involve stakeholders in management of natural resources                    | <ul style="list-style-type: none"> <li>• Conflicts on natural resource use e.g. pastoralists and farmers</li> <li>• Political interference</li> </ul> |
| Existence of Community Land Act             | Land ownership                                    | Protection of community land   | <ul style="list-style-type: none"> <li>• Amendment of community land Act by few politicians</li> </ul>  |
| Abundant solar energy                       | Unexploited abundant solar energy                 | Harness solar energy for livestock and domestic uses                       | <ul style="list-style-type: none"> <li>• Cost of solar harnessing equipment</li> <li>• Vandalism</li> </ul>   |
| <b>IV. Climate Change</b>                   |   |  |   |
| <b>Low adaptation to climate change</b>     |   |  |   |

| <b>STRENGTH</b>   | <b>ADDRESS<br/>WHAT ISSUE</b>   | <b>WHAT TO DO WITH<br/>STRENGTH</b>   | <b>THREATS</b>   |
|---|---|---|--|
| Increased awareness   | Limited action  | Encourage positive action towards climate change  | <ul style="list-style-type: none"> <li>• Different global systems of governance</li> <li>• Lack of proper coordination amongst stakeholders</li> </ul> |
| Existence of information and its documentation on climate change issues | Limited information sharing   | Dissemination of information<br>Capacity building for resilience through follow up and enforcement of action plans<br>Create a repository for climate change and rangeland related issues<br>Review and updating of the information | <ul style="list-style-type: none"> <li>• Time relevance of documents</li> <li>• Complacency</li> <li>• Poor communication infrastructure</li> </ul>    |
| Availability of funds for investments in climate change related issues  | Mechanism for accessing the funds<br><br>Inadequate funds and investments | Ensure efficient utilization of funds and encourage fund raising activities   | <ul style="list-style-type: none"> <li>• Policy changes</li> <li>• Politics</li> <li>• Lack of integrity (Transparency and accountability)</li> </ul>  |

|   |   |   |   |
|---|---|---|---|
| Existence of global commitments on climate change       | Not legally binding due to lack of commitment by member countries | Ensure a legally binding framework to this commitments                  | <ul style="list-style-type: none"> <li>• Policy changes</li> </ul>  |
| Availability of adaptive species to the rangelands      | Promotion of desired species with adaptive capacity               | Propagation and promotion of adaptive species to build their resilience | <ul style="list-style-type: none"> <li>• Diminishing availability of some genetic species</li> </ul>  |
| Existence of diverse and rich natural resource base     | Sustainable natural utilization and management                    | Capacity building for planning and sustainable resource management      |   |
| <b>WEAKNESSES</b>                                       | <b>ADDRESS<br/>WHAT ISSUE</b>                                     | <b>WHAT TO DO WITH<br/>WEAKNESS</b>                                     | <b>THREATS</b>  |
| Limited commitment at local, regional and global levels | Appropriate Legislation   | Create legal framework to ensure commitment                             | <ul style="list-style-type: none"> <li>• Conflicting interests</li> </ul>   |
| Limited capacity to tackle climate change issues        | Limited understanding and technical skills<br>Limited resources   | Capacity building   | <ul style="list-style-type: none"> <li>• Rigid mindsets</li> <li>• Risk of implementing inappropriate adaptation and mitigation measures</li> </ul> |

|  |  |   |   |
|--|--|---|---|
| Reduced land productivity  | Inappropriate land use practices               | Promote appropriate land use practices<br>Formulate and implement appropriate strategies improve productivity | <ul style="list-style-type: none"> <li>• Cultural mindset</li> <li>• Prescribed solutions</li> </ul>  |
| Susceptibility to extreme weather conditions                     | Poor coping mechanisms to drought and flooding | Promote interventions for enhanced resilience and risk mitigation   | <ul style="list-style-type: none"> <li>• Limited resources</li> <li>• Ineffective technologies</li> </ul>   |
| <b>OPPORTUNITIES</b>   |  |   |   |
| Existence of Climate change policies, action plan and strategies | Lack of awareness and slow implementation      | Enhance awareness creation and ensure implementation  | <ul style="list-style-type: none"> <li>• Politics</li> <li>• Cultural mindsets</li> </ul>   |
| Existence of many and interested stakeholders                    | Lack of coordination                           | Promote coordination of diverse activities and efforts  | <ul style="list-style-type: none"> <li>• Conflict of interest</li> <li>• Duplication of interventions</li> <li>• Lack of supportive policies</li> </ul> |
| Adoption of green energy   | Limited exploitation                           | Promote innovations, capacity building, and fund raising activities to encourage adoption                     | <ul style="list-style-type: none"> <li>• Politics</li> <li>• Insufficient and inefficient technologies</li> <li>• Conflict of interest</li> </ul>       |

|  |  |   |  |
|--|--|---|--|
| Water harvesting                                   | Inadequate water availability in Rangelands during the dry seasons | Invest in run-off/flood water harvesting and storage<br>Sensitize and engage stakeholders | <ul style="list-style-type: none"> <li>• Lack of Political goodwill</li> <li>• Resource use conflicts</li> <li>• Limited financial resources</li> <li>• Limited technical skill</li> </ul> |
| Initiation of new livelihood strategies            | Limited diversification of livelihoods                             | Initiate and support new livelihood strategies  | <ul style="list-style-type: none"> <li>• Conflict of interests</li> <li>• Prescribed solutions</li> <li>• politics</li> </ul>  |
| New research frontiers                             | Limited knowledge and technologies to address emerging challenges  | Promote relevant research activities  | <ul style="list-style-type: none"> <li>• Conflict of interest</li> <li>• Limited technical skills</li> </ul>   |
| Devolved system of government                      | Management of the natural resources                                | Involve stakeholders in management of natural resources                                   | <ul style="list-style-type: none"> <li>• Resource use conflicts</li> <li>• Political interference</li> </ul>   |
| <b>V. Marketing of Rangeland Resource</b>          |  |   |  |
| <b>Inadequate marketing of rangeland resources</b> |  |   |  |
| <b>STRENGTH</b>                                    | <b>ADDRESS WHAT ISSUE</b>  | <b>WHAT TO DO WITH STRENGTH</b>   | <b>THREATS</b>   |
| Presence of diverse rangeland resources            | Minimal exploitation of rangeland resources                        | Develop an inventory of all rangeland resources   | Rangeland degradation<br>Loss of biodiversity  |

|  |   |  |   |
|--|---|--|---|
| Moderately good infrastructure available                                     | Limited access to markets                                       | Enhance access to the markets<br>Upgrade existing market infrastructure, including roads   | Insecurity<br>Limited access to finances                      |
| Existence of institutional frameworks that are weak                          | Inefficiencies in the institutional frameworks                  | Strengthen institutional frameworks<br>Establish quality standards   | Political dynamism<br>Market dynamics e.g. demand is external |
| Existence of limited marketing structures, networks and available technology | Inadequate information on markets (prices, volume and products) | <ul style="list-style-type: none"> <li>• Increase access to market and markets information for rangeland resource products</li> <li>• Promote value addition /diversification</li> <li>• Scale up capacity building on product commercialization and new technologies</li> </ul> | Cyber crime<br>Breakdown in network<br><br>Unfair competition |
| <b>WEAKNESS</b>  | <b>ADDRESS WHAT ISSUE</b>                                       | <b>WHAT TO DO WITH WEAKNESS</b>  | <b>THREATS</b>  |

|   |  |   |   |
|---|--|---|---|
| Limited capacity and Knowledge of market dynamics | Inadequate capacity to promote access to markets (information, infrastructure, networks)                 | Establish capacity gaps<br>Provide capacity building<br>Mapping and networking of range products market players   | Inadequate finance<br>Inadequate training facilities                          |
| Unorganized markets                               | Inability to Streamline and operationalize the markets<br>Weak marketing cooperatives for range products | Enhance capacity building and publicize<br>Strengthen market information systems<br>Strengthen existing cooperatives<br>Strengthen market policies and regulations for range products to access markets<br>Develop product standards<br>Creation of product marketing structures e.g. Livestock Marketing Board | Exploitation by middlemen/cartels<br>Unfair competition<br>Inadequate funding |

