COUNTY GOVERNMENT OF BARINGO

Baringo County Spatial Plan (2020-2030)

Plan Approval

CERTIFICATE

I certify that the plan has been prepared as per section 110 of the County Government Act, Planning Standards and Guidelines

Signature---------- Date ---------- 17/02/2020

DIRECTOR PHYSICAL PLANNING
BARINGO COUNTY GOVERNMENT
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County Director Land Use Planning

RECOMMENDED

17 FEB 2020

Signature---------- Date ---------- 17/02/2020

County Executive Committee Member Land Use Planning

APPROVAL

BARINGO COUNTY ASSEMBLY
THE CLERK
14 JAN 2021
Sign
P.O. Box 159 - 30400 KABARNET

Hansard No---------- 9:30AM Date ---------- 25th Nov. 2020

ENDORSED

Signature---------- Date ---------- 22nd Feb. 2021.

H.E The Governor

Foreword

The following County Spatial Plan (CSP) is a geographic information system (GIS)-based special development blueprint that will assist the Government of Baringo County in allocating resources and utilizing land in a more sustainable manner between the years 2018 and 2028. The CSP is a constitutional deliverable provided for in section 110 (1) of the County Government Act and is a major component of the Country Integrated Development Plan. The vision of this CSP is "A food secure and environmentally sustainable county, with equitable infrastructural development and economic prosperity."

Despite being endowed with unexploited natural and human capital resources, Baringo faces several development challenges. There is thus a need to identify and map these resources and establish a roadmap toward their optimal utilization. This CSP provides a planned and coordinated framework for guiding the sustainable use of these resources. It is therefore a step in the right direction in terms of achieving the goals of Vision 2030 development programme and improving the livelihood of people across Baringo.

The preparation of this CSP required vigorous and detailed stakeholder participation. In line with the constitutional objective to transfer the "power of self-governance to the people and enhance the participation of the people in exercising the powers of the state," several activities were taken as part of the CSP preparation process. Some of these activities included carrying out detailed diagnostic analyses, performing GIS-based profiling of the physiographical and natural resources, taking stock of existing infrastructure, identifying settlements, measuring land and land usage patterns, sizing the population in terms of demographic and socio-cultural factors, and investigating urbanization, rural development, and governance dynamics. An assessment of the legal and institutional framework was also performed.

Several environmental, economic, and social development strategies, projects, and programmes have been outlined as part of the CSP. The CSP further stipulates a capital investment framework as well as an implementation, monitoring, and evaluation framework that will guide the achievement of these projects and programmes. It is my expectation that the CSP will transform Baringo by promoting the sustainable management of scarce resources and spurring investments that facilitate socioeconomic growth, enhance inter-county linkages, and improve the county's competitiveness.

I therefore take this opportunity to rally the people of Baringo to support the implementation of this CSP for transformation of our County.

Signature: _____
HON. STANLEY KIPTIS (H.E the Governor)
Baringo County.

Acknowledgements

This CSP was prepared through a consultative, collaborative, and participatory process that involved the local community and various stakeholders. Specifically, I want to gratefully acknowledge the sincere support from the National Land Commission (NLC) – Directorate of Land Use Planning led by the Director, Dr. Herbert Musoga. The Directorate played a crucial oversight role in providing insight to both the Consultant and the County Government on the preparation of the CSP.

We also wish to thank the Consultants from Two Ems Associates led by Plan. Michael Gachoki, (Principal Consultant) and his team that included Plan. Hellen Njoki Wanjohi-Opil (Registered Planner and Climate Change Expert), Joseph Maina (GIS Expert), Irene Mwaniki (Physical Planner), Irene Nduta (Environmentalist), Fridah Karimi (Economist), Ann Wambui (Development Planner), Peter Otieno Juma (Urban Designer), George Ogutu (Urban Designer), Lorna Mukiri (Physical Planner), Samuel Ngari (Physical Planner), and Benjamin Ayoro (Physical Planner), for spearheading the process towards successful completion of the Plan.

Finally, I wish to thank the County leadership- specifically H.E the Governor, Hon. Stanley Kiptis, the Deputy Governor, members of the County Executive Committee, the County Assembly, as well as the administrators at County, sub-County and ward levels for their support during the Plan formulation period. I would also like to recognize the efforts of the Baringo County planning department led by the Catherine Changwony, the Chief Officer of Land, Housing and Urban Development and her team that included Planners Franklin Kiche, Ezekiel Kipkorir, among others.

Finally, the County Government of Baringo appreciates the technical and financial support extended by the European Union (EU), and The Food and Agriculture Organization of the United Nations (FAO) through the Digital Land Governance Programme.

HON. DR. JOEL KIBIWOT KOIMA

County Executive Committee Member, Land, Housing and Urban Development

Preface

Spatial planning is concerned with the coordination of all developments carried out on land, the objective of which is to achieve certain goals by efficiently using available resources. Spatial planning - specifically the preparation of a 'County Spatial Plan' - is stipulated in Section 110 of the County Government Act, 2012.

It is because of this stipulation that the Baringo County Government prepared this 10-year County Spatial Plan (CSP 2018-2028) to measure the County's vast resources and establish a spatial framework that guides their sustainable utilization and management.

The preparation of this CSP commenced in 2016 under the leadership of the then Governor, Benjamin Chesire Cheboi. It was done in two phases, with the first phase covering Baringo Central, Baringo South and Eldama Ravine sub-counties. The second phase merged the remaining sub-counties namely, Tiaty, Mogotio and Baringo North to form a complete CSP.

This CSP has provided the County with a geo-database of all County resources and spatial proposals aimed at transforming Baringo over the next ten years. We believe that implementation of this Plan will boost economic competitiveness of the County, transform infrastructure, enhance environmental sustainability and improve the quality of life for all County residents.

CATHERINE CHANGWONY
County Chief Officer, Land, Housing and Urban Development

Executive Summary

The Fourth Schedule of the Constitution of Kenya confers the role of county planning to the County Governments. Additionally, the County Government Act of 2012 requires each County Government to prepare a ten-year GIS-based County Spatial Plan (CSP) in respect of the entire area of jurisdiction of the county. The CSP is a framework for organizing and distributing local populations and activities in a manner that achieves both national and county development objectives. The CSP also aims to coordinate the implementation of sectoral projects and programs, especially to reduce the wastage of scarce resources and avoid the duplication of efforts.

The preparation process relied on the Constitution of Kenya, Kenya Vision 2030, and relevant policies and legislations for spatial development (such as the National Spatial Plan, National Land Use Policy 2018, National Land Policy 2009, and the CIDP (2013 - 2017 and 2017 - 2022). The preparation process was also informed by other various Acts, including the County Government Act, the Physical and Land Use Planning Act, the Urban Areas and Cities Act, the Environment Management and Coordination Act, the Water Act, the Land Act, the National Land Commission Act, the Forest Act, among others.

Through this CSP, Baringo County aims to be ''A food secure and environmentally sustainable county, with equitable infrastructural development and economic prosperity.'' As such, the CSP is the output of a lengthy planning process involving a wide. The best spatial development initiatives with the greatest potential to transform a county/region into a competitive economy were benchmarked as part of the planning preparation process.

Baringo County, measures at approximately 11,015.3 km2 in area, located in the Rift Valley region. It is home to an estimated 715,294 people (2018 projection), at a density of approximately 50 people per km2. The County borders Turkana and West Pokot counties to the North, Samburu and Laikipia Counties to the East, Nakuru and Kericho Counties the South, Uasin Gishu County to the South West. The County is strategically located along the designated LAPPSET corridor. The County's strategic location provides opportunities for improving regional competitiveness through the formation of inter-county economic blocks that have shared economic interests and immense potential in agri-business, energy, and tourism.

Baringo`s physical features, urban-rural interface, settlement structure, land use structure, and land tenure composition have influenced the structure of the CSP. For this multi-disciplinary undertaking, different types of data from primary and secondary sources were collected and collated. This data was studied in detail to identify the development issues and gaps within different urban and rural sectors.
The various challenges and opportunities that Baringo County presents have informed the goals, objectives, and implementation of the spatial development vision. Baringo County land use plan was informed analysis of; transportation and infrastructure gaps, a human settlements, an environmental sensitivity, and a land capability, availability, and suitability. Baringo`s geographic location and human and natural resources were also considered in preparation of the county land use plan.

A land use plan is a framework that sets out strategic planning policies in terms of space. A structure plan comprises of three elements – namely a physical zoning map, land management policies, and land use standards. Overall, the spirit of any structure plan is environmental conservation. The Environmental

Strategy synthesizes the opportunities and constraints presented by geological, water, forest, energy, land, and wildlife resources. Water resources strategies cover the protection of riparian reserves, wetlands, and underground water sources by restricting development and introducing innovative changes in surrounding areas (such as better and cleaner farming practices and appropriate tree planting schemes). Forest protection strategies include participatory forest conservation projects, restrictions on development within forests or in their immediate vicinity, agro-forestry plans, and promotion of alternative energy sources. Within the wildlife and scenic resources strategy, promotion of eco-tourism would develop wildlife resources.

The Economic Strategy is based on the livestock, trade and industry sectors. The crop agriculture and livestock strategy revolves around value-chain maximization. The industrialization strategy involves the promotion of agro-industrial development through the creation of industrial zones, revival of collapsed industries, formation and investment in regional markets, and promotion and development. The Integrated Transportation Strategy covers the development of road, rail, and air transportation. Road use behavioural changes and strict rules of enforcement would also greatly reduce accidents and traffic issues. There is also need to upgrade and maintain the existing rail and air transport infrastructure. This CSP also proposes the tarmacking of major county roads as well as the establishment of truck bays in strategic centers.

The Appropriate Infrastructural Services Provision Strategy includes sub-strategies for water, electricity, education, health, and recreation infrastructure.
The Spatial Development Strategy has sub-strategies for urbanization, rural development, and housing. The urbanization strategy proposes the improvement of existing urban areas through preparation of local physical and land use development plans for all major towns and rapidly emerging 'special' towns/corridors. The rural development strategy proposes the servicing of rural areas (where possible, through the provision of mobile social services to cater to dispersed settlements and the conservation of prime farmlands.

The Governance and Conflict Management Strategy provides a framework of developing a transparency and accountability system, undertaking performance appraisals for all public servants, and establishing community participation and feedback platforms while fostering strong political will. Conflict mitigation will be encouraged through the application of alternative dispute resolution methods, the establishment of security facilities in hotspot areas, the involvement of youth and women in peacebuilding as well as the monitoring of all hate speech activities.

The Capital Investment Programme outlines the county government funded projects, national government funded projects, public-private partnerships and donor funded initiatives. Plan Implementation, Monitoring, and Evaluation relies on a sound institutional set-up. Given the multidisciplinary nature of the CSP, a coordination committee or unit should be constituted to facilitate implementation, incorporating key executive officers from all the thematic areas. The implementation of the CSP will transform Baringo sustainably through effective and equitable resource management and utilization, which is in line with both the County and National visions and plans.

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PART I: INTRODUCTION

CHAPTER ONE

Background

1.1 Purpose of the Plan

The Fourth Schedule of the Constitution of Kenya confers the role of county planning to the County Governments. Additionally, the County Government Act of 2012 requires each County Government to prepare a ten-year GIS-based County Spatial Plan (CSP) in respect of the entire area of jurisdiction of the county. The CSP is defined within Section 110 of the Act as a geo-referenced plan that is a spatial depiction of the County Integrated Development Plan (CIDP), providing a broad framework for organizing and distributing population and activities in the county for the achievement of both national and county development objectives. It also serves the purpose of enabling the County Government to strengthen the coordination of sectoral projects and programmes to mitigate duplication of efforts. The CSP interprets the nation level plans relevant to the county and at the same time guides the preparation of lower level plans.

The CSPs are envisioned to allow for the realization of fundamental rights and freedoms as enshrined in Chapter 4 of the Constitution on the bill of rights which include; clean and healthy environment, housing, sanitation, food, water, education and social security, all of which depend on proper planning. Additionally, CSP's are intended to allow for the holding, use and management of land in a manner that is equitable, efficient, productive and sustainable, as outlined in Article 60 of the Constitution. The CSP also serves as a tool to enable the State to regulate the use of any land or any interest in, or right over any land, in the interest of land use planning, as outlined in Article 66 of the Constitution.

Considering this, the County Government of Baringo mandated Two Ems Associates Limited, a planning and mapping firm, to prepare the Baringo CSP for the area under its jurisdiction, to cover a period of ten years (2018-2028). The Baringo CSP is the output of a lengthy planning process, and incorporates detailed literature reviews, comprehensive field surveys, and robust engagements with all stakeholders. The stakeholders included individuals at the household level, stratified groups (at sub-county-specific forums), members of the political leadership (such as county executives), and technocrats at the both county and national level. Initially, the Spatial Plan was done in two phases. Phase one covered Baringo Central, Baringo South and Eldama Ravine Sub-counties, while Phase two covered Mogotio, Baringo North and Tiaty sub-counties. This was attributed to inadequate funding resources from the County Government. However, it has since been reconciled to be one County Spatial Plan.

The CSP is built on the aspirations of past and present integrated visions and resultant plans. The preparation process relied on the Constitution of Kenya, Kenya Vision 2030, and relevant policies and legislations for spatial development (such as the National Spatial Plan, National Land Use Policy 2018, National Land Policy 2009, and the CIDP (2013 - 2017 and 2017 - 2022). The preparation process was also informed by other various Acts, including the County Government Act, the Physical Planning Act, the Urban Areas and Cities Act, the Environment Management and Coordination Act, the Water Act, the Land Act, the National Land Commission Act, the Forest Act, among others.

1.2 Vision of the Plan

The vision of the Baringo County Spatial Plan was achieved through a synthesis of various stakeholder input received through different forums. The Baringo CSP Vision is informed through the following sources:

SOURCE	VISION COMPONENTS.
Governor Stanley Kiptis Manifesto:	The current Governor's aspirations to build a prosperous County anchored on the following pillars: • Food security • Industrialization • Improved access to social services e.g. Education and Health. • A thriving livestock industry. • Liveable urban and rural areas. • Attracting investment in the county. • Enhancing the county's tourism potential.
Baringo CIDP 2018 – 2022:	The vision of the CIDP for Baringo County is: • To be the most attractive, competitive and resilient county that affords the highest standard of living and security for all its residents.
Stakeholder's Aspirations:	During the stakeholder forums, the residents from the different sub-counties envisioned the following aspirations for their county; • To be a food secure county with enough food supplies for all. • To have well equipped education and health facilities. • To be well-connected sub-counties with easy access and linkages. • To market and brand the tourism potential in the county through mapping of a tourism circuit connecting all the tourist attraction sites. • To have investment in the industrial potential of the county. • To have improved infrastructure for businesses to thrive. • Protection of the environment, forested areas and natural resources. • To promote value addition of agricultural products in the county. • To utilize the geothermal energy potential in the county.
Vision 2030:	• A newly industrializing, middle income country providing a high quality of life to all its citizens in a clean and secure environment.
MTEP III 2018-2022:	Transforming lives: Advancing socio economic development through the Big 4." which will be achieved through; • Food Security. • Affordable health care. • Manufacturing. • Affordable housing.

Through the synthesis of all stakeholder outputs, the resultant vision coined to guide the spatial development of Baringo County is as follows:

VISION: A food secure and environmentally sustainable county, with equitable infrastructural development and economic prosperity.

The aspirations of the above stakeholders are summarized in the following illustrations:

FOOD SECURITY

LIVESTOCK IMPROVED BREED

IRRIGATION

ENVIRONMENTAL SUSTAINABILITY

GREEN ENERGY

SOIL CONSERVATION

EQUITABLE INFRASTRUCTURAL DEVELOPMENT

IMPROVED CONNECTIVITY

IMPROVED HEALTHCARE

ECONOMIC PROSPERITY

TOURISM AND GREEN ENERGY

LIVESTOCK VALUE CHAINS

1.3 Objectives of the Plan

The main objective of the CSP is to provide a broad planning framework to guide spatial planning and growth within the county for a period of ten years from the year 2016 to 2026. The terms of reference for preparation of the CSP outlined the following specific objectives:

1. Depict the spatial dimension of the social and economic development programmes of the county (as articulated in the CIDP).
2. Present a clear statement of how the spatial plan is linked to the regional, national and other county plans.
3. Clarify the anticipated sustainable development outcomes of the spatial plan.
4. Giving effect to the principles and objects contained in sections 102 and103 County Government Act.
5. Setting out objectives that reflect the desired spatial form of the county.
6. Formulating strategies and policies that indicate the desired patterns of land use within the county, addressing the spatial construction or reconstruction of the county, provide strategic guidance with respect to the location and nature of development within the county, and set out basic guidelines for a land use management system in the county.
7. Planning, reNplanning, or reconstructing the whole or part of the area comprised in the plan, and for controlling the order, nature and direction of development in the area.
8. Improving and providing for the proper physical development of land, including the creation of parks, commercial, industrial, residential and recreational areas, transportation hubs, and natural reserves.
9. Setting out a capital investment framework for the county's development programs. 10. Outlining strategic assessments of the environmental impact of the spatial development framework. 11. Identifying programs and projects for the development of land within the county. 12. Delineating the edges of the urban areas within the county. 13. Indicate the areas designated for conservation and recreation.

1.4 Scope of the Plan

This CSP covers the entire of Baringo County, measuring approximately 11,015.3 km2 in area, located in the Rift Valley region. Baringo County is home to an estimated 715,294 people (2018 projection), at a density of approximately 50 people per km2. The County borders Turkana and West Pokot counties to the North, Samburu and Laikipia Counties to the East, Nakuru and Kericho Counties the South, Uasin Gishu County to the South West. The County is strategically located along the designated LAPPSET corridor. The County's strategic location provides opportunities for improving regional competitiveness through the formation of interNcounty economic blocks that have shared economic interests and immense potential in agriNbusiness, energy, and tourism.

1.5 Organization of the Plan

This document will be divided into seven parts:

- Part 1: Introduction
- Part 2: Situational Analysis
- Part 3: Synthesis
- Part 4: Plan Proposals
- Part 5: Spatial Development Framework and Action Plans
- Part 6: Implementation Framework
- Appendices

CHAPTER TWO

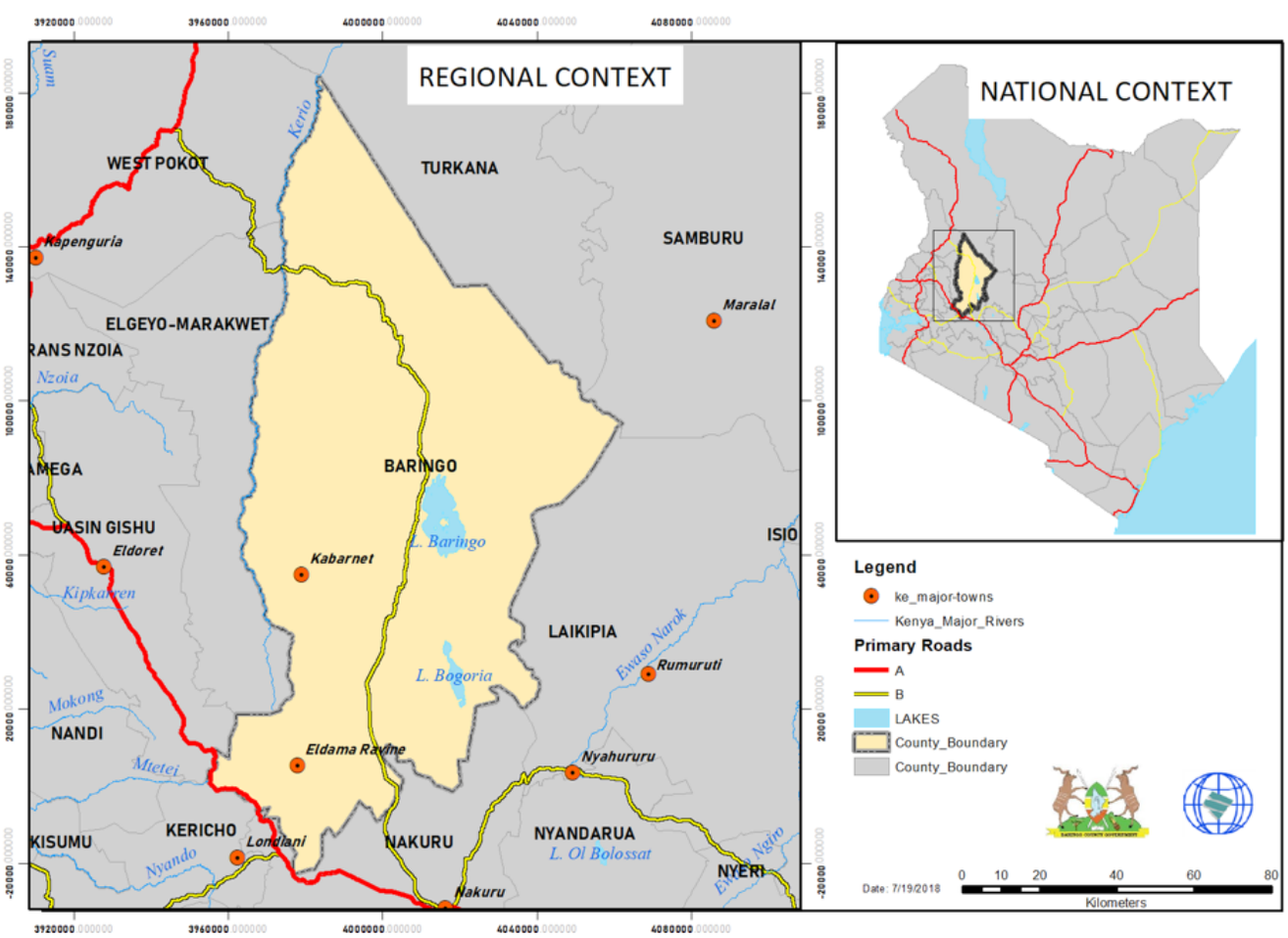
Planning Context

2.1 Location and Size

Baringo County is bordered by Turkana County and West Pokot County to the north, Laikipia County and Samburu County to the East, Elgeyo Marakwet County to the West. Kericho County and Nakuru County to the South, and Uasin Gishu County to the South West.

Baringo County covers an area of 11,075 km2 and it lies between the Latitudes 00 degrees 13" South and 1 degree 40" north, and Longitudes 35 degrees 36" and 36" degrees 30" East.

Map 1: Regional and National Context

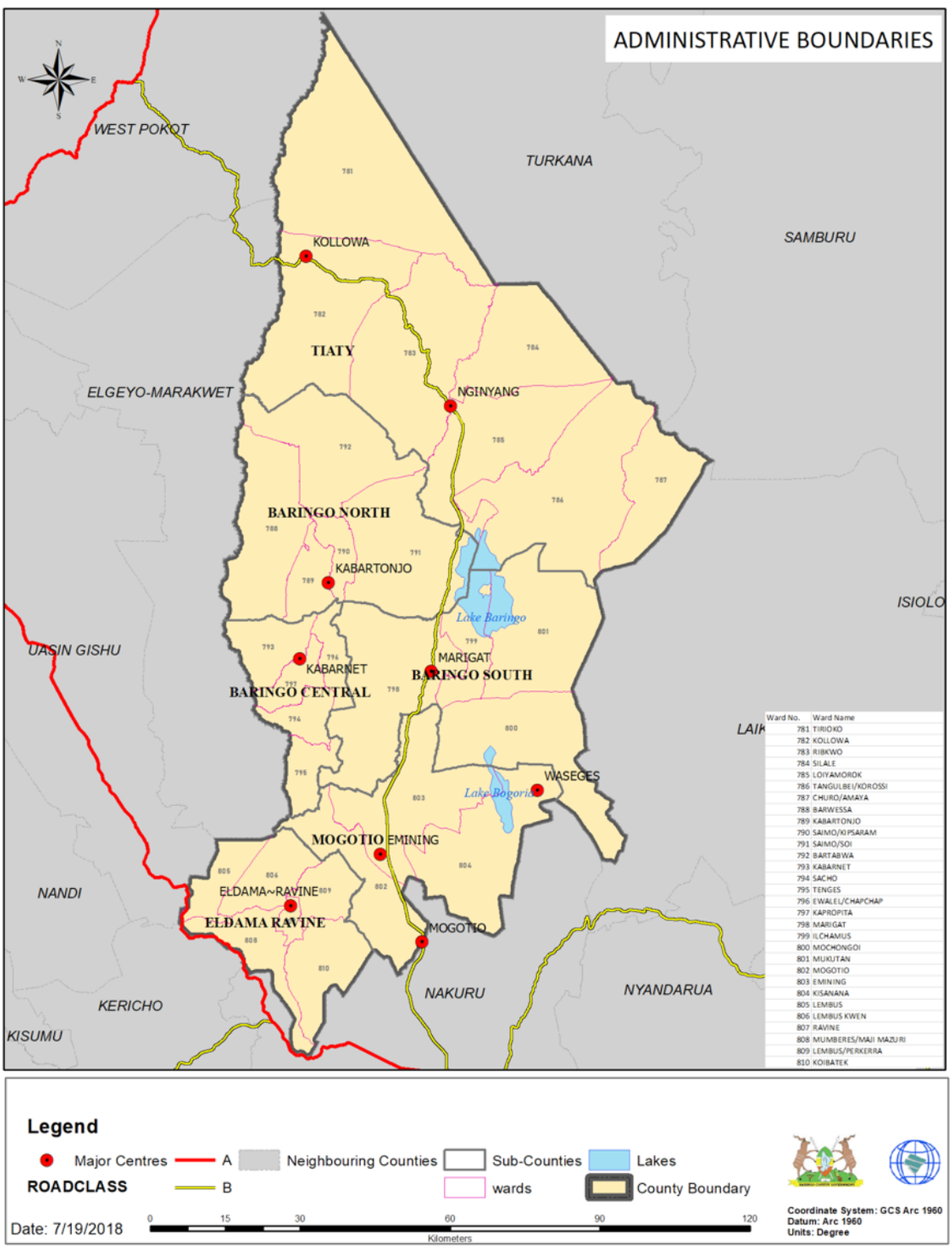


The planning area comprises of six sub-counties namely; Eldama Ravine, Baringo Central, Baringo South, Tiaty, Baringo North and Mogotio.

2.2 Administrative Units

Baringo County consists of six subNcounties, namely: Eldama Ravine, Baringo Central, Baringo South, Tiaty, Baringo North and Mogotio, and with 30 wards in the county.

Map 2: Administrative Context



2.3 Methodology
2.3.1 Approach to Plan Preparation

County planning requires the assimilation of large amounts of information (both quantitative and qualitative). Changing public values have also drawn attention to the effects of any development on the rest of the community. For these reasons a variety of data collection methods were adopted for a comprehensive coverage of the study area, which can be broadly classified into:

- Preparatory Phases
- Detailed Field Survey
- GIS Mapping Component
- Stakeholder Participation
- Training and Capacity Building

2.3.2 Preparatory Phases

a) Literature Review:

Literature Review was the first data collection method used for purposes of familiarization of the study scope and characteristics of the area. This stage involved the perusal through relevant pieces of literature for various reasons:

- To provide an understanding of both the theory and policy background of county spatial planning.
- To collect and collate all secondary data already compiled on Baringo County. Secondary data collected formed the basis of shaping of data collection instruments and provided the foundation on which subsequent data compilation was done.

The sources of secondary data reviewed were as diverse as the scope. They included Kenya Population Census (2009), County Development Plans, Policy/Legislative Documents, Independent Reports and Reviews of the study area, Local Physical Development Plans, and Internet sources.

b) Reconnaissance Surveys:

Reconnaissance surveys are crucial for providing an understanding of an area that desk research cannot effectively offer. A one-week reconnaissance survey was done throughout Baringo County, including an initial contact meeting with the8 County Physical Planning Department. This enabled better structuring of data collection, visit itineraries and collection instruments. It also enabled identification of county planning members who could be incorporated into the data collection team.

2.3.3 Detailed Field Surveys

a) Administration of Household Questionnaires

Due to the high population of the county, sampling served as a crucial tool to ensure that data collection was possible. Using the standard sample size calculation formula (Fisher et al, 1991) designed for large populations, a resultant sample of 383 respondents was arrived at. These sample size was further stratified between the two phases and their respective sub-counties proportionately, based on their population sizes. 172 questionnaires were allocated to Phase 1 (covering Baringo Central, Baringo South and Eldama Ravine sub-counties), while the remaining 211 questionnaires were allocated to Phase 2 covering Tiaty, Baringo North and Mogotio sub-counties. In this formula, any population of more than ten thousand (10000) people is considered infinite. Thus, the formula below was adopted.

$$n = \frac{(Z\alpha/2)^2\, pq}{L^2}$$

Where n	=	sample size
Zα/2	=	Z - the value at the chosen confidence interval (for 95% confidence interval = 1.96)
p	=	estimated population with attributes of interest which If unknown we use
p	=	0.5
q	=	1-p and
L	=	precision (chosen to be 0.05)

For this study, sample size calculation was done using the following values:

p = 0.5

q = 0.5

Za/2 = 1.96 for 95% CI

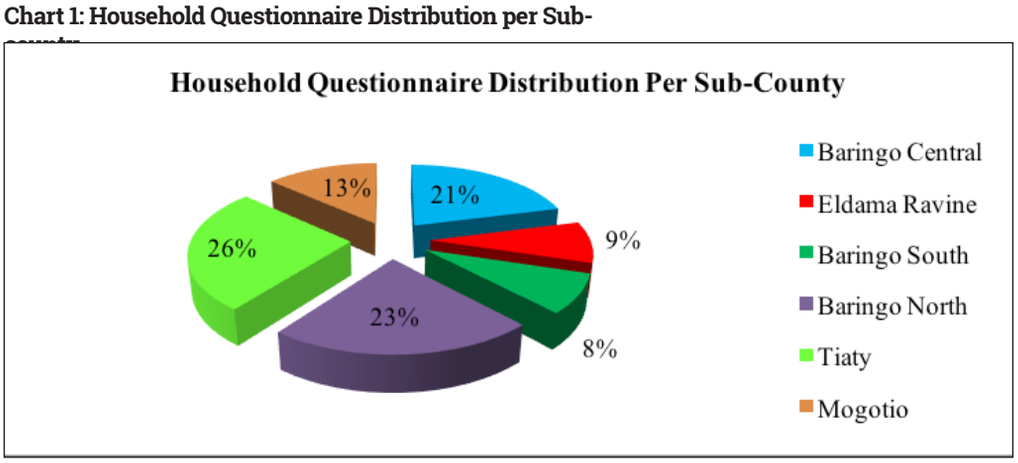
= 0.05

$$\text{Therefore } n = \frac{(1.96)^2\,(0.5\times0.5)}{(0.05)^2} = 383 \text{ questionnaires}$$

The advantage of using this formula was that it provided a scientifically acceptable sample size, which enabled the consultants to save on time and costs due to the vast size of both the planning area.

The questionnaire administered to these households and businesses have been attached as Appendix A and B of this report. In each of the county's six sub-counties, both the population and the number of households in each were considered (proportionate distribution), and the sample frame distributed as per the population as illustrated in the table and chart below:

Chart 1: Household Questionnaire Distribution per Sub-



Source: Field Survey, 2016

Random sampling was applied to distribute the questionnaires in the various settlements in each sub-county ensuring a comprehensive survey of the area. To eliminate any bias, purposive emphasis was given to the rural hinterlands of the identified urban centres. During field survey, the centres of Tinet, Nga ` mbo, Mochongoi, Lelgut, Endao, Arabal and Mukutani were not sampled during the 1st Phase due to poor road conditions and insecurity concerns. In the 2nd Phase, Takawia and Emsos areas were not sampled due to inaccessibility or insecurity concerns at the time. The table below is a summary of households' questionnaire distribution per trading centre:

Table 1: Proportionate distribution of questionnaires per trading centre

CENTRE NAME:	NO. OF QUESTIONNAIRES:	CENTRE NAME:	NO. OF QUESTIONNAIRES:	CENTRE NAME:	NO. OF QUESTIONNAIRES:
Arabal	2	Kasirma	1	Emining	1
Loboi	3	Kipsaraman	7	Sore	1
Kiboino	3	Tuloi	2	Kaburgei	1
Kaptara	3	Keturwa	1	Esageri	1

CENTRE NAME:	NO. OF QUESTIONNAIRES:	CENTRE NAME:	NO. OF QUESTIONNAIRES:	CENTRE NAME:	NO. OF QUESTIONNAIRES:
Kipsoit	4	Churo	10	Chemosoch	1
Riwo	2	Katibel	1	Gubereti	1
Bokorin	2	Korosi	7	Oterit	1
Chesongo	1	Sesianin	1	Ainopsos	1
Kimalel	2	Kapkiamo	2	Amaya	4
Salawa	4	Kasiber	1	Cheberen	1
Seretunin	4	Kuikui	4	Kipcherine	1
Ainamoi	4	Tirimionin	3	Chepilat	2
Molok	2	Chemolingot	7	Ptikii	2
Sandai	4	Komolion	4	Kaptiony	1
Seguton	2	Chesirimion	3	Pemwai	1
Loboro	1	Nginyang	4	Loruk	5
Solian	1	Kolowa	12	Kambi Samaki	3
Kituro	2	Kinyach	4	Barbarchun	4
Kaptim	1	Cheptur	4	Kasisit	2
Saos	1	Kokwototo	7	Kapkwany	1
Kibingor	3	Chepkalacha	4	Kalabata	3
Eldama Ravine town	3	Barpello	4	Bartabwa	6
Tenges	3	Loiwat	2	Ossen	4
Lobolos	1	Takawia	4	Kampi Nyasi	4
Ochii	3	Kipnai	1	Kalel	2
Pemwai	4	Kakapul	2	Muchukwo	2
Kapchomuso	3	Ng'oron	7	Bartolimo	4
Kapkokwon	4	Magoi	1	Kabartonjo	5
Kitumbei	2	Mogotio	5	Barwessa	5
Kaptorokwo	2	Chemutung	1	Muserechi	2
Kabasis	2	Mogorin	1	Maoi	1
Ngetmoi	1	Majimoto	1	Kabarnet town	3
Tiboiwo	1	Kabyemit	1	Ngoswe	4
Katipso	2	Sirwa	1	Nato	2
Kiptagich	3	Nyalilbuch	1	Kipkitur	1
Cheplambus	4	Kapnosgei	1	Mwachoni	1

Mogorwa	3	Kibotani	1	Tugumoi	2
Koriema	3	Waseges	1	Ngorswer	1
Kimalel	2	Mukuyuni	1	Midwad	1
Marigat town	3	Kamar	1	Kapsok	1
Arama	1	Kimose	2	Chepnyorkir	1
Kabimoi	1	Chemoinoi	1	Torongo	2
Kokwomoi	1	Oldebes	1	Tiripkatoi	2
Kirobon	2	Kisanana	1	Radat	2
Makutano	2	Kabarpesi	1	Sigoro	2
Maji Mazuri	3	Olkokwe	1		
Kewangoi	1	Ng'endalel	1		

Source: Two Ems Associates, 2016

Data analysis and presentation for household questionnaires administered relied largely on Statistical Package for Social Sciences (SPSS).

b) Administration of Business Questionnaires:

Random sampling was used to distribute business questionnaires in the various centers in each sub-county ensuring a comprehensive survey of the area. Additionally, selective businesses and industries were interviewed using a qualitative method, guided by an unstructured interview guide. The business/industry sampling used a snow balling method from the key informants. The following is a list of the key businesses interviewed:

- Large scale farmer
- Saw miller
- Trader
- Conservancy chair
- Cumming bio fuel company
- Goldox donkey export slaughterhouse
- Mogotio abattoir
- Rachiemo honey marketing cooperative society

Data analysis and presentation for business questionnaires administered relied largely on Statistical Package for Social Sciences (SPSS).

c) Key Informants Interviews:

The final phase of data collection was the interviewing of key informants, which was done using purposive sampling methods. Baringo County had nine devolved ministries in 2016 when the field surveys were carried out, and key informants from these ministries as listed below were interviewed:

- Ministry of Agriculture and livestock development
- Ministry of Industrialization, Trade, Tourism and Enterprise Development
- Ministry of Education
- Ministry of Environment, Natural resource, Energy and Mining
- Ministry of Health
- Ministry of Roads
- Ministry of Lands, Housing and Urban Development
- Ministry of Water and Irrigation
- Ministry of Youth, Gender, Labour and Social Security Services
- Economic Planning Unit

Among the National Government stakeholders visited were the Sub-county Administrators (Baringo Central and Baringo North), Town Administrator (Kabarnet), County Commissioner, representatives from Kenya Power and Lighting Company (KPLC), Eldama Ravine Water Services Company (ERAWASCO), Rift Valley Water Service Board, Kenya Forest Service (KFS), Kenya Wildlife Service (KWS), Micro and Small Enterprise Authority (MSEA). Other important Non-governmental key stakeholders included the Ruko Conservancy Manager. The data collection instruments used to guide interviews with these key informants has been attached as Appendix of this report.

2.3.4 GIS Mapping

a) GIS Analysis:

Vector and Raster Analysis

Analysis of the spatial data was achieved by synthesizing the vector data, which was the "the heart" of the GIS work in this report. Analysis is normally conducted on both attribute and spatial data,– however, it is the spatial analysis capability that sets GIS apart from database applications. The study performed attributes queries, arithmetic calculations, statistical summaries, data reclassification, spatial queries, spatial joins, overlays and conditional aggregations. Data was obtained from different sources such as KNBS, ILRI, USGS, FAO, KENSOTER, KFS and fieldwork.

Tabular data collected from Kenya Bureau of Statistics (KNBS) was analysed spatially through 'Spatial Join'. This operation is a mix of spatial and attribute operations. The result is a join of two database tables, but the basis for the join is 'coincident space'. As with a 'regular join' the relation must be one-to-one or many-to-one between records in the 'destination-to-source tables'. As an example, we had two themes: Schools data and Wards of the county. A spatial join was done for wards as the destination theme, as it yields a count of schools per ward (many wards to one ward). A spatial join would thus bring data from the schools' theme to the wards theme. A spatial join was also done on wards to many other tabular data such that the results is tabular data is joined as part of the attribute of wards (polygon data).

Supervised Image Classification is another technique used to analyse data in this study. Landsat data was classified into five main classes (Farmland, Grassland, Forest, Bushland and Settlement. In supervised classification we trained the pixel classification process by specifying the various pixels values or spectral signatures that should be associated with each class. This was done by selecting representative sample sites of known cover type called Training Sites or Areas. The training sites were collected with the help of Google Earth. The computer algorithm then used the spectral signatures from these training areas to classify the whole image into the five classes identified. We classified images from two time-stamps (2003 and 2011) from Landsat 5 images. These dates were chosen because of the availability of cloud free data.

b) Land Use Modelling:

Land use modelling was used to simulate future land use for the year 2020 and 2030. A statistical approach was used to allocate the land cover prediction procedure. Logistic regression method in MOLUSCE (Modules for Land Use Change Simulations) tool in QGIS was used for this analysis. In this technique, we started with 2003 land use as initial input data and 2011 land use as the final time stamp. The algorithm takes an input of a collection of pixels of initial state raster and factor rasters. Factor rasters used in this modelling approach were Digital Elevation Model, NDVI and Population Density. Logistic regression takes initial pre-processing of the data (dummy coding and normalization of the land use data), randomly samples and trains a model (Yirsaw et al., 2017).

The coefficients of the model created takes the form M((C – 1)(2N + 1)2 + B(2N + 1)2 + 1), but only (M – 1)((C – 1)(2N + 1)2 + B(2N + 1)2) are independent whereby, C is the count of land use categories, N is neighbourhood size which in this case we specified 1px, B is summary band count of factor rasters which in this case B=3. M is count of unique categories in the change map (C2). M depends on the sampling mode which was set as random with 1000 samples (Tayyebi et al., 2010). Coefficients of one transition land use class (transition from land use category 2 to land use category 3, for example) (Kityuttachai et al., 2013). We had 5 land use categories 1,2,3,4,5 and we select 3 one-band factors and we used 1-neighborhood, this gave us 81 coefficients per transition class:

we used 1-neighborhood and two one-band factors, we get 37 coefficients per transition class:

- b_0 is an intercept;
- Coefficients from b1 thru b_{27} are the coefficients of dummy variables of current land use state: (b_1, ..., b_3 are dummy variables for the upper-left corner of 3x3 neighbourhood window);
- Coefficients from b_{28} thru b_{36} are the coefficients of the first raster pixels (1-neighborhood uses 9 pixels or 3x3 window);
- Coefficients from b37 thru b45 are the coefficients of the second raster pixels.

The analysis accuracy was assessed through Pseudo R-squared which for the first analysis between the years 2003-2011 was 0.724. This was considered to be a good model for simulating future land uses (2020, 2030).

c). Gini-Coefficient:

The Gini index is defined as a function that assigns to each non-negative income vector a real number between 0 and 1, which represents the society's inequality level. This measure is 0 in maximum equality and 1 in perfect inequality (Mirzaei,

et al., 2017). On the figure below, the Lorenz curve maps the cumulative income share on the vertical axis against the distribution of the population on the horizontal axis. The Gini coefficient is calculated as the area (A) divided by the sum of areas (A and B) i.e. A/(A+B). If A=0 the Gini coefficient becomes 0 which means perfect equality, whereas if B=0 the Gini coefficient becomes 1 which means complete inequality. Let xi be a point on the X-axis, and yi a point on the Y-axis, the Gini coefficient formula is:

$$Gini = 1 - \sum_{(i=1)}^{N} (x_i - x_{(i-1)})(y_i + y_{(i-1)})$$

d). Map Layouts:

The map layouts for this report were designed in ArcGIS with all the data projected on the fly to geographic coordinate systems (WGS 1984). For calculations and area measurements, the data were projected to UTM Zone 36N.

2.3.5 Stakeholder Engagement

Stakeholder participation and involvement of various actors was also recognized as an important step to the survey planning process. In this regard, stakeholder identification and mapping was done by carrying out literature reviews and interacting with clients and key informants during the field survey. This involvement provided an opportunity for residents and concerned parties to comment on matters that affect them. It also gathered support for implementation of the CSP and thereby ensured its legitimacy. The key stakeholders were therefore identified as:

- National government representatives (Ministry of Lands and Physical Planning, National Land Commission)
- County government executive members
- County politicians (both present and past)
- Members of the academic community from the county; representatives from non-governmental organizations (NGOs); local religious leaders and other local community representatives
- Representatives of marginalized groups such as Women, Youth & People with Disabilities (PWDs)

The stakeholder forums are meant to capacity build the residents on the content of a County Spatial Plan, to enforce ownership, gather additional information to help build priority areas for intervention and come up with a shared vision. The validation & visioning process entailed:

- Sensitization of stakeholders on the planning process
- Presentation of draft situational analysis
- Identifying of potential resources and Challenges facing exploitation of these resources
- Proposed solutions to preserve & exploit resources

Stakeholder participation is still an on-going process; currently situational analysis and plan validation forums have been held. Four stakeholder forums (one in Eldama Ravine, Baringo South and Baringo Central sub-counties and one leader's forum) were held during Phase 1. The leaders' forum was held to provide way forward towards widening the scope of the plan to include the whole county. Upon submission of the Phase 1 report, stakeholder forums were held for the three remaining Phase 2 sub-counties (Tiaty, Baringo North and Mogotio sub-counties). Subsequently, three technical forums have been held to validate the situational analysis and provide proposals that will steer development in the County.