|   |  |  |   |
|---|--|--|---|
| <p>Inadequate standards for rangeland resource products</p> | <p>Low quality of Rangeland resource products<br/>Limited certification of range products</p>                            | <p>Establish standards through quality control<br/>Promote capacity building<br/>Adoption of traceability and identification systems<br/>Certification of range products e.g. range grass seeds<br/>Strengthen phyto-sanitary requirements e.g. disease free zones</p> | <p>Political dynamism<br/>Compliance with international Standards</p> |
| <p>Limited value addition of rangeland products</p>         | <p>Low returns from rangeland products (due to inadequate value addition)<br/>Minimal exploitation of range products</p> | <p>Capacity building on value chain<br/>Promote technologies along the value chain for value addition<br/>Mapping and economic valuation of rangeland resources</p>  | <p>Inadequate finance<br/>Change of technology</p>                    |

|  |   |  |  |
|--|---|--|--|
| Inadequate market facilities   | Low returns, low livestock offtake rates Minimal exploitation of range products   | Capacity building Enhance adoption of technology e.g. aggregation facilities; product storage facilities Creation of market linkages   | Inadequate finance Insecurity  |
| Limited access to credit facilities  | Limited competitiveness in the market   | Capacity building Develop policies and regulatory frameworks to enable access to credit e.g. use of livestock as collateral            | Market dynamics and competitiveness Lack of enabling platforms   |
| <b>OPPORTUNITY</b>   | <b>ADDRESS WHAT ISSUE</b>   | <b>WHAT TO DO WITH OPPORTUNITY</b>   | <b>THREATS</b>   |
| <ul style="list-style-type: none"> <li>• New information network in the markets</li> <li>• Devolved funding to the counties</li> </ul> | <ul style="list-style-type: none"> <li>• Exploitation in the markets</li> <li>• Inadequate funds at the county level</li> </ul> | <ul style="list-style-type: none"> <li>• Avail information in markets</li> <li>• Promote establishment of market facilities</li> </ul> | <ul style="list-style-type: none"> <li>• Accuracy and applicability of information</li> <li>• Lack of institutional platform</li> <li>• Limited funding</li> </ul> |
| <b>VI. Alternative livelihoods</b>   |   |  |  |

| <b>Inappropriate exploitation of alternative livelihoods</b>                            |   |   |  |
|---|---|---|--|
| <b>STRENGTH</b>   | <b>ADDRESS WHAT ISSUE</b>   | <b>WHAT TO DO WITH STRENGTH</b>   | <b>THREATS</b>   |
| Presence of diverse livelihoods   | Challenges facing the livelihoods<br>Poverty-low income, food insecurity and diseases | <ul style="list-style-type: none"> <li>• Creation of awareness on the exploitation and utilization of alternative livelihood opportunities</li> <li>• Building capacity</li> <li>• Leveraging (taking advantage) of the existing resources</li> </ul> | <ul style="list-style-type: none"> <li>• Changing climatic conditions</li> <li>• Inadequate finances</li> <li>• Political dynamism</li> <li>• Misunderstanding/stereotyping alternative livelihoods</li> </ul> |
| Existence of favorable rangeland condition for various alternative livelihood resources | Low diversity of livelihood resources   | Leveraging (taking advantage) of the existing resources   | Political dynamism<br>Climate change<br>Range resource degradation   |
| Availability of technology to exploit the alternative livelihoods                       | Limited research and technology development on rangeland products                     | Introduction of new products<br><br>Technology improvement and adaptation   | Changing technology<br>Inadequate financial resources<br>Diverse market and customer preferences   |

|   |  |   |   |
|---|--|---|---|
|   | Low product packaging and branding   |   |   |
| Adoption of the alternative livelihoods by pastoral communities is in the increase  | Low levels of output of the rangeland resources  | Capacity building<br>Awareness creation   | Social and cultural beliefs<br>Market dynamics  |
| Existence of indigenous knowledge   | Declining or eroding indigenous knowledge<br>Limited documentation of indigenous knowledge | Proper documentation of the indigenous knowledge and leveraging of existing resources | Modernization   |
| <b>WEAKNESS</b>   | <b>ADDRESS WHAT ISSUE</b>  | <b>WHAT TO DO WITH WEAKNESS</b>   | <b>THREATS</b>  |
| Limited technology to exploit the alternative livelihoods Eg. Lack of tools, equipments and skills of sustainable harvesting of gums and resins | Low production of rangeland products/regeneration  | Capacity building<br>Introduction of efficient and appropriate technology             | <ul style="list-style-type: none"> <li>• Inadequate financial resources</li> <li>• Changing technology</li> </ul> |

|  |   |  |   |
|--|---|--|---|
| Limited involvement of WY&VG                                   | Inequality and increased vulnerability in exploitation of alternative livelihoods | Increased participation of women youth groups in exploitation of livelihoods                       | Limited training opportunities and financial support to address knowledge gaps                          |
| <b>OPPORTUNITY</b>   | <b>ADDRESS WHAT ISSUE</b>   | <b>WHAT TO DO WITH OPPORTUNITY</b>   | <b>THREATS</b>  |
| Existence of diverse ecological zones and livelihood diversity | Limited rangeland livelihood opportunities  | Enterprise diversification<br>Create awareness on the diversification of livelihood opportunities. | Political dynamism<br>Declining potential of natural resource base                                      |
| Ability to adapt to diverse livelihoods                        | Limited livelihood opportunities  | Introduce adaptable alternative sources of livelihood(enterprises)                                 | Limited financing<br>Diseases and Pests<br>Unpredictability of the enterprises/evolving market dynamics |

## 2.9 PESTEL analysis

This section includes political, economic, social, technological and environmental factors that may in one way or the other adversely impact on the range management. Some factors usually have a negative impact while some have positive impacts. Additionally, this section also offers possible solution to the challenges mentioned.

### **POLITICAL, ECONOMIC, SOCIAL, TECHNOLOGY, ENVIRONMENTAL AND LEGAL (PESTEL) ANALYSIS**

|                  | <b>POSITIVE EFFECTS</b>  | <b>NEGATIVE EFFECTS</b>  | <b>WHAT SHOULD BE DONE</b>  |
|------------------|--|--|---|
| <b>POLITICAL</b> | <ul style="list-style-type: none"> <li>• Political goodwill</li> <li>• Legislations to govern rangeland resource use</li> <li>• Environmental friendly legislations</li> </ul> | <ul style="list-style-type: none"> <li>• Political interference</li> <li>• Political boundary on trans-boundary resources</li> <li>• Encroachment on owned resources</li> <li>• Conflicting legislations</li> <li>• Environmental unfriendly legislations</li> </ul> | <ul style="list-style-type: none"> <li>• Awareness creation and sensitization</li> <li>• Trans-boundary resource management strategies</li> <li>• Harmonize the various conflicting legislations</li> <li>• Stakeholder involvement and participation in review of legislation</li> </ul> |
| <b>ECONOMIC</b>  | <ul style="list-style-type: none"> <li>• Global market networks</li> <li>• Stakeholder involvement in</li> </ul>   | <ul style="list-style-type: none"> <li>• Risk of over-exploitation</li> <li>• Resource use conflict</li> <li>• Disintegration of culture</li> </ul>  | <ul style="list-style-type: none"> <li>• Capacity building on sustainable utilization</li> <li>• Land use planning</li> <li>• Develop and implement conflict</li> </ul>   |

|               | <b>POSITIVE EFFECTS</b>  | <b>NEGATIVE EFFECTS</b>  | <b>WHAT SHOULD BE DONE</b>  |
|---------------|--|--|---|
|               | <p>rangeland resource management</p> <ul style="list-style-type: none"> <li>• Technological advancement</li> <li>• Employment creation</li> <li>• Industrialization</li> <li>• Diversification of income</li> <li>• Infrastructural growth</li> <li>• Positive land use changes</li> <li>• Improved standards of living</li> </ul> | <ul style="list-style-type: none"> <li>• Negative land use changes</li> <li>• Inadequate resources allocation to improve on the technological advancement</li> <li>•</li> </ul>  | <p>resolution mechanisms</p> <ul style="list-style-type: none"> <li>• Promote alternative livelihoods</li> </ul> <p>Sustainable land use systems</p>  |
| <b>SOCIAL</b> | <ul style="list-style-type: none"> <li>• Working Grazing agreements among communities</li> <li>• Functional local institutions</li> <li>• Pastoralist social (structure) life</li> <li>• Diversification of livelihoods</li> </ul>   | <ul style="list-style-type: none"> <li>• Cattle rustling</li> <li>• Socio-cultural beliefs and practices e.g dowry for livestock</li> <li>• Overstocking</li> <li>• Low literacy levels</li> <li>• Human wildlife, livestock conflict</li> </ul> | <ul style="list-style-type: none"> <li>• Improvement of security</li> <li>• Recognition and strengthening of the local institutions</li> <li>• Capacity building and awareness creation</li> <li>• Provision of educational facilities</li> </ul> |