In 2018, a sensitization meeting with the county executive committee members was held to induct the new regime on the progress of the County Spatial Plan and come up wth the way forward towards completion of the plan. Additionally, plan validation forums have been held for Tiaty, Baringo North and Mogotio sub-counties.

The process was done through an inclusive mapping process based on thematic groups divided into; Environment, Land & agriculture, Physical Infrastructure, Social Infrastructure and Trade and Industry aspects. The vision culminated from the combined desired spatial strategies proposed by the stakeholders. Invitation for stakeholder forums was done through a newspaper advertisement.

Plate 1: Stakeholder Participation Conducted

Kabarnet stakeholder forum

Marigat stakeholder forum

Mogotio stakeholder forum

Technical sensitization meeting

Source: Field Survey, 2016

Efforts were made during the stakeholder consultation process to ensure that representatives from all genders were present during stakeholder forums held. The complete attendance lists of stakeholder forums held have been attached as Appendix to this plan.

Table 2: Gender Participation in Stakeholder Forums

FORUM:	DATE OF FORUM:	LOCATION:	MALE PARTICIPANTS:	FEMALE PARTICIPANTS:
SITUATIONAL ANALYSIS FORUMS				
Eldama Ravine Sub-county	29th September 2015		61	20
Baringo South Sub-county	30th September 2015		46	11
Baringo central Sub-county	1st October 2015		57	31
Tiaty Sub county	28th November 2016	Chemolingot	50	19
Baringo North Sub-county	29th November 2016	Kabartonjo	45	50
Mogotio Sub county	30th November 2016	Mogotio	60	33
STAKEHOLDER VALIDATION FORUMS				
Mogotio Sub-County	4th September 2018	Mogotio	85	23
Tiaty Sub-County	5th September 2018	Chemolingot	49	9
		Tangulbei	41	11
Baringo North Sub-County	6th September 2018	Kabartonjo	44	22
DRAFT PLAN VALIDATION FORUMS				
Phase 1				
Forum:	Date of Forum:	Location		
Leaders forum	02nd October 2015	Kabarnet		
Leaders Validation forum (Consultant and Baringo County Departments representatives)	02nd February 2016	Kabarnet		
G.I.S Training (Consultant and Baringo County Departments representatives)	02nd February 2016	Kabarnet		
Technical Review Workshop (Consultant, National Land Commission (county officials) and Baringo County Departments representatives)	1st December 2016	Kabarnet		
Combined Spatial plan				
Baringo County Workshop Meeting (Consultant, Baringo County Departments representatives, NLC county representative and Political leaders)	1st February 2017	Kabarnet		

Technical Review Meeting (Consultant, Baringo County Planning Department and National Land Commission)	22nd March 2017	NLC Nairobi offices		
Technical review meeting for Spatial Plan Sensitization of the new planning department (Governor, Consultant, Baringo County Planning Department and National Land Commission)	14th August 2018	Kabarnet		
Technical review meetng (Consultant, Baringo County Planning Department and National Land Commission)	15th August 2018	Kabarnet		
Technical Sectoral Forum (Consultant, and Baringo County Planning Department)	23rd October 2018	Kabarnet		

2.3.6 Training and Capacity Building

To build capacity of the Baringo County staff, the Consultant endeavoured to integrate them throughout the CSP process. This involved participation in all stakeholder forums held for both the public and political officers, as well as training on GIS.

The GIS training covered the following key areas.

- Data Acquisition- paper maps, digital files, remote sensing/satellite and fieldwork.
- Pre-processing- preparation & integration- format conversion, digitizing and/or scanning, edge matching and rectification.
- Data Management- variable selection & definition, table design (performance v. usability), crud policies/procedures: create (data entry), retrieve (view), update (change), deletion (remove).
- Manipulation and Analysis- address matching, network analysis, terrain modelling (e.g. slopes, aspects).
- Product Generation- tabular reports, graphics (maps and charts).

2.4.1 Policy Framework

Table 2: Summary of Policy Context of the CSP

GLOBAL POLICIES	
a). Sustainable Development Goals (SDGs)	The Sustainable Development Goals (SDGs) define global sustainable development priorities and aspirations for 2030 and seek to mobilize global efforts around a common set of seventeen goals and targets. SDG 11 aims to make cities and human settlements inclusive, safe, resilient and sustainable.
b). New Urban Agenda	The New Urban Agenda provides a roadmap for building cities that can serve as engines of prosperity, inclusion and centres of cultural and social well-being while protecting the environment. The Agenda also provides guidance for achieving the SDGs and provides the underpinning for actions to address climate change.
c). The Paris Agreement	The Paris Agreement is a commitment of global nations (including Kenya) to attain the long-term global goal of stabilizing the global temperature increase to below 1.5 degrees Celsius above the preindustrial levels. While the Agreement is not legally binding, each country is expected to determine, plan and regularly report its contribution to achievement of the common targets of adaptation, mitigation and climate financing.
d). Treaties against Discrimination	Kenya has ratified the: • Convention on the Elimination of Discrimination against Women (CEDAW) • United Nations Convention on the Rights of the Child (UNCRC) • International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)
THE CONSTITUTION OF KENYA	
• **Fourth Schedule** identifies the functions of the county government including the role of county planning and development. • **Article 60 (1)** provides that land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable and in accordance to principles such as equity in access to land, security of land rights, sustainable and productive management of land resources, transparent and cost-effective management of land, sound conservation and protection of ecologically sensitive areas. This Article also advocates for the participation of people in decision making. • **Article 61 (1), (2)** describes land ownership and classification within Kenya. • **Article 63** of the Constitution of Kenya guarantees the rights of communities to their lands and territories. It states that community land consists of land lawfully held, managed or used by specific communities as community forests, grazing areas or shrines and that it includes ancestral lands and lands traditionally occupied by hunter-gatherer communities. • **Article 66 (1)** states that the state may regulate the use of any land or right over land in the interest of public safety, order, health or land use planning. • **Article 69** envisions the achievement and maintenance of a tree cover of at least ten per cent of the land area of Kenya. • **Article 174** outlines principles of promoting socio-economic development and provision of proximate and easily accessible services which equally depend on proper planning, development and management of utilization of resources. • **Chapter Four** of the Kenyan Constitution contains a progressive Bill of Rights that guarantees all citizens the right to a clean and healthy environment; it makes international law a key component of the laws of Kenya and guarantees protection of minorities and marginalized groups.	

NATIONAL POLICIES AND PLANS	
Kenya Vision 2030	• This is the blue print for Kenya's long term national development. It is anchored on three main pillars: Economic, Social and Political. • The document is geared towards transforming Kenya into *"a newly industrializing, middle income Country providing a high quality of life to all its citizens in a clean and secure environment"* through improvement of key thematic sectors such as Infrastructure; Energy; Security; Tourism; Agriculture; Wholesale/Retail Trade; Manufacturing; Financial Services; and Business Process Outsourcing. • Regarding Baringo, integration of these sectors through spatial planning will be at par with the objectives of Vision 2030.
National Spatial Plan	• The NSP defines the general trend and direction of spatial development for the country by providing a framework for better national organization and linkages between different activities within the national space hence informing the future use and distribution of activities • The NSP has identified Baringo as a Resource potential growth area. Kabarnet and Eldama ravine have been identified as urban growth areas. The NSP advocates for provision services and facilities such as establishment of an efficient mass transit public transportation system, expansion of sewerage systems and waste management facilities to meet its functions and also defines local urban–rural development systems. • Lake Bogoria has been identified as a Natural heritage site hence nedd for preparation of a plan
National Land Policy (Sessional Paper No. 3 of 2009)	• The National Land Policy guides the country towards a sustainable and equitable use of land. It aims at providing a framework for undertaking land use planning and development control in all administrative levels i.e. national, county and town level. It also calls for immediate actions to addressing environmental problems that affect land such as degradation, soil erosion and pollution.
National Land Use Policy (Sessional Paper No. 1 of 2017)	• Provide legal, administrative, institutional and technological framework for optimal utilization and productivity of land related resources in a sustainable and desirable manner at national, county and community levels. • Categorization of land uses in the country. • Advocates for the development of County Spatial Plans, Community land use plans for the country with full participation of all stakeholders and strict adherence to them enforced. • Promoting environmental conservation and preservation
Draft National Urban Development Policy	• Seeks to provide a framework for sustainable urban development in various thematic areas such as land, infrastructure, urban safety and disaster risk management among others.
National Climate Change Action Plan (2013-2017); the National Adaptation Plan (2015-2030) and Kenya's Intended Nationally Determined Contribution	• The NCCAP outlines the proposals for boosting adaptation and mitigation to climate change per sector. • The NAP contains sector strategic adaptation actions for each planning sector to build resilience and enhance adaptive capacities to the impacts of climate change. • Kenya's INDC outlines key mitigation activities up to 2030 which will include expansion in renewable energy, tree cover of at least 10%, clean energy, low carbon transportation, climate-smart agriculture and sustainable waste management systems. • The INDC also identifies priority adaptation actions per sector that should be mainstreamed into plans for enhanced resilience to climate change.

Forestry Master Plan (1995-2020)	• It recognizes the environmental role of forests including the provision of water, habitat for biodiversity and carbon sequestration that mitigates against climate change.
Energy Policy 2004	• This policy promotes the utilization of renewable energy sources to enhance Kenya's electricity supply capacity while mitigating climate change from fossil fuels.
Relevant Policies against Discrimination	• The National Children's Policy 2010 • The Employment Act 2007
COUNTY POLICIES	
The Baringo County Integrated Development Plan (CIDP)	• The CIDP provides the County's vision for the next five years while detailing various projects and programme per sectors with their location for implementation.

2.4.2 Legal Framework

Table 3: Summary of Legal Context of the CSP

NAME OF ACT:	APPLICABILITY TO CSP:

County Government Act, 2012	• A CSP is provided for in Section 110 (1) of the County Government Act, as a ten-year GIS based database system providing:
	  • A spatial depiction of the social and economic development programme of the County as articulated in the integrated county development plan
	  • Clear statements of how the spatial plan is linked to the regional, national and other county plans
	  • Clear clarifications on the anticipated sustainable development outcomes of the spatial plan
	• Sec 110-2(g-j) of the CGA requires that CSPs:
	  • shall identify areas where strategic intervention is required;
	  • shall indicate areas where priority spending is required;
	  • shall provide clear clarifications on the anticipated sustainable development outcomes of the spatial plan;
	  • and shall indicate the areas designated to conservation and recreation.
	• The CGA also has provisions aimed at protecting the marginalized that include:
	  • Sec. 102c which outlines one principle of county planning as aiming to protect and integrate rights and interest of minorities and marginalized groups and communities.
	  • Sec. 103f which outlines one objective of county planning as providing the preconditions for integrating under-developed and marginalized areas to bring them to the level generally enjoyed by the rest of the county
	• The CGA also has provisions addressing climate change and sustainability that include:
	  • Sec. 103i which outlines one objective of county planning as working towards the achievement and maintenance of a tree cover of at least ten per cent of the land area of Kenya as provided in Article 69 of the Constitution.
	  • Sec. 102b which outlines another principle of county planning as aiming to protect the right to self-fulfilment within the county communities and with responsibility to future generations.
	• The Act requires the County Governor to promote and facilitate citizen participation in the development of policies and plans, and delivery of services in the county.

Physical and Land Use Planning Act, 2019	• This Act provides for preparation of local physical and land use development plan. Main purpose of a local physical and land use development plan (LPLUDP) is to guide zoning, urban renewal or redevelopment of an area. • Provide a basis that guides and co-ordinates infrastructural development amongst other functions.

Urban Areas and Cities (Amendment) Act, 2019	• The Act establishes a legislative framework for classification of areas as urban areas or cities, governance and management of urban areas and cities and participation by the residents in the governance of urban areas and cities. • The Act provides that: • A city should have a resident population of atleast 250,000 residents and have the capacity to effectively and efficiently deliver its services to its residents and has in existence, the services provided in the First Schedule. • A municipality should have a resident population of a least 50,000 residents, have an integrated urban area development plan and the capacity to effectively and efficiently deliver its services to its residents and has in existence, the services provided in the First Schedule. • Every headquarters of a county government shall be conferred the status of a municipality, whether it meets the criteria for a classification as a municipality. • A town should have a resident population of atleast 10,000 residents and have the capacity to effectively and efficiently deliver its services to its residents and has in existence, the services provided in the First Schedule. • A market centre should have a resident population of atleast 2,000 residents and have an integrated urban area development plan.
The National Land Commission Act, 2012	• States the functions, powers of the NLC such as; to monitor and oversee responsibilities over land use planning throughout the country. In addition, this Act provides for the management and administration of public, private and community land in accordance with land policy principles. It provides a linkage between the commission, county government and other institutions dealing with land
Land Act No. 6 of 2012	• It is the substantive law governing land in Kenya which provides for the acquisition of land for public benefit. The government has the powers under this Act to acquire land for projects, which are intended to benefit the public.
Environmental Management and Coordination Act, 2015	• EMCA provides for establishment of an appropriate legal and institutional framework and procedures for management of the environment. It provides regulations for the conservation and sustainable use of resources on wetlands, riverbanks and land for the benefit of the people and communities living in the area. This Act also offers preliminary provisions for the regulation of solid waste, industrial waste, hazardous wastes, pesticides and toxic substances, biomedical wastes and radioactive substances.
Water Act, 2016	• This Act provides for sustainable management, conservation, use and control of water resources. • Regarding Baringo County, the provision in this Act makes it imperative that the water sources require strategies to ensure sustainable management and conservation
Forestry Act, 2016	• This Act is concerned with forest resource management, administration and conservation for socio-economic development. It also advocates for benefit sharing model of forest resources for sustainable exploitation.
Agriculture and Food Authority Act, 2015	• This Act provides for the establishment of an Agriculture Fisheries and Food Authority. It also provides for the development of policy guidelines by the authority on preservation, utilization and development of agricultural land and related matters. It makes provisions for the respective roles of the national and county governments in agriculture (excluding livestock.
The Intergovernmental Relations Act, 2012	• It provides for a framework for consultation and cooperation amongst county governments and to establish institutional structures and mechanisms for intergovernmental relations. • In regard to Baringo County, it does not operate in isolation and instead, shares various resources and infrastructure as well with other counties. Resources such as rivers, roads, the railway, among others. The management of such resources needs the involvement of other nearby counties, and this Act provides for that. • It is envisioned that this Act gives the operational grounds upon which institutions whose area of operation and sphere of influence is beyond the county borders such as KVDA.
Climate Change Act, 2017	• The Act strengthens climate change governance, institutional arrangements, and mainstreaming of climate change into sectoral planning, budgeting and implementation at all levels of government.

Energy Act 2019	• This Act promotes the generation and use of renewal energy and energy efficient technology.
Relevant laws against discrimination/ protecting minorities	• Children Act 2001 • Disability Act 2003

2.4.3 Institutional Framework

Table 4: Summary of Institutional Context of the CSP

NAME OF INSTITUTION:	APPLICABILITY TO CSP:
County Government	• The function of county planning has been conferred to County Governments according to the 4th Schedule in the Constitution.
National Land Commission	• The National Land Commission oversees and monitors land use planning nation-wide.
Ministry of Lands and Physical Planning	• The Ministry of Lands oversees policy formulation to guide physical planning. Additionally, the Ministry also prepared the National Spatial Plan, upon which the CSP is supposed to be anchored. The national spatial plan seeks to provide a framework for functional human settlements, enhanced agricultural productivity, planning and managing natural resources and the environment, providing a framework for infrastructure provision, promoting industrial and commercial development and the enhancement of good governance. The County Spatial plan will aim to achieve the vision of the National spatial plan at the county level and provide a framework for the achievement of the national vision at a decentralized scale.
Other National Government Ministries and Parastatals (such as National Environment Management Agency, Kenya Forestry Service, Kenya Wildlife Service, Kenya Power, among others)	• Land, which is the canvass on which the CSP will be prepared, is an enabler of development across all sectors. In this regard, all spatially-based policies and initiatives by national government ministries and parastatals.

2.5 Emerging Issues

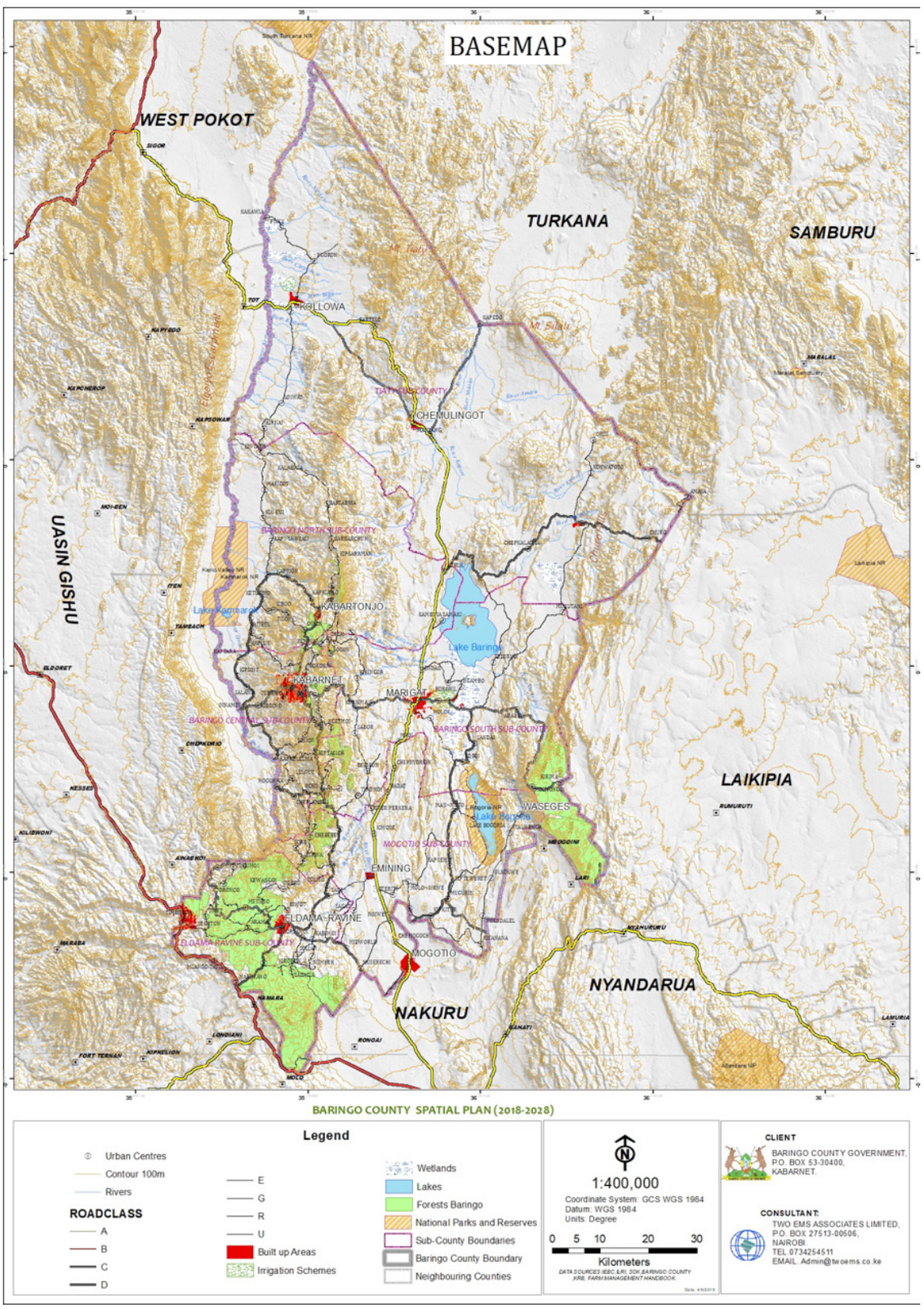
OPPORTUNITIES:	CONSTRAINTS:
• Strong policy framework for plan preparation. • Strong community participation and political will during the plan preparation process • Devolved funds from the national government to help in steering development. • Support by civil society organizations to initiate development projects	• The general level of public awareness about the provisions of the constitution is low. • The many legal Acts that exist promote conflict and competition in the public domain instead of cooperation and coordination, which further weakens the planning capabilities of county government. • Political interference in finance allocations and infrastructure development. • Weak policy and legal framework in some institutions. • Poor interdepartmental linkages and operations. • Weak linkage between development planning and budgetary allocation • Poor coordination of past and current interventions by both state and non-state actors. • Mismanagement of funds on non-development projects

PART II:
SITUATION ANALYSIS

CHAPTER THREE

Basemap

Map 3: Basemap



CHAPTER FOUR

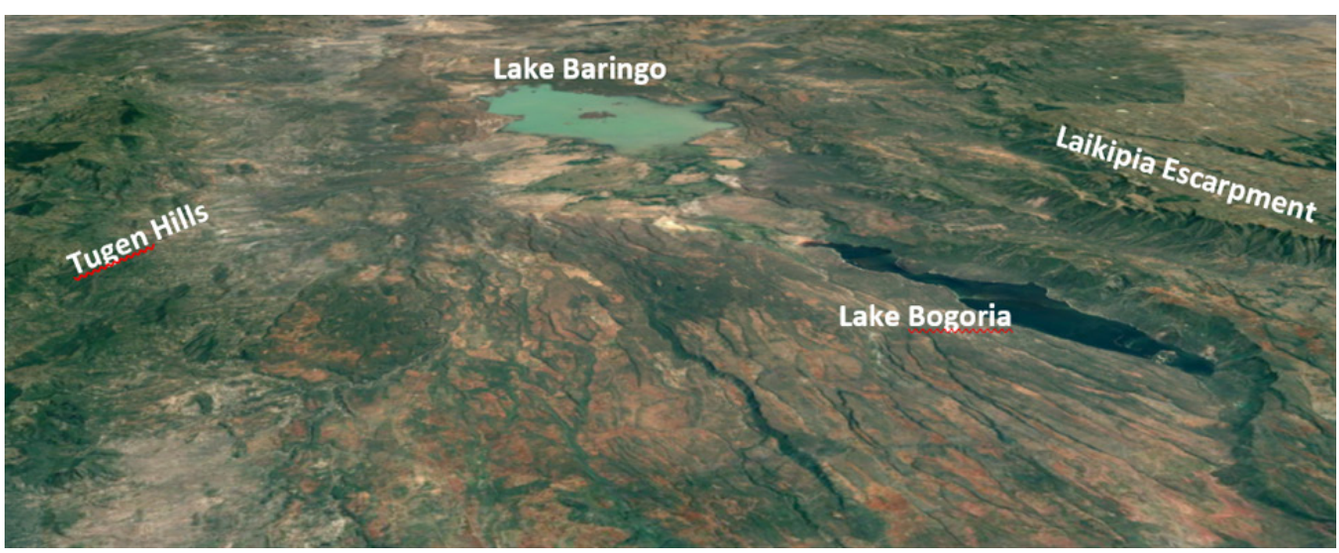
Physiographical Characteristics

4.1 Topography and Slope Analysis

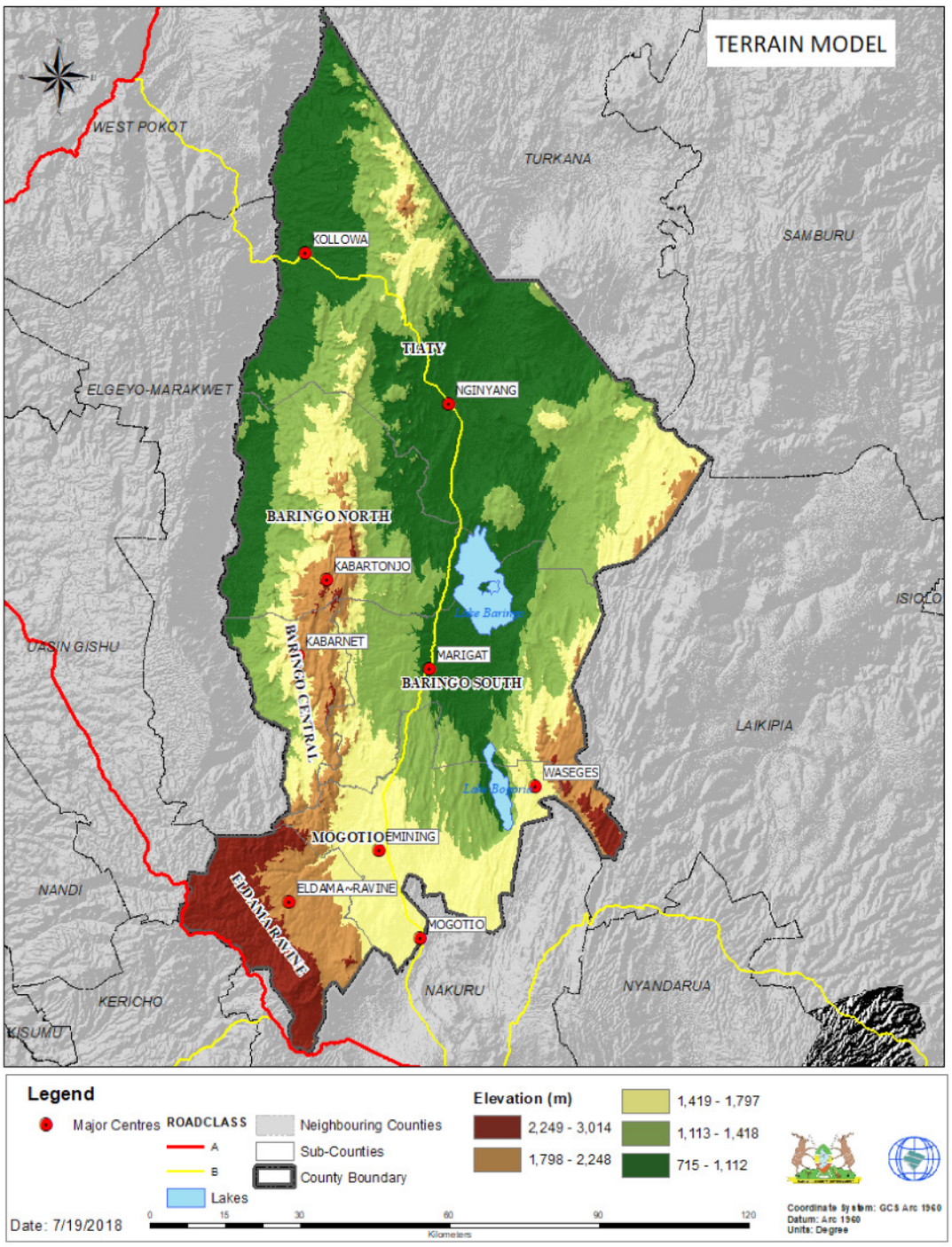
The County can be divided into four distinct topographic regions namely the plains, the plateau, the foothills and the hills. The hills to the west consist of a horst, bounded by the Saimo fault to the east and the Kerio valley to the west.

The eastern boundary of the County is part of the Laikipia escarpment, which also falls steeply from an altitude of about 2600 m to 975 m at the plains surrounding Lake Baringo. From the top of the Tugen hills, the surface drops steeply through a foothill zone of complex topography created by volcanic activity and subsequent erosion. The western margin of the Rift Valley represented by the impressive Elgeyo Escarpment, which rises from the Kerio Valley floor at 1200 m to heights more than 3000 m. The Rift margins east of Lake Baringo are gentler, but southwards become more pronounced. Near Lake Bogoria the large fault scarps of the ''Siracho and Laikipia'' ranges lift. The surface from 1000 M to heights of over 2500 m. -West of-Lake Bogoria lies a low range of 'hills composed of, westerly dipping tilt blocks.

The major part of the County belongs to the plateau, which has been broken and tilted by faulting in recent geologic times. Within this plateau, rocky cliffs alternate with gently undulating hills and terraces, covered with shallow and stony clay loam soils. Both the plateau and the foothills have been deeply incised by several major rivers from thee Pliocene onwards. The foothills and the plateau consist of volcanic rocks basalts, trachytes, phonolites pumices and tuffs, inter-bedded with sedimentary units of fluvial.



Map 4: Topography of Baringo County



4.2 Geology and Soils

4.2.1 Geology

Sedimentary formations mostly occur in the lowlands of the Lake Baringo – Bogoria Basin and the Kerio Valley Basin. The rift floor in Baringo is part of a general regional northward slope that extends from Menengai in the south to the Suguta Valley in the north. The morphology of the rift in this part is distinctly asymmetric. The eastern side of the Kamasia Range (to the west steep and consists of a sequence of fault scarps, none of which exceeds a height range of 500 in.

The rest of the County including the highlands (Tugen Hills) are composed of volcanic rocks and Basement system rocks to the north.

Quaternary to Tertiary Sediments

- These rocks are sources and hosts of limestone, gypsum, clays, manganese and construction materials and possibly hydrocarbons.
- Metamorphic and Igneous rocks in this belt yields very little underground water.

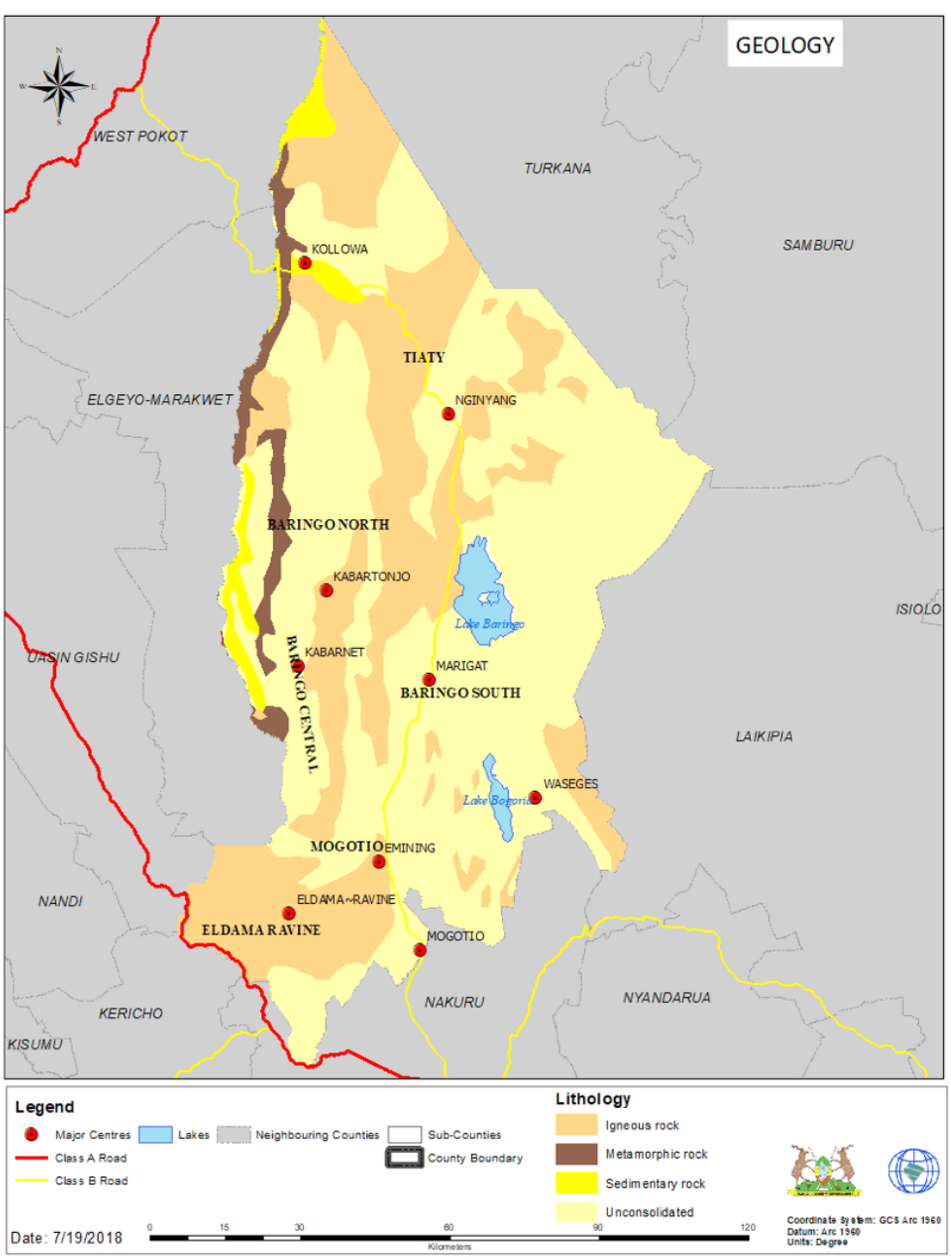
Basement Rocks

- Associated with Minerals such as kyanite, corundum, graphite, wollastonite, marble, asbestos, fluorspar, magnesite, kaolin and a variety of gemstones are found together with minerals associated with basic and granitic rocks.
- Soils associated with Basement rocks are thin and infertile

Volcanic Rocks

- The volcanic rocks associated with Rift System host a varietyof minerals and construction materials. The volcanosedimentary accumulations have deposits of clays, evaporites, trona (soda ash), diatomite, natural carbon dioxide, kunkar and gypsum.
- Gem quality rubies have also been discovered recently.
- The geothermal fields are found in the area
- Volcanic rocks produce rich deep soils.
- Volcanic rocks are associated with substantial ground water.

Map 5: Geology in Baringo County



4.2.2 Geo – Hazards

Mass earth movements occurs along the Tugen hills, which include; Kibonjos, Tenges, Kabasis, Timboiywo and Sangarau in Baringo central sub county and Sirwa in Mogotio Sub County.

Lowlands in the county experience flooding during the rainy seasons. The areas susceptible to flooding include; Kokwa Island in Lake Baringo, Katuwit, Loruk, Salabani, Endao, Perkerra irrigation scheme, Ngambo, Sintaan, Kures, Kapcheluguny and Meisori.

Flooding in Kokwa Island in L. Baringo

Land slide in Baringo Central

Source: www.nation.co.ke, 2016

4.2.3 Soils

The soil types and distribution in the prospect area have been influenced by the topography. The steep slopes and rolling hills have soils developed from volcanic rocks, which are well drained varying from deep to shallow depths. Soils in the low-lying areas (lowlands) have developed on volcanic rocks and alluvium. In most areas, the bedrock is basaltic and some pyroclastics. This has weathered over time under dry climatic conditions to give rise to sandy loam soils in texture. They are well drained, moderately deep to very deep, brown to dark loams, sandy loams or clay loams.

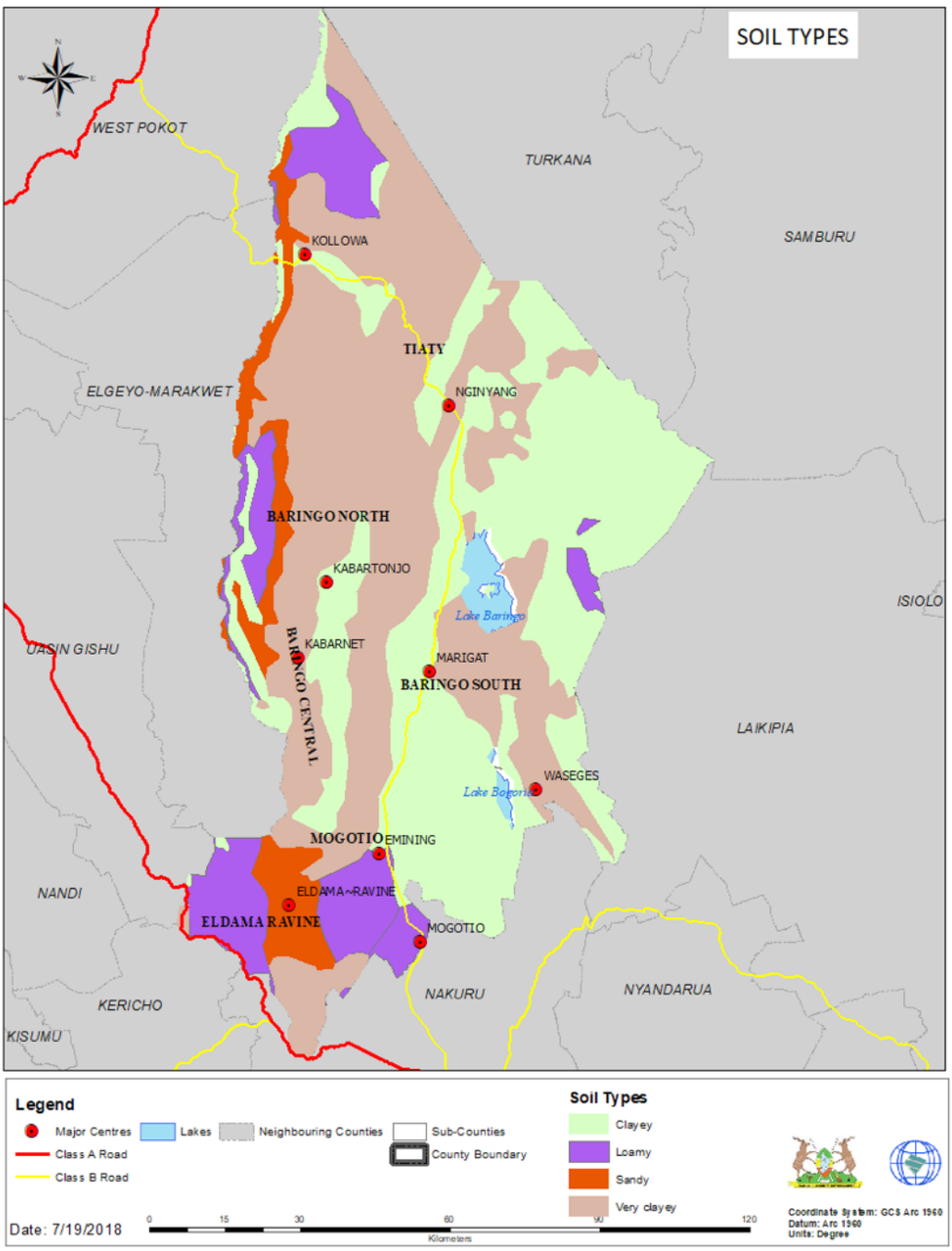
The soils vary in colour from mainly brownish to reddish brown depending on the mineral content. Sandstones and conglomerates are common in Simotwet, Kamar and Koibos locations, making them to be rich in sand. There are pockets of sedimentary rocks mainly shale and silt in depressions especially where streams enter swampy areas. Around Mugurin and Molo Sirwe, the soils have a low water holding capacity, very shallow and extremely gravely clayloams. At the escarpments, soils have moderate water holding capacity, shallow depth, stony, gravely clay loams. Thick clay loam of alluvial origin is found around Marigat.

There are three major soil types; clay soil, clay loam and silt loam. Soil texture is not variable and most soils are categorized as loamy with exceptions of clay loams restricted to riverine areas. The riverine soils are complex with varied textures depending on the drainage conditions and are composed of eroded volcanic sediments and alluvial deposits. They consist of diverse types of granulomites, conglomerates, silts and gravels.

Clay soils are found on the upper part of the catchment, lowlands. The middle part is dominated by clay loam while a small portion at the mouth of river Waseges to Lake Bogoria was identified as silt loam.

The soils around the lake have a high pH ranging from 6.8 to 9.0, with high sodium bicarbonate levels ranging from 0.5 to 9.92 meql-1. The salinity and sodicity are attributed to the parent rock material. Highly alkaline soils are found along the shoreline fringes, but those close to permanent water sources have intermediate values, while soils in the ridges and scarps have the lowest pH values. Soil nutrient availability indices are high indicating high fertility levels with mean phosphorous concentrations of 80 ppm in the riverine soils. Kaolinites constitute 70–80% of silt while illionites are inter-stratified with the rest 10–20

Map 6: Soil Distribution within Planning Area



4.2.4 Soil Erosion

Soil erosion and land degradation are serious problems within the County. The County experiences deleterious levels of soil erosion, largely due to the interaction between harsh climates of high erosivity, fragile soils of high erodibility, steep slopes, and poor natural resource management. Degradation and in particular soil erosion, is at massive scales. The rills have turned into death traps for livestock and the larger gullies highways for the nutrient rich top soils.

Figure 1: Gullies at Kerio Valley Kui Kui Village in Baringo North

Source: Fieldwork, 2016

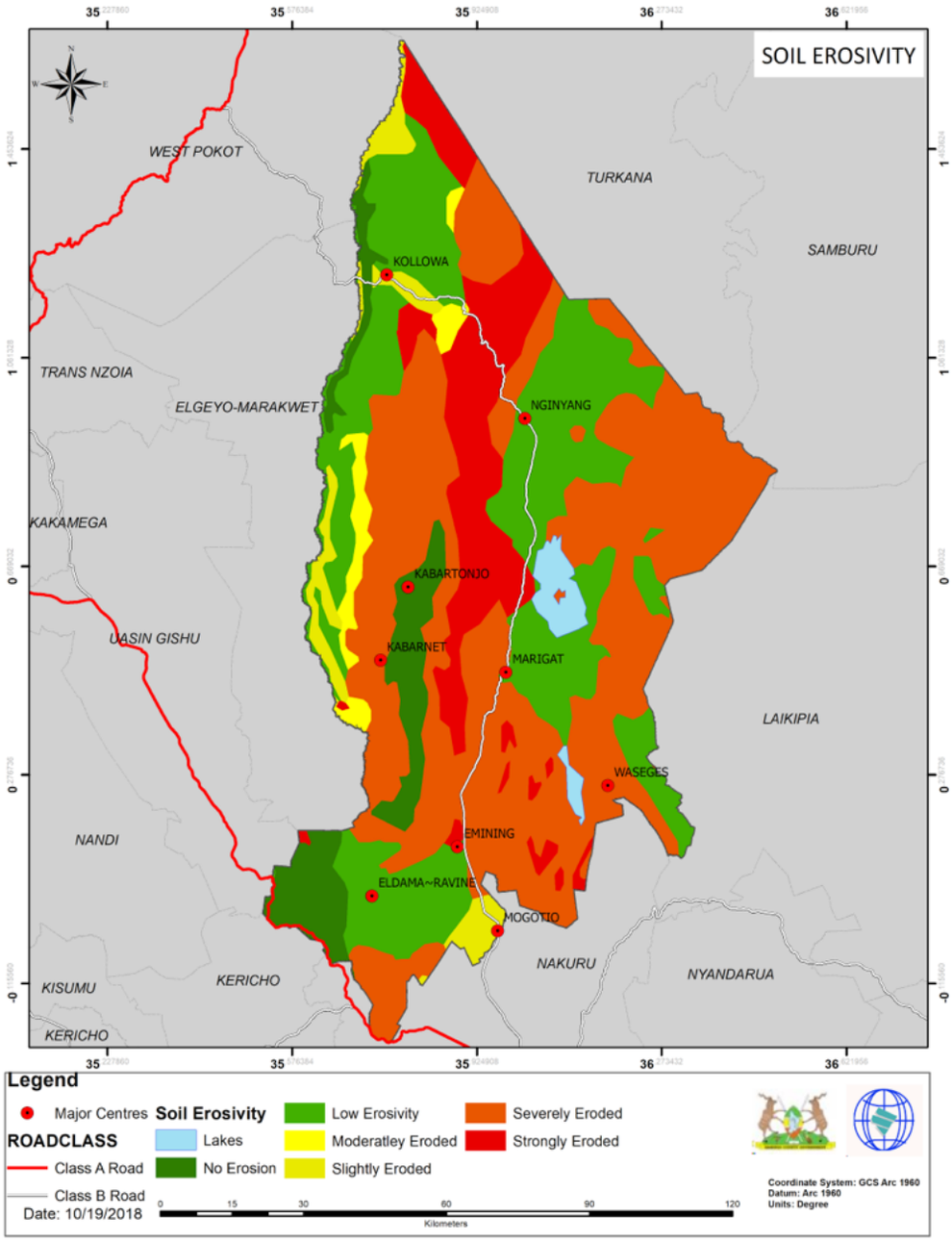
Process whereby runoff water accumulates and often recurs in narrow channels and, over short periods, removes the soil from this narrow area to considerable depth, typically ranging from 0.5 to as much as 25–30 m in depth. Gully erosion clearly is a threshold phenomenon.

This geomorphic process occurs only when a threshold in terms of flow hydraulics, rainfall, topography, pedology and land use has been exceeded.

Severe gullies continue to spread across the flat and degraded lowlands of Baringo. These gullies can reach up to 20 ft., increasing in both depth and length during the rains and high intensity storms. These gullies are mostly found in Kirim through Nyimbei -Chebinyiny to Kapndasum, Chebinyiny location of Mochongoi ward. Also on some points at the Western gently sloping valley which has deep layer of soils stretching from Ainamoi to Kollowa.

Valuable top soil is washed away every year, with tonnes of silt deposited into Lake Baringo, the most important source of fresh water in the region. Increasing population pressure, deforestation, overgrazing, livestock trampling, and diminished vegetation are all causes of the increasing erosion in Baringo. The effects of erosion are many: trees are up rooted, river banks collapse and rivers change course, severe dust storms are common, with the environment becoming more and more degraded and less productive or useful.

Map 7: Status of Soil Erosion in Baringo County



4.3 Climatic Conditions

Climatic observations are a necessary foundation, where the knowledge on which the provision of climate services and climate forecasting and the knowledge about agricultural timing for crops is built upon. Climatic analysis also helps in climate risk management and an enhanced ability to adapt to climate change. The northward and southward relative movement of the sun controls Kenya's climate and the whole of the Eastern Africa region. Kenya's climatic conditions majorly rainfall depicts very strong seasonality in harmony with the latitudinal migration of the Inter-Tropical Convergence Zone (ITCZ).

There are two distinct wet and dry seasons.

4.3.1 Rainfall

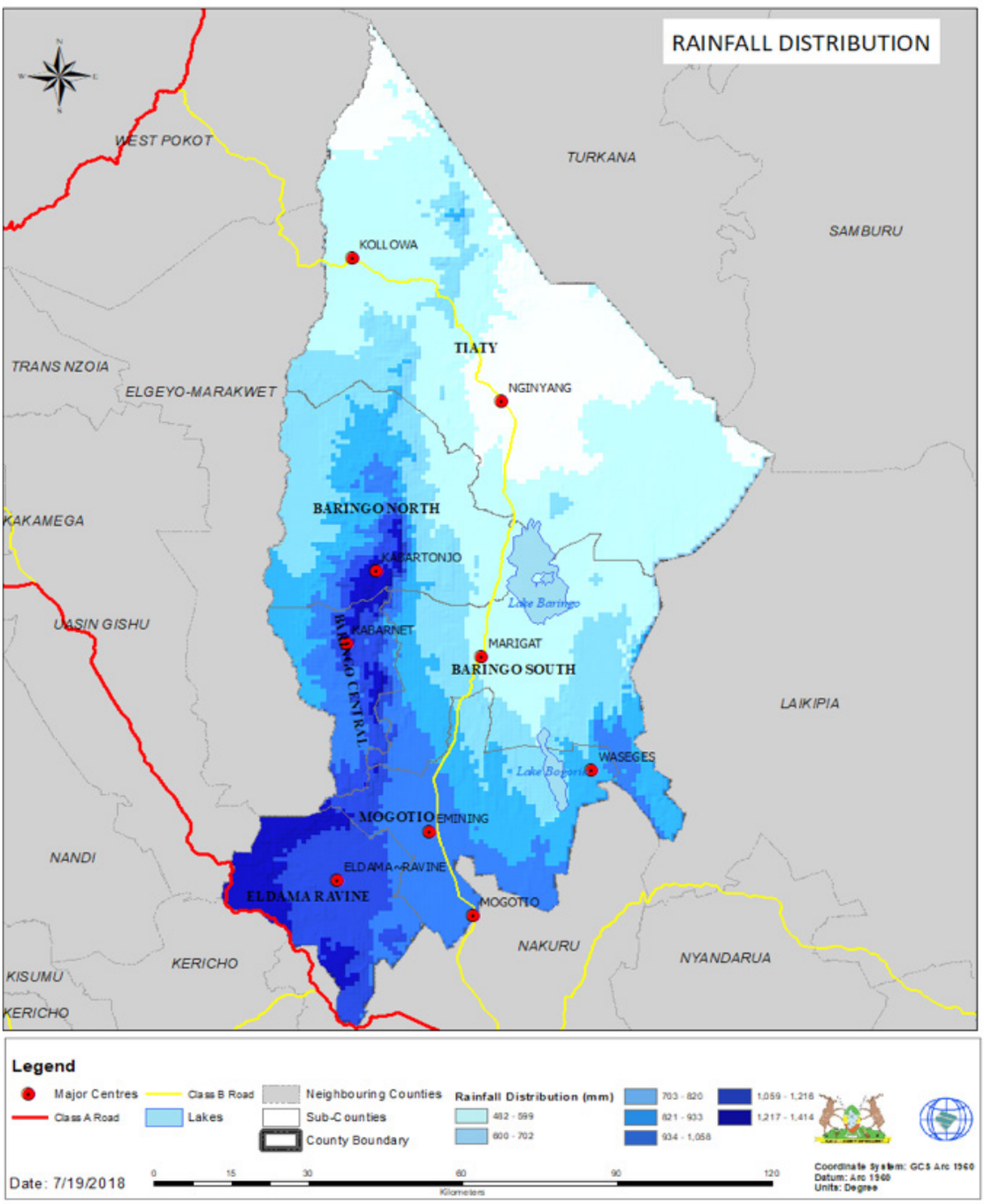
Baringo County is arid and semi-arid. Two seasons of rainfall are experienced. The long rains start at the end of March to the beginning of July, and the short rains from the end of September to November.

The rainfall is about 50% reliable. The rainfall varies from 300- 750 mm in the Rift Valley floor near Lake Bogoria to 1200 mm in the highlands near Eldama Ravine town. The mean annual precipitation varies from 500-1000mm and falls in two seasons April- May and October- November. Being in the hinterland and shielded from the oceanic influence by surrounding plateaus and hills, the rainfall patterns in the

area are mainly controlled by topography.

Long-term annual rainfall ranges from about 650 mm on the Njemps Flats to over 1300 mm at Kabarnet near the summit of the Tugen Hills. However, most of this moisture is lost through evapo-transpiration due to the high annual temperatures. The evapo-transpiration potential in the lowlands is very high.

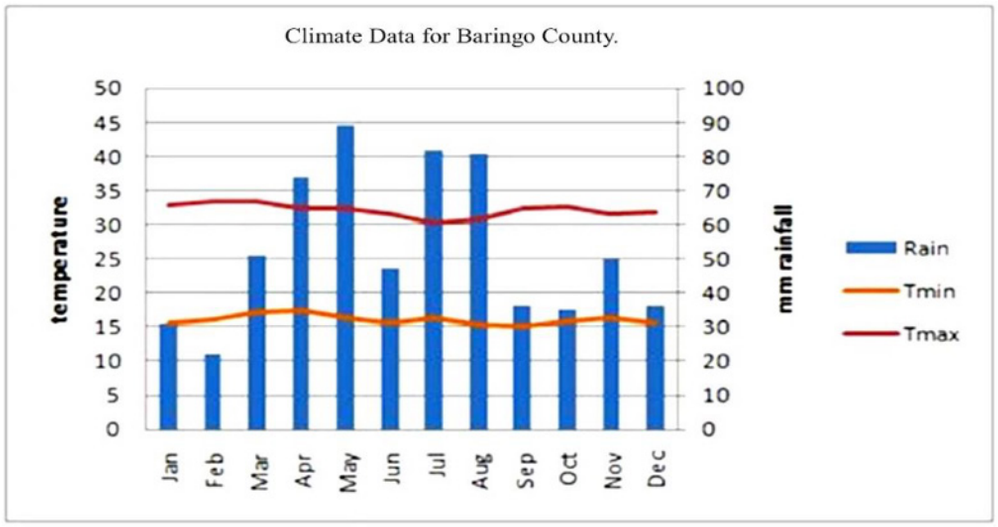
Map 8: Rainfall Distribution within Planning Area



4.3.2 Temperature

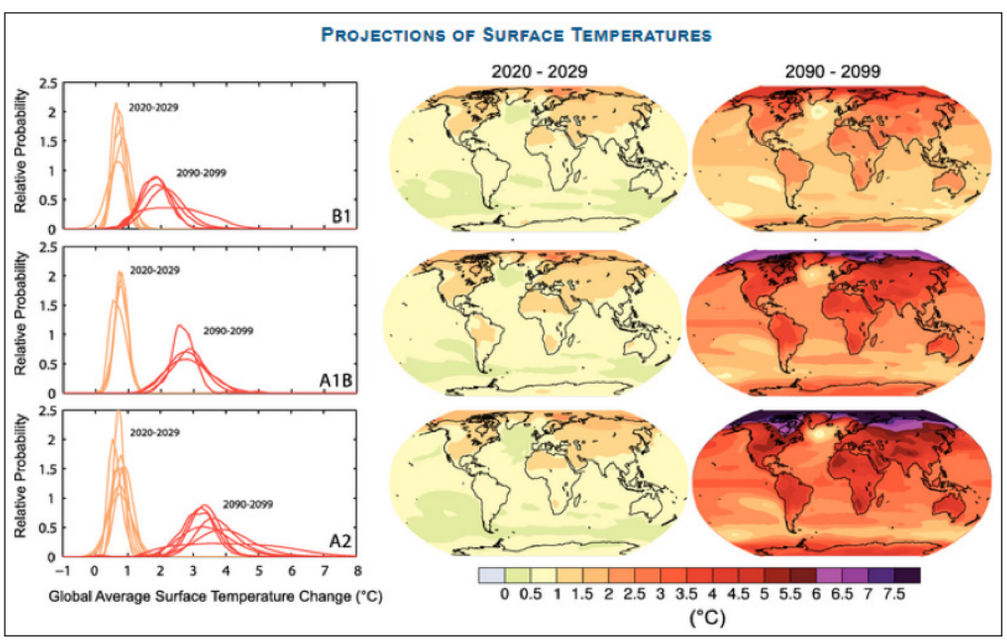
Temperature varies from 15°C to 35°C and follows the rainfall pattern. The temperature is relatively cool from June to October and hot from December to March. The average temperature is about 28°C for the most part of the year. The temperature and rainfall regimes in the vicinity of Lake Bogoria National Reserve combine to give Lake Bogoria a hot, arid to semi-arid climate. The evaporation in the area varies from 1,800 mm to more than 2,200 mm per year. The mean annual evaporation is estimated at 2,020 mm per year.

Figure 2: Climatic Data for Baringo County



Source: Climate-data.org, 2018.

Figure 3: Projections of surface temperature.



Source: (IPCC 2007)

Projected temperature changes in Baringo County between 2020-2029 range from 0.5°C to 10°C, while from 2090 to 2099, the projected changes are set to range between 3.5°C to 5°C if deliberate actions are not taken to combat climate change. For the next two decades, a warming of about 0.2°C per decade is projected for a range of SRES emission scenarios. Even if the concentrations of all greenhouse gases and aerosols had been kept constant at year 2000 levels, a further warming of about 0.1°C per decade would be expected.

4.3.3 Humidity

The interaction between rainfall and evapo-transpiration and the resulting moisture regime is the dominant factor that affects productivity and management of crops and land use. The evapo-transpiration ratio ranges from 15% to 80% within the region.

4.4 Hydrology and Water Resources
4.4.1 Overview

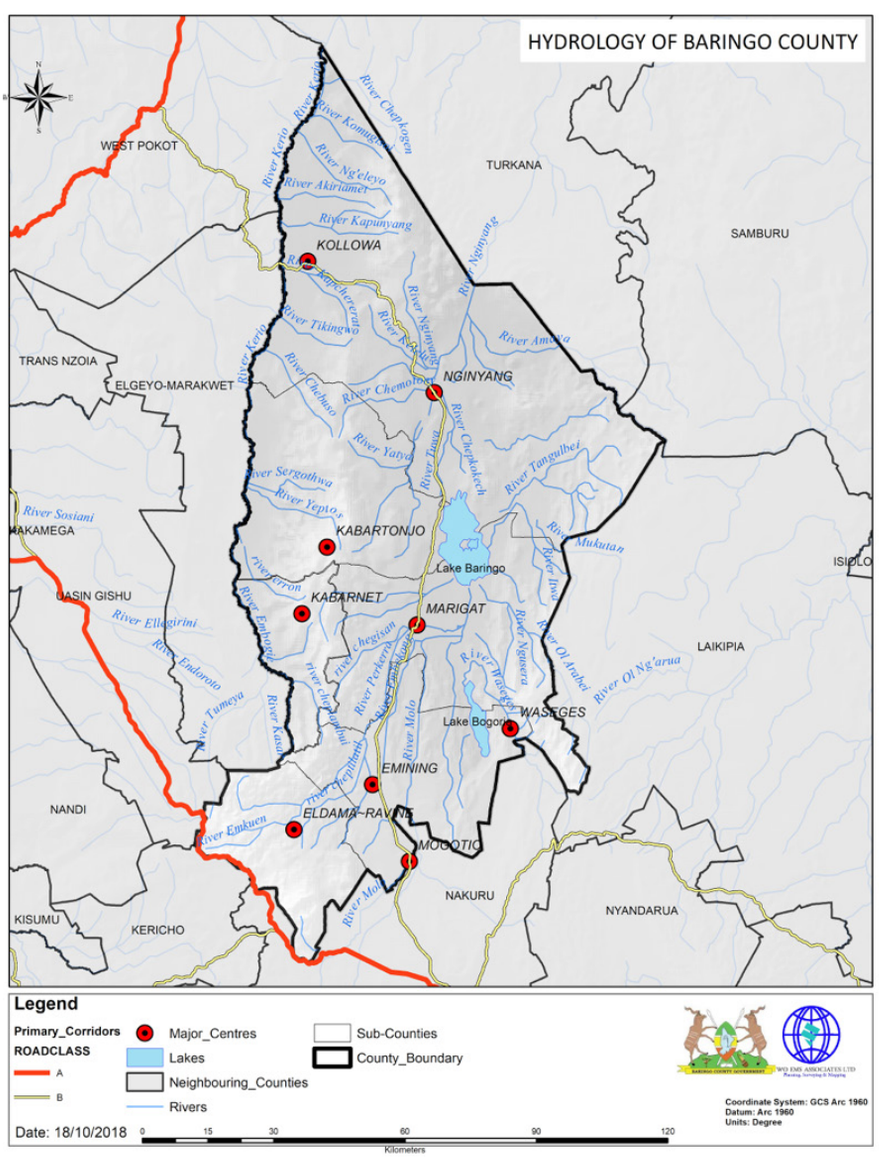
Hydrology is the study of the movement, distribution, and quality of water on Earth and other planets. The analysis of hydrological resources is important, particularly as the adequacy or deficiency of water resources can serve either as an impediment or opportunity to development.

4.4.2 Rivers

Four major river systems drain the County: the Perkerra, Molo, Endao and Waseges rivers. The Perkerra and Molo rivers, which originate from the mountains in the southeast, are the important perennial rivers draining into Lake Baringo. River Wesseges originating from the Laikipia escarpment, is the only important river that drains into Lake Bogoria. The Perkerra and Molo rivers drain catchments of 1,310 km^2 and 2,145 km^2 respectively.

The Perkerra Basin consists of steep sloping hills, whose hydrographic network includes mountain streams descending from the Kamasya Hills and water falls in the Lembus and Londiani Forest Reserves. As a result of severe erosion, narrow gorges and deep ravines have formed downstream of the confluence with the Emining River.

Map 9: Hydrology of Baringo County.



The sediment transport of the Perkerra is very high because of the steep relief that it drains, resulting in rapid floods in addition to degradation of soils by human activities. The rest of Lake Baringo Basin comprises a catchment area of 260 km^2 formed by the Kabarnet Mountains and drained by the River Endau to the West and by several streams to the East. The sub-catchment area of Lake Bogoria covers about 1,120 km^2 and is drained by the River Subukia, which becomes the River Waseges downstream.

4.4.3 Lakes

Baringo County is the only county with the most number of Lakes namely; Lake Baringo, Lake Bogoria, Lake 94 and Lake Kamnarok.

Lake Baringo

The surface area is between 130km^2 and 160 km^2 with a maximum depth of 8 m. The catchment area is 6820 km^2 with several rivers (Perkerra, Endau, Molo, Arabel and Mukutan River) feeding the lake. On Kokwa Island alkaline hot springs discharge into the lake. Lake Baringo has no surface outlet, due to its lower conductivity in comparison to the other alkaline Rift Valley lakes.

Lake Bogoria

Lake Bogoria area has a trellis drainage pattern and rivers flow northwards along fault lines. The lake's catchment is 930 km^2 drained by river Sandai-Waseges, which flows northwards towards Lake Baringo but deviates to the south at Sandai to drain into Lake Bogoria.

Lake 94

This is a lake that formed in 1994 where Rivers Perkerra and Molo burst their banks, flooding and nourishing the nearby wastelands. As the years went by, the floods continued, expanding into a lake that brought the once dead plains alive. Trees blossomed, birds came to quench their thirst alongside herders with their cattle. Currently, two tributaries drain their water into the lake, which has been expanding towards Lake Baringo. It is 2000km^2 in size, which is separated from Lake Baringo, by a strip of land that is barely seven kilometres wide.

Lake Kamnarok

Lake Kamnarok is the only ox-bow lake in Kenya. The lake is approximately 1 km^2 in size. It was in existence before 1961 and the flood rains of that year led to its enlargement. The lake first opened its gates in the month of June 1983 and was gazetted in 1984, as it was recognized as a wetland by the Ramsar Convention, and that's when Lake Kamnarok Game Reserve was created.

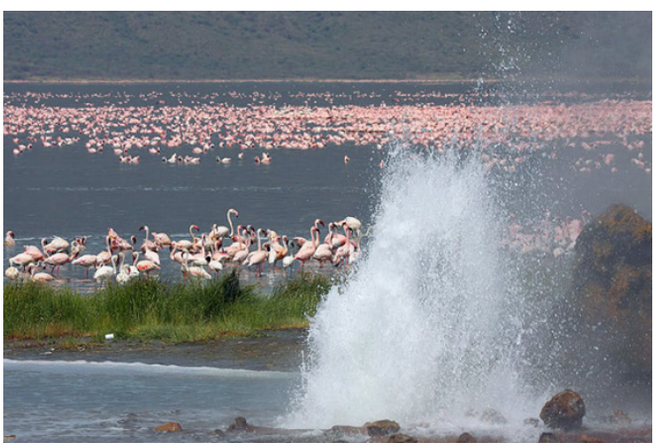
The known rivers and tributaries that drain into the lake are;

- Kerio river,
- Embobut, Embolot and Embobon
- Rivers Ketipborok, and Cheplogoi,
- Rivers Oiwo and River Lelabei

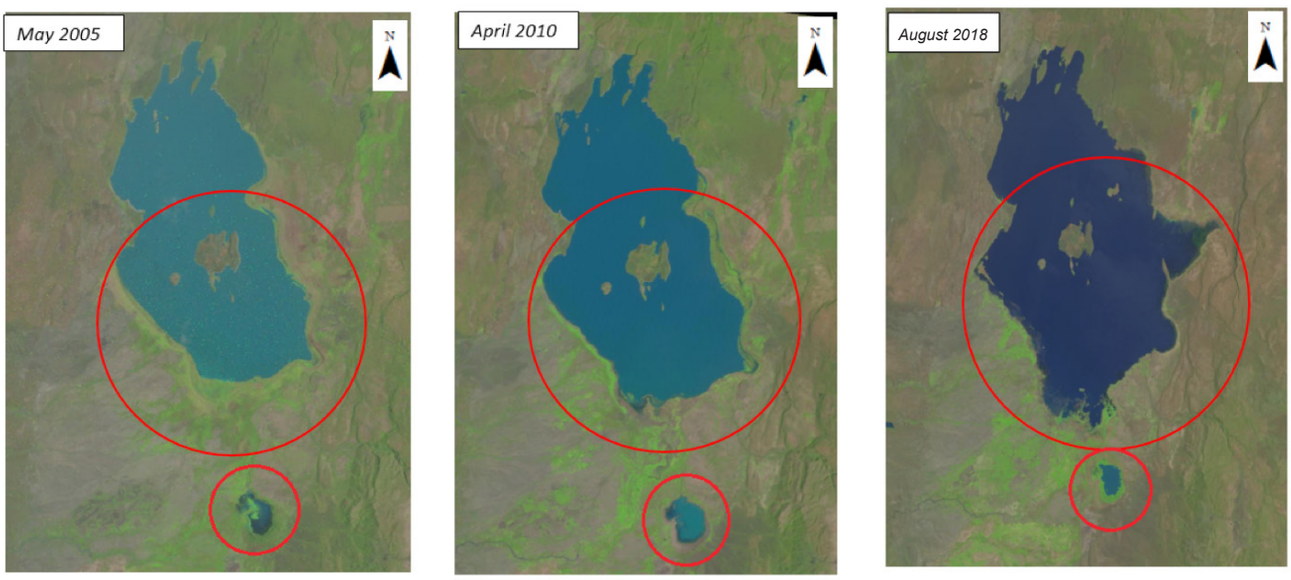
4.4.3.1 Spatial temporal changes of the lakes

The lake levels rise is unprecedented with an event of similar magnitude being observed in 1963. Historical records also indicate a flooded lakes environment in 1901. Remote sensing images for May 2005, April 2010 and May 2015, show a drastic increase in water volume of the lakes.

An attempt is made here to illustrate the extent of the flooding. The extent of the flooding is evaluated using time series Landsat satellite imagery. The increase in water volume has been significantly high and the input from the rivers recharging the lakes has been consistent, indicating that the flooded situation will not cease soon. The flooding has had immense and detrimental effects on the ecosystem, the settlements, the infrastructure and the biodiversity.



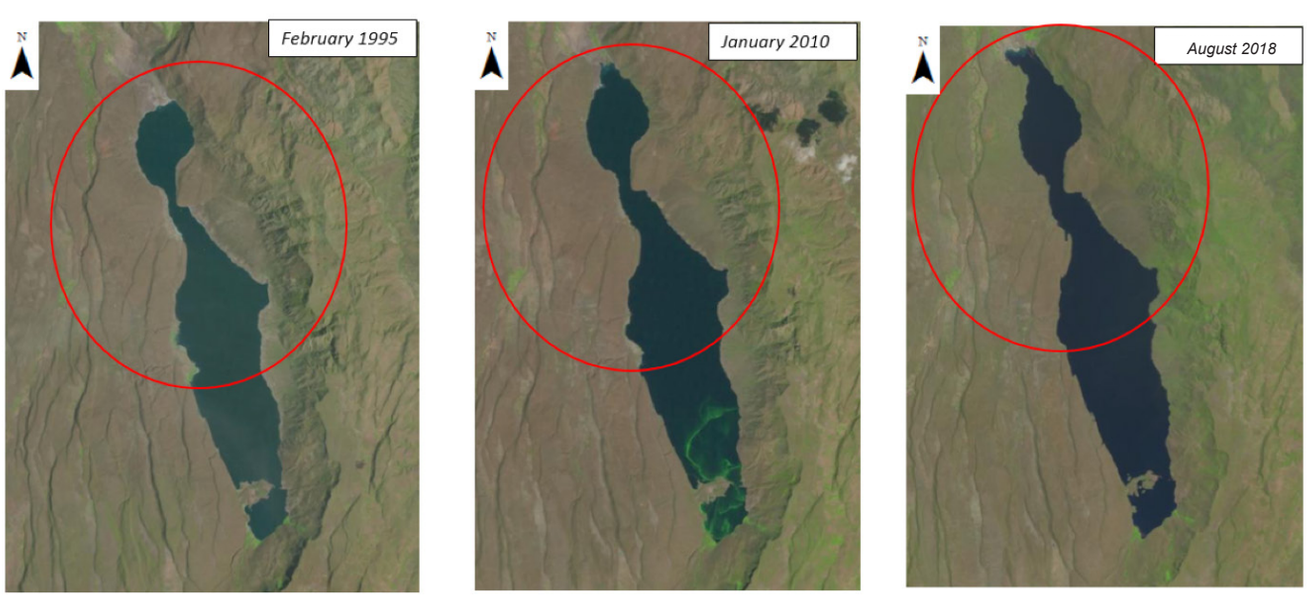
a) Lake Baringo



Out of the two lakes, studies have shown that the most affected is Lake Baringo. Much of the area surrounding the lake is a lowland area that is largely settled up to the lake shoreline. The impact of the flooding in Lake Baringo has seen the area under water rise from 143.6 Km² in January 2010 to a high of 231.6 Km² in Sept 2013, an increase of 88 Km² (61.3% increase by area). The changes are illustrated in the figure above.

Source: Two EMS Associates, 2018

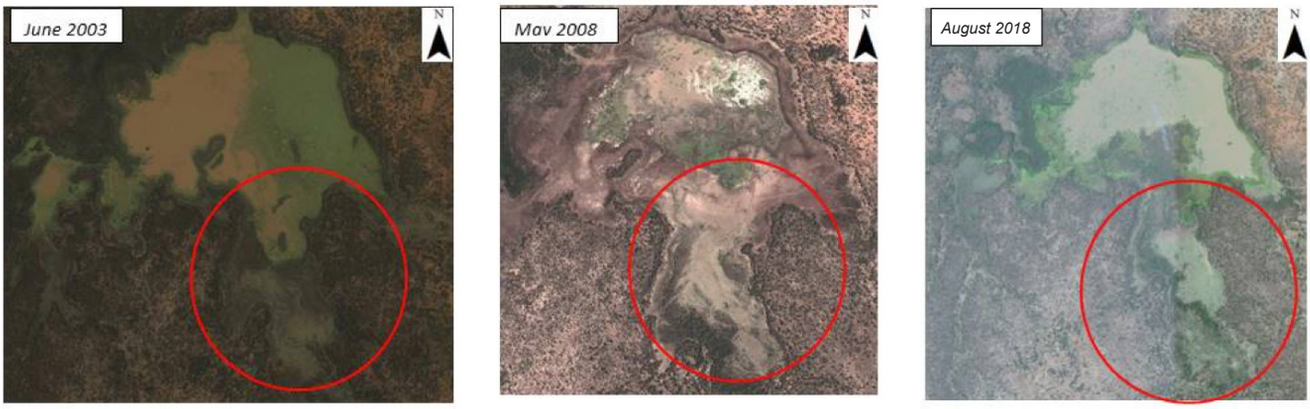
b) Lake Bogoria



Lake Bogoria lies in a deep depression and the volume of the water increase has only flooded a small area as compared to Lake Baringo It has increased its area from 32.6 Km² in January 2010 to 41.1 Km² in September 2013 an increase of 8.6 Km² (26.32% increase by area).

Source: Two EMS Associates, 2016

c) Lake Kamnarok



Source: Two EMS Associates, 2016 2.5.4 Underground water

4.4.4 Underground water

Groundwater is extremely variable in chemical composition and this variation occurs both spatially and seasonally. The major uses of boreholes are for public water supply, agricultural, domestic, industrial, and livestock. Rock type remarkably affects aquifer characteristics. Groundwater abstraction has seldom been investigated in Kenya. The total present groundwater abstraction rate in Kenya is estimated at 57.21 million m^3/year. Total safe abstraction rate in Kenya is estimated to be 193 million m^3/year.

Approaching Eldama Ravine and continuing westwards there are no records of any unsuccessful boreholes. There are only a few in the farming areas because rainfall conditions are good and sufficient water can be obtained from surface streams, storage against dry periods being provided by stone or earth dams. Towards the north, the underground water becomes scarce.

Below is a summary of underground water availability in Baringo County.

Table 5: Underground Water Availability

COUNTY	ELEVATION (M)	TOTAL DEPTH (M)	WATER STRUCK (M)	LEVEL REST (M)	YIELD (M^3/ HR)	DRAW DOWN
Baringo	1532	139	108	69	8	26

Source: National water master plan, 2012.

4.4.5 Water Catchment areas and Degradation

Baringo County has 6 (six) major rivers and several seasonal rivers flowing generally towards the lowlands i.e. in the northern part of the County. Major catchment areas in the County are Lembus, Chemosusu and Chemorgong forests in Eldama Ravine. Mochongoi, Amaya and Ng'elecha catchment areas which are located east of Tugen hills.

The forests are threatened by the rapid population growth and the development of settlement in water catchment areas. Population settling within the forested areas practice tree logging to expand land for cultivation and settlement. Other features that leads to deforestation include forests fires, burning of charcoal and fetching of firewood.

4.4.6 Wetlands and Threats

The table below shows the wetlands, location and threats.

Table 6: Wetlands and Threats

NO.	WETLAND	LOCATION	IMPORTANCE	THREATS
1	Loboi	Baringo South sub county	The swamp is water reservoir for Perkerra irrigation scheme, livestock and habitat for birds.	Sedimentation, invasive weeds, Prolonged droughts and excessive use of chemicals in irrigation schemes.
2	Kapcheluguny	Mogotio sub county	Provide water reservoir for livestock and domestic use.	Hyacinth invasion and land conflicts.
3	Sawich swamp	Eldama Ravine sub county	Provides water for domestic use.	Frequent droughts.
4	Orus swamp	Tiaty sub county	Source of water for livestock and domestic use.	Frequent droughts and siltation.
5	Weiwei swamp	Tiaty sub county	Source of water for livestock and domestic use	Frequent droughts and siltation.
6	Kasiela springs	Baringo south sub county	Source of water for livestock, irrigation and domestic use	Siltation and frequent droughts.
7	Narasha	Eldama Ravine sub county	Provides water for domestic use.	Frequent droughts.
8	Kaplelwo	Mogotio sub county	Source of water for livestock and domestic use.	Prolonged droughts and siltation.
9	Emsos swamp	Mogotio sub county	Source of water for livestock and domestic use.	Siltation and frequent droughts.
10	Majimoto	Mogotio sub county	Source of water for livestock and domestic use.	Prolonged droughts.

Source: Field Survey 2016

From the table above, the main threats facing wetlands in the county are prolonged droughts and siltation. Siltation is occurring in many wetlands due to ongoing erosional activities, caused by; poor farming methods, overstocking and deforestation. Water hyacinth is a threat to Kapcheluguny wetland in Mogotio Sub County while Prosopis juliflora is a threat to Loboi wetland in Baringo south.

4.4.7 Water quality and pollution

Main sources water in the county include rivers, lakes, water pans (majorly for livestock) and ground water. Water demand in the County is mostly for domestic, livestock and irrigation purposes.

Table 7: Water sources and quality in the county

NO.	SOURCE	QUALITY ISSUE	CAUSES OF POLLUTION
1	Water pans	The water is soily and contaminated.	Livestock have direct access to water pans, poor sanitation and siltation.
2	Streams	The water is clean in some sections.	Poor sanitation in urban and rural areas along the streams, use of excess chemicals in farming and siltation.
3	Lakes	L. Bogoria – extreme saline L. Baringo – clean water* L. Kamnarok – clean water*	Poor sanitation by the hoteliers* and other facilities that are located on shores of the lakes, use of excess chemicals in farmlands and sedimentation.
4	Underground water	The water have fluorides. (levels of fluorides are varied)	Weathering of rocks rich in fluorides.
5	Wetlands	The Water in wetlands is generally contaminated.	Mixed use (livestock and domestic), poor sanitation in surrounding areas and siltation.
6	Dams	Soily and chemical contaminated.	Excess use of chemicals in farming and erosion.

Source: Two Ems Associates, 2016

4.5 Vegetation

Vegetation supports critical functions in the biosphere, at all possible spatial scales.

Firstly, vegetation regulates the flow of numerous biogeochemical cycles, most critically those of water, carbon, and nitrogen; it is also of great importance in local and global energy balances. Such cycles are important not only for global patterns of vegetation but also for those of climate.

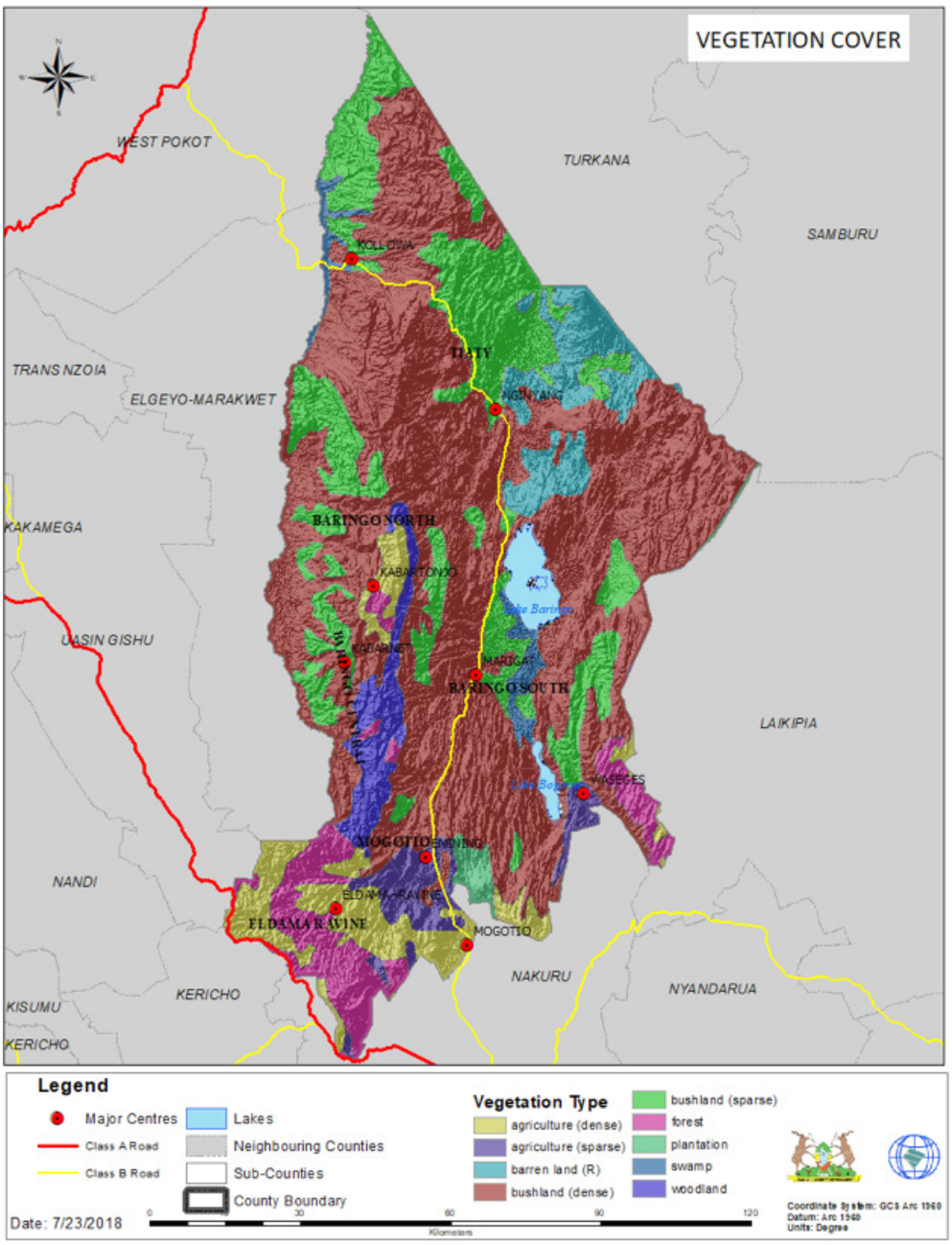
Secondly, vegetation strongly affects soil characteristics, including soil volume, chemistry and texture, which feedback to affect various vegetation characteristics, including productivity and structure.

Thirdly, vegetation serves as a wildlife habitat and the energy source for the vast array of animal species on the planet and, ultimately, to those that feed on these. Vegetation is also critically important to the world economy, particularly in the use of fossil fuels as an energy source, but also in the global production of food, wood, fuel and other materials.

Forest Vegetation

Mathenge Plant

Map 10: Distribution of Vegetation Cover in Planning Area



4.5.1 Rangelands

Rangelands cover the largest area and form about 70% of the county. The range land includes; grass lands, bushlands and scrublands.

The vegetation cover in rangelands includes grasses like T. triandra, E. superba and C. dactylon . The area around the lake has been overgrazed and is dominated by Acacia adoensis, Sporobolus fimbriatus, Microchloa kunthii, Tragus terrestris and Dactylocteneum aegyptium. Rainfall ranges between 300 mm and 500 mm, decreasing from south to north.

Rangelands deserve special attention in spatial planning. They are inherently vulnerable, with their ecology driven by unpredictable and uncontrollable factors such as rainfall; frequently they are important for biodiversity and due to increasing populations and weak land tenure, and they are increasingly at risk from appropriation by non-pastoral land users. The abundance of biodiversity (larger mega-species) has made pastoral landscapes the target for conservation land grabs and state land acquisitions.

4.5.2 Vegetation Condition Index. (VCI)

As of April 2018, the vegetation cover for Baringo County shows an improving trend across all livelihood zones. According to the NDMA, this situation is expected to improve further with the ongoing long rains. The VCI for all the sub-counties are currently above normal ranges as shown below.

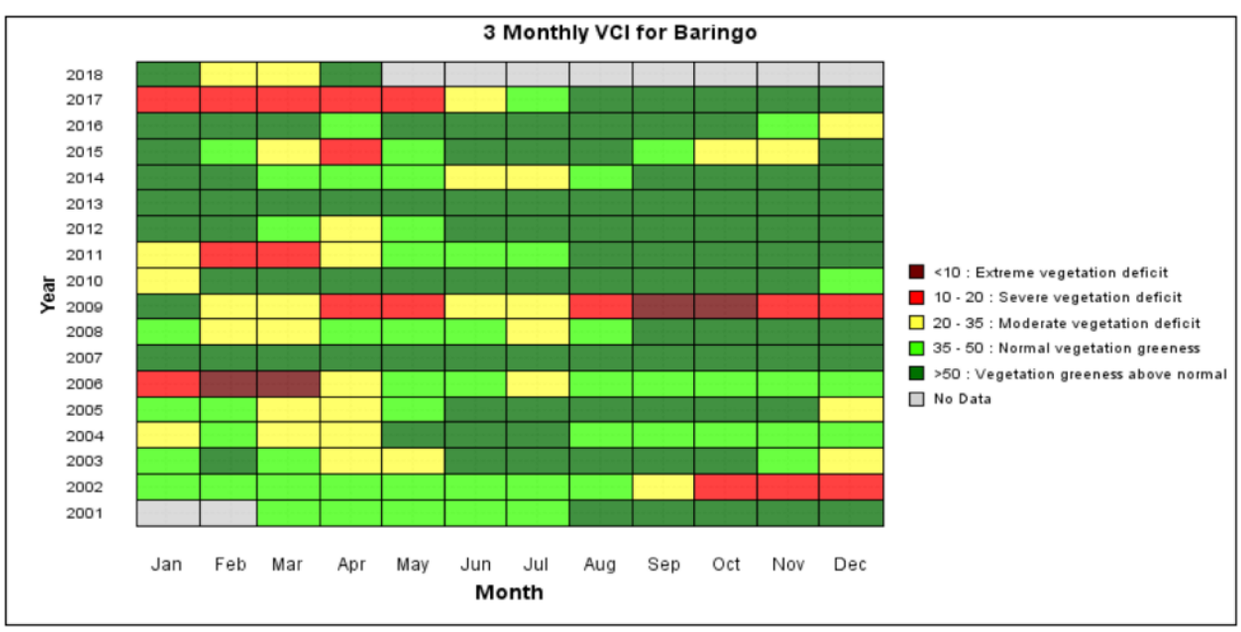
Table 9: Vegetation Cover Index

COUNTY	SUB-COUNTY	VCI AS AT 30TH APRIL 2018	
BARINGO	Central	45	Improved vegetation conditions experienced in Baringo county. With the on-going long rains vegetation cover is expected to improve further.
	Eldama	28	
	Mogotio	50	
	North	58	
	South	61	
	Tiaty	64	

Source: National Drought Management Authority, 2018

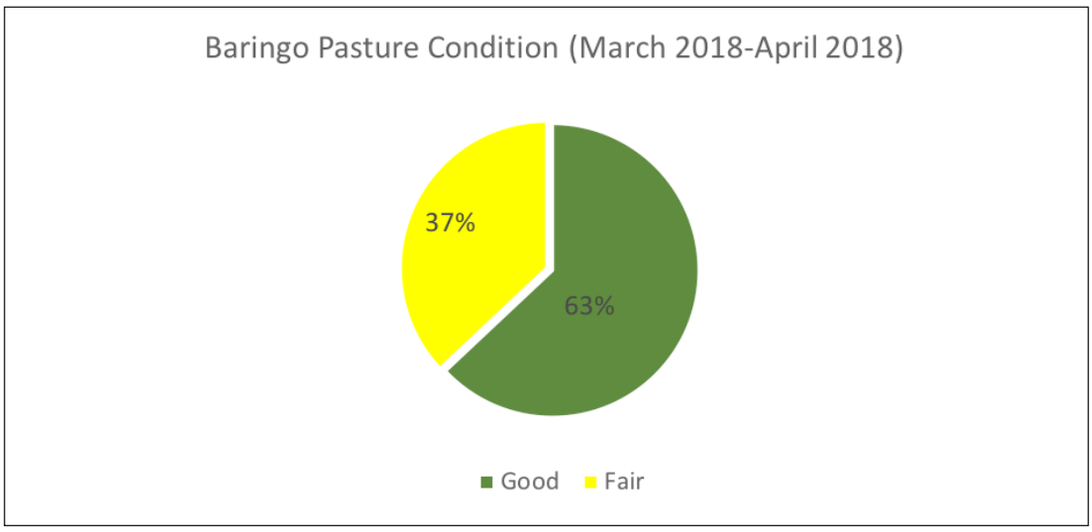
In April the vegetation cover for Baringo County was at 57, which is above normal compared to the LTA. In comparison to the previous month the current vegetation cover improved in quantity and quality. Any changes in this trend would be highly dependent on the performance of the current long rains.