|                      | <b>POSITIVE EFFECTS</b>   | <b>NEGATIVE EFFECTS</b>  | <b>WHAT SHOULD BE DONE</b>  |
|----------------------|---|--|---|
|                      | <ul style="list-style-type: none"> <li>• Availability of vast community land</li> <li>•</li> </ul>  | <ul style="list-style-type: none"> <li>• Insecurity -Conflict among communities</li> <li>• Increasing population growth</li> <li>• Increased sedentarization by pastoralists</li> <li>• Gender bias</li> </ul> <p>Lack of title or ownership of land</p> | <ul style="list-style-type: none"> <li>• Designate migration routes</li> <li>• Improve on compensation</li> <li>• Instituting/developing a grazing management system</li> <li>• Planning the settlements</li> <li>• Gender mainstreaming</li> </ul> |
| <b>TECHNOLOGICAL</b> | <ul style="list-style-type: none"> <li>• Increased productivity</li> <li>• Value addition of rangeland resources and products</li> <li>• Creation of job opportunities</li> <li>• Improved efficiency in management of rangeland resources</li> </ul> | <ul style="list-style-type: none"> <li>• Inappropriate technologies</li> <li>• Over exploitation of the rangeland resources</li> <li>• Technology based conflicts on ecosystems</li> <li>• Poor or lack of adoption of the technologies</li> </ul>       | <ul style="list-style-type: none"> <li>• Disallow introduction inappropriate technologies</li> <li>• Promote adoption of technologies and dissemination</li> <li>• Capacity building</li> <li>• Institute conflict resolution mechanisms</li> </ul> |

|                   | <b>POSITIVE EFFECTS</b>   | <b>NEGATIVE EFFECTS</b>   | <b>WHAT SHOULD BE DONE</b>  |
|-------------------|---|---|---|
|                   | Improved information communication  |   |   |
| <b>ECOLOGICAL</b> | <ul style="list-style-type: none"> <li>• Ecosystem services</li> <li>• Improved and diverse habitat</li> <li>• Wide diversity of rangeland resources</li> </ul>                             | <ul style="list-style-type: none"> <li>• Land degradation</li> <li>• Loss of biodiversity</li> <li>• Invasive species</li> <li>• Species extinction</li> </ul>  | <ul style="list-style-type: none"> <li>• Land rehabilitation and reclamation</li> <li>• Biodiversity conservation initiatives</li> </ul>    |
| <b>LEGAL</b>      | <ul style="list-style-type: none"> <li>• Availability of legal institutions at local and international levels</li> <li>• Availability of legislations and policies on Rangelands</li> </ul> | <ul style="list-style-type: none"> <li>• Inadequate coverage of rangeland issues in the existing policies</li> <li>• Inadequate awareness on the existence of the laws and policies</li> <li>• Poor enforcement of laws and policies</li> </ul> | Lobby for revision of existing policies<br>Review the laws and policies on rangeland<br><ul style="list-style-type: none"> <li>•</li> </ul> |

## CHAPTER THREE: STRATEGY IMPLEMENTATION, MONITORING AND EVALUATION

| Strategic Issue 1: Increased deterioration and reduced productivity of rangelands                      |   |   |   |  |  |  |                                  |
|--|---|---|---|--|--|--|----------------------------------|
| Strategic goal 1: Enhance rangeland health for increased productivity                                  |   |   |   |  |  |  |                                  |
| Strategic objective 1: To institute measures to increase rangeland health for sustainable productivity |   |   |   |  |  |  |                                  |
| Strategies   | Activities  | Measure of achievement  | Responsibilities and Institutions   |  |  | Priority Timeline (ST <3 Yrs; MT 3-6 yrs; LT > over 6) | Indicative budget (Billions Kes) |
|  |   |   | National Government   | County Government  | Other Stakeholders ((INGOs, NGOs, FBOs, CBOs, Private Sector and Development Partners)   |  |                                  |
| 1.1 Control of land degradation  | Construct soil conservation structures to reduce soil erosion | -Acreages with soil conservation structures<br>-number of structures established to control erosion | -Provide support and structures to address rangeland degradation<br>-Support county government in resource mobilization for | -Create awareness on need for soil conservation by community<br>-Provision of budgetary allocation for construction and maintenance of | -Support national and local government efforts in capacity, technology dissemination and | MT/LT  | 5.5                              |

|  |  |  |                           |   |  |  |  |
|--|--|--|---------------------------|---|--|--|--|
|  |  |  | soil conservation efforts | soil conservation structures<br>-Provide incentives to communities for soil conservation efforts<br>-establish public private partnership with other stakeholders for the initiatives | resource mobilization<br>-Provision of budgetary allocation for construction and maintenance of soil conservation structures<br>-support community efforts in soil conservation efforts<br>-Extension services by INGOs, NGOs, FBOs, CBOs, |  |  |
|--|--|--|---------------------------|---|--|--|--|

|  |                    |                                |  |  |  |       |     |
|--|--------------------|--------------------------------|--|--|--|-------|-----|
|  |                    |                                |  |  | Private Sector and Development Partners.   |       |     |
|  | Rangeland reseeded | -Acreages sustainably reseeded | -Provide technical and financial support for reseeded efforts<br>-Ensures provision and access to appropriate seeds for reseeded rangelands<br>- Promote research for suitable pasture for different areas | - Provide areas for reseeded and ensure sustainability of the implementation,<br>- Provide financial support for reseeded efforts<br>-Facilitate the communities access to seeds and support community in seed bulking | -Support reseeded efforts and seed bulking<br>-Support creation and awareness for capacity building for eco-literacy | MT/LT | 2.2 |

|  |  |  |  |  |  |       |      |
|--|--|--|--|--|--|-------|------|
|  | Reafforestation and afforestation of rangelands                    | Acreage covered with appropriate trees                       | <ul style="list-style-type: none"> <li>-Provide support policies and legal framework for afforestation and re-afforestation</li> <li>-Provide budgetary provisions towards afforestation</li> <li>-Provide technical guidance on appropriate trees for afforestation</li> <li>-Promote research for suitable agroforestry trees</li> </ul> | <ul style="list-style-type: none"> <li>-Identify and provide land for afforestation efforts</li> <li>-Ensure enforcement of forest protection and conservation</li> <li>-Provide suitable tree seeds and seedlings for afforestation</li> <li>-Provide budgetary provisions towards afforestation</li> </ul> | <ul style="list-style-type: none"> <li>-Support afforestation efforts including partnerships with schools, colleges, and other institutions</li> </ul> | ST    | 1.1  |
|  | Integrated grazing plans on the traditional resource use mechanism | Acreage of areas where integrated grazing plans is practiced | Support to intercounty grazing plans. Support to policies on communal land management  | Put in place county policies that will take into consideration other users   | INGO e.g Food Agricultural Organization  | MT/LT | 0.22 |

|   |   |  |  |  |   |    |      |
|---|---|--|--|--|---|----|------|
|   |   |  | provide security   |  |   |    |      |
| 1.2 Sustainable exploitation and utilization of rangeland resources | <ol style="list-style-type: none"> <li>1. Protection of water catchments</li> <li>2. Establish water harvesting structures</li> <li>3. Sustainable charcoal production</li> </ol> | <ul style="list-style-type: none"> <li>-Number of water catchments protected</li> <li>-acreage of land under soil conservation measures</li> <li>-Measure of acreage under reduced tree loss from charcoal production</li> </ul> | <ul style="list-style-type: none"> <li>-Review and adapt policies to support sustainable resource management</li> <li>-Develop strategies to operationalize the policies on sustainable exploitation and utilization of rangeland</li> </ul> | <ul style="list-style-type: none"> <li>-Customize and implement policies that ensure sustainable resource utilization in the rangelands</li> <li>-Enforcement of rules and regulations to protect natural resource management</li> <li>- Creation of awareness on sustainable utilization and management of natural resources</li> </ul> | <ul style="list-style-type: none"> <li>-Mobilize and provide technical and financial support for sustainable exploitation of natural resources in the rangelands</li> <li>-Awareness creation among the community on sustainable natural resource management</li> </ul> | ST | 0.22 |