Chart 2:Monthly VCI for Baringo



Source: National Drought Management Authority, 2018

Chart 3: Baringo Pasture Condition



Source: National Drought Management Authority, 2018

Pasture condition in the month of April was fair to good in pastoral and agro pastoral livelihoods and good in the irrigated livelihood zone. The quality and quantity is good as compared to the previous months. According to the National Drought Management Authority(NDMA), this situation is normal for this time of the year with an improving trend.

4.5.3 Forests

The conservation and sustainable development of forest ecosystems and their associated resources is essential for lasting poverty reduction and sustainable development. Forest ecosystems are important in conservation of soil, water and biodiversity as well as in moderation of climate. They are the richest terrestrial habitats for biodiversity. Maintaining forest biodiversity protects the economic potential of future opportunities for new non-timber products, such as foods and medicines, as well as social sustainability by offering aesthetic, spiritual and recreational settings for people.

There are essentially three types of forests within the region:

- Gazetted natural forests
- Gazetted plantation forests
- Non-gazetted natural forests and woodlands

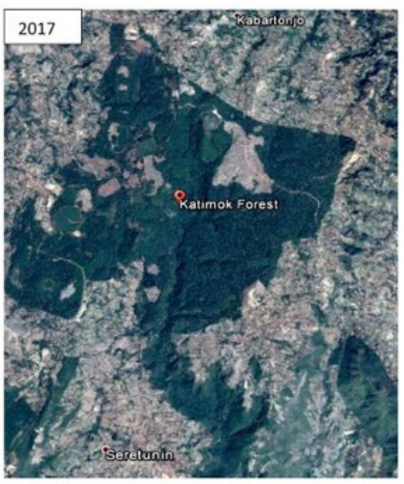
Baringo County has 65,280.4ha of forests which are gazetted. The established plantations cover an area of 13,940ha, while the rest is natural forests.

Table 10: Types of forests

NAME OF FOREST	CATEGORY	COVERAGE (HA)
Kabarnet	There are both Indigenous and Manmade sections	43,317.27 (300Ha plantations)
Tenges	There are both Indigenous and Manmade sections	9,110 (1,104Ha plantations)
Oparabel	There are both Indigenous and Manmade sections	9,274.3 (50Ha plantations)

Source: Field survey, 2016

Baringo County has a forest coverage of 29.9%, which is above the recommended minimum of 10%. Out of this, 6.7% of this is gazetted while 13.2% are community forests. However, the forest cover is decreasing due to lumbering activities and clearing of forests for settlement.



Forest cover has been reducing progressively over the years due to deforestation and excisions for human settlement.

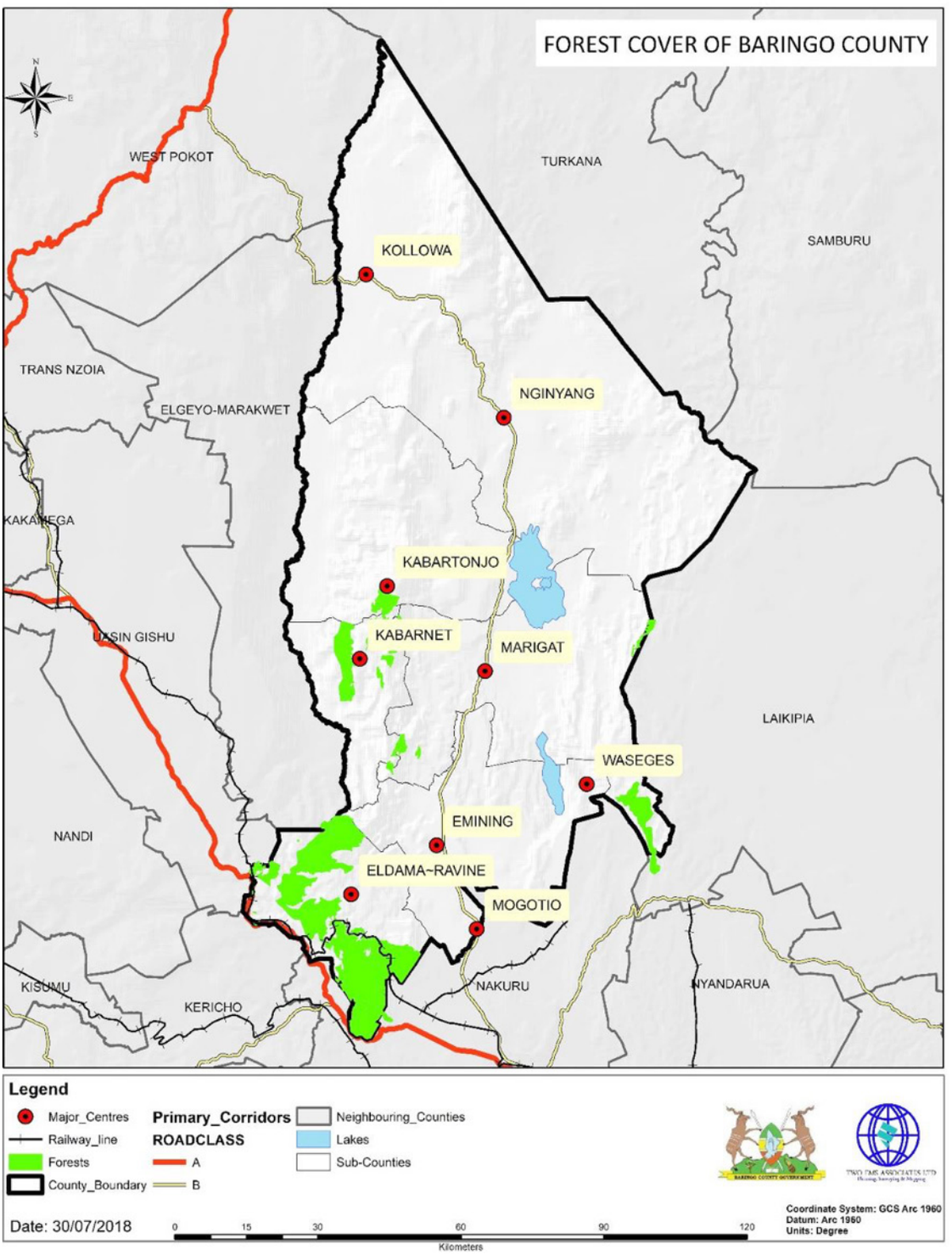
The table below shows gazetted excisions in Katimok Forest.

Table 11: Katimok Forest Excisions

KATIMOK FOREST EXCISIONS	
Year	Area (Hectares)
1978	9.25 Ha
1988	6.74 Ha
1995	3.6 Ha
1995	4.46 Ha

Source: Matiru, December 1999

Map 10: Distribution of Forests within the Planning Area



Forests play an important role by providing a condusive habitat for birds and animals, they act as tourist attraction site which generates foreign/ local revenue, they are a source of biomass fuel, construction material e.g. timber, source of medicine and herbs to the local residents and influence the climate of the County and its environment.

The major threats to this forest are:

1. Occurrence of fires during drought caused by arsonists or accidents by people working on farms or harvesting honey
2. Encroachment by human activities

Possible solutions

1. Operationalizing the process of reclaiming forest land in Oparabel (Kitundaka)- 7,000Ha
2. Excision of the forest
3. Establish true demarcation and lay beacons to identify the forest boundaries
4. Sensitization of the community of fire havocs management through education and putting posters on calamities of fires along forest

The main actors involved within this sector are:

The stakeholders involved in the conservation of the water towers include:

1. National government- They have initiated the plantation development, Conservation and Management and dryland forest development projects
2. Office of the president in collaboration with KFS- They have initiated the Greening school programs
3. The County Government has provided seedlings to farmers to plant trees
4. The Kerio Valley Development Authority has also provided 11,000 seedlings for plantations

4.5.4 Invasive weeds

Mathenge plant

Prosopis Juliflora commonly known as Mathenge plant is the main invasive weed in the county. The plant was introduced by the government and UN food and agriculture organization through food for work program. The motive for introduction of the weed was to curb desertification in Baringo, however the plant has overgrown and threatened the ecosystem, as it lacks natural enemies to control its spread. The plant thorns and seeds are poisonous to livestock. The plant has loose soil compactness leading to poor water retention capacity.

The prolific growth and invasion of communal grazing lands that are located around Lake Baringo is alleged to have reduced the amount of pasture available for local livestock. Because of its deep rooting system that consumes much moisture as well as shading under its thick canopies, Prosopis Juliflora discourages grass growth and hence, there is little or no grass for livestock. Due to increasing fodder shortage, two individuals have had to purchase hay to supplement their livestock's feeding. Women also complain that grass for thatching houses is harder to find now.

For the majority, who also happen to be farmers, the prolific expansion of Prosopis places a distinct threat to their farming activities. Many cite the continuous, and costly, process of clearing as an added set back to their farming activities. Only those who can afford to pay for labor to clear Prosopis are able to have land for cultivation. Some individuals, mainly from Chemonke village, claim to have been displaced from their original settlements/homes by Prosopis. They have had to seek alternative settlement elsewhere sometimes having to lease land for cultivation in these new areas. Conflicts may arise as the displaced seek alternative settlements. Prosopis is also alleged to have killed off other important and useful native trees such as Iltepesi, Ilkiloriti, Ilwai, Kalalia.

Plate 2: Mathenge plant in Baringo South

The weed is now well established, and invaded, in the Baringo lowlands close to watercourses and swamplands that form critical dry season pastures and farmlands.

According to a study done by the World Agroforestry centre, individuals in Ng'ambo and Loboi areas, the setting of initial planting sites, are demanding its eradication, not least because its benefits are being far outweighed by its undesirable properties. According to these communities, their primary livelihood options of farming and livestock keeping are threatened by the unchecked expansion of the invasive alien species.

The following is a summarized list of positive and negative effects of Prosopis juliflora on livelihoods in Baringo County.

POSITIVE EFFECTS	NEGATIVE EFFECTS
Poles for fences, home construction and repair	Invasion into crop fields and associated costs of clearing
Availability of fuelwood and charcoal for subsistence and sale, reducing travel time for women and removal of other trees	Invasion into grazing areas and associated loss of grazing territory
Pods for livestock fodder.	Invasion into wetlands that reduces their value for watering and dry-season grazing
Ropes made from bark	Invasion into the lakeshore area of lakes and wetlands, making fishing more difficult
Reduced dust storms	Damage to the tires of vehicles and bicycles
	Consumption of the sweet pods causes damage to the teeth of goats
	Sharp thorns causes wounds to goats and cattle
	Increased malaria incidence associated with Prosopis juliflora thickets close to homes
	Invasion into crop fields and associated costs of clearing

Hyacinth

Pl ate 4: Water hyacinth in L. Baringo

Water hyacinth in L. Baringo

The Hyacinth is an invasive weed that normally spreads very fast in water bodies, which has invaded L. Baringo. The lake is fresh water thus providing suitable environment. It threatens fishing activities, boat riding and tourist attraction. Kapcheluguny wetland is also infested by the water hyacinth.

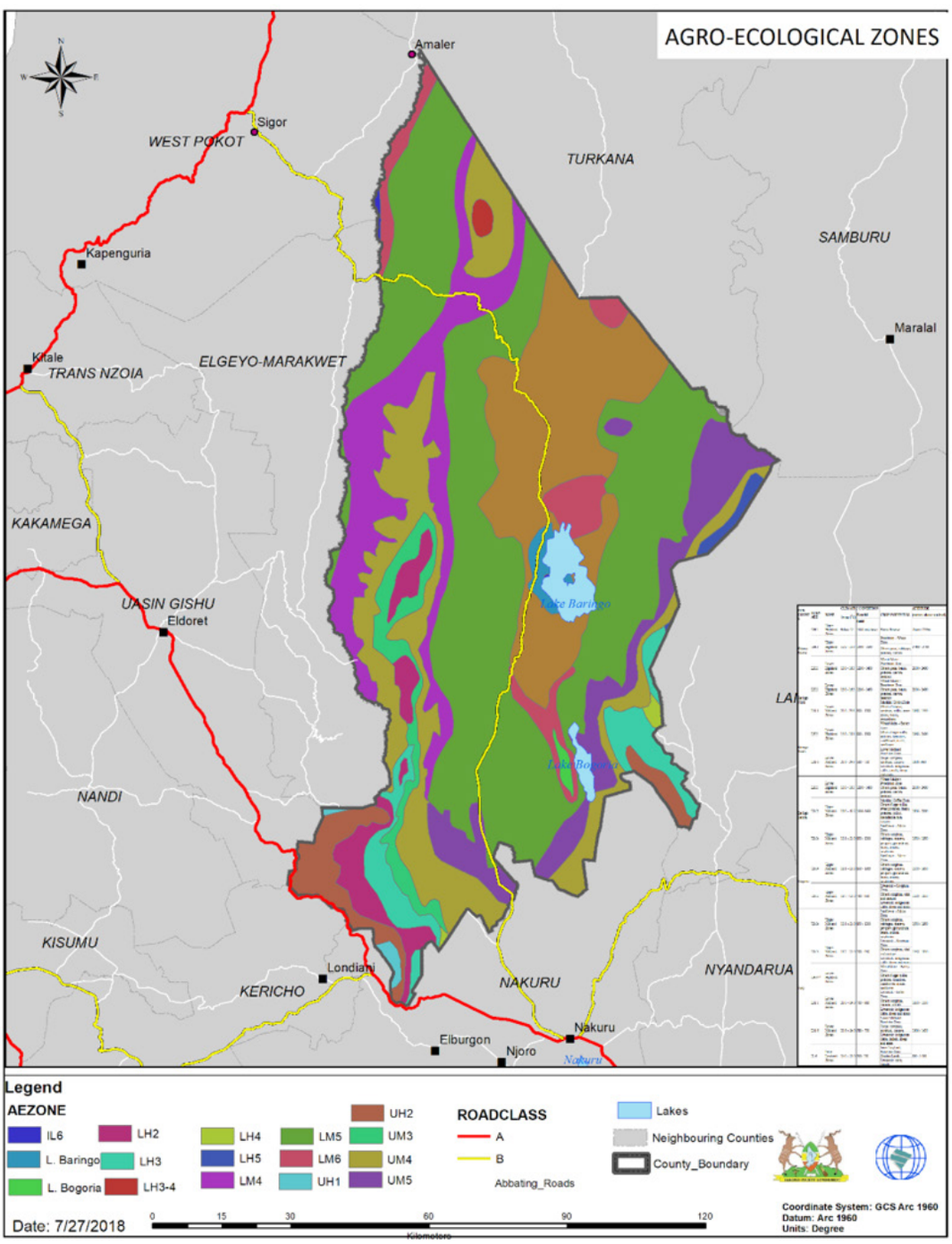
4.6 Agro ecological zones

Baringo County can be divided into three agro-ecological zones namely the highlands, midlands and lowlands as follows:

1. The highlands are characterized by the Tugen hills. The soils in this zone are fertile so Cash crops such as coffee and pyrethrum.
2. The midlands are inhabited by the agro-pastoralists, this zone is endowed with 3 rivers, namely the Perkerra, Molo and Kerio Rivers. The Perkerra and Molo rivers support irrigation activities at Marigat and Mukutani where horticulture and maize seed are grown for commercial purposes.
3. The lowlands mostly rangelands and crop production is not practiced.

This analysis is indicated in the following-ecological potentials map.

Map 11: : Agro-Ecological Zones



4.7 Wildlife Resources
4.7.1 Overview

The area is rich in wildlife species. There are several reptiles that include monitor lizard, lizards, tortoise, crocodiles and various species of snakes. Over 373 species of birds have been recorded in the plan area including over 50 migratory species, making it one of the richest birdlife areas in Kenya. The geographical location of the reserve between the Ethiopian and the Maasai zoo-regions contributes to the areas high species diversity. The lake holds huge congregations of lesser flamingo that feed on the high production of blue-green algae dominated by Spirulina platensis. The lake shore configuration and fresh water points provide favourable environment for these assemblages and at times more than 1.5 million flamingos can be counted. Lake Bogoria sometimes supports the highest population of greater flamingos in the rift valley alkaline lakes.

4.7.2 Human wildlife conflict

Much of the original Mochongoi Forest has been excised for human settlement, leaving only areas of rugged terrain that are unsuitable for farming. This continuous encroachment has increased the contacts between people and elephants, further intensifying human wildlife conflict. The forms of conflict in Mochongoi include crop destruction, competition for grazing and water, livestock diseases, and human deaths and injuries.

4.7.3 Fish and loss of biodiversity

Fishing in Baringo County is done in lakes, dams, fish ponds and streams. About 400 families practice fishing in L. Baringo. The main fish types are Oreochromis niloticus, Protopterus aethiopicus, Clarias gariepinus, Barbus intermedius and Labeo cylindricus. Their population have declined due to overfishing, drying up of streams and pollution of water bodies.

Baringo County has varied natural habitats for great biodiversity. However, there is loss of biodiversity in the county due to poaching activities, deforestation, overgrazing, desertification, practice of conventional agriculture and soil erosion.

4.8 Energy Resources
4.8.1 Overview

The energy sector plays a critical role in the socio-economic development. Currently the energy sector in Kenya relies wholly on the importation of all petroleum requirements. Electricity, by virtue of its versatility in application, is crucial to the socio-economic development of the country and is the most sought after energy service by society. The available supply capacity currently is 1,279 MW comprising Hydro (738 MW), Thermal (345 MW), Geothermal (185 MW) and Mumias bagasse (115 MW).

4.8.2 Geothermal Power

Kenya is endowed with geothermal resources and the Rift Valley is the main geothermal zone. Among the largest well clusters are Menengai and Baringo, which have potential capacities of 1,600 MW and 800 MW, respectively. Within Baringo County, the BaringoeSilali project covers Silale, Paka, Korossi/Chepchuk areas. The Geothermal Development Company (GDC) have started drilling, and development of the field is set to be done in three phases and each well is expected to produce 100MW. This will be critical in further lowering the cost of electricity in the country and drive the big four agenda.

4.8.3 Hydropower

Hydropower is the single largest generation source for grid electricity in Kenya providing some 677 MW of the total installed grid capacity and over 57 % of Kenya's total electricity output is generated by hydropower plants. Hydropower generated electricity is the cheapest and one of the most environment-friendly sources of energy.

There are rivers that have potentials for construction of H.E.P. Some studies, by Sogreah Engineering Firm, have been done for some of these rivers. Most of the studies were done in 1980's, but Kengen has not been able to update the studies for all the mentioned rivers. Within the planning area Perkerra River has the potential for HEP which has a discharge of $3m^3/s$, (Source: Sogreah, 1986)

4.8.4 Wind Power

The location of the country within the equatorial region does not favour very strong winds that can be used in generation of substantial amount of wind energy unlike those experienced in the extra-tropical regions where the winds are always very strong.

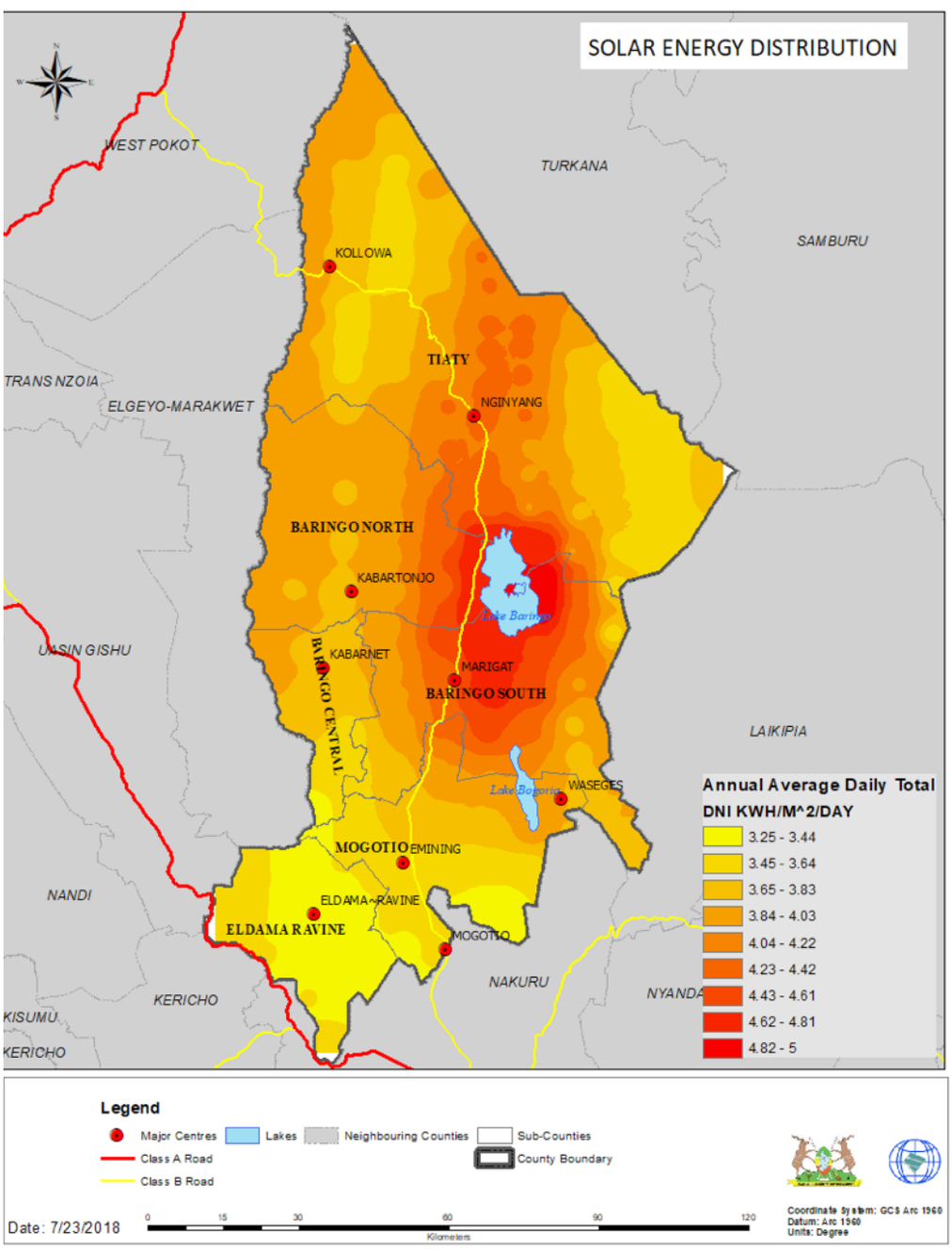
Topographical features and the varying nature of the surfaces and the existence of large inland lakes found in Kenya have marked influence in modifying the horizontal and vertical wind speed profiles thus making many locations

to possess substantial wind energy potentials. The wind speed in the county is low but there is moderate potential in Eldama Ravine, Tilam in Tiaty sub-county and Tugen hills, with the capacity to generate power at small scale. Despite the low wind speed in the country, the mountain can generate green energy that can also be used as source of energy. The potential is shown in the figure below:

4.8.5 Solar Power

The country receives good solar isolation all year round coupled with moderate to high temperatures estimated to be at 4-6 kWh/m2/day. Based on the sunshine hours, it is feasible to utilize solar energy devices in the county due to the long hours of sunshine in the country and county. The potential for solar energy in the county is high due to high insolation, especially during dry seasons. There is potential for solar energy in Kerio valley, Chemosion solar farm in Tiaty sub-county and lower regions of Baringo South.

Map 13: Solar Power Potential



4.8.6 Biomass

Biomass is an organic matter that can be used to provide heat, make fuel and generate electricity. Biomass fuels are the most important sources of primary energy in Kenya with wood-fuel (firewood and charcoal) accounting for over 68% of the total primary energy consumption (MOE, 2012). Wood fuel is used by more than 98% (MORD, 2011) of the population in the region and its utilization is restricted to domestic use only. However, the ever-increasing farming activities in parts of the region have diminished firewood supply and hence domestic energy comes from individual farms and those of immediate neighbourhoods.

Within Baringo County, the Prosopis juliflora invasion is largely confined to Marigat, , which covers an area of 1,276 km2. Marigat is located about 100 kilometres from Nakuru town. The site is located in a 900-square kilometre area between latitudes 0°20'N and 0°44'N and longitudes 35°57'E and 36°12'E. ''Mathenge'' the power plant in Marigat, is a potential biomass fuel. Prosopis Juliflora tree popularly known as the ''Mathenge'' is a plant that is to be utilized to extract renewable and green source of energy.

CHAPTER FIVE

Population and Demographic Characteristics

5.1 Population

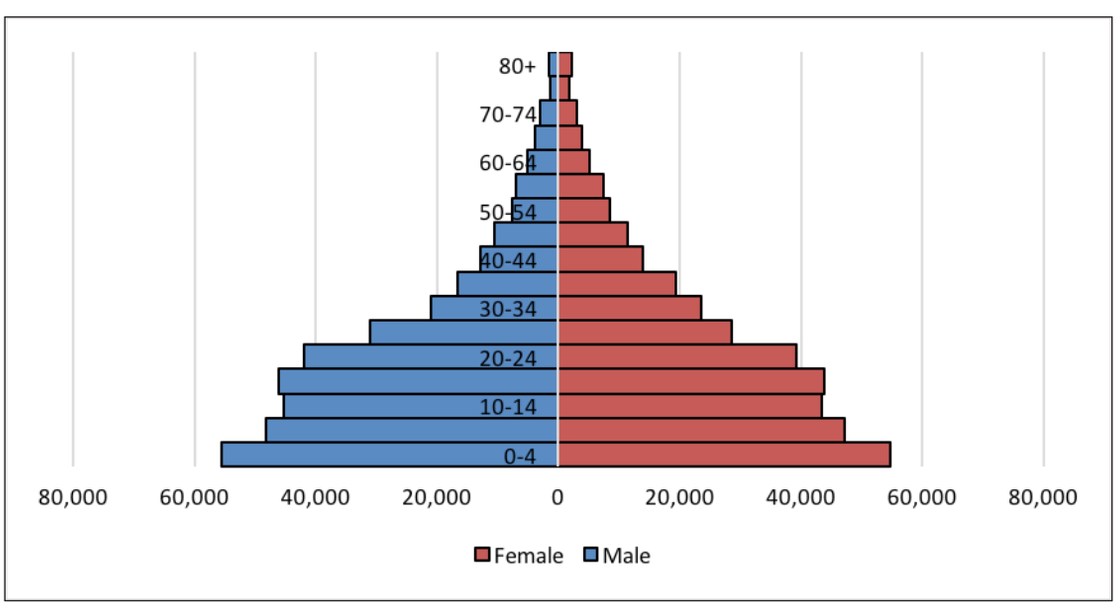
Population is defined as the number of people living within a particular area. Demography is the study of human population – their size, composition and distribution across place – and the processes through which populations change.

With respect to the spatial planning of Baringo, a population analysis will determine the county's future course and shape the future of local communities at the end of the planning period. This chapter analyses population size as well as growth, distribution, and demographic characteristics in order to come up with a socio-economic forecast for the county.

5.2.1 Population Size

Baringo has a population of approximately 715,294 people which has increased from a population of 555,561 people in 2009. This consists of 358,548 male and 356,746 female residents. The population density of the county is approximately 65 people per km2 which is lower than the national average of 401 people per km2. The ratio of men to women is approximately 1:1. The approximate total number of households in the county is 138,883. 35% (KNBS, 2013), with the average household size being 5.02, which is 14% higher than the national average household size of 4.4. The current population growth rate of the county is 3.3 % (KNBS, 2013).

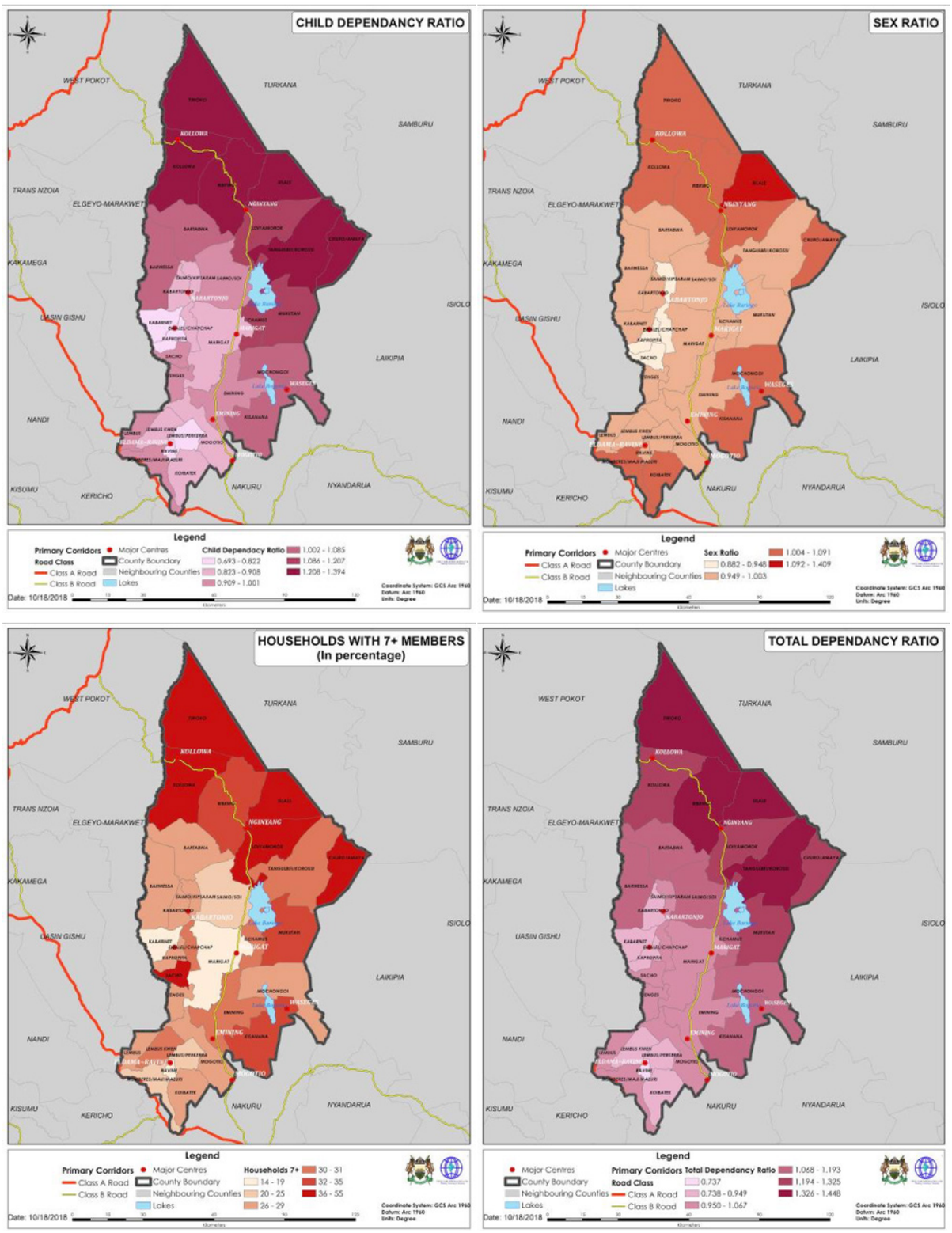
Figure 4: Baringo County Population Pyramid



Source: Two Ems Associates, 2018

The 48.4% of the total population are children between 0-14. This represents the dependants in Baringo County. The Youth between 15-49 years took up 42.9% of the total population. The projected population post retirement represented in age cohorts 65-69, 70-74, 75-79 and 80+, represent 0.9%, 0.8%, 0.5% and 1% of the overall population respectively.

Map 15: Child Dependency, Total Dependency Ratios, Sex Ratios and Households with 7+ members



The wards on the northern side tend to experience the highest child and total dependency ratios within the county. This suggests that the number of children below the ages of 14 and the elderly above 80 years are more in these wards as compared to the other wards. High dependency ratios are characteristics of areas with high poverty level and low employment

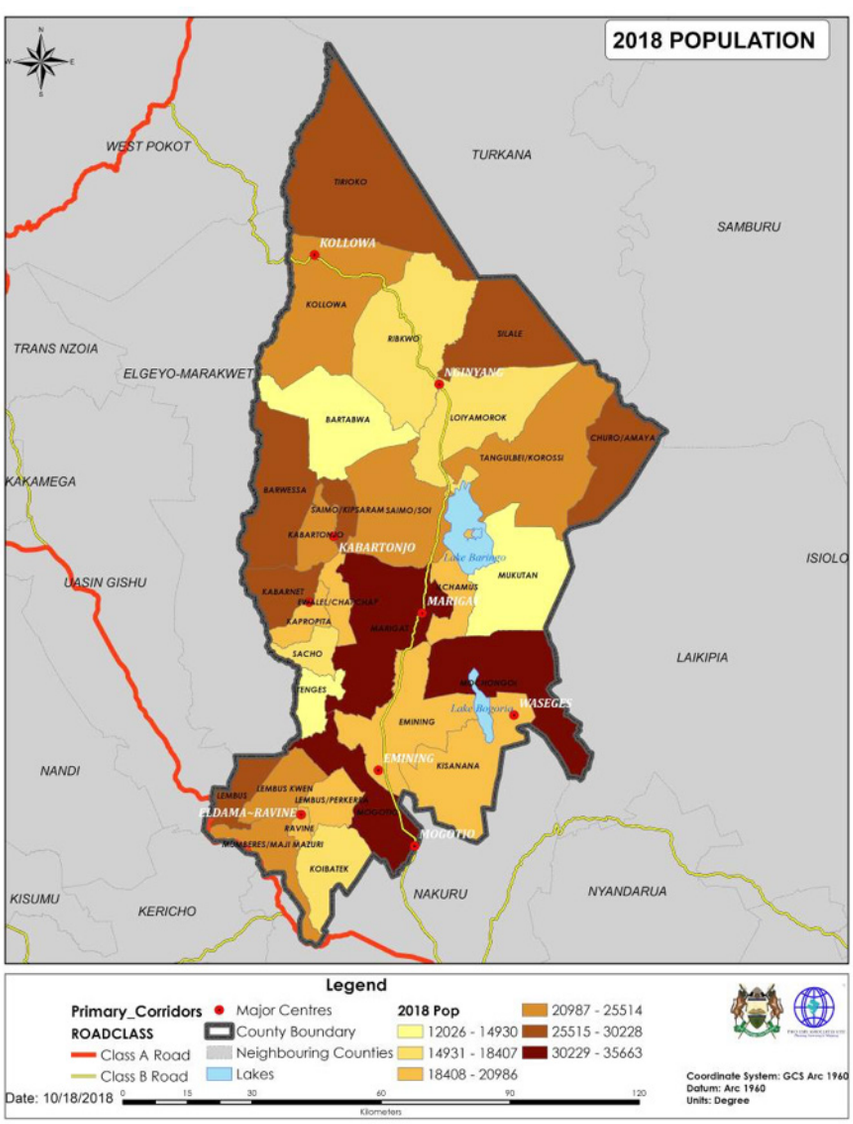
5.2.2 Population Distribution

Tiaty sub-county has the highest population and the lowest population densiny. This is because it is the largest sub-county in Baringo. Baringo Central has the highest population density in the county as it is the smallest in size. The average population density for Baringo County is approximately 65 people per km^2.

SUB-COUNTY	POPULATION (2018)	LAND AREA IN KM2	POPULATION DENSITY
Baringo Central	118,679	803	148
Eldama Ravine	145,479	1,002.5	145
Baringo South	81,061	1,663	48
Mogotio	81,059	1,325	61
Baringo North	123,762	1,705	73
Tiaty	175,234	4,592	38
TOTAL	**715,294**	**11,015**	**65**

Source: Two Ems Associates, 2018

Map 16: Population Distribution



5.2.3 Population Distribution by Age

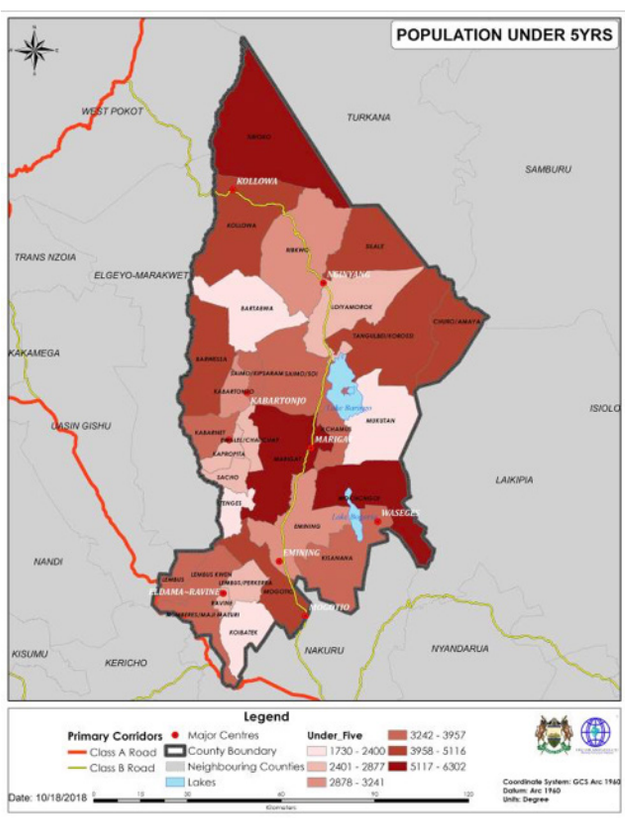
Tiaty subcounty has the highest number of children between the 0-14 age bracket, while Baringo North has the Mogotio sub-county has the least number of both children and old people. This is because it is a near the larger Nakuru commercial and educational hub therefore most people in the ward consist of the labour force age bracket (15-64 years).

Table 12: Children and the aged per sub county

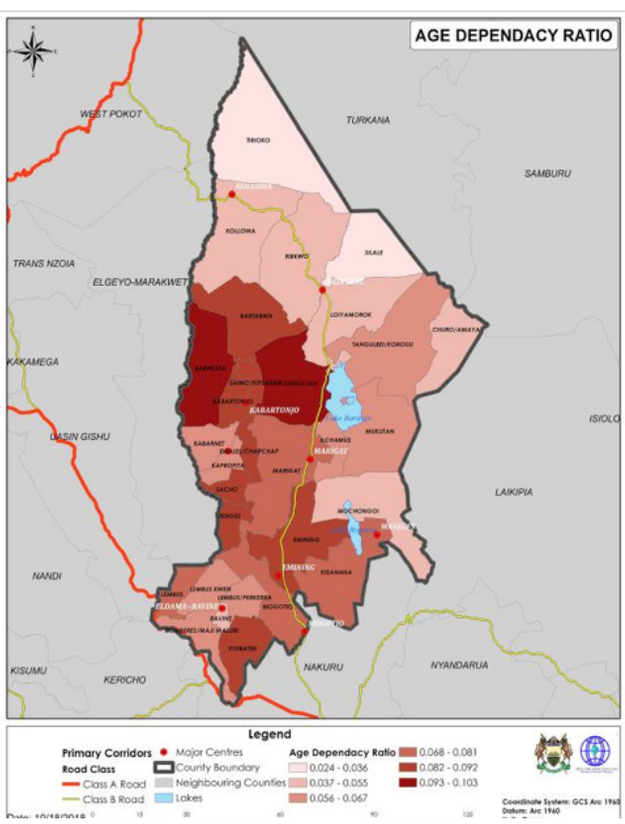
SUB-COUNTY	0-14 YEARS	65-69 YEARS	70-74 YEARS	75-79 YEARS	80+ YEARS	TOTAL FOR 65+YEARS
TIATY	73,696	1,011	666	419	570	2,466
BARINGO NORTH	43,802	1,759	1,158	729	644	4,290
BARINGO CENTRAL	35,142	1,270	836	526	465	3,097
BARINGO SOUTH	39,616	1,033	680	428	378	2,519
MOGOTIO	28,170	965	635	400	353	2,353
ELDAMA RAVINE	46,181	1,463	964	607	535	3,569

Source: KNBS and SID, 2013

Map 17: Population Under 5 Years



Map 19: Age Dependency



5.2.4 Population Projections

The population projections for Baringo county were arrived at using Spectrum software. Spectrum is a suite of easy to use policy models which provide policymakers with an analytical tool to support the decision-making process. The demographic and population indicators were projected depending on their past and present trends. These indicators include; the overall fertility rate, age distribution per age cohorts, age-specific fertility, morbidity, mortality and life expectancy rates. The projection population of Baringo County for the years 2018 and 2028 are 715,294 and 971,516 people respectively.

Table 13: Population Projection per Constituency

CONSTITUENCY	CENSUS POPULATION DATA	PROJECTED POPULATION	
	2009	**2018**	**2028**
Eldama Ravine	105,273	145,479	191,953
Baringo Central	89,176	118,679	158,481
Baringo South	73,178	81,061	108,336
Baringo North	93,787	123,762	165,511
Mogotio	60,959	81,059	108,336
Tiaty	133,189	175,234	238,899
Baringo County	***555,562***	***715,294***	971,516

Source: Two Ems Associates, 2018

Tiaty constituency was projected to have the highest population of 971,516 people by the year 2028. The development implications based on this projection would indicate that Tiaty would need to be well serviced with regards to housing, infrastructure and social amenities in order to sustain the population.

This increase in the population will put more pressure on the existing services and infrastructure within the county. Thus, there should be plans to increase the services and infrastructure provisions to counteract the growth.Population is seen to be denser in urban areas, where most people are close to various sources of income.

Table 14: Population Projections per Ward

WARD	2009	2018	2028
Bartabwa	11,823	14,930	20,675
Barwessa	23,938	30,228	41,861
Churo/Amaya	21,187	26,754	37,050
Emining	16,501	20,837	28,855
Ewalel / Chapchap	16,349	20,645	28,590
Ilchamus	15,903	20,082	27,810
Kabarnet	22,370	28,248	39,119
Kabartonjo	19,038	24,040	33,292

Kapropita	15,814	19,969	27,654
Kisanana	16,619	20,986	29,062
Eldama Ravine	12,889	16,276	22,539
Kollowa	19,364	24,452	33,862
Lembus	21,036	26,563	36,786
Lembus Kwen	20,205	25,514	35,333
Lembus/Perkerra	15,834	19,994	27,689
Loiyamorok	14,369	18,144	25,127
Marigat	28,242	35,663	49,387
Mochongoi	27,644	34,908	48,341
Mogotio	27,016	34,115	47,243
Mukutan	11,440	14,446	20,005
Mumberes/Maji Mazuri	18,840	23,790	32,946
Ravine	16,306	20,590	28,514
Ribkwo	14,433	18,225	25,239
Sacho	14,577	18,407	25,491
Saimo / Kipsaram	21,916	27,674	38,325
Saimo/Soi	18,668	23,573	32,645
Silale	21,804	27,533	38,129
Tangulbei / Korossi	18,352	23,174	32,092
Tenges	9,524	12,026	16,655
Tirioko	23,561	29,752	41,201
TOTAL	**555,562**	**715,294**	**971,516**

Source: Two Ems Associates, 2018

Based on the projection, the most densely populated wards by 2026 will be Marigat, Mochogoi and Mogotio respectively. This will likely be contributed by the already existing urban centres which are equally expected to grow as a result of increased urbanization.

Map 19: Projected Population Distribution

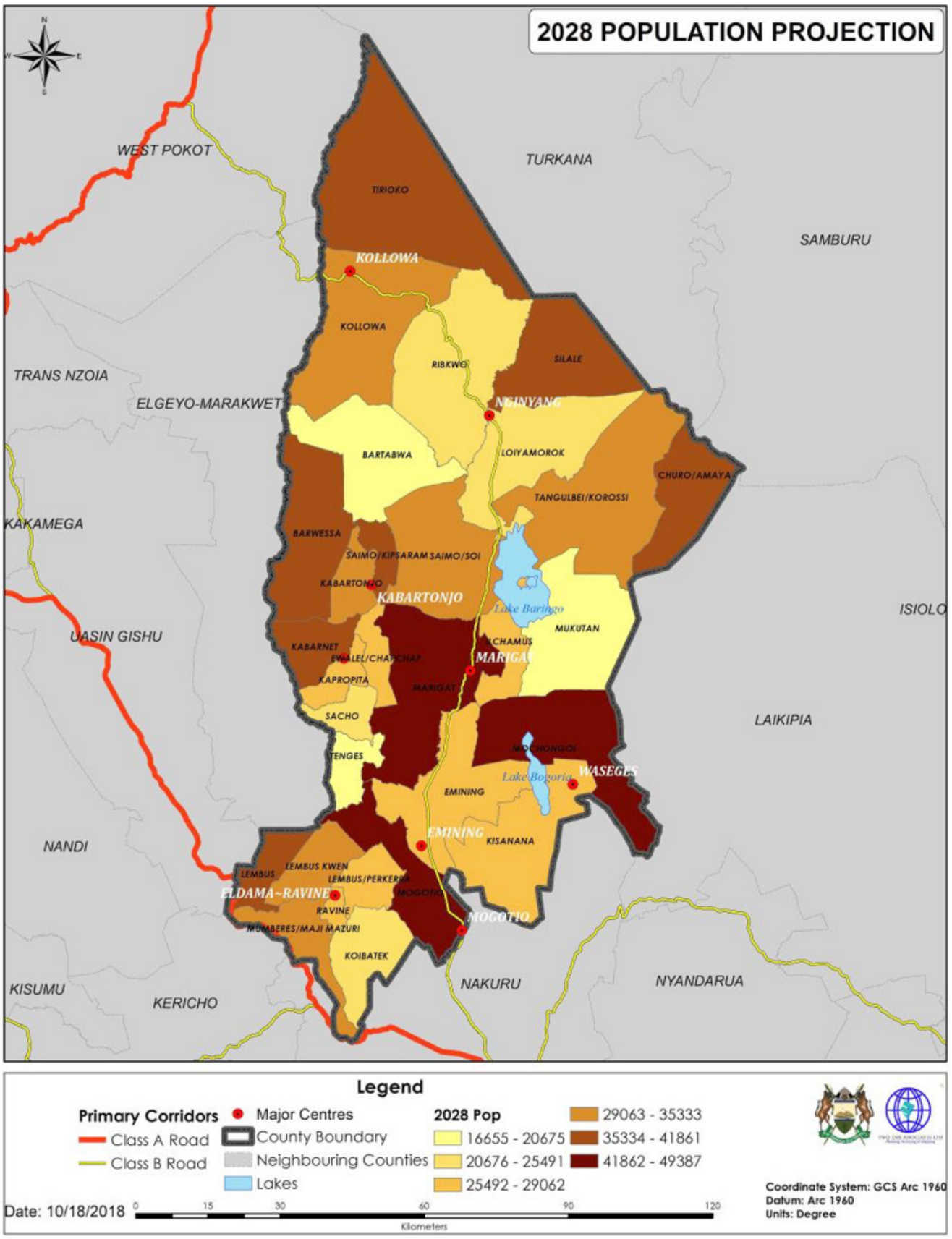
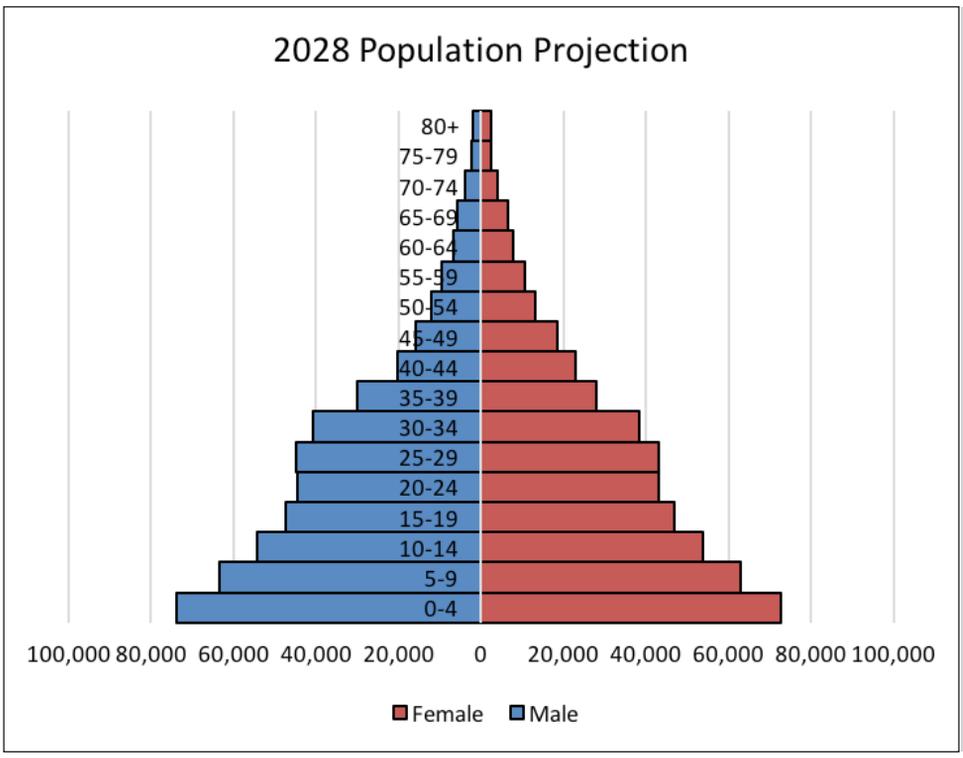


Figure 5: Projected Population Pyramid



The 39.9% of the total projected population are children between 0-14. This represent the dependants in Baringo County. The Youth between 15-49 years took up 50.84% of the total population. The projected population post retirement represented in age cohorts 65-69, 70-74, 75-79 and 80+, represent 1.2%, 0.8%, 0.6% and 0.4% of the overall population respectively.

Source: Two Ems Associates, 2018

5.2.5 Urban and Rural Population

The total urban population in Baringo is 74,150 while the rural population is 641,144 (this is about 90% of the total population size). The table below shows the urban population distribution in each of the sub-counties. The urban population data is important in ranking urban areas based on their population. This ranking will enable the CSP to anticipate growth and make adequate provisions that lead to sustainable urbanization. This data has been utilized in chapter seven of this document.

The total urban population of Baringo in 2009 was 60,995 people. The projected urban population for 2018 and 2028 are 74,150 and 98,992 respectively.

Table 15: Projected Urban Population in Baringo

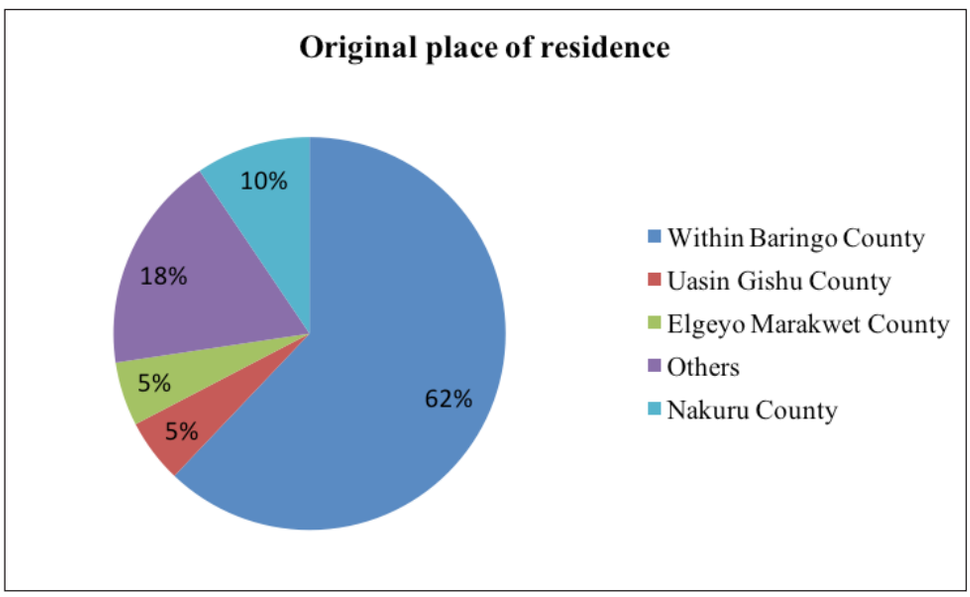
URBAN CENTRE	2009 URBAN POPULATION	PROJECTED POPULATION	
		2018	2028
Kabarnet	25,346	30,812	41,136
Eladama Ravine	17,872	21,726	29,006
Marigat	6,661	8,098	10,811
Maji Mazuri	4,265	5,185	6,922
Mogotio	3,701	4,499	6,007
Timboroa	3,150	3,829	5,112
TOTAL	***60,995***	***74,150***	***98,992***

Source: (Adapted from KNBS 2012)

5.2.6 Migration Patterns

According to the 2016 field survey, there is an indication that the rate of in-migration to Baringo County is slightly lower, i.e. 62% of the residents are born within the county. Most of the people who settle in Baringo County are from the neighbouring counties, like Uasin Gishu, Nandi, Nakuru, Turkana, Bomet and Elgeyo Marakwet.

Chart 4: Original Place of Residence of the Inhabitants



Source: Field survey 2016

The in-migrants come for various reasons which include; marriages, security reasons, availability of land, deployment by employer agencies amongst other reasons. There is also migration from one sub-county to another, mostly from Tiaty in Tiaty, which has high levels of insecurity due to cattle rustling.

5.4 Demography

5.4.1 Morbidity, Mortality and Life Expectancy Rates

The main causes of morbidity in the County include, Malaria, Diarrhoea, Eye infections HIV/AIDS, Pneumonia, respiratory infections, T.B, general accidents and the inadequate access to appropriate ante-natal care and general healthcare.

Table 16: Causes of Morbidity and Mortality

CAUSE OF DEATH.		CAUSE OF ILL HEALTH.	
NATIONAL.	**COUNTY LEVEL SPECIFIC.**	**NATIONAL.**	**COUNTY LEVEL SPECIFIC.**
HIV/AIDs	Violence (Cattle Rustling)	HIV/AIDs	Malaria
Perinatal conditions	Malaria	Perinatal Conditions	Skin ailments
Lower respiratory infections	Upper Respiratory Tract Infections.	Malaria	Flu

Lower respiratory infections	Pneumonia	Lower respiratory infections	Diarrhoea
Diarrheal diseases	Flu	Diarrheal diseases	Eye Infections
Malaria	Diarrhoea	Tuberculosis	Pneumonia
Cerebrovascular Disease	Malnutrition	Road traffic accidents	Antenatal Care Condition
Ischaemic heart disease	HIV/AIDS	Congenital anomalies	Typhoid
Road traffic accidents	Kala-Azar	Violence	Worms
Road traffic accidents		Unipolar depressive disorder	Accident Injuries

Source: Kenya Service Availability &Readiness Mapping (SARAM, 2013)

The County has 6 hospitals, 25 health centres, and 187 dispensaries, most of which are located in the major towns hence, cannot be accessed easily by the people living in remote areas. There are 13 private clinics, 1 nursing home and 2 faith-based health facilities. As at 2015, there were 43 doctors, 452 nurses, 39 lab technicians, 167 public health officers and 966 clinical officers within the county, which is an average of 1 doctor to 12,290 people (Fieldwork Survey, 2016); this cannot meet the healthcare demand for the current and future populations.

Access to health facilities is averaged at 15km, which compares unfavourably to the national average of 5km. The doctor/population and nurse/population ratio are currently 1:12,290 and 1: 1,270 respectively.

Table 17: Infant mortality rates

INFANT MORTALITY RATE –	63/1,000
CHILDREN UNDER 5 YRS –	74/1,000
MATERNAL MORTALITY RATE -	374/10,000
NEONATAL MORTALITY RATE -	31/1000

Source: County Health data, 2016

Implications of mortality and morbidity

Morbidity leads to a decline in individual productivity, income and human capital development, which results in lower total outputs and diminished economic growth.

Poor health in childhood has a negative impact on adulthood outcomes, such as adult health, earning potential, and productivity.

A high mortality rate robs the population of human resources that would have been useful in elevating the county's productivity.

5.4.2 Impact of HIV/AIDS

A trend analysis of the HIV prevalence in Kenya since 1990, shows that it was at its peak of 10.5% in 1995-96, after which it declined by about 40% to approximately 6.7% in 2003. Since then, the prevalence has remained relatively stable.

According to the Baringo Health Department ***(2016),*** the County's HIV prevalence rate is at 3%. This is categorised as a mid-level burden compared to the national prevalence rate of 5.6%. Out of the six sub-counties, Eldama Ravine has the highest prevalent rates, followed by Baringo Central.

Mother to child transmission rate is at 6.8% compared to the national rate of 7%.

Table 18: HIV/AIDs Burden

HIV ADULT PREVALENCE (OVERALL)	3%
NUMBER OF ADULTS ON ART CARE	3,400
NUMBER OF CHILDREN ON ART CARE	380
TOTAL NUMBER OF PEOPLE LIVING WITH HIV	10,000
MOTHER TO CHILD TRANSMISSION	6.8%
TESTING OF MOTHERS (PMTCT)	93%

Source: Baringo health department, 2016

Out of the 200 health facilities in the county, 187 of these facilities provide HIV related services.

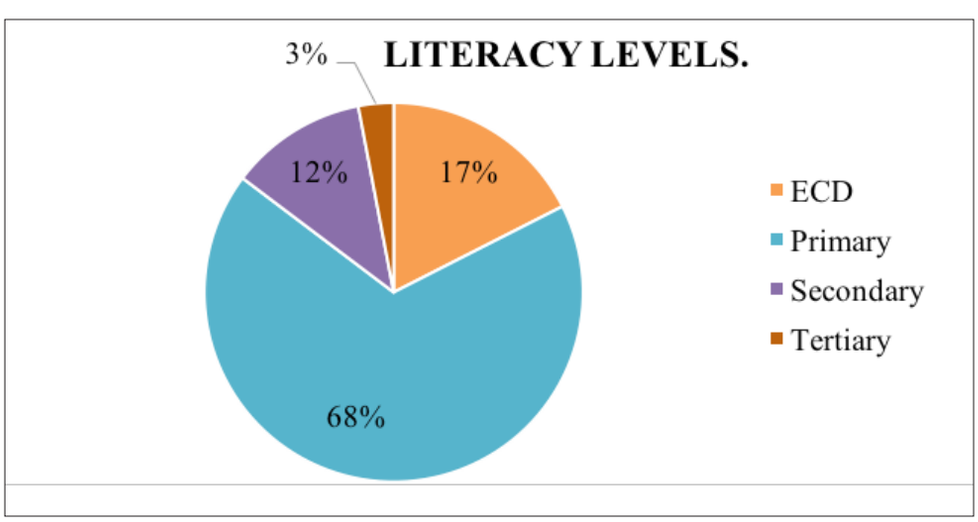
5.4.3 Life Expectancy in the County

The average life expectancy is 62 years, (64 years for female and 60 years for the male), which is boosted by the county having a meagre 3% HIV/AIDS prevalence, classified as a mid-level burden compared to a national level of 5.6%.

5.5 Literacy Levels and Skills Development

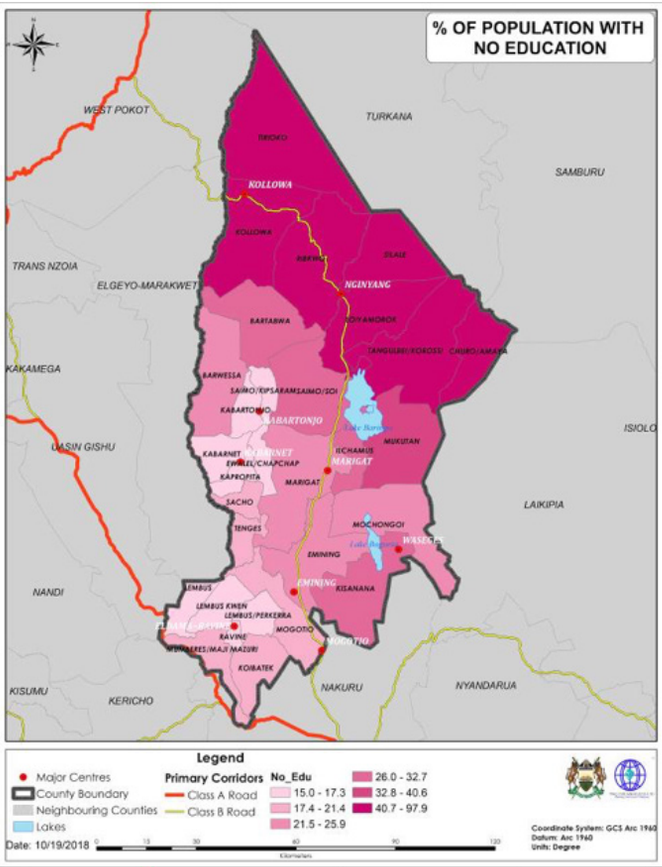
67% of the population of Baringo County has a primary school education while 11.7% have acquired a secondary school and tertiary education.

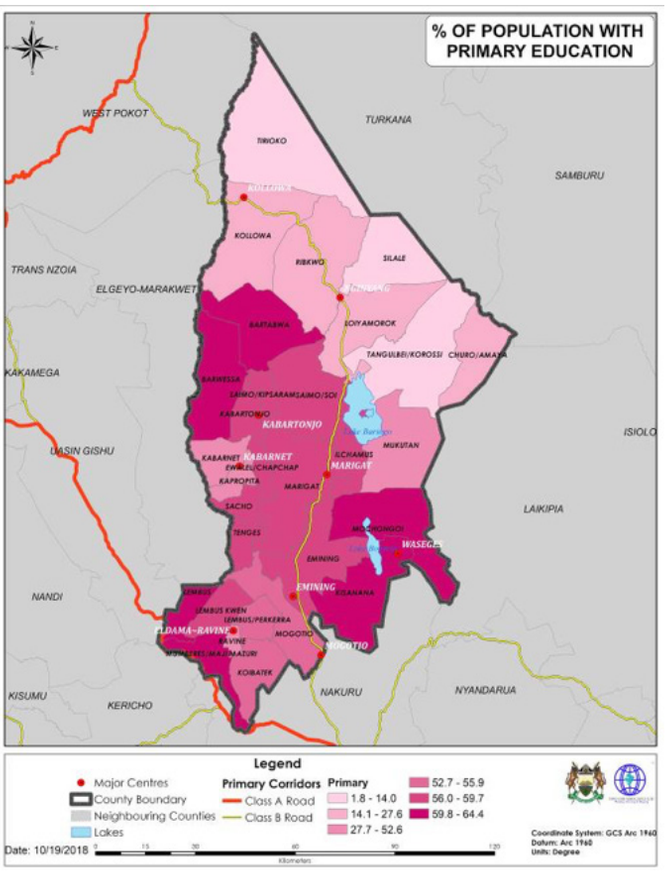
Chart 5: Literacy levels in Baringo County.

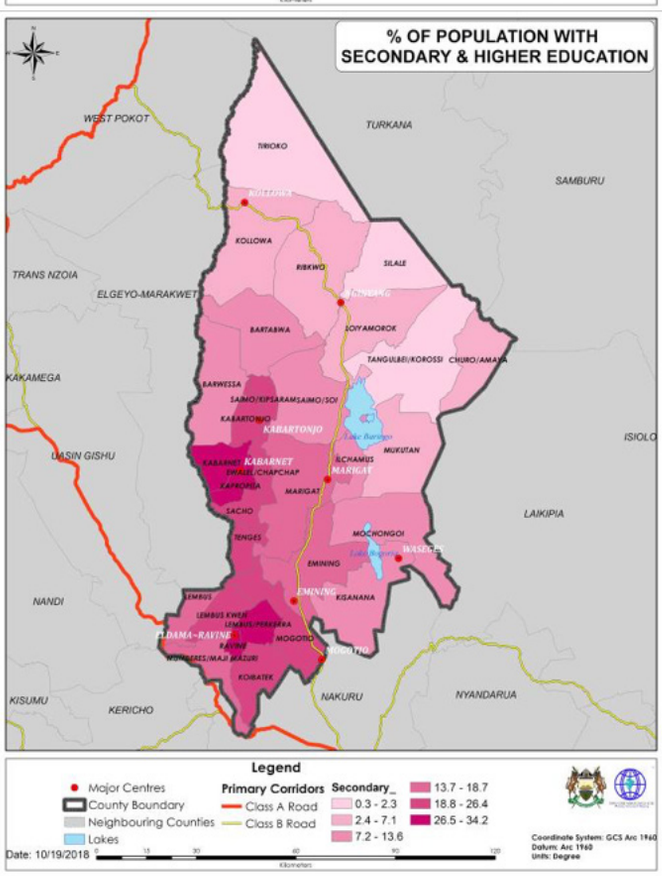


Source: Baringo CIDP, 2013-2017

Map 20: Literacy Levels



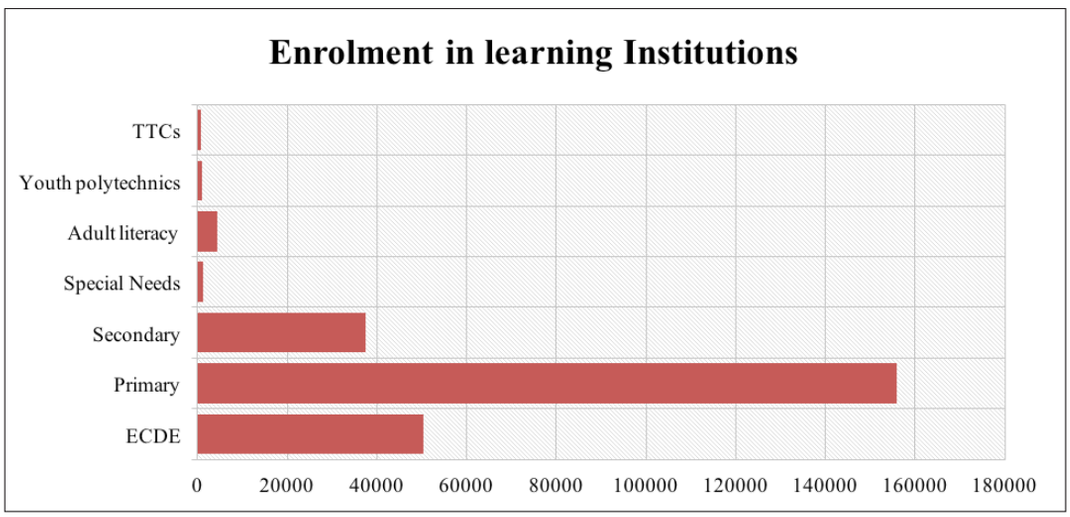




An approximate of 83.3% of boys and 82.9% of the girls, transition from ECD to primary school, while 83.5% of the boys and 77.7% of the girls transition from primary school to secondary school.

From the 2009 census, the youth population (15-29) totalled to 151,709, with the male and female population being 75,407 and 76,302 respectively. As of 2016, the population amongst the youth was projected to be approximately 190,420.

Chart 6: Enrolment rate in schools



Source: Baringo County Status Report on basic education, 2016

The drop-out rates are because of the following reasons:

- Lack of school fees
- Early pregnancies and early/planned marriages
- Children may drop out of school due to the pastrolist way of life where the families are constantly moving in search of pasture for the livestock.
- Cultural influence that do not value education for the girl child especially in Tiaty sub-county

5.5.1 Employment levels

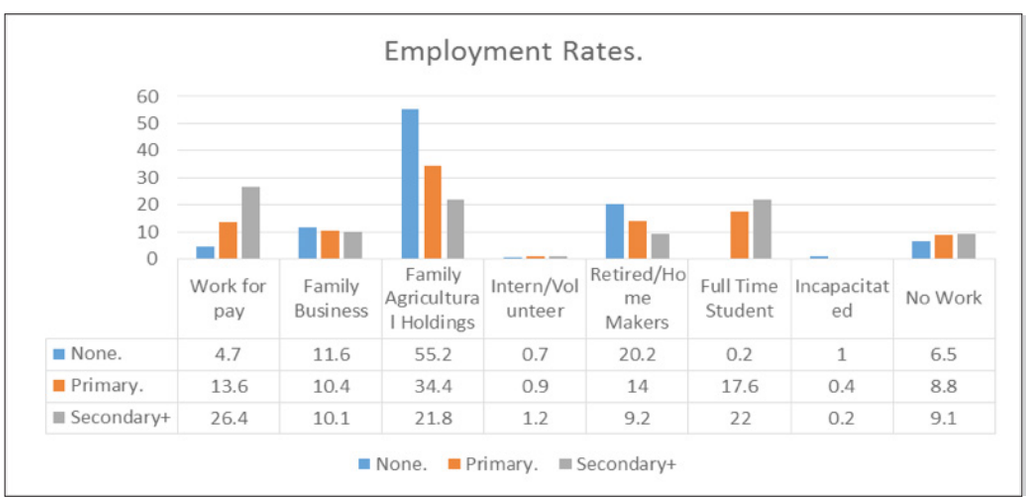
According to the Social Economic Atlas of Kenya, 2014, the total labour force includes 131,400 men and 135,400 women with an overall participation rate of 70%, among whom 77% are male and 62.9% are female. This is translated to 101,700 men and 85,200 women forming the county's active labour force.

The number of economically inactive members of the population stands at 29.4%, which translates to approximately 78,500 people (KNBS, 2010). 16.6% of the population in the active labour force are employed in the formal sector, 44.6% are employed in the informal sector, while 38.8% are in the small-scale sector, which includes agriculture and pastoral activities. The unemployment rate in the County is 41.7%.

The County in labour-intensive sectors, usually create a conducive environment to promote entrepreneurship and creative employment, so as to minimize social ills. The County should implement the directive principles underpinning Public Service Employment where 70% is sourced locally and 30% from outside (CIDP, 2013 & KNBS, 2009).

The 2009 population and Housing Census covered in brief the employment levels against the level of education in Baringo County which is depicted below:

Chart 7: Overall Employment by Education Levels in Baringo County



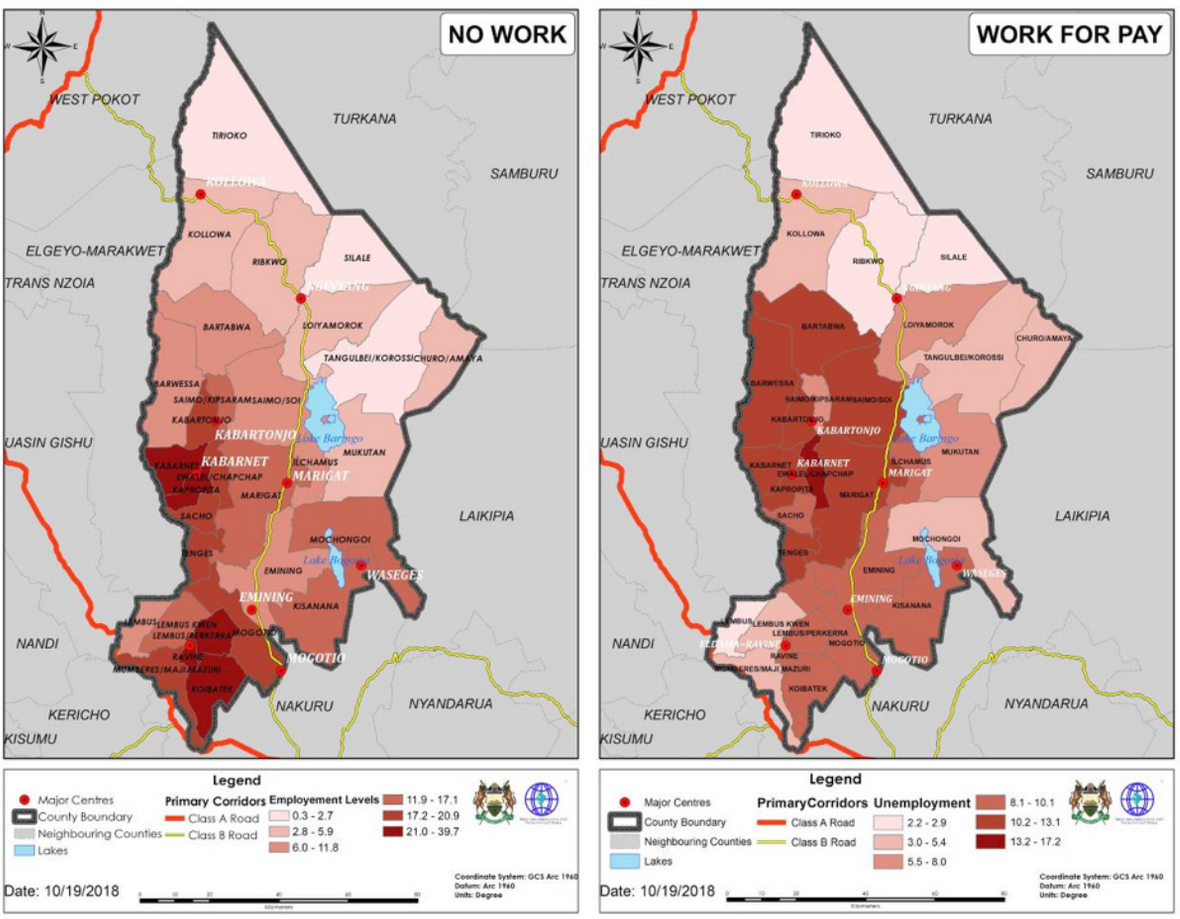
Agriculture is the main economic activity in the County. Work for pay is mainly offered to those with Secondary school education and above to level of skills required.

Source: KNBS, 2013.

From the analysis above, there have been low levels of education within the county. The reduced school attendance has contributed to high unemployment levels, hence, increased poverty levels. More investments in the education sector can lead to its empowerment and in turn, a reduced level of unemployment and subsequent reduction of poverty.

Cattle rustling especially in the Arabal area, leave many incapacitated and as a result, few employment opportunities exist within the county. A high rate of unemployment is seen among the youths contributing little to the economic development of the county.

Map 21: Employment level



Source: KNBS, 2013

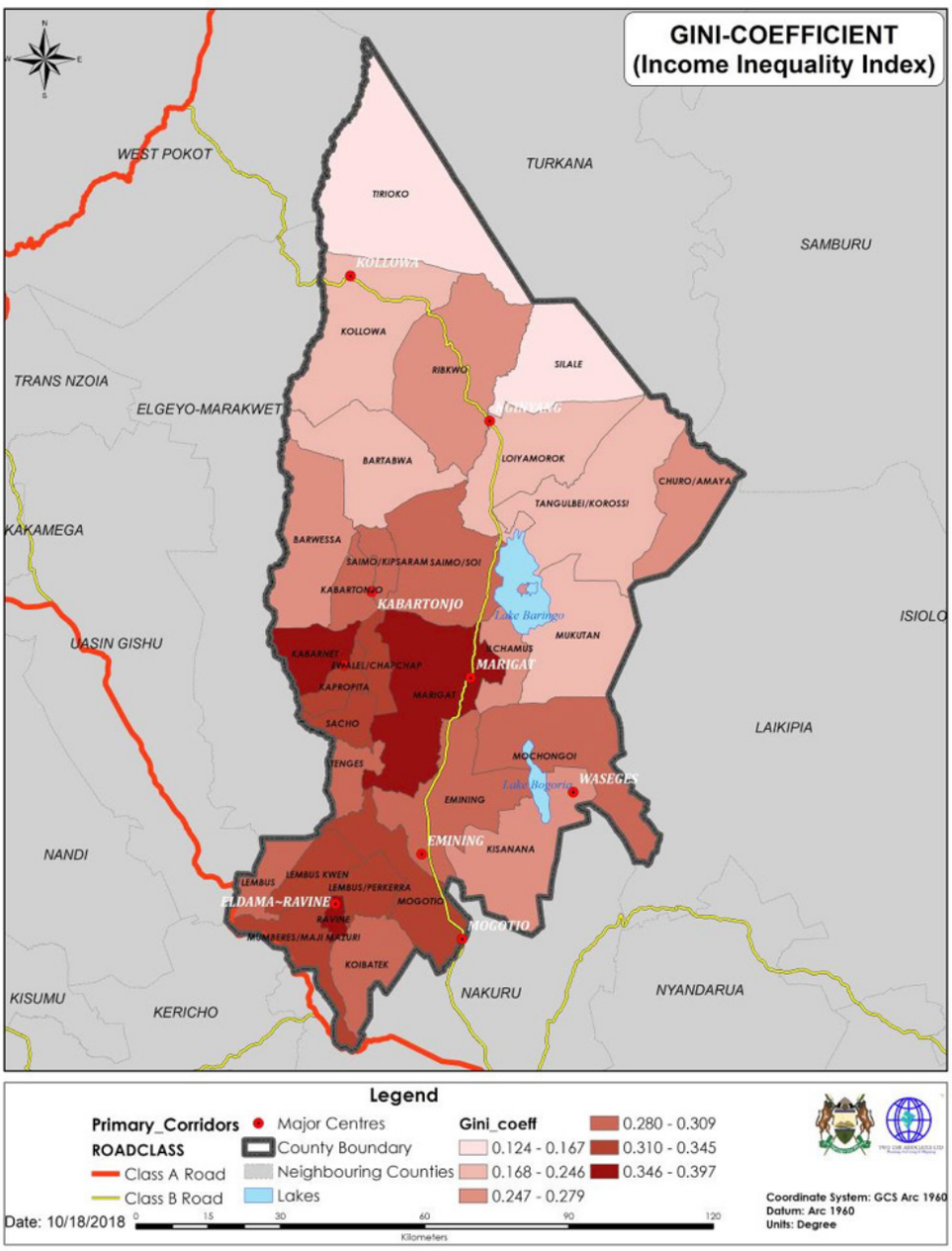
5.6 Poverty

Poverty is the state of general scarcity, it is also defined as a pronounced deprivation in well-being; it includes low level incomes and the inability to acquire basic goods and services, for basic survival with dignity. It comprises of, low levels of health, education, poor access to clean water and sanitation, insecurity, insufficient capacity and opportunities among other factors (World Bank, 2011).

Poverty levels within the county have steadily increased, driven by factors such as lack of access to information in the remote areas, the culture of the people of Baringo, low literacy levels, and poor infrastructure.

According to the KNBS, 2010, the poverty levels are quite high within the County of Baringo, with absolute poverty standing at 58.4%. This is the number of people who fall below the poverty line, which is calculated by taking half the median of household income. Inequality in the county as measured by Gini Coefficient, stands at 0.34.

Map 22: Gini Coefficient



Marigat ward has the highest Gini coefficient. This suggests that the income level disparities between the high and the low-income earners is quite high. This appears to occur in wards with a high urban population such as Maragat, Kabarnet and Ravine.

5.7 Social Analysis

5.7.1 Community and Culture

A community is a group of people living and sharing common characteristics or interests and perceiving itself with distinct respects from the larger society. These characteristics can either be social, religious, and occupational amongst others. Culture is defined as an integrated system of learned behaviour patterns created and possessed by people.

Culture defines the way human beings live and interact and include behaviour and beliefs, language, and material culture (artefacts characteristics of a particular social, ethnic or age-group). It is argued that when people become confined to their culture such that they cannot reason beyond, culture becomes what is known as a tradition. Interestingly, tradition is defined as a way of doing things based on a belief system.

Baringo County is majorly inhabited by the Highlands Nilotes (Kalenjin). The Tugen and the Pokot are the main Kalenjin sub-groups of the Kalenjin in Baringo County. Other communities include; Plain Nilotes (Njemps), and a small Nubian group in Eldama Ravine. The county has 6 (six) community cultural centers (Lembus cultural centres, Tugen cultural centres in

Loboi, Edume, Turu Turu in Kapluk and Meisori cultural centre). It is important to note that the towns in the County are cosmopolitan consisting of various communities across the counties. The towns have a mix of all communities found in the country.

There are various aspects of culture that have affected the development of Baringo County.

POSITIVE IMPACTS OF CULTURE ON DEVELOPMENT	NEGATIVE IMPACTS OF CULTURE ON DEVELOPMENT
• The culture of a people has intrinsic effects in that, it makes people seek out and want to consume cultural products of the community • Culture may also have instrumental effects, which may be useful by-products from a cultural activity e.g. traditional music and fashion from various communities within the county, may be used as entertainment. • Culture within the county may also be used to foster civic participation, build cohesion as well as form and retain identity of the people. Thus, positive functional effects may come forth from culture. • All communities found within Baringo have a signature cuisine which, if exploited economically, can foster development. Cuisine such as Mursik and Koriema goat meat • The youth of the county are known for their energetic vigour, which puts them in an advantageous position to engage in national and international sports (such as athletics) • Cultural events may be organized in the county to be able to showcase the Kalenjin and Ilchamus cultures, with the aim of promoting tourism and also maintain the cultural practices in the communities.	• Some cultural practices discourage girl child education which is against the rights of children. • Some aspects of culture, such as FGM, encourage the spread of venereal diseases such as HIV/AIDS among other feminine related complications. • There are cultures that support ender violence which is against the laws of the country. A lot of Gender Based Violence incidences have been reported from in the county • Often, cultures in African societies encourage sexism. The traditional gender roles continue to oppress women in the modern world. A good example among the cultural beliefs of communities in Baringo, is prohibiting women from inheriting property from their parents.

a) The Kalenjin Community

Areas Occupied	All parts of the county. The pastoral Pokot, live in arid lowlands where little cultivation is possible.
Main Tribe	Kalenjin Community. The Tugen and Pokots are the main sub-groups of the Kalenjin in Baringo County.
Linguistic Affiliation	Although the Kalenjin are regarded as a unit on the basis of speaking a common language, dialects differ from one sub-tribe to another
Settlements	Traditionally, Kalenjin houses were round. Walls were constructed of bent saplings anchored to larger posts and covered with a mixture of mud and cow dung; roofs were thatched with local grasses. Most Kalenjin traditionally combined neighbourhoods to form a ***pororiet***, a unit with mutual defense functions.

Economic activities	The Kalenjin are essentially semi pastoralists. Cattle numbers have waxed and waned; however, cattle/people ratios of 5:1 or greater have been recorded only for the pastoral Pokot. The staple crop was ***Eleusine indica*** , but maize replaced it during the colonial era. Other subsistence crops include beans, pumpkins, cabbages and other vegetables as well as sweet and European potatoes and small amounts of sorghum. Regular local markets were rare prior to the colonial era. Today, large towns and centres in Baringo have regular markets. The community is also involved in sports and are well known worldwide for athletics.
Land tenure	Individual title to land replaced a system in which land was plentiful, all who lived in a community had the right to cultivate it, and a man could move with his family to any locality in which he had a sponsor.
Socio-political Organisation	**Social Organization** Traditionally, the basic unit of political organization among the Kalenjin was the ***koret***or parish. This was a collection of twenty to one hundred scattered homesteads. It was administered by a council of adult males known collectively as the ***kokwet*** and was led by a spokesman called ***poiyotapkokwet***. Rotating age sets exist among the Tugen and the Pokot. Men initiated together have a very high level of solidarity. Aside from territorial units and clans, there were no formal associations. **Marriage** Traditionally, marriage took place in two stages: ratet, a small ceremony after which the couple lived together, and tuniset, a large public feast held only at the completion of bride-wealth payment. Bride-price is paid is paid in cattle
Expressive culture.	• Men are expected to do all the hard work and especially in the farm and the women plant, weed and harvest. • All domestic chores are left for the women and the men are tasked with protecting the households. • Women are not allowed to own land. • Polygamy is allowed. • Initiation for both male and female (tumdo) is done so that they can join an age-set (ipinda)
Gender roles	Women and girls cooked, milked and supplied water and firewood. Small boys herded cattle close to the homestead; young initiated men herded cattle in distant pastures. Today, boys are the main cowherds, and girls are largely responsible for infant care. The children's role in domestic labour is extremely important, even though most children now attend school.
Artefacts Used.	Traditional clothes consisted of skin of domesticated or wild animals. Earrings for both sexes were common and were made of brass coils.
Cuisine	Ugali served with vegetables like kale and meat. Mursik is also common especially for occasions. It is made of fermented milk with bits of charcoal.

Source: Kalenjin; Countries and their Culture, 2005.

b) The Njemps Community

Areas Occupied.	South and South East part of the county.
Main Tribe.	Ilchamus/Njemp Community. (A close relation of the Samburu community.)
Settlement.	Houses are plastered mud or hides over a frame. A fence of thorns surrounds each family's cattle yards and huts A man is the head of the family/household and possesses exclusive rights and dominance to properties ranging from land to the cattle.
Culture.	Men are expected to graze cattle while women maintain portable huts, milking cows, obtaining water and gathering firewood. All domestic chores are left for the women and girls. Women are not allowed to own land. Initiation for both male and female.
Artefacts Used.	Beaded ornaments are common but depends on where the community resides.
Political/Social Units.	Traditionally, the community had a council that debated on the way forward for the community.
Staple Food.	Njemps are the only plain Nilotes who eat fish as part of their diet together with meat.
Economic Activities.	Fishing and pastoralism. The pastoralists are organised into 5-10 families that set up encampments for 4-5 weeks then move to new pastures.