|  |  |  |  |   |   |       |     |
|--|--|--|--|---|---|-------|-----|
| 1.3 Sustainable development approaches | 1. Appropriate water development interventions<br>2. Review of policies to guide exploitation and utilization of water<br>3. Develop appropriate strategies to guide development in the rangelands following ecological principles | -Acreages of land under sustainable rangeland management | -Review/develop policies and strategies that support sustainable water development | -Customize and implement policies and strategies that support sustainable development | -Support the implementation of sustainable development activities in the rangelands | ST/MT | 0.5 |
| 1.4 Reduce loss of biodiversity        | 1. Create awareness on biodiversity conservation<br>2. Strengthen governance on  | -Reduced biodiversity loss                               | -Review and enact policies and strategies that support biodiversity conservation   | -Customize and implement policies and strategies the support                          | - Support biodiversity conservation initiatives                                     | ST    | 0.5 |

|                                    |   |   |   |   |   |          |    |     |
|------------------------------------|---|---|---|---|---|----------|----|-----|
|                                    | biodiversity conservation<br>3. Audit and Valuation of biodiversity and their ecological roles  |   |   | biodiversity conservation<br>-Mainstream environmental issues on in decision and plans to support conservation of biodiversity<br>-Create awareness on the importance of community conservation of biodiversity | -provide technical and financial support on biodiversity conservation                                 |          |    |     |
| 1.5<br>Control of invasive species | 1. Identify and map various invasive species<br>2. Create awareness and impact of the species<br>3. Engage research institutions to collaborate | -Acreage under invasive species<br>-Number of awareness creation forums<br>-Number of linkages with research institutions | - Establish, strengthen review and enact policies on invasive species<br>-Provide capacity building on the status of invasive species across counties and along the transboundary | -Customize and implement policies on invasive species<br>-Enforcement of rules and regulations to control invasive species<br>- Creation of awareness on sustainable  | Support initiatives to control invasive species<br>Provide technical and financial support to control | ST<br>LT | MT | 2.5 |

|  |  |   |   |  |   |    |     |
|--|--|---|---|--|---|----|-----|
|  | with stakeholders<br>4. Develop technologies and implement control measures      | Technologies developed and adopted to undertake control measures            |   | management of invasive species   |   |    |     |
| 1.5<br>Develop model for rehabilitation of rangeland | 1. Develop an approach that ensures sustainable rehabilitation of the rangelands | -Number of appropriate models developed for different agro ecological zones | -Support the development of appropriate models for rangeland rehabilitation | -Adapt and implement the use of identified appropriate models for rangeland rehabilitation | -Support and promote the use of appropriate models for rangeland rehabilitation | MT | 0.7 |

|  |  |   |   |  |  |    |      |
|--|--|---|---|--|--|----|------|
| 1.6<br>Improve the understanding of the value of the rangelands (eco-literacy) | 1. Total valuation of rangeland resources to facilitate the formulation of the economic value of rangelands to inform Payment for Environmental services | -Value of rangeland resource identified | -Provide support for valuation of total economic value of rangeland resources | -Support the valuation of rangeland resources<br>-provide information for valuation of resources | -Support the economic valuation of rangeland resources | ST | 0.03 |
|--|--|---|---|--|--|----|------|

## 2. Pastoralism production systems

### Strategic Issue 2: Pastoral production system under threat

### Strategic goal 2: Enhanced Sustainable pastoralism in the Rangelands of Kenya

### Strategic objective 2: Revitalize pastoralism production systems

|   |   |  |  |   |   |    |     |
|---|---|--|--|---|---|----|-----|
| 2.1 Adequate mobility of the nomadic pastoral systems | -Develop negotiated grazing plans to ensure mobility<br><br>- Developme | -Working grazing systems in place<br><br>-No of water sources developed in | -Support the process of development of grazing plans | -To ensure adoption, implementation and enforcement of agreed upon grazing plans<br>- Enforce developed grazing plans | -Provide technical and financial support for the development of grazing plans | MT | 0.1 |
|---|---|--|--|---|---|----|-----|

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|  | <p>nt of water resources in key strategic areas</p> <p>Improving security to facilitate mobility</p> <p>Enhancing mobile school and health facilities to discourage sedentarization</p> | <p>strategic grazing areas</p> <p>Reduction in incidences of water, pastures and administrative boundaries related conflicts</p> <p>Number of mobile school and health facilities established and functional</p> <p>Number of youths trained and participating in</p> |  |  |  |  |  |
|--|---|---|--|--|--|--|--|

|  |   |   |                                       |                                  |   |           |            |
|--|---|---|---------------------------------------|----------------------------------|---|-----------|------------|
|  | <p>Sensitizing and capacity building youths on benefits of mobility</p> <p>-Develop policy and legal framework to govern the implementation of grazing plan</p> | rangeland management activities                       |                                       |                                  |   |           |            |
|  | Identify and map seasonal grazing and   | Number of designated grazing routes identified within | -Undertake identification and mapping | -Promote stakeholder involvement | -Sensitization by NGOs, CBOs among others | <b>ST</b> | <b>33m</b> |

|  |   |  |   |   |   |    |      |
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|  | movement of livestock   | counties and across counties   | -Provide policy guidance<br>-Provide funds  | -Support with funds   | Development partners to lobby government to facilitate mapping<br><br>-Create linkage between national and county governments in order to identify intercounty stock routes |    |      |
| 2.2 Dis-integrating customary or traditional grazing and water management institutions | Strengthen the customary and traditional institutions.<br><br>Anchoring the | -Operation customary bi-laws in place<br><br>Incidences of intervention by police and judiciary in | Provide a platform for strengthening customary institutions and recognize the identified institutions | -Support the development and operation of the identified customary laws | -Support the effective implementation of customary laws   | MT | 110m |

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|  | traditional/customary laws into conventional law (legal recognition) to enhance enforcement | situations of contravention of the customary laws  |  |   |   |    |                            |
| 2.3 Reverse the loss of traditional dry season grazing arrangement (ensure controlled utilization of grazing resource) | - Identification and mapping of wet and dry season grazing areas                            | -Number of operational grazing areas plans gazette | -Support the mapping and gazette grazing areas | -Identify and alienate the grazing areas<br>-Support the process of community bi-law development and implementation | -Support the implementation of grazing plans and enforcement of community grazing plans | MT | Budget covered in research |

|                                       |  |   |   |   |  |    |      |
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| 2.4 Improve productivity of livestock | <p>1. Increase feed quality, quantity and conservation</p> <p>2. Enhance productivity of indigenous breeds through selection and breeding; introduce and promote adaptable more productive livestock breeds</p> <p>3. Improve animal</p> | <p>-Increased livestock productivity</p> <p>-Increase in feed availability</p> <p>Number of adaptable more productive breeds introduced</p> | <p>-Review and develop appropriate livestock policies that enhance productivity</p> <p>-Support research on appropriate livestock breeds, feedstuff and disease control</p> | <p>-Support the national policy development process and adopt the local conditions for sustainable implementation</p> | <p>-Support the interventions to increase livestock productivity</p> | ST | 220m |
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|   | health and husbandry  |  |  |  |  |              |                   |
|   | 4. Promote establishment and actual use of feedlots                             | Number of feedlots established   | Develop strategy and standards<br>Develop training manuals for capacity building<br>Organize exchange programs | Develop training manuals for capacity building<br>Organize exchange programs<br>Provision of funds | Capacity building, support funding           | <b>MT/LT</b> |                   |
| 2.5 Balance the livestock numbers and available grazing resources | 1.Capacity building on seasonal stocking rates depending on available resources | -Existing responsive stocking rate to seasonality<br><br>-Reduced signs of | -Provide technical and financial support for capacity building   | -Support the development capacity development process and implementation                           | -Support the process managing stocking rates | MT           | Covered under 2.4 |

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|   | <p>taking into account 50% loss normally associated with direct grazing</p> <p>2.Promote livestock finishing through feedlotting</p>       | <p>degradation or reduced presence of invader species</p> <p>Number of established and functional feedlots</p>                             |   |  |   |    |            |
| 2.6 Enhance appropriate pasture development in pastoral areas | <p>1. Identify degraded areas for rehabilitation, areas for new pasture fields establishment, appropriate and suitable pasture species</p> | <p>-Pasture production areas resource maps</p> <p>- List of identified pasture species</p> <p>Number of farmers trained and practicing</p> | <p>-Provide financial and technical support in appropriate pasture production and conservation</p> <p>-Support research on appropriate pasture production and conservation technologies</p> | <p>-Support the development of appropriate pasture production and adopt appropriate technologies</p> <p>-Mobilize and capacity building of communities in increasing pasture production and conservation</p> | <p>-Support the implementation of appropriate pasture production technologies</p> | MT | 8.8billion |

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|  | <p>2. Capacity build the pastoralist on pasture establishment, agronomy, reseeding degraded areas, hay making, seed bulking hay &amp; seed storage and marketing</p> <p>3. Reseeding degraded areas especially around settlements</p> | <p>Acreage of degraded areas successfully reseeded</p> <p>-Acreage of new pasture fields successfully established</p> |  |  |  |  |  |
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|  | <p>4. Establishing new pasture fields e.g. in areas previously used for crop production with repeated failure</p> <p>5. Promote development of strategic feed reserves</p> | <p>-Number of functional strategic feed reserves established</p> |  |  |  |  |  |
|--|--|--|--|--|--|--|--|

**3. Governance and Institutional Framework**

**Strategic Issue 3: Poor Institutional framework and governance in rangeland management**

**Strategic Goal 3: Strengthen institutional framework and governance for sustainable Rangeland management**

**Strategic Objective 3: Develop mechanisms for sustainable Rangeland management**

| Strategies                                  | Activities                                | Measure of achievement   | Responsible Institutions   |   |  |            |
|---|---|--|--|---|--|------------|
|   |   |  | National Government  | County Government   | Other Stakeholders (Local Communities, Public benefit organizations)           |            |
| 3.1 Streamline land resource use and tenure | Full implementation of Community Land Act | <ul style="list-style-type: none"> <li>• Increased community participation in decision making regarding land use</li> <li>• Reduced land use related conflicts</li> <li>• Improved biodiversity</li> </ul> | -Coordination of the implementation process<br>-Capacity building of County staff<br>-Financial facilitation of the implementation process | -Actual implementation<br>- Financial facilitation of the implementation process<br>-Capacity building at the community level | - Provide financial support<br>- Capacity building<br>- Community mobilization | <b>22m</b> |

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| 3.2 Develop land use plans in rangeland areas | Institutionalize land use planning policies  | – Number of counties with land use plans   | -Coordination of the implementation of land use plans<br>-Capacity building of County staff                                | - Capacity building of local communities<br>Enforcement of land use plans | - Awareness creation and capacity building of local communities          | <b>22m</b> |
| 3.3 Reduce resource use conflicts             | -Formulate policies to guide the management of resource use based conflicts<br>-Harmonize existing resource use approaches and coordinate their implementation | -Number of counties with policies to guide resource use based conflicts<br>-Reduced duplication of efforts<br>-Reduction in number of reported incidences of resource use based conflict | -Promote awareness creation on intercounty conflict resource resolution<br>-Support from the Ministry of internal security | - Implementation and enforcement of proposed activities                   | - Capacity building and awareness creation<br>-Provide financial support | <b>60m</b> |

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| 3.4 Enhance social and cultural systems in the rangelands | Strengthening traditional institutions that govern natural resource use | <ul style="list-style-type: none"> <li>- Number of active community based systems of governance</li> <li>- Number of reported cases of violation of traditional by laws</li> </ul> | -Provide a legal framework for the strengthening of traditional institutions | -Provide technical and financial support<br>Community mobilization  | -Provide technical and financial support<br>-Community mobilization | <b>60m</b> |
|   | Promote positive and development oriented socio-cultural practices      | <ul style="list-style-type: none"> <li>• Increase in practice of development oriented socio-cultural practices</li> </ul>  | - Provide institutional support  | - Community mobilization<br>-Capacity building at local community level<br>-Provide institutional support | - Community mobilization<br>-Capacity building                      | <b>60m</b> |

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|  |   |   |                                      |  |   |            |
| 3.5 Adequately finance rangeland resource management | Enhance budgetary allocations towards rangeland management activities                     | <ul style="list-style-type: none"> <li>• Increased spending on rangeland management activities</li> <li>• Number of ongoing rangeland resource management activities</li> </ul> | -Provide financial support           | -Provide financial support<br>-Ensure efficient utilization of funding | - Community mobilization<br>-Capacity building  | <b>22m</b> |
|  | Support national organizing committee on International Year of Rangelands and Pastoralism | -IYRP National organizing committee supported   | Provision of funds                   | Awareness creation and encourage county governments to participate     | Provision of funds<br>Organize side events from activities undertaken by development partners | <b>4m</b>  |
|  | Fund international Rangeland congress in  | IYRP funded   | Participate by promoting side events | Participate and fund the activity                                      | Promote side events, participate and provide  | <b>10m</b> |

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|  | the year 2020  |   | and coordinate presentations Fund part of the event |   | funding for the side events   |            |
|  | Increase capacity to access and utilize financial services | <ul style="list-style-type: none"> <li>- Number of people accessing and utilizing financial services</li> <li>- Number of financial institutions present at local levels</li> </ul> | -Improve the physical infrastructure                | <ul style="list-style-type: none"> <li>- Community mobilization</li> <li>-Capacity building and awareness creation</li> <li>-Creating linkages between financial service providers and the consumers</li> </ul> | <ul style="list-style-type: none"> <li>- Community mobilization</li> <li>-Providing financial support</li> <li>-Capacity building and awareness creation</li> <li>-Creating linkages between financial service providers and the consumers</li> </ul> | <b>22m</b> |

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|   | Increase capacity to generate income locally                                      | <ul style="list-style-type: none"> <li>• Actual local revenue generated</li> <li>• Reduced demand for financial support from the national treasury by County governments</li> </ul> | -Capacity building and awareness creation   | - Community mobilization<br>-Capacity building and awareness creation | - Community mobilization<br>-Capacity building and awareness creation                               | <b>22m</b> |
| 3.7 Increase investments in rangeland resource management and utilization | Creating enabling environments for investments (Policy, Infrastructure, Security) | -Number of people investing in rangeland resources  | -Develop policies<br>-Provide financial support<br>-Improve infrastructure and security | - Community mobilization<br>-Capacity building and awareness creation | - Community mobilization<br>-Capacity building and awareness creation<br>-Provide financial support | <b>30m</b> |
|   | Capacity building and   | -Number of different  | - Community mobilization  | - Community   | - Community   |            |

|   |   |   |   |  |  |            |
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|   | awareness creation for investment opportunities | livelihood activities undertaken<br>– Number of investor conferences/seminars | -Capacity building and awareness creation | ity mobilization<br>-Capacity building and awareness creation<br>- Creating linkages between potential investors and the County governments.<br>-Provide financial support | y mobilization<br>-Capacity building and awareness creation<br>- Provide financial support |            |
| 3.8 Enhance rangeland governance and coordination | Enhancing the coordination                      | • Reduced duplication of efforts/activities                                   | -Provide institutional framework          | -Capacity building at local levels   | - Community  | <b>11m</b> |

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|  | of range resource management efforts                   | <ul style="list-style-type: none"> <li>• Number of counties with an active coordination body</li> </ul>   | -Capacity building at the County level               | <ul style="list-style-type: none"> <li>- Facilitating the creation of coordinating bodies</li> <li>- Provision of financial support</li> </ul> | mobilization<br>-Capacity building and awareness creation<br>- Provide financial support                                      |            |
|  | Promoting activities that support conservation efforts | <ul style="list-style-type: none"> <li>- Number of ongoing conservation activities</li> <li>- Number of players in conservation activities</li> </ul> | -Facilitate awareness creation and capacity building | <ul style="list-style-type: none"> <li>- Awareness creation</li> <li>- Providing financial support</li> </ul>                                  | <ul style="list-style-type: none"> <li>- Community mobilization</li> <li>-Capacity building and awareness creation</li> </ul> | <b>44m</b> |

|                                 |   |  |   |   |  |            |
|---------------------------------|---|--|---|---|--|------------|
|                                 |   |  |   |   | - Provide financial support  |            |
|                                 | Formulate County level legislation to support conservation of rangeland resources | - Number of legislations in support of conservation efforts    |   | - Facilitate the legislation process<br>- Community mobilization<br>- Facilitate capacity building and awareness creation | - Community mobilization<br>-Capacity building and awareness creation<br>- Provide financial support | <b>44m</b> |
| Institutional capacity building | -Capacity development of rangelands management                                    | -Number of people trained<br>-Number of Institutions supported | -Financial support to institutions training<br>-Support of training costs | -Support institutions development   | -Support the development and running of  | 800m       |