Source: Njemps; Countries and their Culture, 2005.

c) The Nubian Community

The Nubian community has few people and is marginalised as they have no representation in politics.

Areas Occupied.	The Nubian people are originally from Sudan. They came to Kenya and further to Eldama Ravine through the British colonialists who used them as soldiers and as part builders of the railway.
Main Tribe	Nubi
Linguistic Affiliation	For comparative reference, the Registry of Peoples lists the primary groups of Nilotic Nubian peoples with unique codes as follows: Nubian, Arabized Nubian, Kenuzi, Nubian Dongolawi
Settlements	Traditionally, the Nubians clustered in villages along the banks of the Nile. Villages were further divided into hamlets, whose population was directly related to the width of the agricultural land. A hamlet was both a regional and kinship unit of settlement. A traditional Nubian house consists of a yard and a house with different rooms. The sleeping room is topped with a dome. Walls of these houses are decorated with drawings and connotations representing the people's beliefs and habits.

Economic activities	Agriculture was the basis of the Nubian community, however due to displacement into various parts of East Africa, they diversified into commercial activities.
Land tenure	Prior to relocation, four types of land tenure existed, each reflecting land use: individual tenure where family crops were cultivated; land on which the home was built, which was inherited patrilineal by men only; Clan land which was dispersed around the village and was passed on to leaders of the clan.
Socio-political Organisation	Prior to resettlement and displacement, the Nubian community divided itself into districts headed by a headman (omda). Disputes and crime were originally handled by elders of the hamlets. The Nubi came to Kenya in the 1800s due to the military service with the British in Sudan. There does not appear to be a strong political identity for the Nubi in Kenyan history.
Expressive culture.	Nubian ceremonies can be divided into three kinds: Rites of passage –Naming ceremony (Subu), birth, circumcision for both male and female, marriage and death Religious ceremonies – Which incorporate Islamic celebrations Agricultural rituals (These have completely disappeared)
Gender roles	The family in traditional Nubian society was the main agent of socialization. The womenfolk did most of the child rearing. Fathers played a minimal role in socialization. Older men presented the male image in the process of socialization. Men in the family were the primary providers.
Artefacts Used.	The art forms were divided into three Utilitarian – making of plates, mats, fans and jars from clay and straw Decorative – Bead necklaces and bracelets Symbolic- Wall and door decoration
Cuisine	Barley, sorghum and wheat were major ingredients in the Nubian cuisine. Bread was therefore a staple food, eaten with milk and honey or with main courses of vegetable and meat. This cuisine is part of the Nubians' seemingly dying cultures

d) The Turkana Community

The Turkana community in Baringo is mainly in the Marigat region.

Areas Occupied.	The Turkana people are Nilotes who are originally from the Karamojong region of North-Eastern Uganada. In Kenya they settled in Turkana County.
Main Tribe	Turkana
Linguistic Affiliation	The Turkana language is similar to the Maasai Language
Settlements	Houses are constructed over a wooden framework of domed saplings on which fronds of trees, hides or skins, are thatched and lashed on. The house is large enough to house a family of six. Usually during the wet season they are elongated and covered with cowdung. Animals are kept in a brush wood pen. Due to changes in the climatic conditions most Turkana have started changing from the traditional method of herding cattle to agro-pastoralism
Economic activities	The Turkana are essentially pastoralists. Livestock is an important aspect of Turkana culture. Goats, camels, donkeys and zebu are the primary herd stock utilized by the Turkana people. In this society, livestock functions not only as a milk and meat producer, but as form of currency used for bride-price negotiations and dowries

Socio-political Organisation	The Turkana people of Kenya generally live in extended family settings, and the family awi often involves two enclosures. One is the awi napolon, which is the main enclosure where the head of the family lives. The other is the awi abor, where the additional wives and their children, as well as married sons, live. The homestead's main entrance faces east, with the chief wife's day hut (ekal) and night hut (akai) on the right. Turkana families often build next to the awi of other families, creating the neighborhoods that are the Turkana's effective communities.
Expressive culture.	Traditionally, men and women both wear wraps made of rectangular woven materials and animal skins. Often men wear their wraps similar to tunics, with one end connected with the other end over the right shoulder, and carry wrist knives made of steel and goat hide. Women wear two pieces of cloth, one being wrapped around the waist while the other covers the top. Traditionally leather wraps covered with ostrich egg shell beads were the norm for women's undergarments.
Gender roles	Men are expected to graze cattle while women maintain portable huts, milking cows, obtaining water and gathering firewood. All domestic chores are left for the women and girls. Initiation for both male and female.
Artefacts Used.	The traditional Turkana weapons, used to protect their herds and possessions from wild animals and other tribes, include an eight foot long spear, a knobkerrie fighting stick, wrist knives, fingerhooks, and a shield made from buffalo, giraffe, or hippo hide. The Turkana people of Kenya are skilled at carving wooden water troughs and containers. Other containers are made from hides and decorated with beadwork.
Cuisine	Turkana rely on their animals for milk, meat and blood. Wild fruits are gathered by women from the bushes and cooked for 12 hours. The Turkana often trade with the Pokots for maize and beans, Marakwet for Tobacco and Maasai for maize and vegetables. The Turkana buy tea from the towns and make milk tea. In the morning people eat maize porridge with milk, while for lunch and dinner they eat plain maize porridge with a stew.

Source: Turkana people of Kenya and their Culture, 2009. (https://www.govisitkenya.com/turkana-people-of-kenya.html)

e) The Kikuyu Community

The Kikuyu community in Baringo is mainly in the Timboroa region.

Areas Occupied.	The Kikuyus are believed are believd to come from West Africa along with other Bantu tribes. In Kenya they settled along the Mount Kenya region
Main Tribe	Kikuyu Language
Settlements	The Kikuyu tribe live in large round hut-like houses referred to as 'nyuba' having only one entrance. Men and women live in different houses and two married women cannot inhabit the same house. A man's house, whether married or not, is referred to as 'thingira'
Economic activities	The main economic activity for the community is agriculture. The grow crops like bananas, sugarcane, millet, maize, beans, peas, potatoes and vegetables. They also grow cash crops such as tea and coffee in large scale. They also keep livestock.

Socio-political Organisation	Kikuyus are said to have a founder, Gikuyu and his wife, Mumbi who were created by God. The two had nine daughters who got married and started families from which 9 clans of the Kikuyu tribe were formed. The community is organised in age sets, groups of boys get initiated every year and grouped into sets of generations that ruled 20-30 years traditionally. The people also had a council of elders who were the leaders of the community.
Artefacts Used.	The kikuyu community used horns from animals as cups for beer drinking by the men. There was also cultural ornaments by the community.
Cuisine	In most rural Kikuyu homes, typical traditional Kikuyu food includes githeri (maize and beans), mukimo (mashed green peas and potatoes), irio (mashed dry beans, corn and potatoes), roast goat, beef, chicken and cooked green vegetables such as collards, spinach and carrots

Source: Kikuyu Tribe of Kenya, Language, Music Women,People, Houses, facts, 2009. (https://answersafrica.com/kikuyu-tribe-people-and-culture.html)

5.8 Religion

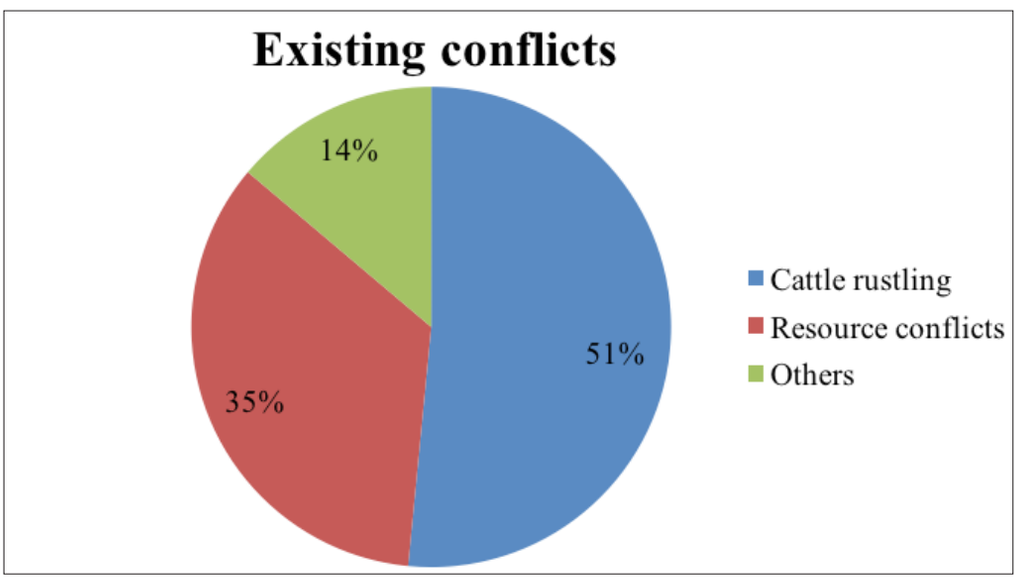
The main religion within Baringo County is Christianity, mainly under major churches such as the African Inland Church (AIC), the Catholic Church and the Anglican Church of Kenya. There are communities however that practice indigenous worship. Muslim communities are few and are mainly found within the major urban centres such as Kabarnet and Eldama Ravine.

5.8.1 Conflicts and Conflict Resolution

Conflicts between communities and counties have been a matter of cultural, resource-use and economic related issues. Inter-communal activities have been the time immemorial causes of conflict. Which has changed overtime as the present-day conflicts are caused by complex factors such as: the diminishing resource capacity, commercialization for monetary gains and the entry of ammunition in the communities, political conflicts and boundary disputes.

Parts of Baringo County are Arid and semi-arid, as such, are characterised by having pastoralist communities. The highest cause of existing conflicts is caused by cattle rustling and land boundary issues. Other causes reported by residents include grazing land conflicts, inter-clan conflicts and cases of human - wildlife conflict.

Chart 8: Existing conflict



Source: Field Survey, 2016

Conflicts within the county have led to detrimental effects such as retarded economies, loss of lives, displacement of people, disunity in the community and loss of property, amongst others.

Residents affected by conflict report that the slow development is the most hard-felt effect, due to the displacement and general insecurity in conflict areas, where schools end up closing and education, which is considered a basic right for the children is severely affected.

Having experienced the effects of conflicts, the communities, in collaboration with security personnel are presented with the opportunity to explore various conflict resolution mechanisms to prevent further detrimental effects in the future.

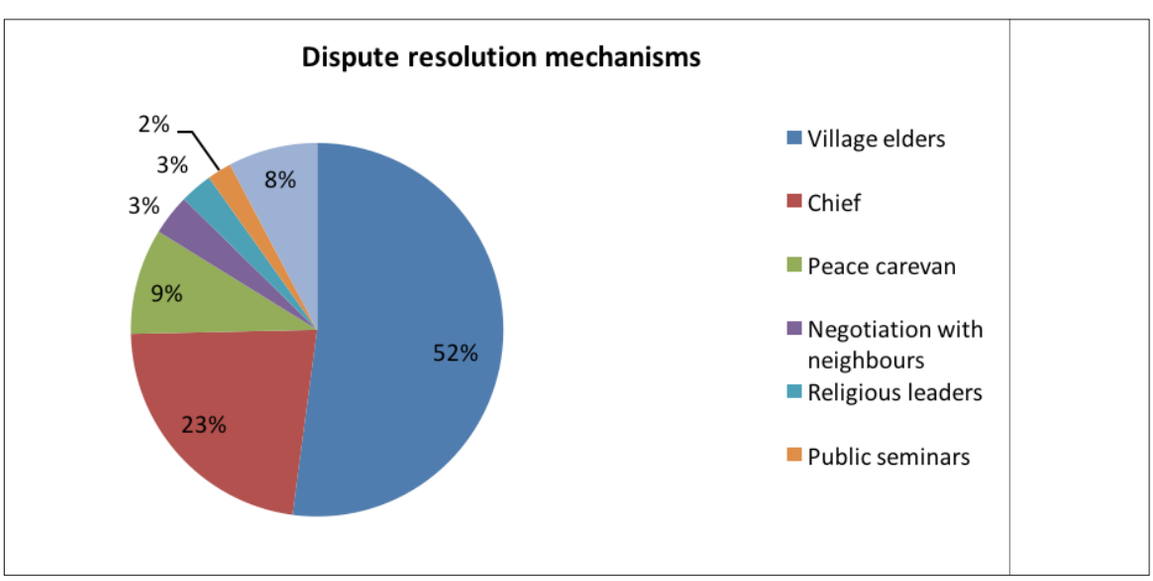
Cattle Rustling

As late as 1940s, cattle rustling between Pokot and Turkana sporadically started. In 1970`s and 80s, cattle rustling between Pokot and Turkana reached a climax due to proliferation of small arms in the region. Over the years' organization of cattle rustling has metamorphosed and has taken a different form where a few individuals, usually criminal gangs consisting of young commercial minded men of less than 20 years, raid cattle and take them straight to markets for sale.

Cattle rustling practices are common in Baringo and Turkana counties which border each other. Within the county, it's common in Marigat (Njemps vs Tugen), Tiaty (Tugen vs Pokot) and Kabartonjo (Pokots vs Njemps). The proliferation of illegal firearms, encourages cattle rustling and the county commissioner's office is currently attempting to curb this through encouraging voluntary disarmament and registering of firearms. Most of these firearms come from Uganda and South Sudan due to porous borders (areas neighbouring West Pokot).

Cattle rustling has led to the loss of human lives and livestock, displacement of people, raids have led to the closure of schools in the Arabal, food insecurity/ poverty and reduced life expectancy which have negative effects on development of the county. The hotspots zones include; Rugus, Ngambo, Endao, Endao Arabal and Kiserian all located in Mukutani sub division.

Chart 9: Resolving Conflict in Baringo.



Source: Field Survey, 2016

5.8.2 Marginalized Groups

There are various categorized of marginalized persons in Baringo County and they include:

- Persons with disabilitye Persons with disability are marginalized in the County as they are viewed as burdens, unable to participate in pastoralism or farming and requiring special health treatment.
- Women and girlsb The culture of most communities within Baringo county discriminates against women and girls, preventing them from seeking education, property ownership and employment.
- Minority communitiesb Persons from minority communities such as the Endorois and Illchamus are marginalized. The Endorois in particular were evicted from their ancestral land in and around Lake Bogoria in Kenya's Rift Valley in the 1970s, in order to pave the way for the creation of a national park.
- Persons from nonbdominant communities per areab This differs from area to area within Baringo County. For instance, while the Tugen are dominant at Marigat Town, persons from the same community are likely to be marginalized in Loruk that is predominantly occupied by the Pokot, and vice versa.

5.9 Emerging Issues

OPPORTUNITIES	CONSTRAINTS
• Rich cultural heritage provides an opportunity to the county in cultural tourism and it also helps in passing down the culture and beliefs from generation to generation • Ongoing training on entrepreneurship skills in the existing institutions/colleges. • Establishment of cottage industries for processing of livestock and agricultural products. • Existence and operational poverty eradication fund • Population projections to 2026 shows increase from 697,320 people (2016) to 964,797 people. This will put a lot of pressure on the available resources (especially land) and infrastructure, hence, immediate attention is required to ensure that the population growth is managed effectively. • From the population pyramid (chart 2), the greatest population percentage lies between ages 0-14 years and over 65 years (52%). While between 15-64 years the population is at 48%, this therefore indicates a slightly high dependence ratio. • Cultural benefits to the county is tourism and it also helps in passing down the culture and beliefs from generation to generation.	• Lack of opportunities for young people e.g. skills and employment opportunities • High poverty levels. • Lack of implementation of strategies to address poverty. • High illiteracy levels. The implication of this is that many positions within the county may lack personnel adequately trained to hold them and there'll be an overall slower long-term GDP growth rate • Limited entrepreneurial skills. • Limited employment opportunities • Conflicts in Baringo County are commonly based on land and domestic conflicts. These have adverse effects on the economy, as they cause death and disunity within the communities • Challenges faced in ensuring provision of better education services in the region include: Schools closing down due to banditry especially in the lowlands, Food shortage in many primary schools, Floods along L. Baringo and L. Bogoria and Cultural hindrances especially early marriages. There are however a number of rescue centers for children (especially the girl child) dropping out of school, which include World Vision and Red Cross among others. • Enrolment to school for the boy child is higher than that of the girl child. The girl child drops out more especially in Marigat and other regions in the county while in Tiaty, dropout rates among boys is higher. This is due to retrogressive cultural practices which include: Early marriages, FGM, Early pregnancies, Pastoralism in Tiaty keeping boys out of school • Cultural Erosion which is caused by intermarriages between the local communities in Baringo County and the outside counties/ countries erodes not only the culture but also their language.

CHAPTER SIX

Land

6.0 Overview

Land is a crucial resource that forms the canvas on which all natural resources are found, economic activities conducted and both physical and social infrastructure provided. Most human activity occurs on land which supports agriculture, vast habitats, and natural resources. Land use involves the management and modification of the natural environment.

Understanding land tenure and land use, are aspects that are closely related, which is crucial to income production and generation. Land cover in Baringo is characterized by both natural features (such as forests, crops, lakes and hills) and man-made built-up features (such as urban and rural settlements).

Land use and land potential are closely related in income production and generation. Land is also a cultural resource, with the communities in the County attaching rich value to both its existence and access to it. It is the sustainable use of land that can bring about equitable distribution of county resources and infrastructure, while accommodating changes in lifestyles and economic activities in the long-term.

6.1 Land Tenure
6.1.1 Overview

Land tenure is an important part of social, political, and economic structures. It is multi-dimensional and brings into play social, technical, economic, institutional, legal, and political aspects that are often ignored (but must be considered). Land tenure is simply defined as the legal right to hold property or land. It also refers to the legal and contractual arrangements governing the use and control of land resources. Land tenure is very important and highly sought after because it is a source of food and shelter. It provides security for the future

6.1.2 Existing Land Tenure Systems

About 40% of land in Baringo County is demarcated with title deeds. Eldama Ravine and Baringo Central counties have higher number of land owners with title deeds compared to Baringo North, Marigat and Tiaty sub counties. The county has low incidence of landlessness since most of the land in the county is communal. However, there are squatters near the urban centers of Mogotio and Marigat. The Kenyan constitution recognizes three types of ownership of land ownership, namely public, community, and private land.

6.1.2.1 Community Land

The largest portion of land in Baringo County is community land, held in trust by the County Government. Community land is protected under Article 63 of the Kenya Constitution, will now be governed as legislated by the recently enacted Community Land Act 2015. (This provides for the recognition, protection and registration of community land rights, as well as the management and administration of community land through community land boards, management committees and outlining the role of county governments in relation to unregistered community land).

In the County, community land ownership is predominant in Tiaty, North and South Baringo sub-counties. There are no community land/ group ranches in Baringo Central, Eldama Ravine and Mogotio. Group ranches are mostly found in Marigat, Kimalel, Bartun, Salabani, Kokwa Island, Eldume, Sabor, and Narotuko.

The community land in Baringo South, has been a source of conflict on tribal basis for grazing their livestock. The residents claim that the community land tenure systems prevent them from practising intensive agriculture, as the land is not privatized. In cases where land adjudication has been done, the process has been slow. However, with

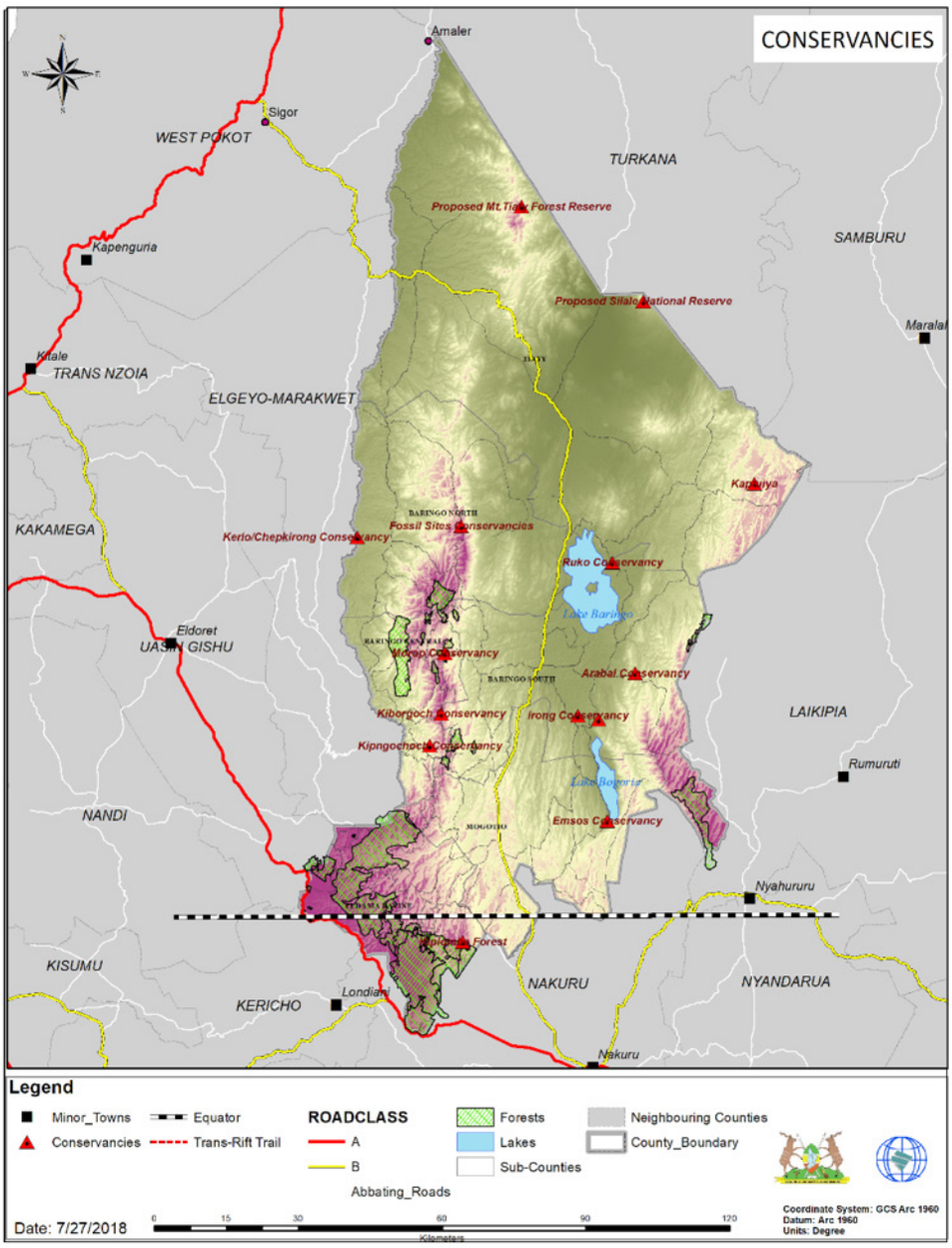
the recent enactment of the Community Land Act 2015, the existence of large portions of community land in the County is a big opportunity for development. The Act will enable communities to register their rights and interests in communal land, and to prepare their own plans for development, management and use of that community land.

One of the forms of community land management is conservancies. A conservancy refers to land set aside by an individual landowner, body corporate, group of owners or a community for purposes of wildlife conservation (Wildlife Act 2013). The benefits from conservancies range from improved security, better land management, income, employment and support to community projects. There are various conservancies in the county, which include:

- Morop Tarambas community conservancy- fossil sites conservancy
- Ruko wildlife conservancy- bird watching and Baringo giraffe
- Ngenyin community conservancy- bird watching and Baringo giraffe
- Kaptuinya community conservancy- bird watching and dispersal area for wildlife
- Emsos community conservancies- nature trails
- Kipngochoch community conservancy- Kiplambe forest reserve
- Chuine community conservancy- dispersal area for wildlife
- Irong community conservancy- dispersal area for wildlife in Lake Bogoria
- Chepkirong community conservancy- elephant corridor and rapid terrain along the river
- Lokis (Kolwa) community conservancy
- Arabal Community conservancy
- Proposed conservancies that include: Kiborgoch conservancy, Tomolokwo conservancy, Mt Tiaty conservancy and Silale- Transboundary Conservancy

A conservancy such as the Ruko Conservancy is run by its conservancy management that holds quarterly meetings with the community, and is a member of a larger umbrella organization called the Northern Rangeland Trust. Major challenges within conservancies include; lack of management plans and cases of conflict between the conservancy and surrounding communities, in relation to grazing.

Map 23: Location of Community Conservancies

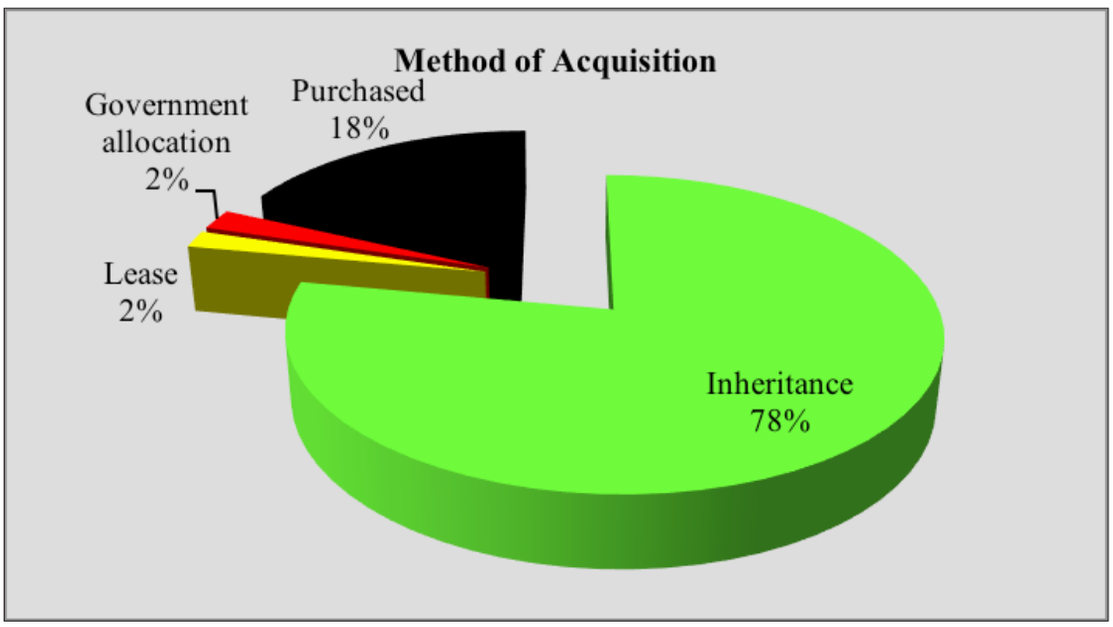


6.1.2.2 Private Land

Private land ownership is dominant in Eldama Ravine, Mogotio, Baringo Central and the highlands of Baringo North (such as Ossen, Kabartonjo and Kipsaraman), which are largely held under freehold basis. The process of land adjudication is ongoing in areas such as Barwessa in Baringo North. Land is also held on a leasehold basis within the town centres of Kabarnet, Ravine, Marigat, Ngoron, and Mogotio. There are also settlement schemes in areas such as Perkera, Ravine, Sabatia and Mochongoi where the process of gazetting is underway. In Marigat, the group ranch land has been subdivided into freehold land with title deeds.

88% of the respondents queried during the socio-economic survey, owned the land on which they live on, with the main mode of land acquisition being inheritance (78% of land-owning respondents). This means that with successive generations, land parcels are anticipated to diminish in size as land is sub-divided even further for inheritance. Nearly a fifth of respondents (18%) acquired their land through purchase while the remainder either hold it under lease, or were allocated their parcels by the government, as summarized in the chart below:

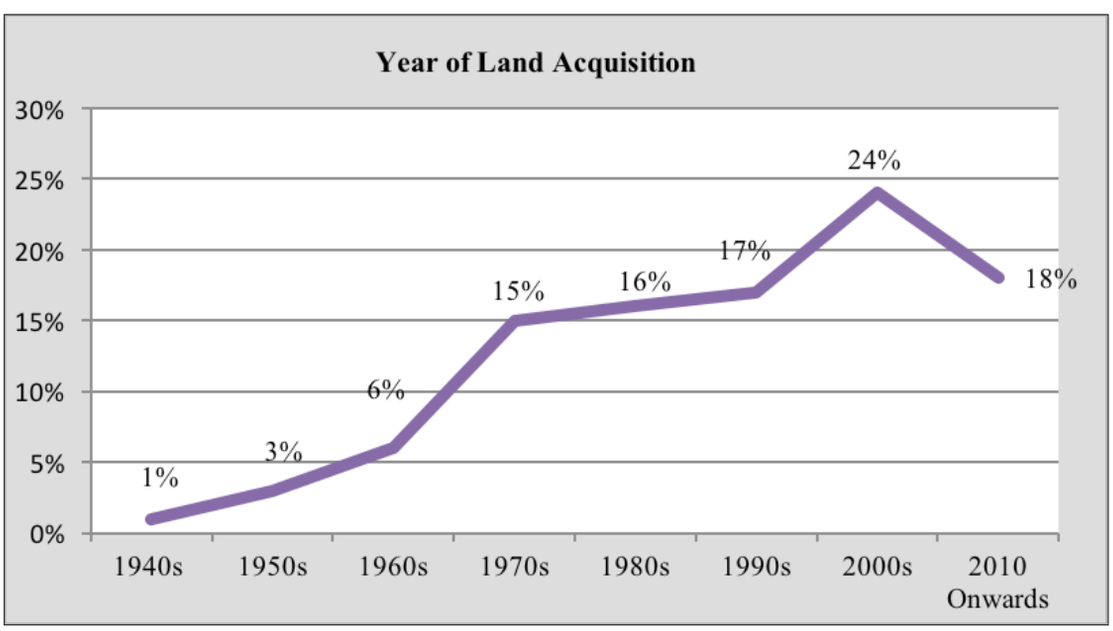
Figure 6: Method of Land Acquisition



Source: Field Survey, 2016

A large portion of residents (42%) acquired their land after the year 2000, with an average of 16% per decade from 1970 to 1990, as illustrated below, majorly because of the on-going privatization of previously communal lands.

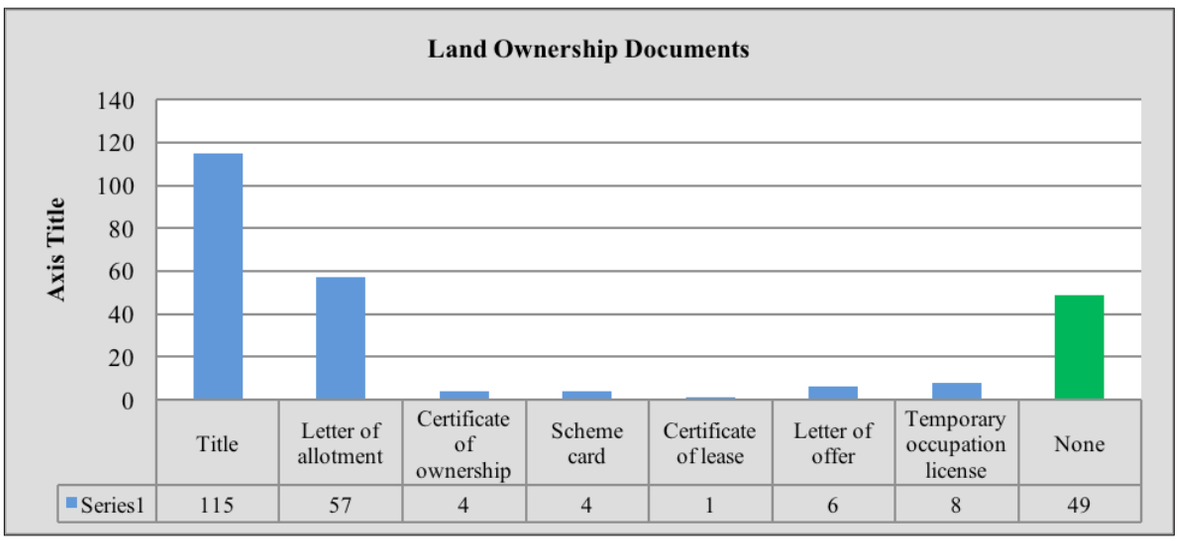
Figure 7: Year of Land Acquisition



Source: Field Survey, 2016

20% of all land owners interviewed do not have any land ownership documents, which has a great impact on their ability to access credit due to lack of collateral. The main land ownership documentation held included title deeds (47%) and letters of allotment (23%). The remaining (30%) held Occupation Licences, Letter of offer, Certificate of Ownership, Scheme Cards and Certificate of lease as ownership documentation.

Figure 8: Land Ownership Documents



Source: Field Survey, 2016

6.1.2.3 Public Land

Public land refers to land governed either by the national government or county government (other than community land). In Baringo County, it includes the forested lands, Lake Bogoria National Reserve and Lake Kamnarok National Reserve (managed by the County Government), Lake Baringo and public land within town centres. Public land management is a complex matter because of the myriad of legislation and institutions involved in its governance in Kenya including:

- Land Act (Act No.6 of 2012)
- Land Laws (Amendment) Act 2015
- Land Registration Act (Act No.3 of 2012)
- National Land Commission Act (Act No. 5 of 2012)
- Land Control Act (1967/Revised 2010)
- Environmental Management and Coordination Act (Act No.8 of 1999)/Revised 2012
- Forests Act (No. 7 of 2005)/Revised 2012: Section 2 provides that this Act shall apply to all forests and woodlands on State and local authority land.
- Wildlife (Conservation and Management) Act 2013
- Physical Planning Act, 1996; among others.

The main challenge facing public land is encroachment and grabbing in various parts of the county. This in turn constrains public utility provision when it is planned for as land availability no longer exists. There is therefore an urgent need to reclaim and protect all public land within the county. The Draft Baringo Land Policy aims at increasing public land by obligating a surrender of 10% of land for public use whenever any subdivision of group ranches into individual parcels is being done, or 4% of land where land over 2.5 acres is being subdivided into smaller units. The Government is also aiming to develop a land bank by purchasing land on future prospective investment sites at the current market rate that will be availed when such investments materialize to investors. There is an existing land bank in Kabarnet and proposed land banking in Eldama Ravine and Mogotio.

6.1.3 Gender and Land Ownership Rights

96.8% of the title deed holders in the county are men compared to 3.2% owned by women (Chelimo, 2015). Most women in the county do not have much say in land matters and are the culture bars them from inheriting land from their fathers. This indicates that the customary laws are still very powerful and exclusion of women from inheriting land. However, this is contrary to Article 27 and 60 (1) (f) ,of the Kenyan Constitution and Article 16 of the Universal Declaration of Human Rights which refutes gender discrimination in laws, customs and practices related to land and property in land. (CoK, 2010).

However, decision making on what kind of crop to cultivate is done by the men as shown in the table below. This controls and diminishes the rights for women to do the same. Therefore, since women don't have the decision making power to grow or sell the crops produced, they are excluded from the financial benefit as well.

Figure 9: Decision-making in production of annual crops, by gender

CROPS GROWN	PROPORTION (%) HOUSEHOLD MEMBERS		
	ADULT MALE	ADULT FEMALE	YOUTH
Beans (Common)	75.0	25.0	0
Maize	83.3	16.7	0
Sukuma Wiki/Kale	33.3	33.3	33.3
Tomatoes	50.0	0	50.0
Watermelon	50.0	0	50.0

Source: Baseline Household Survey, 2014

From the table above, men are the biggest decision makers on what to do with available land and especially in agricultural land use. Women have no decision making role when it comes to horticultural production and only have an equal decision making role in growing products that are consumed in the household (low profit) and not to commercial sale like the horticultural produce (high profit).Transfer rights to for the sale of land are actually determined by men and this has a negative impact on women since they are not able to access collateral to improve their livelihoods.

6.2 Land Use

6.2.1 Land Resource Characteristics

The total size of land in the County is 11,015.3km2, divided into highlands and lowlands. Of the total area, 4, 435km2 is arable land, nonearable land is of 5, 700km2 and total urban area is 715km2. The highlands are in tropical zones and have well drained and fertile soils making them have high potential areas for agricultural and improved livestock development.

The lowlands are characterized by arid and semiearid areas. The soils in the lowlands have a complex composition with some of them being saline. Other areas are stony, sandy soils with rock outcrops, volcanic ash and lava boulders. The lowlands are therefore used as rangelands for livestock and beekeeping.

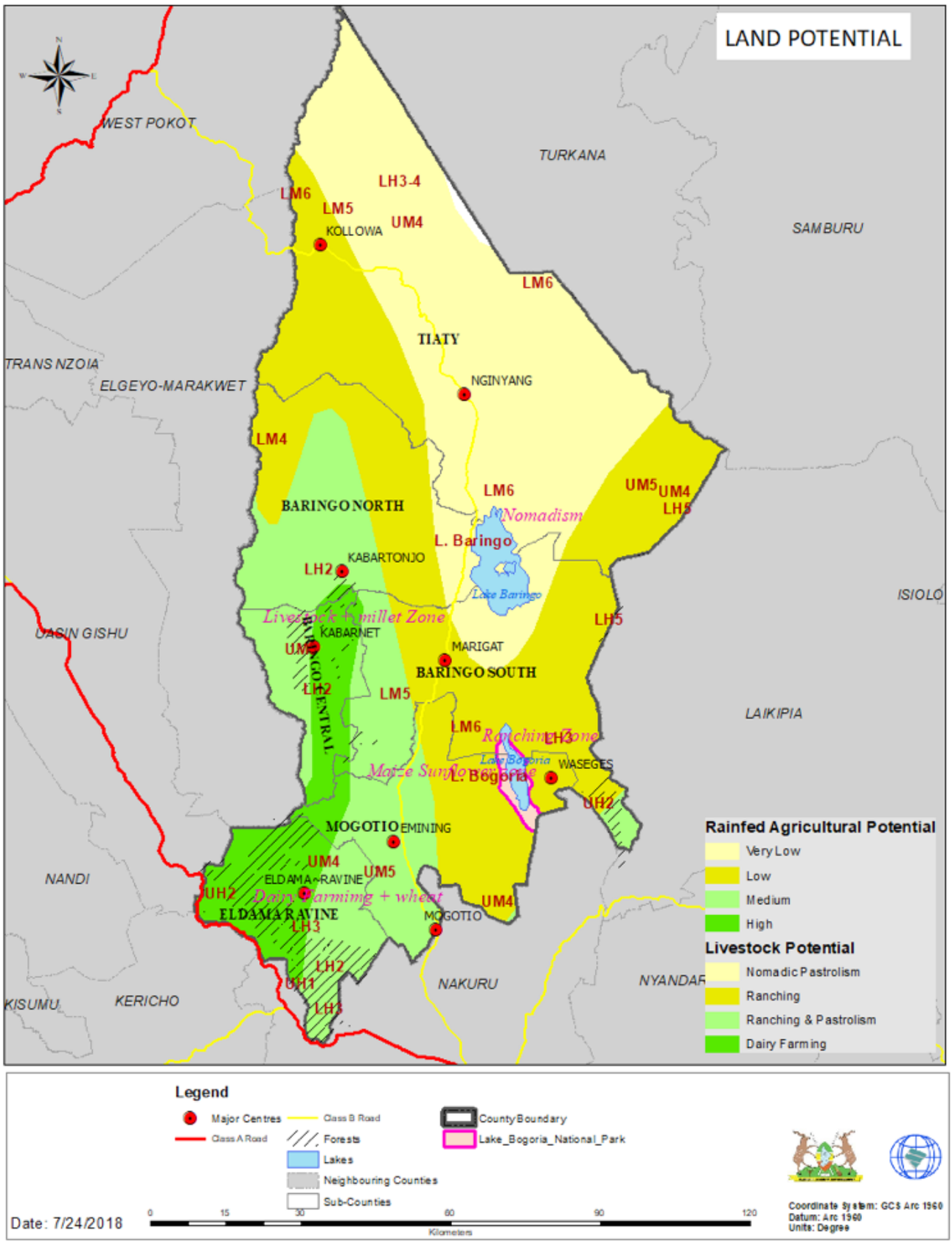
Table 19: Land Potential per SubbCounty

SUB COUNTY	HIGH POTENTIAL	MEDIUM POTENTIAL	LOW POTENTIAL	ALL OTHER LAND	TOTAL IN KM SQUARE
Baringo Central	359.96	359.955	63.992	15.998	799.9
Marigat	167.8	251.7	755.1	503.4	1678
Tiaty	225.84	451.68	3834.7632	4.5168	4516.8
Baringo North	681.4	851.75	85.175	85.175	1703.5
Mogotio	131.46	657.3	460.11	65.73	1314.6
Eldama Ravine	601.5	200.5	100.25	100.25	1002.5
Total	2167.96	2772.89	5299.39	775.07	11015.3

Source: Draft Baringo CIDP, 2018-2022

The County's land can be broadly categorized into three categories based on their potential, as shown in the map below:

Map 25: Land Potential



6.2.2 Land Capacity Analysis

Land capacity analysis enables public authorities to track land potential, which in turn allows returns to be made on land above its cost of utilization. For example, some tracts may be highly productive relative to their utilization costs because of favourable locations (with respect to markets and transportation and communication facilities). Tracts may also be productive because of resource characteristics such as soil fertility, climatic conditions, or the presence of wood and water.

The County's land capacity can be increased by the introduction of effective and efficient methods of soil conservation and land management. In the lowlands where water is a constraint to crop agriculture, development of adaptable rainwater harvesting and storage technologies, irrigated cultivation and introduction of drip irrigation and drought resistant crops can improve the livelihoods of the people.

Land use planning and zoning is necessary to enhance the land capacity of Baringo. This will create settlement zones away from areas mapped as disaster prone, while allowing for mechanisation and other adaptable technologies, which enhance economies of scale and sustainable natural resource use.

6.2.3 Land Use Trends

The land uses have been changing in the County over the past two decades, but at a gradual pace. Forest degradation has been insignificant, with 25.12% of the county remaining under forest cover (Kenya Open Data), but the urban land use has rapidly increased in the main towns such as Marigat and Kabarnet. Land under agricultural use is decreasing due to the settlements on slopes like in Timboiwo and sprawling of urban settlements reserved for agricultural activities or forest reserves. This poses a danger to the residents as the slopes are environmentally fragile areas and prone to landslides.