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|--|--|--|--|--|--|--|
|  | -Build and support institutions training on rangeland management |  |  |  | training institutions<br>-support research and dissemination |  |
|--|--|--|--|--|--|--|

**4. Climate Change**

**Strategic issue 4: Low adaptation to climate change**

**Strategic goal 4: Increase climate change adaptation and mitigation for resilience in the rangelands**

**Strategic objective 5: Mainstream climate change adaptation and mitigation measures for enhanced productivity and sustainable Rangeland management**

| Strategies | Activities | Measure achievement | Responsibility and Institution |                   |                    | Indicative budget(Billion Kes) |
|------------|------------|---------------------|--------------------------------|-------------------|--------------------|--------------------------------|
|            |            |                     | National Government            | County Government | Other Stakeholders |                                |

|  |  |  |  |   |  |            |
|--|--|--|--|---|--|------------|
| 4.1 Adaptation to climate change                                 | Mainstream and implement the Climate change Act , Action plan and Response Strategies                    | - Number of counties implementing the Climate change action plan and response strategy | -Provide the relevant documents<br>-Facilitate awareness creation and capacity building on climate change issues | -Customize and implement the Act, action plan and response strategies<br>-Facilitate the implementation process | - Community mobilization<br>-Capacity building and awareness creation<br>- Provide financial support<br>-Provide technical support | <b>44m</b> |
| 4.2 Identification and promotion of climate change opportunities | -Identify and promote opportunities on climate change and variability (flooding) Water harvesting , Soil | - Number of opportunities identified and promoted                                      | Support policy implementation at national level<br>Facilitate capacity building                                  | -Support to provision of funds  | Capacity building and awareness creation<br>- Provide financial and technical support  | <b>50m</b> |

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|   | conservation  |  |   |  |   |            |
| 4.3 Promotion of sustainable natural resource management            | Develop a framework for sustainable rangeland resource management | Framework developed  | Resources Review and develop regulations and guidelines by NEMA, KALRO, MENR, MoALF | Resources Enforce regulation and guidelines on sustainable natural resource management                                 | Community sensitization and mobilization<br><br>Provide financial and technical support                                       | <b>1B</b>  |
| 4.4 Documentation of indigenous coping mechanisms to climate change | Collection and collating of relevant information                  | <ul style="list-style-type: none"> <li>- Number of documents published</li> <li>- Number of communities covered</li> </ul> |   | <ul style="list-style-type: none"> <li>- Community mobilization</li> <li>- Facilitate Capacity building and</li> </ul> | <ul style="list-style-type: none"> <li>- Community mobilization</li> <li>-Capacity building and awareness creation</li> </ul> | <b>70m</b> |

|  |   |  |  |   |   |            |
|--|---|--|--|---|---|------------|
|  |   |  |  | <p>awareness creation</p> <ul style="list-style-type: none"> <li>- Facilitate data collection</li> </ul>              | <ul style="list-style-type: none"> <li>- Provide financial and technical support</li> </ul>   |            |
|  | <p>Dissemination/ information sharing with stakeholders</p> | <ul style="list-style-type: none"> <li>- Number of dissemination forums held</li> <li>- Increased awareness and application of indigenous coping mechanisms</li> </ul> |  | <ul style="list-style-type: none"> <li>- Facilitate dissemination forums</li> <li>- Community mobilization</li> </ul> | <ul style="list-style-type: none"> <li>- Community mobilization</li> <li>- Capacity building and awareness creation</li> <li>- Provide financial and technical support</li> </ul> | <b>70m</b> |

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| 4.5 Investment in research on climate change | - Promotion of researchable areas on Climate change | No of research findings developed and disseminated | Resource mobilization - technical support | - Facilitation for adoption<br>-Capacity building<br>- dissemination of research findings | -Research mobilization<br>-Capacity building , KALRO Research institutions, NDMA | <b>46M</b> |
|--|---|--|---|---|--|------------|

| <b>5. Marketing of Rangeland Resource</b>   |            |                        |                         |                    |                    |                               |                   |
|---|------------|------------------------|-------------------------|--------------------|--------------------|-------------------------------|-------------------|
| <b>Strategic Issue 5 Inadequate marketing of rangeland resources</b>  |            |                        |                         |                    |                    |                               |                   |
| <b>Strategic Goal 5: Improve marketing of rangeland resources</b>   |            |                        |                         |                    |                    |                               |                   |
| <b>Strategic Objective 5: Increase marketing of rangeland resources for improved livelihoods of rangeland inhabitants</b> |            |                        |                         |                    |                    |                               |                   |
| Strategies  | Activities | Measure of achievement | Responsible Institution |                    |                    | Priority Timeline (ST <3 Yrs; | Indicative Budget |
|   |            |                        | National Government     | County Governments | Other Stakeholders |                               |                   |

|  |   |   |  |  |  | MT<br>3-6<br>yrs<br>LT<br>><br>over<br>6) |  |
|--|---|---|--|--|--|---|--|
| 5.1<br>Improve<br>market<br>infrastruct<br>ure and<br>access | 1. Construct/Reha<br>bilitate Sale<br>yards | Number of sale-<br>yards constructed/<br>rehabilitated and<br>distribution points | -Provide<br>policy<br>guidance<br><br>-Provide<br>technical<br>support<br>when<br>required | -Finance<br>funding<br>undertake<br>construction   | -Funding<br>-Provision of<br>Technical<br>support                              | MT  |  |
|  | 2. Rehabilitate<br>holding grounds          | Number of<br>holding grounds<br>rehabilitated                                     | -Provide<br>policy<br>guidelines<br><br>Technical<br>backstoppi<br>ng                      | -Facilitate<br>repossession<br>of the<br>occupied<br>Holding<br>grounds<br><br>-Finance and<br>undertake<br>rehabilitation | Lobby<br>government<br>and Support<br>development<br>of the holding<br>grounds | MT/<br>LT                                 |  |

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|  | 3. Rehabilitate/Equip slaughter houses/abattoirs in strategic sites | Number and distribution of structures constructed/rehabilitated | <ul style="list-style-type: none"> <li>-Identify capacity gaps</li> <li>-Capacity building on sanitary and phytosanitary standards</li> <li>-Technical assistance</li> </ul> | -Finance construction/rehabilitation                         | <p>Promote development of phytosanitary standards</p> <p>Support feasibility studies on the viability of the abattoirs in specific areas and advice county and national government accordingly</p> | <b>MT /LT</b> | <b>2billion</b> |
|  | Rehabilitate or build road network to ease market access            | Number of road networks   | Provide enabling environment e.g. constructing/rehabilitating the major roads  | Construction/ Rehabilitation of road networks (county roads) | Support creation of linkages at national, regional and international level<br>Financial support to the   | <b>ST</b>     |                 |

|   |  |   |  |   |  |                   |            |
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|   |  |   |  |   | national and county government   |                   |            |
|   | Develop or rehabilitate market facilities for range products | Number of markets developed<br>Number of markets rehabilitated<br>Number of facilities equipped | -Provide policy guidance<br>Support public private partnership<br>-Provide technical and financial support | Funding and technical support to undertake construction<br>Funding and technical support to undertake equipping | Capacity building<br>Lobby government and support development  | <b>MT</b>         |            |
| 5.2<br>Improve marketing and marketing networks | 1.Establish a market information system (MIS)                | Existence of an MIS and sharing network   | Establish and coordinate a central data base and platform for MIS  | Provide information for the MIS<br>Promote inter-county marketing fora  | Promote information sharing at the international, regional and national markets<br>Catalyze linkage with markets | <b>ST/<br/>MT</b> | <b>10m</b> |

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|   |   |   |  |   | Capacity build stakeholders<br>Funding from private sector, CBO, NGOs |            |  |
| 2. Conduct product development research | Market needs identified                             | Financial support to research activities                                    | Encourage stakeholder involvement  | Provide financial support<br>Support in dissemination of the research results                                   | <b>ST</b>   |            |  |
|   | Gaps on quality and quantity of products identified | -Policy on standards<br>- Promotion through expo<br>- Financial support the | Encourage stakeholder involvement<br>-Share key researchable areas and develop research agenda | -Participate and link up with research initiations<br>- Provide financial support<br>- Support in dissemination | <b>ST</b>   | <b>80m</b> |  |

|  |   |  |   |   |   |                   |            |
|--|---|--|---|---|---|-------------------|------------|
|  |   |  | research activities   |   | of the research results   |                   |            |
|  |   | Number of product brands developed                       | -Policy on branding   | Technical and financial support<br>Capacity building  | Technical and financial support<br>Capacity building  | <b>LT</b>         |            |
|  |   | Number of niche markets identified e.g. organic products | Products promotions<br>Capacity building<br>Policy support                    | Market linkages<br>Policy support<br>Awareness creation   | Technical and financial support<br>Capacity building<br>Promotion   | <b>ST/<br/>LT</b> |            |
|  | 3.Promote Value addition and diversification of range resources/ products | Number of value added products developed and promoted    | -Policy on product standards<br>-Promotion through expo<br>-Financial support | Encourage stakeholder involvement<br>Provision of extension services<br>Technical and financial support | - Provide financial support<br>- Support in capacity building<br>Scale up capacity building on product commercialization and new technologies | <b>ST/<br/>LT</b> | <b>60m</b> |

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|---|---|---|--|--|-------------------|------------|
| 3.<br>Establish product traceability and identification systems | Types product traceability and identification systems | Policy guidelines<br>Capacity building<br>Develop standards<br>Monitor phyto-sanitary standards | -Provide financial and technical resources<br>-Undertake sensitization and awareness campaigns<br>Enforce phyto-sanitary standards | Provide support in identifying appropriate traceability and identification systems<br>Create awareness and mobilization of resources | <b>ST/<br/>LT</b> | <b>10m</b> |
|   | Number of certified range products                    | Policy guidelines<br>Capacity building<br>Develop standards                                     | Provide finances and required resources<br>-Undertake sensitization and awareness campaigns  | Provide support in product certification<br>Create awareness and mobilization of resources   | <b>ST/<br/>LT</b> |            |
|   | Number of range products with identification systems  | Provide policy guidelines on identification   | Undertake County specific range product identification   | Provide financial support<br>Lobby the government to establish a   |                   |            |

|  |  |  |  |  |   |                                     |  |
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|  |  |  | systems by county<br>Develop standards   |  | national range products identification system<br><br>Capacity building on traceability and identification |                                     |  |
|  |  | Reduced cases of product theft/recovery    | Provision of security<br><br>Strengthen surveillance systems                               | Promote community policing to reduce incidences of thefts                                      |   | <b>ST</b><br><b>MT</b><br><b>LT</b> |  |
|  | Strengthen range product aggregation and marketing | Number of product cooperatives established | Policy guidelines<br><br>Capacity building<br><br>Creation of product marketing structures | Provide finances and required resources<br><br>Undertake sensitization and awareness campaigns | Capacity building ad support in cooperative establishment   | <b>ST</b>                           |  |

|   |  |   | e.g.<br>Livestock<br>Marketing<br>Board           |  |  |   |                      |
|---|--|---|---|--|--|---|----------------------|
|   | Improve access<br>to credit facilities | Number of<br>stakeholders<br>accessing credit<br>facilities | Policy<br>guidelines<br><br>Provide<br>incentives | Provide<br>incentives<br><br>Implement<br>policies | Financial<br>support<br><br>Capacity<br>building   |   |                      |
| <b>6. Alternative livelihoods</b>   |  |   |   |  |  |   |                      |
| <b>Strategic Issue 6 Inappropriate exploitation of alternative livelihoods</b>  |  |   |   |  |  |   |                      |
| <b>Strategic Goal 6: Promote alternative livelihoods in the rangelands</b>  |  |   |   |  |  |   |                      |
| <b>Strategic Objective 6: Increase sustainable exploitation of alternative rangeland resources for improved livelihoods</b> |  |   |   |  |  |   |                      |
| Strategies  | Activities                             | Measure<br>achievement<br>of                                | Responsible Institution                           |  |  | Prio<br>rity<br>Tim<br>eline<br>(ST<br><3<br>Yrs;<br>MT<br>3-6<br>yrs | Indicative<br>Budget |
|   |  |   | National<br>Governm<br>ent                        | County<br>Government                               | Other<br>stakeholders<br>(INGOs<br>,<br>NGOs, FBOs,<br>CBOs Private<br>Sector and<br>Development<br>Partners |   |                      |

|   |   |   |   |                                   |   | <b>LT<br/>&gt;<br/>over<br/>6)</b> |            |
|---|---|---|---|-----------------------------------|---|------------------------------------|------------|
| 6.1<br>Promote adequate exploitation of alternative livelihood<br>Eg. Gums and resins, conservancies, hides, and skins, beekeeping, livestock auction, pasture/fodder irrigation, feedlots, PES options and | 1.Awareness creation and identification of alternative livelihoods              | Number of persons reached and are aware | Develop Policy guidelines                   | Promote stakeholder involvement   | Pastoralist sensitization institutions<br><br>Initiate extension services on alternative livelihoods with related service providers | <b>ST</b>                          | <b>32m</b> |
|   | 2.Promote capacity building and knowledge generation of alternative livelihoods | Number persons trained                  | Policy guidelines<br>Technical backstopping | Avail staff for capacity building | Provide technical and financial support (Development partners)  | <b>ST/<br/>MT</b>                  | <b>22m</b> |
|   | 3. Promote adoption of the alternative  | -Number of pastoralists                 | Review of relevant                          | -Develop relevant                 | Lobby for support   | <b>ST/<br/>MT</b>                  | <b>60m</b> |

|  |  |  |  |  |  |                      |                   |
|--|--|--|--|--|--|----------------------|-------------------|
| <p>organizing annual livestock racing events like the camel derby, promotion of ecotourism sites/events and non-timber forest products</p> | <p>livelihoods and develop business models of trade</p>  | <p>adopted alternative livelihood</p> <ul style="list-style-type: none"> <li>-Proportion involved in alternative activities</li> <li>-Reduced exploitation/Rangeland regeneration</li> </ul> | <p>policies on alternative livelihoods</p>             | <p>county policies on alternative livelihoods</p> <ul style="list-style-type: none"> <li>-Undertake extension services to promote</li> </ul> | <p>Finance</p>   |                      |                   |
|  | <p>4..Promote establishment Pastoral field schools for knowledge generation on alternative livelihoods and also formation of environmental conservation clubs in primary</p> | <p>Number of pastoral field schools established</p> <p>Number of environmental clubs in schools in primary and secondary</p>   | <p>Policy guidelines</p> <p>Technical backstopping</p> | <p>Avail staff for capacity building</p> <p>Establish demonstration fields</p>   | <p>Provide technical support (Development partners</p> | <p><b>MT /LT</b></p> | <p><b>66M</b></p> |

|   |  |  |   |  |  |               |             |
|---|--|--|---|--|--|---------------|-------------|
|   | and secondary schools  |  |   |  |  |               |             |
|   | 5.Promote local processing value addition and marketing                                      | <ul style="list-style-type: none"> <li>-Number of marketing groups</li> <li>-Number of value added products</li> <li>changes in market prices</li> <li>-Number of market linkages</li> </ul> | Developm ent of policy guidelines   | Development of policy guidelines   | Provide technical support/financial support  | <b>MT</b>     | <b>60M</b>  |
| 6.2 Promote appropriate technologies to sustainably exploit alternative livelihoods | 1. Identify appropriate technologies (from production, marketing to consumption) Value chain | Types/numbers of enterprises and appropriate technologies identified and adopted   | <p>Develop policy guidelines on appropriate technologies</p> <p>Develop policy guidelines on commodity value chains</p> | <p>Promote stakeholder involvement</p> <p>Provide financial support to the identified and adopted technologies</p> | <p>Undertake research activity prioritization</p> <p>Provide financial support</p> | <b>MT /LT</b> | <b>110M</b> |