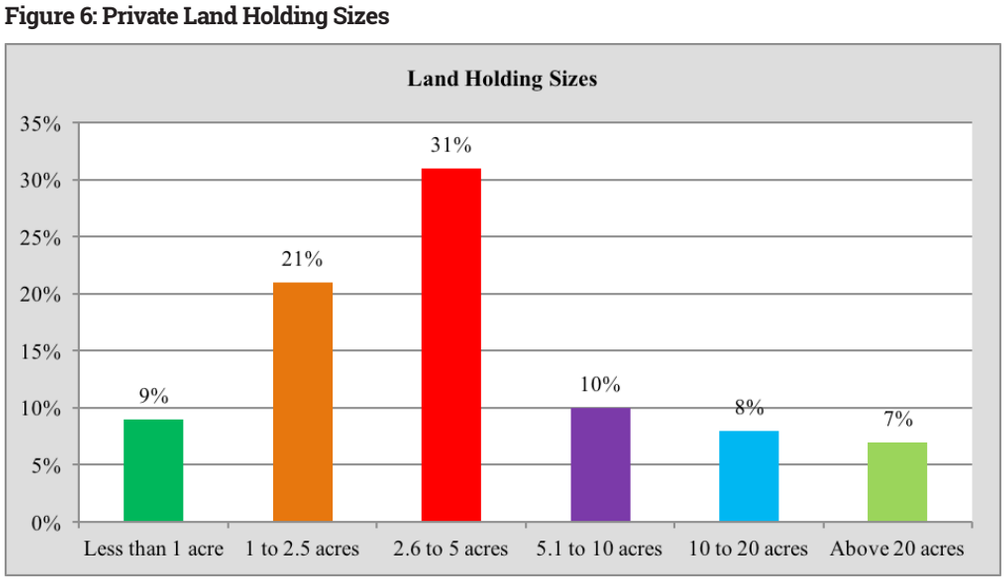
6.2.4 Land Size

The estimated land holding size in Baringo County is 3.8acres with the highest percentage (31%) of respondents holding land ranging from 2.6 to 5 acres in size, as illustrated in the figure below. The average farm size is 2.5ha. Landholding in the County varies from one sub-county to another. Landholding in Eldama Ravine sub-county averages 2.5 ha and the land is demarcated with tittle deeds. In Tiaty Sub- county, the land holding sizes are bigger as the land is under community ownership.

Population pressure on land will remain a significant aspect in Baringo. This pressure is driving rapid fragmentation of land, which in turn reduces land production and diminishes returns from agricultural activities.

In response to the on-going uncontrolled subdivision of private land in Baringo, the County Government in its Draft Land Policy, has set the minimum land size at 1 hectare (2.5 acres) for agricultural land, with any land subdivided to a smaller size than the set minimum, have to apply for a Change of Use. The Policy has also disallowed subdivision of land on environmentally sensitive sites.

Figure 6: Private Land Holding Sizes



Source: Field Survey, 2016

6.2.5 Land Challenges and Conflict

There are various challenges facing land ownership, use and access within the county. Majority of the land challenges outlined by respondents related either to the physical nature of land, to land ownership or to land conflicts, as summarized in the figure below:

Figure 11: Land Challenges

Physical Nature of Land	• Harsh terrain/ steepness • Stony/ rocky/ infertile nature of land • Landslides • Soil erosion (hence land degradation caused by overgrazing, deforestation and poor farming techniques) • Land holding inadequate water and pasture • Poorly serviced land (poor access/ planning)
Land Ownership Challenges	• Small land sizes • Lack of title deeds (hence no collateral) • Lengthy title acquision process • Reluctance of elderly to undertake land succesion • Unadjudicated land (causing unsustainable use of land) • Problems of squatters (especially in Marigat)
Land Conflicts	• Land ownership conflicts (esoecially in Kabarnet, Marigat and Ravine (in Poror)) • Boundary conflicts • Trespassing by livestock • Double sale of community land • Eviction from public land • Land grabbing

Possible solutions were identified and are summarized below:

Physical Nature of Land:

- Provision of water for irrigation
- Government support for land development
- Planting trees
- Appropriate agricultural practices (applying manure/ fertilizer, changing cropping systems, livestock rearing processes, growing artificial pastures)

Land Ownership:

- Surveying of land for boundary delineation
- Easing title acquisition process
- Educating people on importance of having title deeds
- Privatizing group ranches
- Eradicating corruption in land issues
- Government hastening land succession process

Land Conflicts:

- Resolving problems with traditional elders
- Compensation of evictees
- Hasty settlement of court cases
- Provision of security

Source: Field Survey, 2016

6.3 Emerging Issues

	OPPORTUNITIES	CONSTRAINTS
Land and Land Capacity	• Expansive land in county • Enable communities to register their rights and interests in communal land under the Community Land Act, 2015, to ensure optimal utilization of land. • Implementation of the Draft Baringo County Land Policy to curb land fragmentation, land grabbing, protection of environmentally fragile areas, create land banks and LIS.	• There is declining land productivity due to excessive sub-division. The land policies on sub-division have largely been weak and un-enforced. • Land degradation caused by: • Soil erosion causing declining land productivity. • Poor farming practices and livestock overstocking also degrades land. • Continued upland deforestation causing increased water runoff. • High population pressure on the land.
Land Use	• Varied climatic conditions enable varied land uses (such as rangelands offering opportunities for wildlife conservation (eco-tourism potential), humid zones offering opportunities for agriculture production and highland areas offering opportunities for forestry and high attitude crop production.	• Urban sprawl into rich productive agricultural lands. • Fragmentation/sub-division of farmland and small land sizes due to population pressure affects land management and creates un-economical parcels. • Land conflicts limit effective use of land. • Insecurity (both within and cross-county) makes some areas unviable for any form of land development.
Land Tenure	• Private land ownership encourages maximum investment and utilization of land resources. • Gender right to tenure will increase productivity of the land. • Empowerment of women to own land for economic development of the county.	• Poor management of communal land. • The lack of title deeds limits land development and access to credit. • Land succession issues create land conflict • There are insecure and rights for women since they have no decision making power and transfer rights

CHAPTER SEVEN

Environment and Natural Resources

7.1 Environment

The natural environment encompasses the interaction of living and non-living species. Increase in the pressure exerted by the living cause instability in the environment mainly manifested through climate change. The increase in population, exerts tremendous pressure on the county's natural resources, particularly forests, water and land.

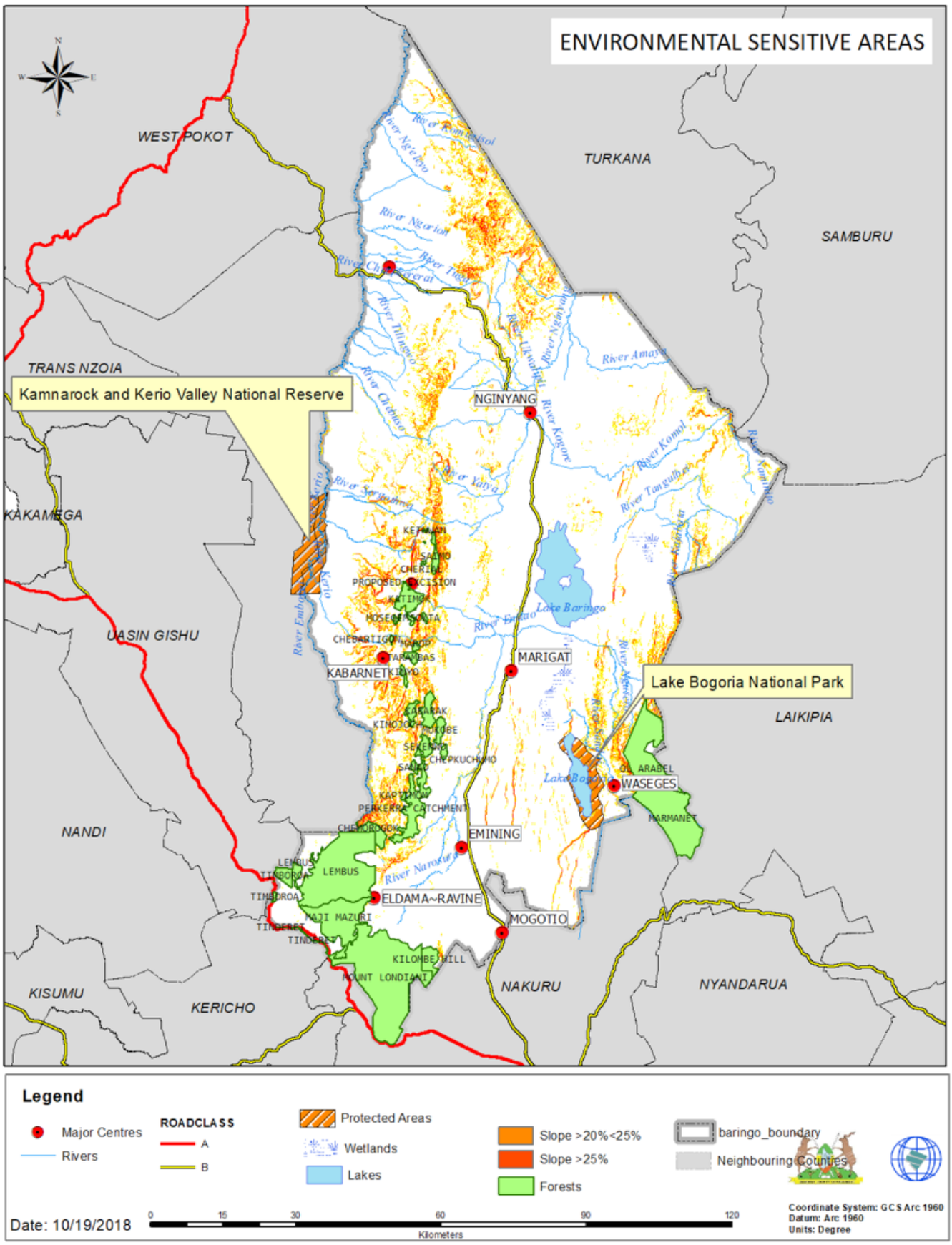
The Constitution of Kenya entitles every person to a clean and healthy environment. This obligates the two levels of government to protect, utilize and conserve the environment prudently through various strategies including accountability, participation of communities, integration of IT and innovation. The Environmental Management and Coordination Act and other acts touching on specific environmental aspects (such as the Water Act, the Forest Act, among others) have provided the basis for environmental assessment.

7.1.1 Environmental Fragile Areas

These areas include the forests, water towers and hill tops spaces. Water catchment areas in the county such as Lembus forests (Northern Mau catchment), Chemosusu and Chemorgong forests in Eldama Ravine. Baringo County has 29.9% of forest cover, where 6% of the forests are gazetted.

Mochongoi, Amaya and Ng'elecha catchment areas located east of Tugen hills are encroached by the population settling in the reserves. Hilltop spaces of Tugen hill, Mt. Kiplombe, Mt. Tiaty and Mochongoi need to be protected to maintain the ecosystem and to reduce erosion. Forests along these mountains' forms catchment areas for streams and rivers running across the county. Forest reserves and National parks in L. Bogoria and L. Kamnarok in the county need to be protected from encroachment and deforestation.

Map 25: Environmentally fragile areas Map



7.1.2 Threats to Ecologically Fragile Areas

These are activities that leads to degradation of environment and loss of biodiversity in the county.

i. Forest degradation
   This refers to reduced capacity of forest to service ecosystem. It happens in Eldama Ravine/Lembus forest, Kiplombe, Tiaty, Mochongoi and along Tugen hills. The residents' clear forests in search of farming and settlement land, logging and lumbering for economic purposes, diminish indigenous forests, hence destabilizing the ecosystem. Forest fires and high dependency on wood fuel; firewood (82%) and charcoal (15%), further threatens existence of forests.
ii. Encroachment of riparian reserves in the county.
   The rivers include Perkerra, Waseges, Molo and Kerio. This happens through irrigation along the rivers that requires cultivation along riverbanks and burning of charcoal along rivers. Chemicals used in farmlands along rivers are washed into rivers thus threatening aquatic species.
iii. Poor solid waste management in the county.
   Major urban centres in the county does not have elaborate framework for solid and liquid waste disposal. The effects of poor disposal of wastes include air and water pollution, breakout of diseases and poisoning of livestock.
iv. Low levels of environmental education and awareness in the county.
v. Mining and quarrying. This is practiced in Mogotio, Tiaty and Baringo North sub counties.
vi. Soil erosion. This happens due to overstocking, overgrazing, farming along contours and deforestation.
vii. Climate change.

7.2 Green and Open Spaces

Green and open spaces play an important role in facilitating social interaction and creating healthy, inclusive communities. Access to high quality open spaces for sport, recreation and community facilities can make an important contribution to the health and well-being of communities.

There are only two existing stadia`s in Kabarnet and Eldama Ravine. The stadia`s are however in a dilapidated state due to poor management. Currently, the county government has invested Ksh.10million to upgrade the Stadium in Kabarnet town to 10,000-seater stadium. There are also plans to construct stadia`s in Mogotio, Kabartonjo and Tiaty sub counties as well as three athletics camps at Sirwa, Otany and Ossen.

There are two (2) main recreational parks in the county, the garden square and Obama gardens located within the CBD in Eldama Ravine town, and others located around the county.

7.3 Climate Change and Disaster Management

Climate change and variability is experienced globally. Climate change has emerged as a serious threat to sustainable development. Impacts of climate change are more pronounced within the environment sector, food security, environment, human health, natural resources and physical infrastructure (IPCC, 2014).

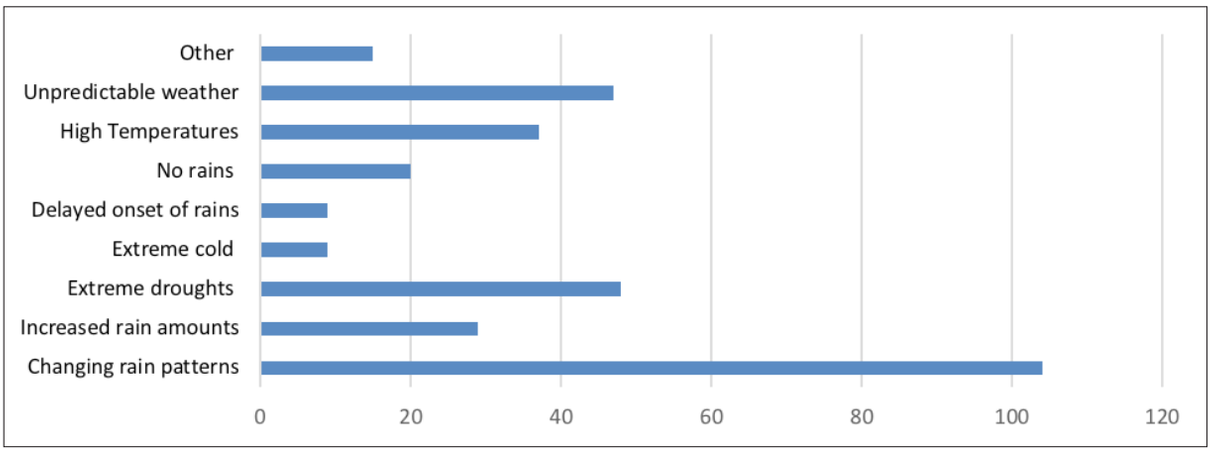
Widespread poverty, recurrent droughts, over-dependent on rain-fed agriculture and low adaptive capacity put Africa as one of the regions susceptible and vulnerable to impacts of climate change.

7.3.1 Climate Change and its Impacts

Manifestations of climate change impacts are evident in the county. These include temperature rise, change in magnitude and distribution of precipitation in the county. Heat stress have adverse impacts on both livestock and crops.

From the field survey, 76% of the respondents acknowledged that there is climate change in the area, while 24% said that there have been no signs of climate change in the County. Climate change impacts include; loss of pasture for livestock, water rise in L. Bogoria and L. Baringo, food insecurity among other impacts. 33% argued that the most evident phenomenon is the changing rain patterns among other factors as presented in the chart below:

Chart 10: Evidence of Climate Change



Source: Field Survey 2016

7.3.2 Climate change adaptation

Climate change mitigation and adaptation is important to reduce the impacts of climate change. Greater part of Baringo County is Arid & Semi-Arid Land (ASAL). Climate change impacts are normally adverse, therefore the need to adapt to these changes. Adaptation and mitigation strategies include restoration of water towers, protection of forests and hill tops. The adaptation strategies employed by the residents interviewed is as shown in the table below.

Table 20: Adaptation strategy

ADAPTATION STRATEGY	PERCENTAGE	NOTES
Migrating Livestock	21.6	Migrating livestock to neighbouring areas with better pasture while others encroach forests. The practice is common in Tiaty and Baringo south.
Planting Drought Resistant Crops	20.8	Planting crops that takes shorter time to mature and requires little rainfall. These includes millet, groundnuts, sorghum and cassavas.
Irrigation	5.9	Irrigation boosts food security in the county. It's practiced along rivers and wetlands. There is potential to expand agriculture in the county by use of water in L. Baringo and L. 94.
Change Of Planting Times	9.7	Change of planting time to consider the delaying rainfall onset times. The planting times have delayed by 2-3 months in the county.
Reliance on Relief Food	3.4	This is practiced in lowland areas with high poverty index. The practice is not sustainable as it encourages cyclic poverty in the area.
Stocking Fodder	3	The practice is aimed at reducing costs of buying fodder during long droughts.
Planting Trees	7.2	Planting trees to improve carbon sequestration, reduce soil erosion, restore water towers. The strategy ought to be encouraged to improve tree cover.
Planting Fast Maturing Crops	5.9	This improves food security in the county. The breeds grown take less than three months to mature.
Planting More Crops	3.4	In areas with more rainfall increase volume and variety of crops grown. The practice improves food security and economy.

Surplus food storage	2.1	The practice is aimed at cushioning the effects of drought. The surplus harvests are stored.
Destocking	2.1	The practice is a preventive measure taken to avoid losing livestock during prolonged droughts. However, it is good practice to reduce soil erosion to diversify source of livelihoods.
Improve water harvesting and storage	2.1	The practice includes establishing water pans, boreholes and harvesting of roof water harvesting. Improved water storage at household levels by use of plastic and concrete water tanks.
Changing Livelihoods	2.1	The predominant source of livelihoods is being diversified to include service provision, zero grazing, business (whole selling and retail) and bee keeping.
Other	10.5	Other strategies employed to adapt to climate change include zero grazing, use of mosquito nets to prevent malaria, reduce tree cutting and charcoal burning, digging farrows in hilly areas, grazing of livestock in forest and feeding on wild fruits.

Source: Field Survey 2016

7.3.3 Impact of Climate on Physiography and Natural Resources.

ASPECT	EFFECT OF CLIMATE CHANGE.
Geology and Soils.	Climate change may lead to alteration of soil properties like changes in the soil biota which may have modified effects on soil structural stability, soil biodiversity, plant-soil interactions and nutrient cycling.
Hydrology and water sources.	Climate change is likely to increase demand while shrinking water supplies. This shifting balance would challenge water managers to simultaneously meet the needs of growing communities and sensitive ecosystems. As temperatures increase, evaporation increases, sometimes resulting in droughts. Climate change will likely increase the risk of drought in some areas and the risk of extreme precipitation and flooding in others. Climate change intensifies the hydrological cycle because as air temperatures increase, more water evaporates into the air. Warmer air can hold more water vapour, which can lead to more intense rainstorms, causing major problems like extreme flooding.
Vegetation	Nutrient cycles, microbial activities, as well as physiological activities of plants will vary. Elevated levels of carbon dioxide have an effect on plant growth thus influencing complex forest ecosystems in many ways. Warming temperatures generally increase the length of the growing season and it also shifts the geographic ranges of some tree species, e.g. species that currently exist only on mountaintops may die out as the climate warms since they cannot shift to a higher altitude. Hence, loss of plant biodiversity.
Energy resources	Since water is necessary for electricity production, this could stress water resources and consequently, impacting the amount of electricity produced by hydroelectric power plants. Rising temperatures, increased evaporation, and drought may increase the need for energy-intensive methods of providing drinking and irrigation water. E.g., desalinization plants can convert salt water into freshwater, but consume a lot of energy.
Wildlife	Loss of wildlife biodiversity from extreme weather patterns such as prolonged droughts and extreme floods. Increased human-wildlife conflict due to changes in wildlife migratory patterns.

7.4 Natural Resources

Minerals are one of the major sources of revenue and income to a particular country. The presence of minerals is also a major source of income mostly to those who excavate the earth surface. Geological composition and basement system of an area determines the presence of minerals. The county is rich in various minerals.

Building Stone and Sand

Occurs in bands of approximately 10ft. to 30ft. thick. The reserves of the rock are considerable and will meet the local demands for many years. The good quality is plentiful in the Eldama Ravine tuff series, and many small quarries are worked for local projects. Quarrying has also gained prominence in Marigat Ward where building stones, sand and ballast are being exploited. Sand for building is scarce, but the Kerio Valley has a high quartz content and is used at Kabarnet and Tambach. Sand is obtained from some of the rivers, with difficulty due to the high boulder content of the deposits.

Phonolites and trachytes (Brick Making)

The subsoil often makes a good brick-earth, and bakes to a good-quality, hard, red brick. Small brickworks, using wood for fuel, are operated at Kabarnet, Chepkorio, Kipkabus and at several sites along the Molo River near Mikuyuni. The Molo River sites are all on tuff bedrock, but the brick-earth is very different in appearance from the soil usually resulting from weathering of the Molo River tuffs and is a flood-plain deposit of the river, derived from farther afield.

Carbon Dioxide

Liquid Carbon dioxide has been extracted in southern parts of the county especially around Eldama Ravine and Esageri. The CO2 content of the gas is tested at the factory at regular intervals and found to average 98.5 per cent of the whole, sometimes rising to above 99 per cent. The balance of the gas consists of Nitrogen 0.8 per cent, Hydrocarbons 0.6 per cent, Argon 0.02 per cent and Helium less than 0.01 per cent. Gas and water produced from the boreholes is noticeably warm indicates that the origin of the gas is closely connected with the hot springs and fumaroles found elsewhere in the present area, and in great numbers in the Lake Bogoria area to the east, where the fumaroles are all aligned along visible faults.

Oil Blocks

Tullow Oil Company has set base at the county, Block 12A, to explore oil and if it is exploited, it will be shared between Baringo and Elgeyo-Marakwet counties.

Other minerals found in the County include the following: Copper, Garnet, Graphite near Kimwarer, Kyanite, vermiculate near Ewaso Narok River, Ruby, Diatomite found in the Chemeron beds in the North East, Manganese in Southern Karisia Hills. Minerals such as Opal has been mined at Isanda near Perkerra. Fluorite deposits have been cited within the basement and volcanic rocks of Tiaty hills. There are also abandoned ruby mines at Sandai location near Lake Bogoria. These minerals are found in trace amounts and may not have any significant economic value.

Ongoing Mining and Extraction Activities.

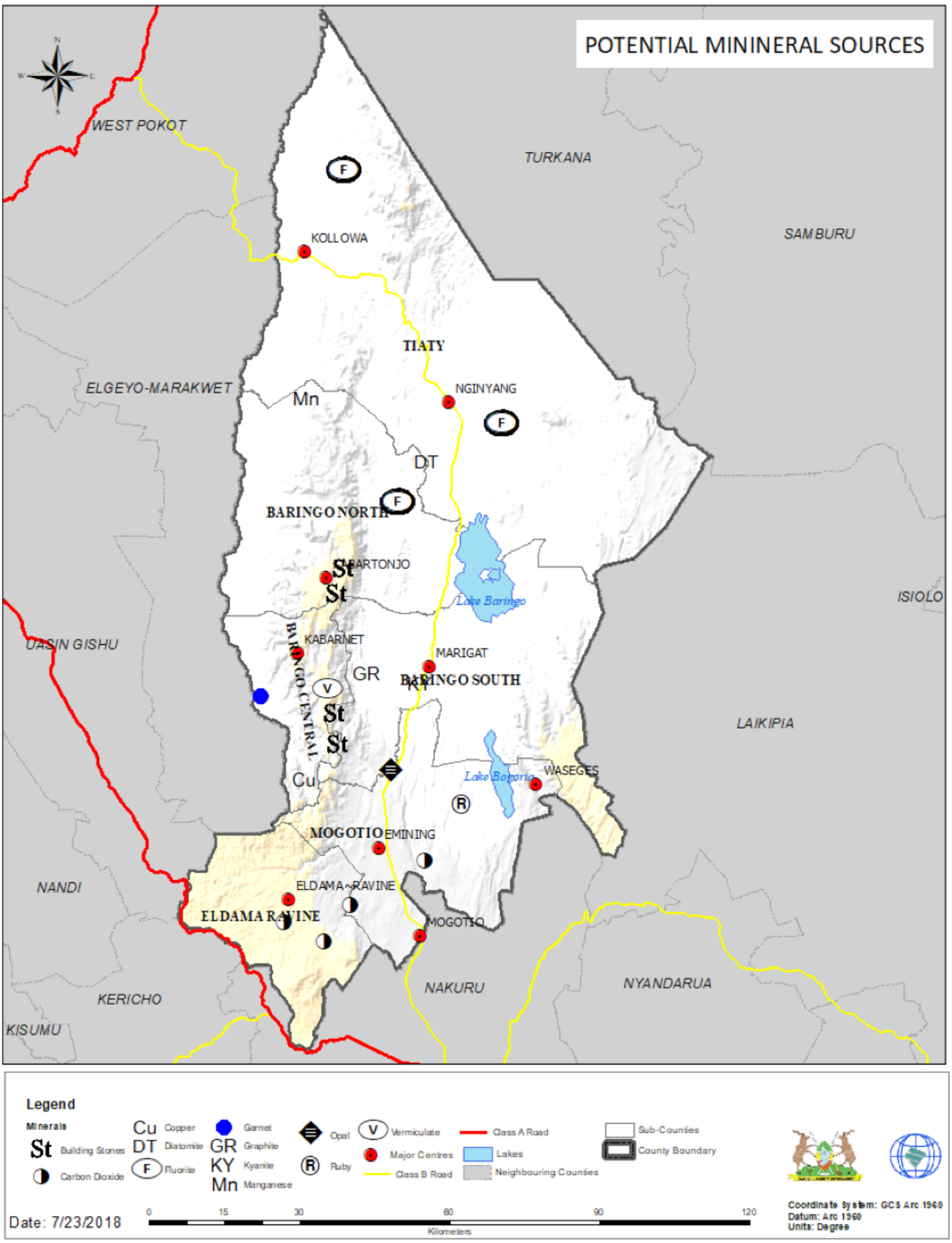
An assessment of the county's quarries and mineral base, done by the Department of Environment, Natural Resource, Energy and Mining in Baringo County has revealed the following mining activities in the respective sub-counties.

Table 2: Mining and Extraction Activities per sub County

NUMBER	BARINGO CENTRAL	BARINGO NORTH	BARINGO SOUTH	ELDAMA RAVINE	MOGOTIO	TIATY
Stones	14	7	5	20	7	8
Ballast	0	3	2	1	0	1
Minerals	0	0	2	0	0	1
Murram	0	2	1	0	1	1
Sand	2	-	1	-	-	2

Source: Department of Natural Resources-Baringo County, 2018.

Map 26: Mineral Occurrence in Baringo County



7.5 Emerging Issues

OPPORTUNITIES	CONSTRAINTS
• Expansive hills and mountains act as water towers. (Tugen hills ranges that stretches from Lembus forest to Mt. Tiaty host most of water towers) • Varied climatic conditions enable varied land uses (such as rangelands offering opportunities for wildlife conservation (eco-tourism potential), humid zones offering opportunities for dairy farming and intensive agriculture. • The area has numerous perennials & seasonal rivers, four lakes and underground water which have potential for water supply • The dry range land on the rift valley sides of Tiaty has high potential for solar power generation. • Irrigation of land using water from L. Baringo and L. Ninety-four. Other sources of water for irrigation include R. Perkerra, R. Waseges, R. Kerio, R. Molo and R. Tiaty. • Green energy from solar and geothermal. (Potential of geothermal energy in areas near L. Baringo, Arus and L. Bogoria, Silale and Mathenge weed). • Timber harvesting potential in highlands through controlled harvest of trees. • Hydropower potential - R. Perkerra can support establishment of hydro power. • Great tourism potential – twin falls in Tiaty, unexplored caves, bird watching, trekking and mountain climbing present huge potential in the county.	• These water towers are shrinking as a result of deforestation. Continued upland deforestation causing increased water runoff thus increasing erosion. • Land degradation caused by: • -Soil erosion causing declining land productivity due to soil losses and gulley creation. • -Poor farming practices and livestock overstocking also degrades land. • The climate change, deforestation and conventional farming systems has promoted massive erosion up stream and both drying up & rise in Lakes' water levels • Absence of infrastructure and the un-adjudicated lands is a setback to solar power investment • Desertification in the county – evident by frequent droughts and drying up of water bodies and streams. • Insecurity in some parts of the county – cattle rustling, land conflicts and pasture conflicts hinders sustainable development. • Pollution – due to human activities and poor waste management. • Deforestation – carried out in highlands to expand land for cultivation and settlements. • Poor community awareness • Encroachment of forests and riparian reserves. • Invasive weeds – Mathenge plant is a threat to livestock and loosening of soil fertility

CHAPTER EIGHT

Human Settlements

8.1 Patterns and Trends of Human Settlements

Human settlements refer to the concentration of activities and people in space. Settlements play an important role; they are agents of economic growth and provide favourable locations for productive investment.

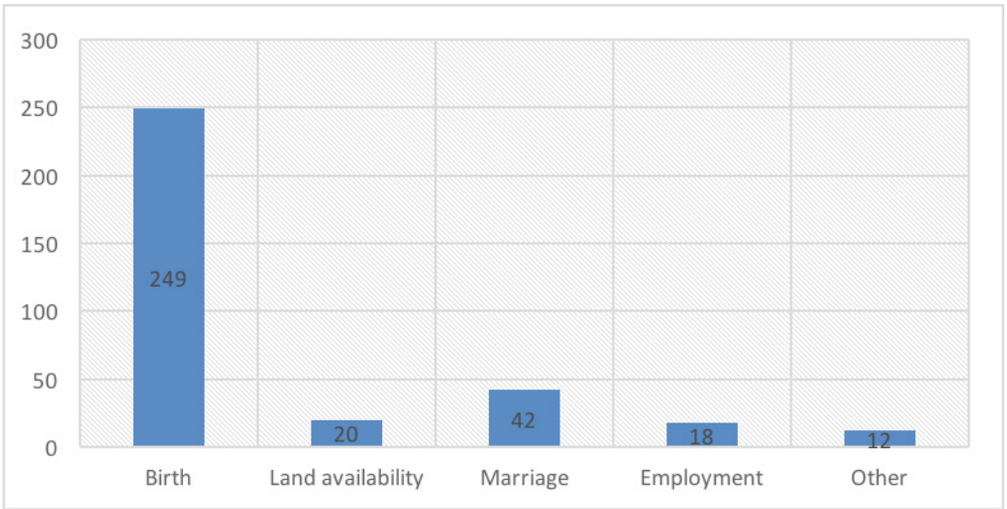
This chapter reviews the existing human settlement structure of Baringo in order to lay the basis for the establishment of functional human settlements. Physical developments in functional human settlements – whether located in urban or rural areas – are organized in a coherent manner.

Sustainable human settlement development is achieved through the integration of services and functions offered at growth centres, service centres and market centre facilitated by human settlement. Human settlements, therefore, play an important role as agents of economic growth by providing favourable locations for productive investments, human resource and market for the produce.

8.1.1 Migration Trends

The chart below shows the factors that influence settlements in the County include by birth, marriage, and land availability. Other reasons are education, security, water and better service provision.

Chart 11: Reasons for the Settlement in the area.



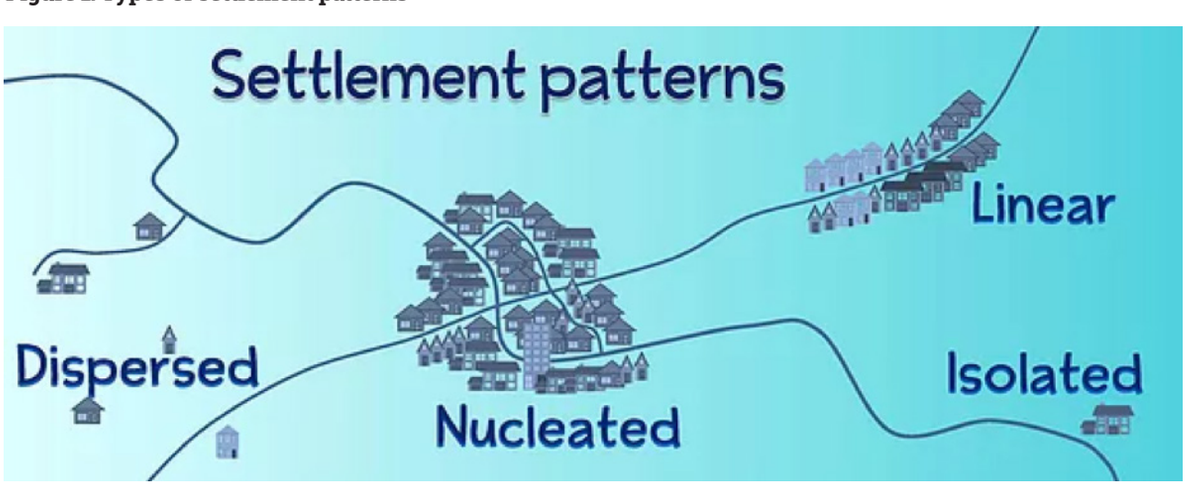
Source: Field Survey 2016

8.1.2 Existing Settlement Patterns

Human settlements are broadly categorized as urban or rural. Rural settlements in Baringo exhibit dispersed and nucleated/clustered patterns while urban population are predominantly heterogeneous and follows linear and nucleated patterns.

Baringo county has both urban and rural settlements. These settlements form various form of settlement patterns as a result of natural as well as man-made factors. The natural features that guided the settlement patterns in Baringo county include rivers, ridges, forest cover, rough terrain and hills. The man-made features that guided the formation of settlement patterns included roads, railway, human settlements and gazetted forests. The most common settlement patterns of centres in Baringo are nucleated and linear.

Figure 1: Types of settlement patterns



Source: 3D Geography, 2019

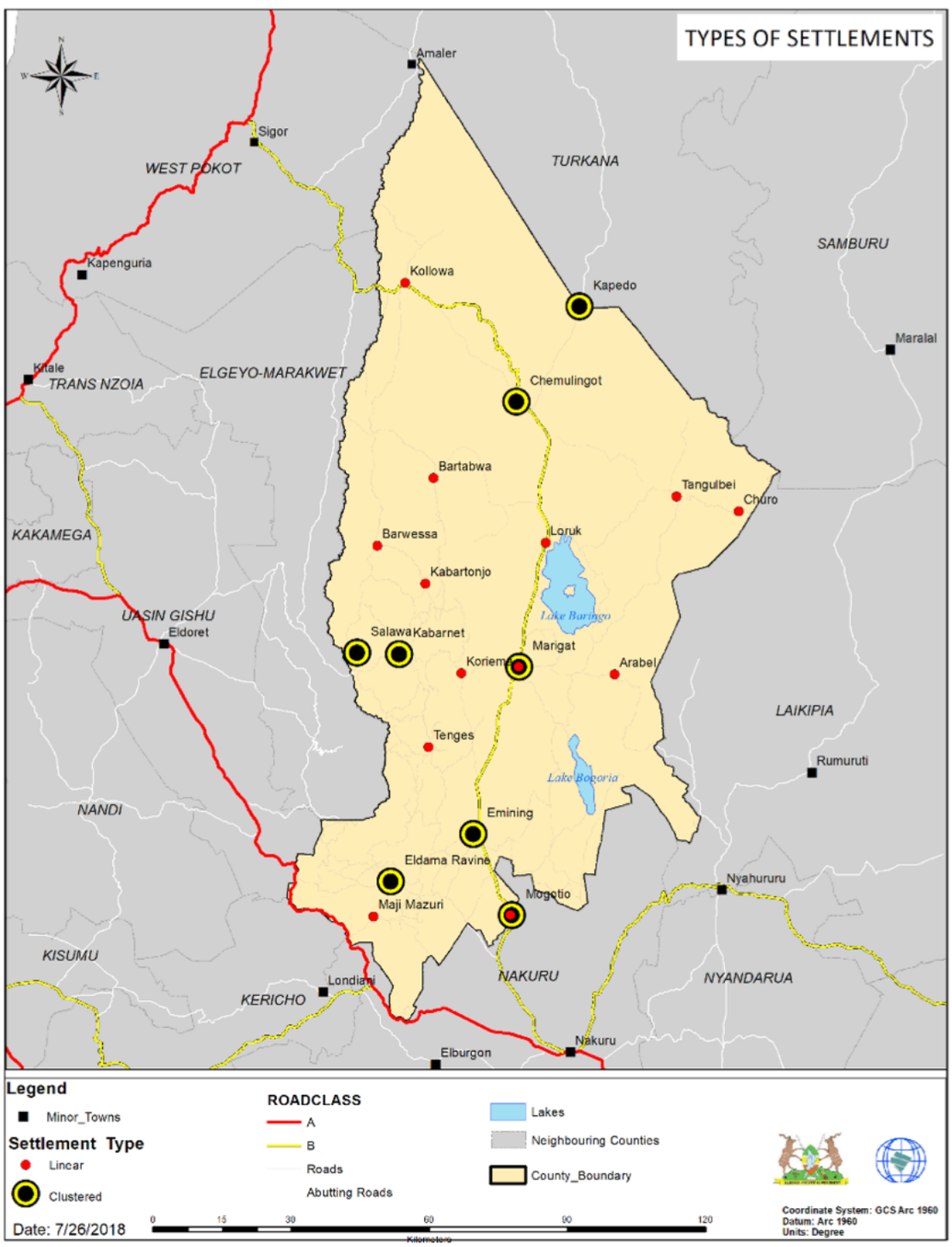
Nucleated settlements

These are settlements where buildings are close together, often clustered around a central point. The location of a nucleated settlement can be determined by a range of factors which include but not limited to proximity to social and physical infrastructure.

Linear settlements

Linear settlements consist of a group of buildings that form in a long line. Many follow a transport route, such as a road, river, or canal though some form due to physical restrictions, such as coastlines, mountains, hills or valleys. Linear settlements may have no obvious centre, such as a road junction. Linear settlements have a long and narrow shape.

Map 27: Settlement patterns in Baringo County



8.2. Rural settlements

Baringo County is 80% rural, this has implication therefore in provision of infrastructure and amenities in the vast area.

8.2.1 Types of Rural Settlements

Agriculture based settlements: -

Agriculture is one of the main economic activity in the county practiced along the highlands, and the foot slopes of Tugen hills and in irrigated areas within the lowlands.

Human settlements are more concentrated in Baringo central and Eldama Ravine due to the favourable climate for agriculture. The rural agricultural land is subdivided into smaller parcels due to rapid growing population in the highlands. Subdivision of agricultural land leads to the decline of the rural economy that heavily depend on agriculture.

Cultivation along forests and water catchment towers has far reaching implications on conservation and protection of reserves as it leads to degradation.

The challenge with agriculturally based settlements is the declining productivity due to subdivision of land, poor road infrastructure and the impacts of climate change. Example of such settlements include Maji mazuri, Sabatia and Narasha in Eldama Ravine sub county; Kabartonjo, Barwesa, Pemwai, Bartolimo in Baringo North. Other areas include Baringo central, Baringo south and Mogotio.

Pastoral based settlements:

Livestock keeping is the major economic activity in the county. This has influenced settlements in the area. Settlement pattern follows dispersed patterns and nucleated pattern.

8.2.2 Rural Growth Centres

Growth and development of rural centres in the County is slow. This is contributed by factors such as resource conflicts, flooding and rise of water in both L. Bogoria and L. Baringo, poor access to clean and reliable water and prolonged droughts threatening irrigation schemes.

RURAL CENTRE	FUNCTIONS
Timboroa	Administrative and commercial centre. Presence of national trunk road A104 links the town to regional areas boosting trade and service function. The factors that can be attributed to growth in the town include health centre, police station, farming and dairy activities in surrounding area.
Maji mazuri	Administrative and commercial centre within Eldama Ravine Sub County. The growth of the centre is boosted by tree logging and farming in the area. The centre is located at E/Ravine – Maji Mazuri – Makutano road.
Emining	Administrative and commercial town in Mogotio Sub County. The growth of the centre is attributed to animal auction yards, Emining training institute, three-star hotel, health centre and police post. The centre is at junction hence good transport linkage.
Kolowa	Administrative and commercial centre within Tiaty Sub County. The growth of the town is attributed to health centre, Police post and farming activities in the area.
Kampi samaki	Administrative and commercial centre. Presence of airstrip. Entry to Lake Baringo.
Tenges	Presence of polytechnic, Police station and Health centre. Transit route linking the town to Kabarnet (Ravine-Saos-Kabarnet). Farming activities in the surrounding area.

Tangulbei	The growth of the centre is attributed to presence of auction yards, police post, a dispensary and road network linking the centre to another region. It is an administrative and commercial centre.
Ngiyang'	Transit town located along Marigat – Chemolingot road near junction to Kapedo and its development has followed linear pattern of growth.
Barwesa	The centre is found in Baringo North Sub County. It is administrative and commercial centre. Its growth is influenced by the farming activities in the surrounding area.
Loruk	Transit/junction centre (located along Marigat-Chemolingot road). Police camp, Administrative function and animal auction yards influence the growth of the town.
Saos	The centre is in Eldama Ravine sub county. It is a transit/junction town located along Eldama Ravine – Emining road and junction to Kabarnet through Tenges. Quarrying activities in the surrounding area influence its growth.
Churo	The centre is found in Tiaty Sub County. The growth of the centre is influenced by auction yards, farming activities in the neighbouring areas and administrative function of the town.

8..3. Urban Settlements

Urban settlements are characterized by linear settlements configured majorly by road transport network, administrative functions and commercial. Settlements patterns in the urban areas are either linear or clustered and can be categorized as principle towns, rural towns and market/local centres.

The settlements in the following towns are influenced by transport network; Mogotio, Emining, Marigat, Loruk, Ngiyang', Chemalingot, Kolowa, Muserechi, Ravine, Maji mazuri, Timboroa, Kabarnet, Tenges, Kabartonjo, Kipsaraman, Bartabwa and Barwesa. Urban centres with administrative function include Kabarnet, Mogotio, Eldama Ravine, Chemolingot, Marigat and Kabartonjo.