|  |  |   |   |   |  |               |                   |
|--|--|---|---|---|--|---------------|-------------------|
|  | 2.Undertake research on appropriate technologies also documentation of indigenous knowledge along the commodity value chain on alternative livelihoods | Gaps identified and recommendations                     | Policy Guidelines<br>National Research stations and Universities to be involved | Participate in research agenda setting  | Undertake joint research support dissemination of findings                         |               | <b>120M</b>       |
|  | 3.Promote product development, processing, manufacturing   | Number of products developed and promoted               | Develop strategy<br>Capacity building   | Provision of funds and support to processing and packaging,<br>Capacity build the local | Technical support, capacity building. Promote sensitization and awareness creation | <b>MT /LT</b> | <b>110M</b>       |
|  | 4.Promote construction of cottage industries e.g Aloe vera, gums and resins,   | Number and sites of the cottages industries established | Policy Guidelines   | Provide rules and regulations   | Technical support<br>Funding,  | <b>MT /LT</b> | <b>1.1billion</b> |

|  |  |  |                   |                               |                             |           |             |
|--|--|--|-------------------|-------------------------------|-----------------------------|-----------|-------------|
|  | honey, Neem, Moringa, leather and other non-timber forest products and all mineral resources   |  |                   | Support technology packaging  | Sensitization and awareness |           |             |
|  | 5. Facilitate measures to obtain permits and products standardization eg range seeds certification by KEPHIS Alternatively enhance a system of pastoralist certified seeds process | Number of range areas with permits and standard products | Policy guideline  | Provide rules and regulations | Funding Technical Support   | <b>LT</b> | <b>550M</b> |
|  | 6. Create awareness on the impact of climate change on   | Number of workshops/meetings held to address             | Provide policy/st | Promote climate smart         | Technical support and       | <b>LT</b> | <b>440M</b> |

|  |                         |  |                    |  |                       |  |  |
|--|-------------------------|--|--------------------|--|-----------------------|--|--|
|  | alternative livelihoods | effect of climate change<br>Number of PSP(Participatory Scenario Planning) meetings held | strategy direction | practices and technologies in rangelands | Funding in Rangelands |  |  |
|--|-------------------------|--|--------------------|--|-----------------------|--|--|

**Strategic Issue 7: Inadequate Disaster Risk Management**

**Strategic Goal 7: Sustainable Rangelands and Pastoralism Disaster Risk Management Framework Developed and Implemented**

**Strategic Objective 7: To Coordinate Rangeland and Pastoralism Disaster Risk Management Frameworks and Initiatives**

| Strategies | Activities                        | Measure of achievement      | Responsible Institution |                       |  | Priority Time line (ST <3 Yrs; MT 3-6 yrs LT > over 6) | Indicative Budget |
|------------|-----------------------------------|-----------------------------|-------------------------|-----------------------|--|--|-------------------|
|            |                                   |                             | National Government     | County Government     | Other stakeholders (INGOs, NGOs, FBOs, CBOs Private Sector and Development Partners) |  |                   |
| 7.1 Review | Identify GAPS in existing actors, | -Number of actors, who they | Provide resources       | Provide resources and | Support national and   | ST/ LT   |                   |

|   |  |   |  |  |  |                         |  |
|---|--|---|--|--|--|-------------------------|--|
| existing Disaster and Risk Management Strategies  | Frameworks and initiatives in the Rangelands                                       | are, what they do and where they are                    | and information on actors, initiatives and frameworks for disaster and risk management | information on actors, initiatives and frameworks for disaster and risk management | county government efforts in identification of the existing frameworks |                         |  |
| 1.2 Develop programmes to reduce effects of disaster risk in rangelands for purposes to reduce gaps | Provide information on early warning signs for disaster and risk planning response | Early warning signs bulletin developed and disseminated | Coordinating and resourcing  | Resourcing, implementation and reporting. Community training awareness             | Implementation and reporting, training and capacity building           |                         |  |
|   | Joint action plan in mitigation and response to disaster risks                     | Joint action plans developed                            | Provide technical and financial support for mitigation efforts                         | Provide financial support  | Support creation and awareness for capacity building for eco-literacy  | <b>MT</b><br><b>/LT</b> |  |

|   |   |                                 |  |                                 |  |               |  |
|---|---|---------------------------------|--|---------------------------------|--|---------------|--|
|   |   |                                 | Ensures provision and access to appropriate measures of mitigation |                                 |  |               |  |
| 1.3 Engage National County and Community level actors in disaster risk management | Organize joint planning meetings and review across different levels | Number of meetings              | Steering processes and resources                                   | Steering and resourcing         | Resourcing implementation and reporting    | <b>LT</b>     |  |
| 1.4 Strengthen coordination framework at all levels                               | Establish coordination bodies across the levels                     | Coordination bodies established | Establish resources and monitor                                    | Establish resources and monitor | Implementation on reporting and resourcing | <b>MT /LT</b> |  |

### **3.1 RESOURCE MANAGEMENT STRATEGIES**

The funding of the finalization of the Range Management and Pastoralism Strategy (RMPS) has mainly been from the Directorate of Livestock Production and programmes in the Directorate.

It is evident that the resource requirements for implementation of the (RMPS) is way beyond the funding levels from the Directorate and programmes. This calls for concerted efforts to mobilize resources from a variety of other sources to ensure its successful implementation.

The Range Management Directorate (RMD) will apply the following strategies to mobilize the required resources.

#### **Range Resources Mobilization Unit**

A resource mobilization Unit shall be established with the sole purpose of mobilizing Range Management resources through the development of Concepts and proposals. The Head of the Unit shall steer the Range resources mobilization effort.

The broad terms of reference for the Unit shall include, but not limited to the development and execution of a sustainable range resource mobilization mechanism.

#### **County Governments**

The RMD will collaborate with County Governments to support implementation of some of the identified priorities in the spirit of promoting Range management in the Counties. In this regard, RMD will sensitize and lobby County Governments to allocate funds for Rangeland development through their budgetary process. Where applicable, appropriate Memorandums of Understanding (MoUs) shall be developed to support the collaboration.

#### **Development Partners**

Range Management Directorate recognizes the important role that development partners, both international and local NGOs could play in providing funds for implementation of some of the priorities.

In this regard, Range Management Division will develop proposals targeting different donors and involve the Ministry for their further processing. Where proposals require a GoK component or matching funds, the Division,

through the State Department for Livestock, will lobby The National Treasury (TNT) to allocate such funds.

Some of the donors that will be targeted include the World Bank (WB), International Fund for Agricultural Development (IFAD), IGAD, African Development Bank (AfDB), the European Union (EU) and United States Agency for International Development (USAID).

### **Collaboration and Partnerships**

The RMD intends to implement some of the activities through collaborations and partnerships with stakeholders such as research institutions and other agencies. Some of the collaborative partners that will be targeted include but not limited to: Food and Agriculture Organization (FAO), International Livestock Research institute (ILRI) and Universities.

### **Internal Revenue Generation**

The RMD will engage in activities for revenue generation. These include consultancies, farm enterprises development and provision of short courses. It will also ensure prudent management of available resources.

## **3.2 MANDATE AND FUNCTIONS OF THE PROPOSED RANGE MANAGEMENT DIRECTORATE**

### **Mandate of Range Management Directorate**

The mandate of Range Management Directorate is to promote, regulate and facilitate sustainable rangeland resources for social economic development and industrialization. Specifically, it focuses on range resources surveys, mapping, monitoring, support to community & stakeholder planning and action; capacity building and technical support to Counties on range resource development; promotion of technologies for soil and water conservation; range fodder/pasture production and conservation and participatory range resource management.

### **Range Planning and Ecology Function**

The range planning and ecology function includes but not limited to: setting standards for range management and conservation, development and review of ranch development guidelines, development of guidelines for collaboration with other development agencies and stakeholders; develop livestock water plans for the ASALs.

### **Range Resource Development and Management Function**

The range resource function includes livestock feeds and nutrition, and range livelihoods support systems

### **Policy, Research Liaison and Capacity Building Function**

The role of the policy, research liaison and capacity building function includes; development of policies and strategies that promote sustainable range resource management, capacity needs assessments and capacity building on sustainable range resource management; research liaison with national and regional research institutions.

### **Pastoralism Support Systems Function**

This function will focus on the development of appropriate livestock infrastructure and community grazing management.

The functions are summarized in the figure below.

**Figure 1: Institutional Framework: Range Management Directorate**