8.3.1. Classification of centres

Human settlements are concentration of activities and people. These range from smallest village in the rural area to the largest metropolis (Republic of Kenya, 1978). Rural refers to a large and isolated area of an open country often with low population density while Urban refers to an area with an increased density of human-created structures in comparison to the areas surrounding it and has a population of 2,000 and above (Republic of Kenya, 2009). Human settlements are considered focal points of commercial, industrial, administrative, health, educational and recreational activities required by the population.

Table 1: Classification of Human Settlements

SETTLEMENT CATEGORY		RESIDENTIAL POPULATION OF CENTRE	SERVICE PROVIDED PER SETTLEMENT
Urban Centre	City	Above 250,000	Planning and Development Control, City Economic Development Plan, Traffic Control and Parking, Water and Sanitation, Street Lighting, Outdoor Advertising, Cemeteries and Crematoria, Public Transport, Libraries, Storm Drainage, Ambulance Services, Heath Facilities, Fire Fighting and Disaster Management, Control of Drugs, Sports and Cultural Activities, Electricity and Energy provision (gas, kerosene etc.), Abattoirs, Refuse Collection, Solid waste management, Pollution (Air, water, soil) control, Child Care Facilities, Pre-Primary Education, Local Distributor Roads, Community Centres, County Hospital, Constituent University Campuses, Polytechnic, County School, Stadium, Airport, Airstrip, Theatre, Library/ICT services, Administrative Seat, Financial Hub, Museum/cultural centres, Fire Station, Emergency Preparedness, Telecommunication services / postal services/ICT, Funeral Parlour, Cemetery, Recreational Parks, Animal control and welfare, Religious Institution
	Municipality	50,000-250,000	Planning and Development Control, Traffic Control and Parking, Water and Sanitation, Street Lighting Outdoor Advertising, Cemeteries and Crematoria, Public Transport, Libraries, Storm Drainage, Ambulance Services, Heath Facilities, Fire Fighting and Disaster Management, Control of Drugs, Sports and Cultural Activities, Electricity and Energy provision (gas, kerosene etc.), Abattoirs, Refuse Collection, Solid waste management, Pollution (Air, water, soil) control, Child Care Facilities, Pre-Primary Education, Local Distributor Roads, Community Centres, County Hospital, Constituent University Campuses, Polytechnic, County School, Stadium, Airstrip, Theatre, Library/ICT services, Administrative Seat, Local Economic Development Plan, Museum/cultural centres, Fire Station, Emergency Preparedness, Telecommunication services /postal services/ICT, Funeral Parlour, Cemetery, Recreational Parks, Animal control and welfare, Religious Institution
	Town	10,000-49,000	Street Lighting, Cemeteries and Crematoria, Library Services, Health Facilities, Sports and Cultural centers or facilities, Abattoirs, Refuse Collection, Solid waste management, Pollution (Air, water and soil) control, Child Care Facilities, Pre-Primary Education, Community Centres, Vocational Institution, Primary or High school, Bus park, Road network, streets, walkways, sideways and cycle ways, Postal services or telecommunication, Funeral Parlour or mortuary Cemetery, Recreational parks, Animal control and welfare, Religious Institution
	Market Centre	Above 2000	Primary school, secondary school, health centre, post office, telephone facilities, police post, local bus service and other social commercial services.

Rural Centre	2,000-10,000	Secondary school (with at least four streams), health centre (with maternity), development of better shopping facilities, markets and banking facilities, piped water supply and sewerage disposals systems, electricity and telephone services postal.	
Local Centre	Up to 2,000	Primary school, shops, dispensary, public water supply systems and open-air market.	

Source: (Government of Kenya, 2012) (Physical Planning Department, 2007)

8.3.2 Hierarchy of Centres

Urban hierarchy is the ranking of centres based on population size, growth and service function. It portrays the interplay between the growth functions and service functions. Based on the definition and guidelines of human settlement strategy of 1978, there are five categories of human settlements.

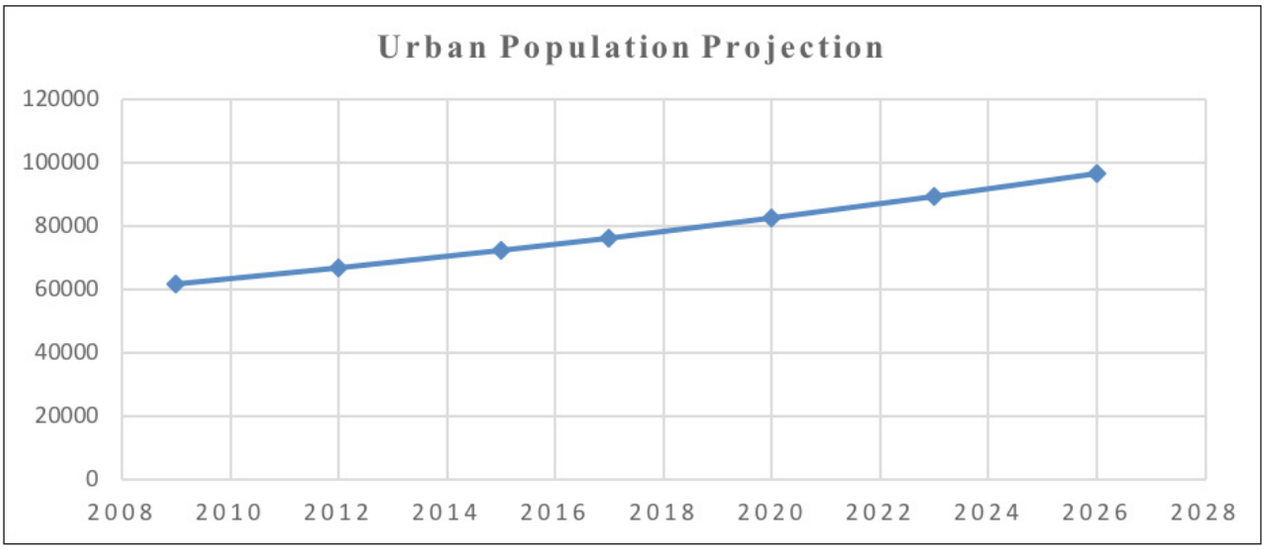
- Growth centres: - These are poles that aim at inducing growth functions in strategically selected large centres. They are potential centres for urban and industrial growth.
- Urban/ Service Centres: Form the highest category of a planned centre, they have the capacity to serve a rural hinterland and function as reception centres for immigrants, seeking employment and social amenities.
- Rural Centre: -Intended to serve a population of about 40,000 people and has a residential population of between 2,000-10,000 people.
- Market Centre: - Approximately serves a rural population of 15,000 and a residential population of less than 2,000 people
- Local Centre: - Is at the lowest level of service centre designated to serve the local needs of people within walking distance. It should serve a population of 5,000 people from the hinterland.

Hierarchy of centres based on population

Kabarnet town and Eldama Ravine have high urban populations. The principle towns are fast growing because of their administrative, commercial and service functions attracting population from rural areas. Marigat, Mogotio, Kabartonjo and Chemolingot are growing at a slower rate as compared to Kabarnet and Eldama ravine. Urban population is 11.2%, while the rural population is 88.8% of the total county population.

Urban areas are experiencing rapid growth rate; however, they lack planning and development control will lead to development challenges in the long run such as urban sprawl, sewerage provision challenges, inaccessibility of urban infrastructure and amenities.

Chart 2: Projection of Urban Population in Baringo



Source: KNBS 2009

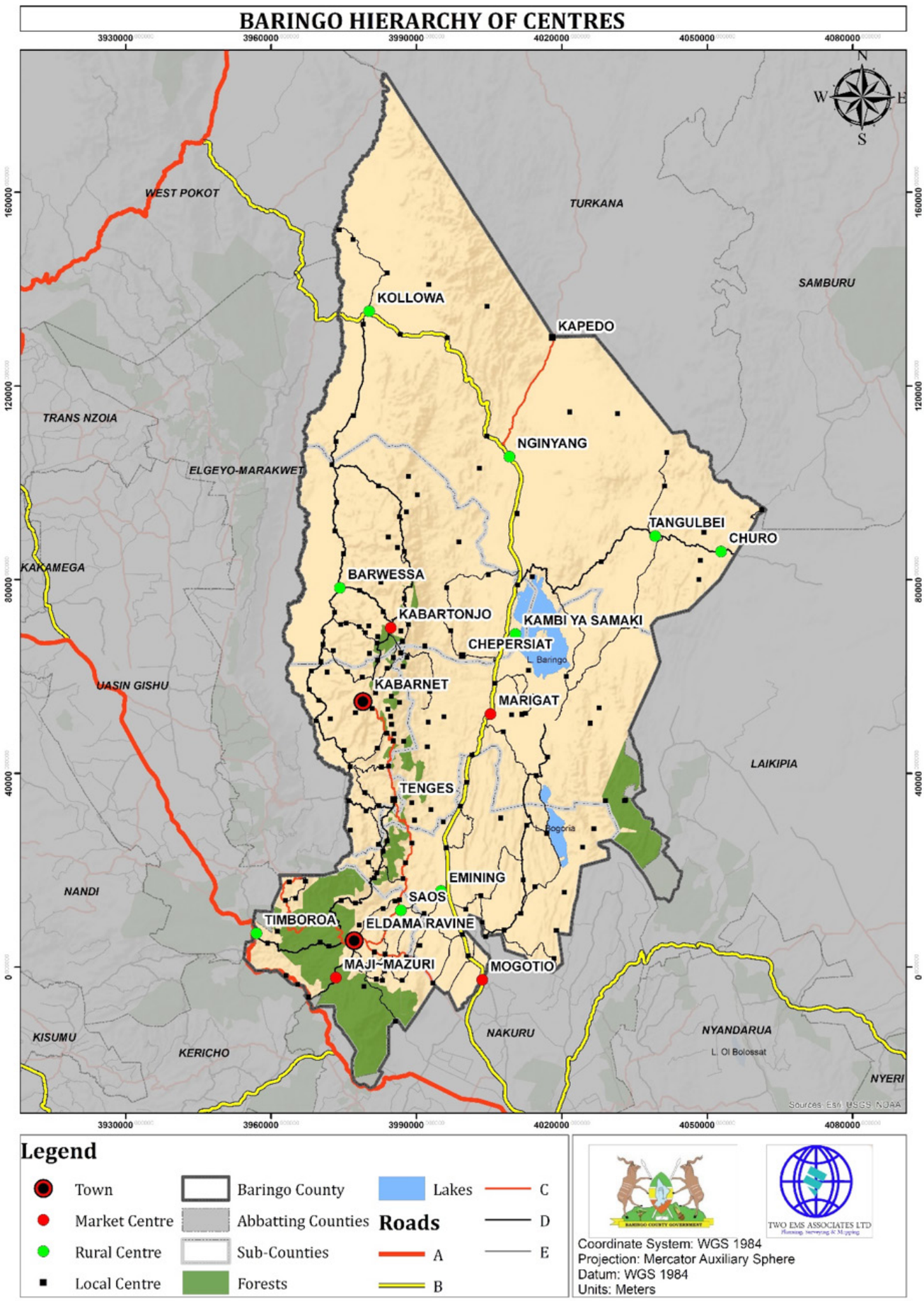
Urban population in Baringo County is expected to grow steadily with concomitant demand for infrastructure and amenities. Lack of planning and development control measures will lead to urban sprawl, mixed land uses, congestion and poor waste management.

Table 2: Categories of centres

TOWN CENTRES	MARKET CENTRES	RURAL CENTRES	LOCAL CENTRES
Kabarnet **Eldama Ravine**	Chemolingot Mogotio Kabartonjo Marigat Maji mazuri	Churo, Timboroa, Emining, Kolowa, Kampi ya samaki, Tenges, Tangulbei, Ngiyang, Barwesa, Loruk, Saos,	Kolowa, Kakawia, Kapedo, Orus, Amaya, Chepkalach, Mukutani, Bartabwa, Kinyach, Keturwo, Pemwai, Oinobsos, Koriema, Sandai, Arabel, Kiserian, Endao, Majimoto, Kisanana, Kapsoo, Arama, Mogorwo, kimose, Radad, Chepyorgin, Esageri, Muserechi

Source: Field Survey, 2018

Map 28: Hierarchy of centres



Hierarchy of Centres Based on Services

Map 3: Hierarchy of Centres based on service provision

FUNCTION	KABARNET	E/ RAVINE	MARIGAT	KAMBI SAMAKI	MOGOTIO	KABARTONJO	EMINING	CHEMOLINGOT	TENGES	NGINYANG	BARWESA
Street Lighting	✓	✓	✓	✓	✓	☒	☒	✓	✓	☒	☒
Cemeteries and Crematoria	✓	✓	✓	✓	✓	☒	✓	✓	✓	✓	☒
Libraries	✓	☒	☒	✓	☒	☒	☒	☒	☒	☒	☒
Heath Facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sports and Cultural Activities	✓	✓	☒	☒	✓	☒	✓	✓	☒	☒	☒
Abattoirs	☒	✓	✓	✓	✓	☒	✓	✓	✓	✓	✓
Refuse Collection	✓	✓	✓	✓	☒	✓	☒	✓	☒	☒	☒
Solid waste management	✓	✓	☒	☒	☒	☒	☒	☒	☒	☒	☒
Air noise	☒	✓	✓	☒	☒	☒	☒	☒	✓	☒	☒
Child Care Facilities	✓	☒	☒	✓	☒	✓	☒	☒	☒	☒	☒
Pre-Primary Education	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Community Centres	✓	✓	✓	☒	☒	✓	✓	☒	☒	☒	☒
Guest Houses	✓	✓	✓	✓	✓	✓	✓	✓	☒	☒	✓
Homestays	☒	☒	☒	☒	☒	☒	☒	☒	☒	✓	☒
Polytechnic	✓	✓	✓	☒	✓	✓	☒	☒	☒	✓	☒
Training Institution i.e Vocational training centers,	✓	✓	✓	✓	✓	✓	✓	✓	✓	☒	☒
County School	✓	✓	✓	☒	✓	✓	✓	☒	✓	☒	✓
Airstrip	✓	✓	✓	✓	✓	☒	☒	☒	☒	☒	☒
Classified roads	✓	✓	✓	✓	☒	✓	✓	✓	☒	✓	✓
Museum	✓	☒	☒	☒	✓	☒	☒	☒	☒	☒	☒
Historical Monument	✓	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
Postal services	✓	✓	✓	✓	✓	✓	✓	✓	✓	☒	☒
Regional Radio Station	✓	✓	✓	✓	✓	✓	☒	✓	✓	✓	✓
Community Radio	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
Funeral Parlour	✓	✓	☒	☒	☒	☒	☒	☒	☒	☒	☒
Cemetery	✓	✓	✓	✓	✓	☒	☒	☒	✓	✓	☒

Recreational Parks	✓	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
Management of Markets	✓	✓	✓	☒	☒	✓	✓	✓	☒	✓	✓
Water front	☒	☒	☒	✓	☒	☒	☒	☒	☒	✓	☒
Animal control and welfare	☒	☒	☒	✓	✓	✓	✓	✓	☒	✓	✓
Religious Institution	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stimulus market	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Total x/32	**26**	**23**	**20**	**19**	**18**	**16**	**15**	**15**	**13**	**13**	**11**

KEY

✓	Available Public
✓ **PR**	Available Private
●	Not Available

SUMMARY OF HIERARCHY OF CENTRES BASED ON SERVICES	
Kabarnet	County headquarters. It has museum, recreational park, airstrip and library.
Eldama Ravine	The town serves as headquarters for the sub county and has some administrative functions for Mogotio Sub County. There is solid wastes management, airstrip and district hospital.
Marigat	It is an administrative centre with an airstrip, refuse collection, streetlights, stimulus markets, public cemetery and polytechnic.
Kampi ya Samaki	It is a waterfront centre with an airstrip, streetlights and public cemetery.
Mogotio	It is an exit/entry town to Baringo County. There is district hospital, streetlights, public cemetery and airstrip.
Kabartonjo	The centre is sub county headquarters with health centre, refuse collection, polytechnic and market management.
Emining	The centre has a vocational training centre, market management and animal welfare.
Chemolingot	It is sub county headquarters with streetlights, airstrip and public cemetery.
Tenges	The centre has streetlights, public cemetery, polytechnic and H/centre.
Nginyang'	It has polytechnic, market management and health centre.
Barwesa	The centre has dispensary, guest house and animal auctions.

8.3.3. Growth trends of Urban Settlements

8.3.3.1 Urban fabric

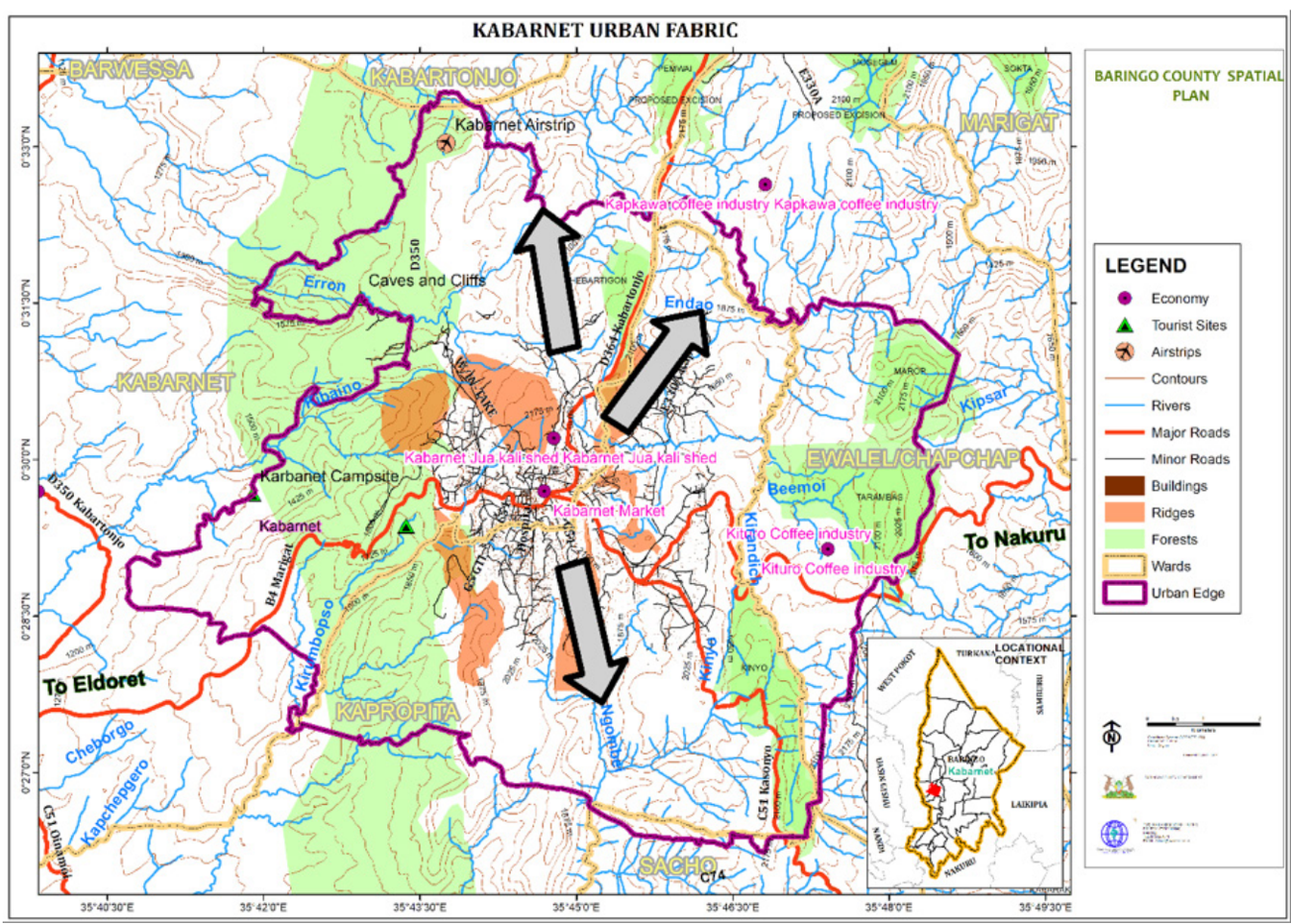
Urban fabric reviews the urban edges, growth directions and factors defining the edges for the principle towns in the county.

Kabarnet Urban Fabric

The Kabarnet urban edge was derived from the already approved Kabarnet IUDP of 2019. The boundary was meant to represent the proposed Kabarnet Municipality region. The proposed municipality boundary was defined along natural features which include steep slopes, rough terrain, rivers, ridges and forested zones. The extent of the boundary was determined by the existing extent of developments as well as projected growth of the centre. The boundary extent towards the north western side was established in order to include Kabarnet airstrip within the municipal extent.

The municipality is expected to grow along the major transport corridors towards the northern as well as south western direction. The centre was also noted to have high density development structures. This would suggest that vertical development is encouraged within Kabarnet Municipality.

Map 30: Kabarnet Urban Fabric



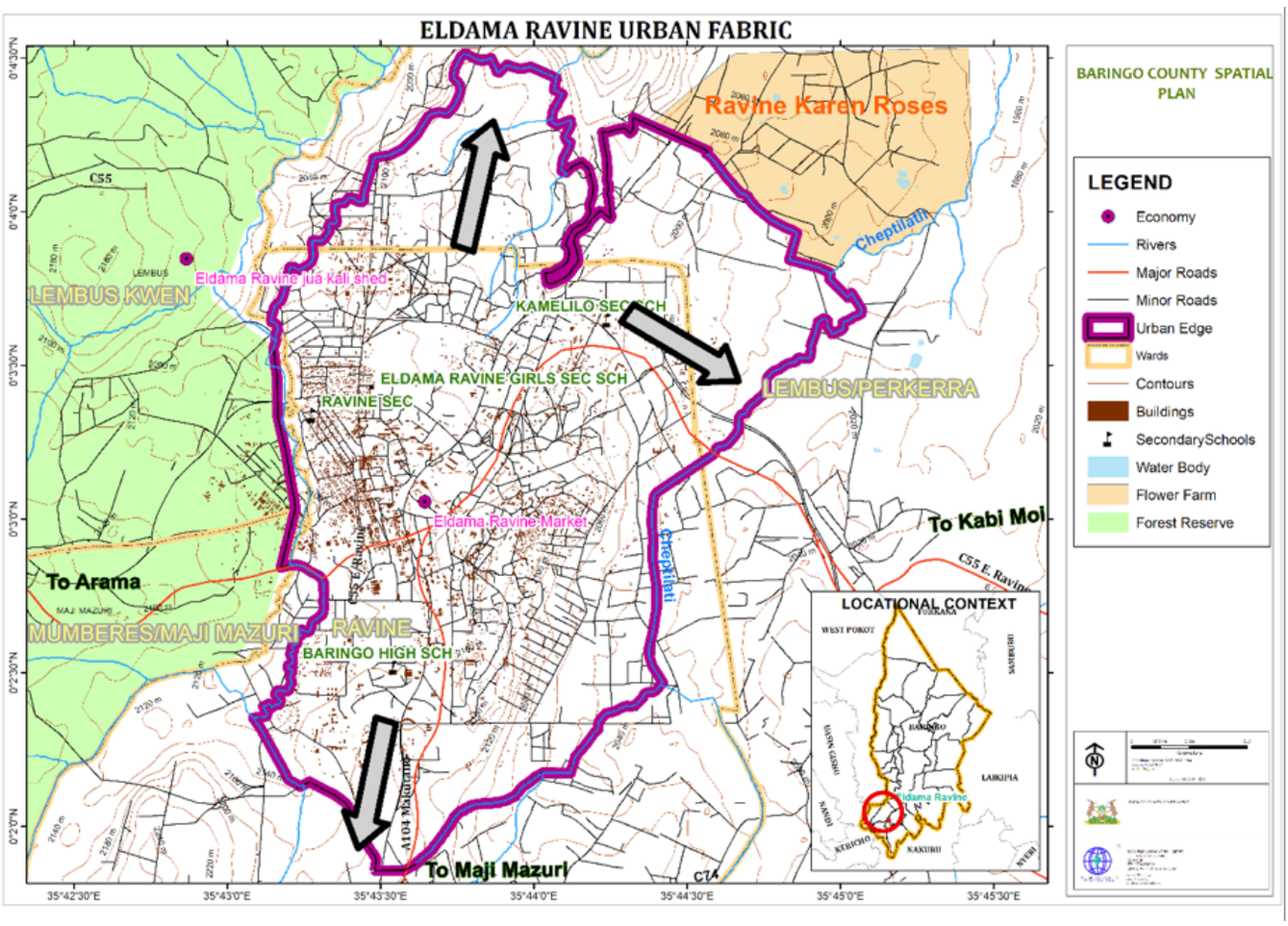
Source: Two Ems, 2018

Eldama Ravine Urban Fabric

Eldama Ravine town is currently a busy commercial centre in Baringo. The urban extent was determined by the existing as well as projected development trend. The proposed urban edge was established by the existing road networks, rivers, forests and terrain. The boundary extent towards the western side of the centre was influenced by the existence of a gazetted forest as well as river. The northern side was influenced by the existence of a steep terrain. The eastern side of the boundary was informed by Cheptilatil River.

The centre forms a nucleated grid structure whereby most developments front major road roads as shown in the urban fabric map. The centre seems to be growing in three directions: towards the north eastern direction due the presence of horticulture farms (Karen and Ravine roses); towards Kampi Moto and towards Maji Mazuri.

Map 31: Eldama Ravine Urban Fabric



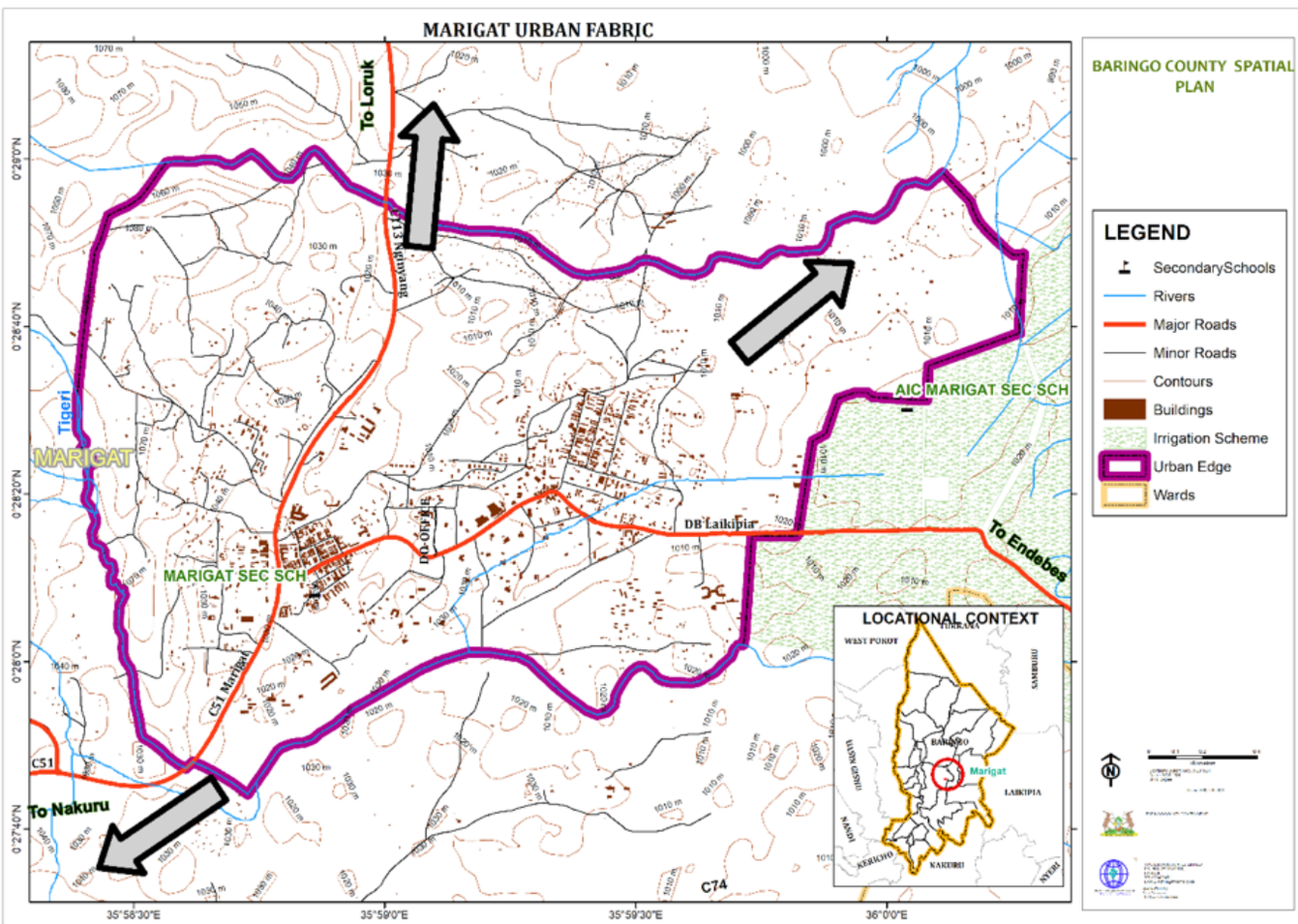
Source: Two Ems, 2018

Marigat Urban Fabric

Marigat urban centre is located along the junction between B4 (Nakuru – Marigat) road and road to Loboi/L. Bogoria. Existing settlements define the extent of the centre. The Urban edge is shaped by the road networks (following class B and C roads), rivers, irrigation scheme and terrain. The Northern and Southern boundary extents were informed by the existing rivers. The eastern boundary extent was determined by the Perkerra irrigation scheme extent. The western boundary extent was informed by an existing road.

The presence of Perkerra irrigation scheme has influenced growth directions towards Marigat inn and road to Endao. The centre is fast developing and that will influence growth direction of Marigat town. The town also has the potential of growing towards Loruk along C51.

Map 32: Marigat Urban Fabric



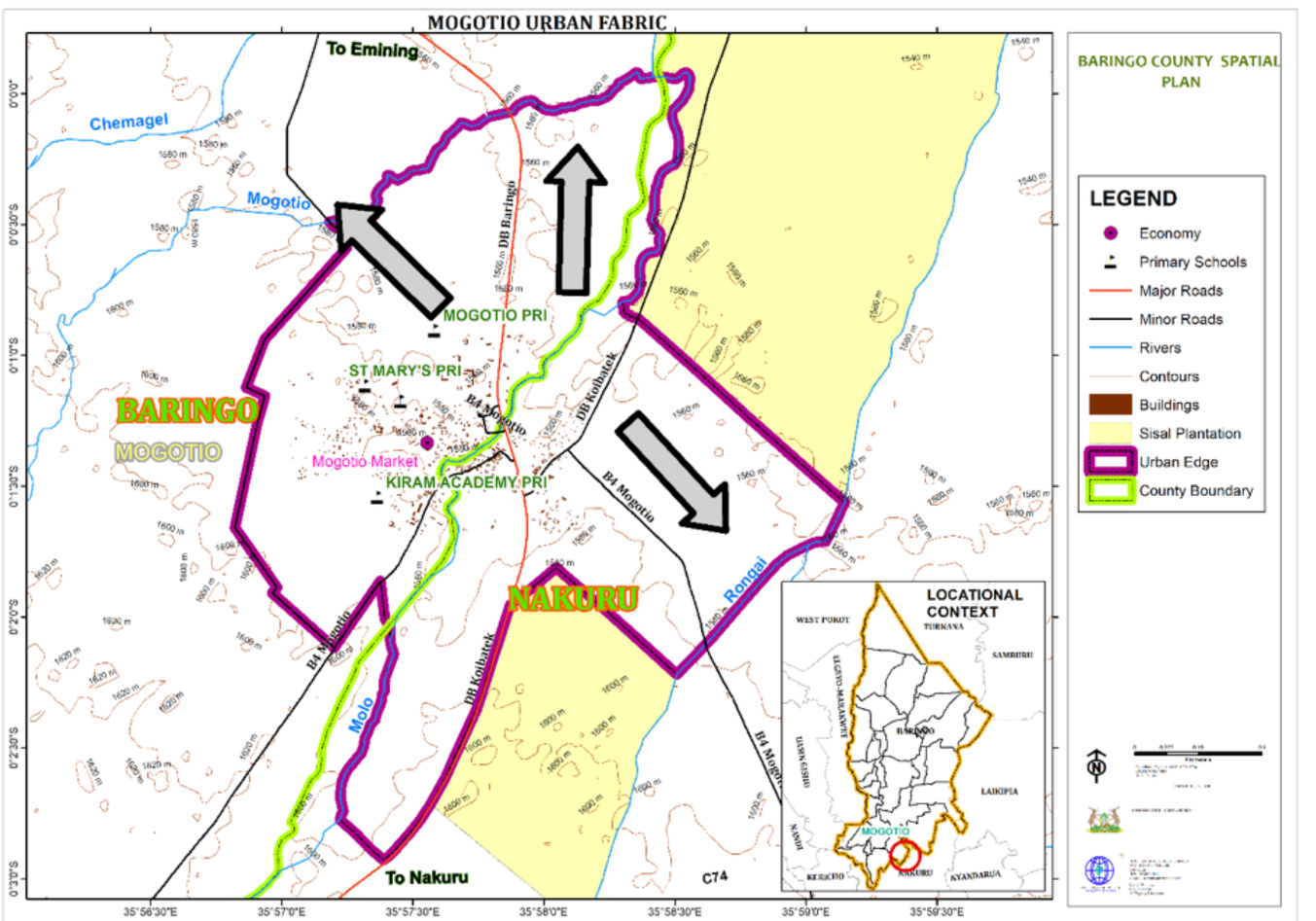
Source: Two Ems, 2018

Mogotio Urban Fabric

Mogotio urban centre is located at the south eastern edge of Baringo. The centre has extended in Baringo county northwards and in Nakuru county southwards. The existing settlements define the extent of the town. The urban edge is shaped by the road networks, sisal plantations in Lomolo and River Molo. The proposed boundary towards the northern side was informed by River Mogotio and River Molo. The rest of the boundary extent was informed by existing road networks.

The centre is growing towards the northern side along the class B road. The centre also seems to be growing towards the sisal plantation in Lomolo. This has involved the gradual conversion of agricultural land to either residential or commercial land uses.

Map 33: Mogotio Urban Fabric



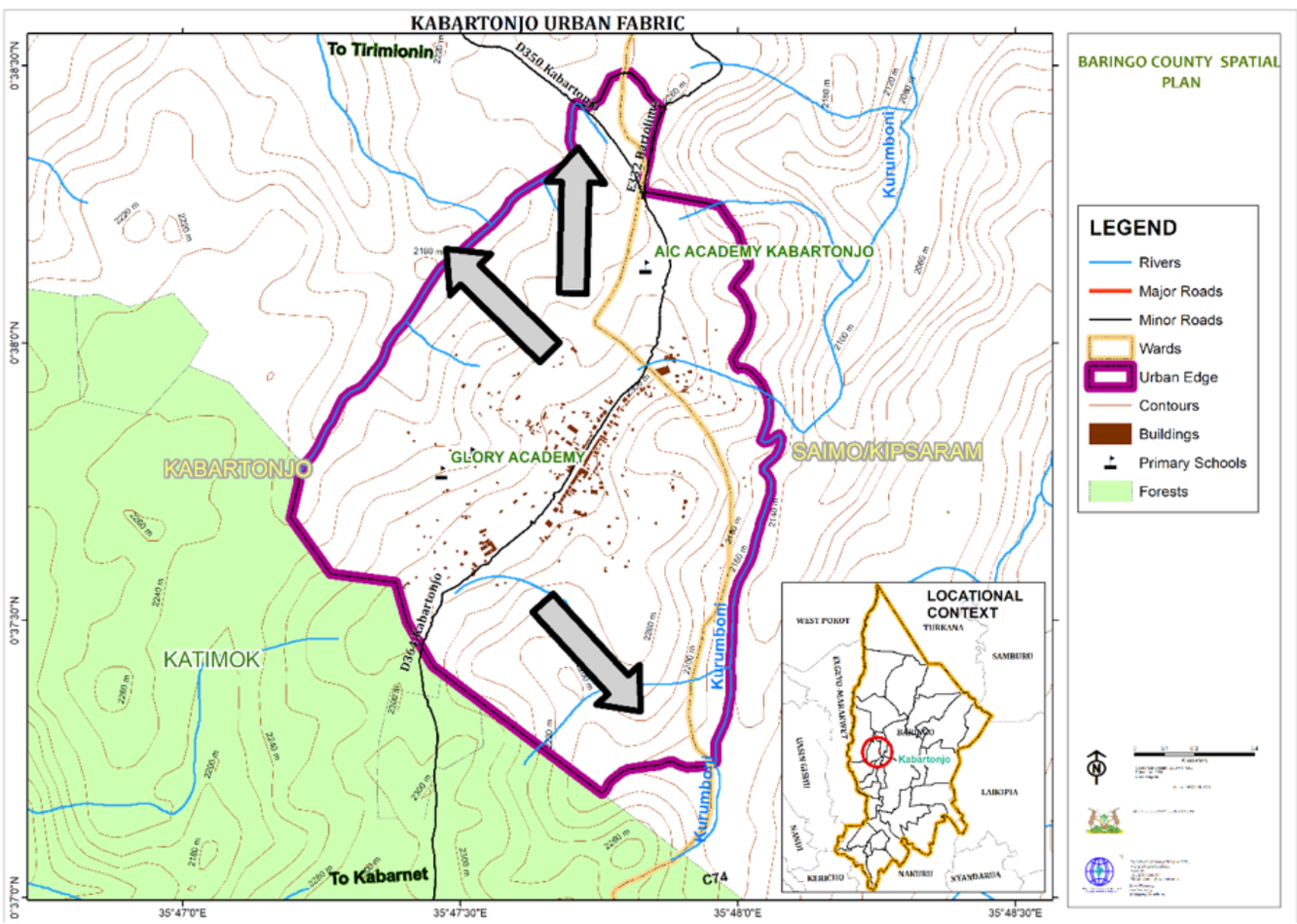
Source: Two Ems, 2018

Kabartonjo Urban Fabric

Kabartonjo urban extent is defined by the existing developments. The urban centre forms a linear structure due to the concentration of developments along the class D road. The Urban edge is shaped by the road networks, forest reserves and terrain. The growth of the town is following linear pattern along Kabarnet – Kipsaraman road. It has also grown into the forest areas following areas with arable and habitable topography.

The boundary delineation towards the northern, western and eastern side was informed by the presence of River Kirimboni as well as rough terrain. The delineation towards the southern side was informed by the presence of the forest reserve. The centre seems to be growing towards River Kirimboni from the Kabarnet-Kipsaraman road and northwards along the same road.

Map 34: Kabartonjo Urban Fabric

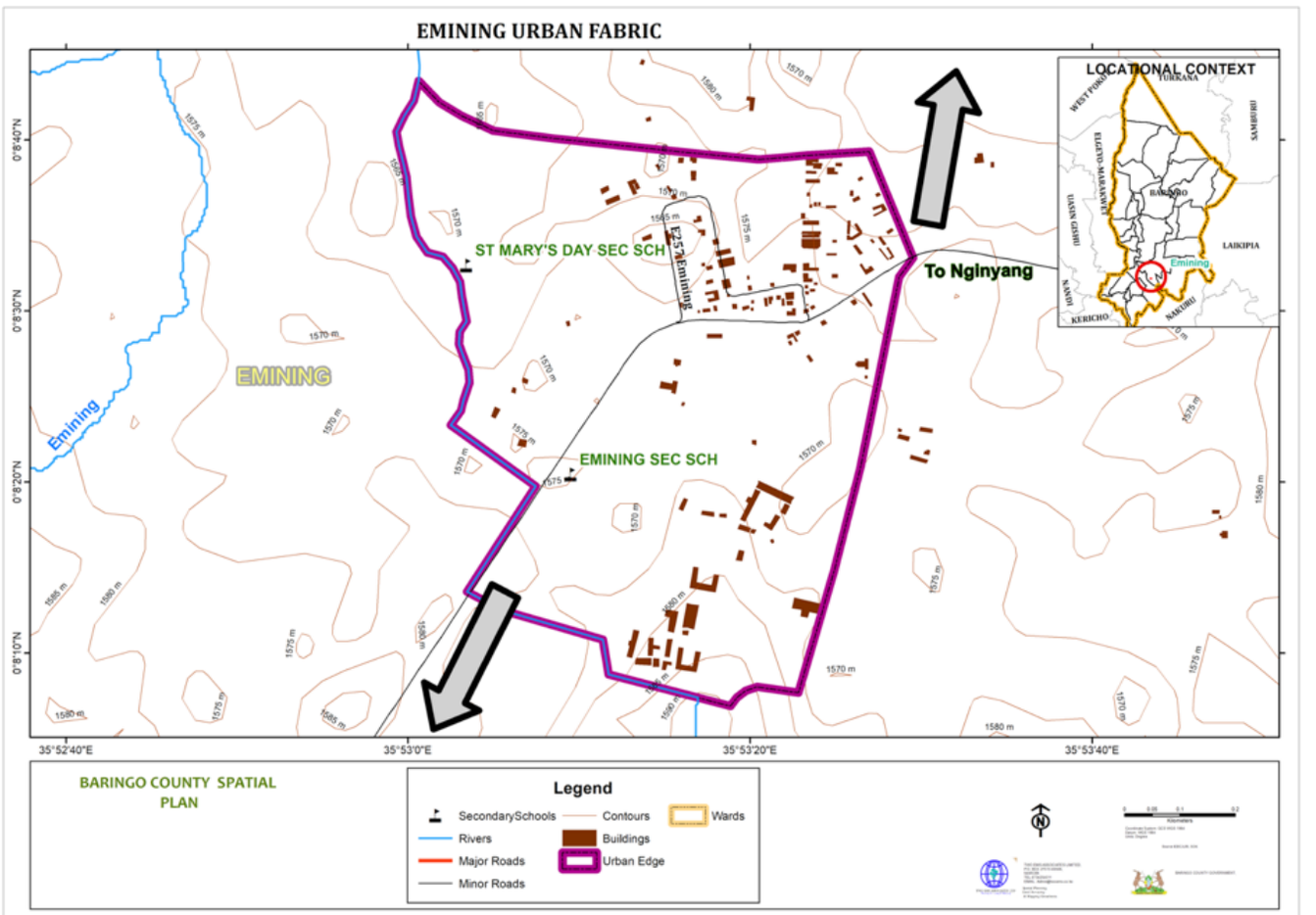


Source: Two Ems, 2018

Emining Urban Fabric

The Extent of the town is defined by existing settlements. Urban edge is shaped by the road networks and rivers. The eastern boundary has been defined by the B4 road and the Northern and southern boundary has been defined by minor roads. The eastern boundary has been defined by the river. Good terrain and the presence of a road network has encouraged growth towards the north and southern side of the centre.

Map 35: Emining Urban Fabric

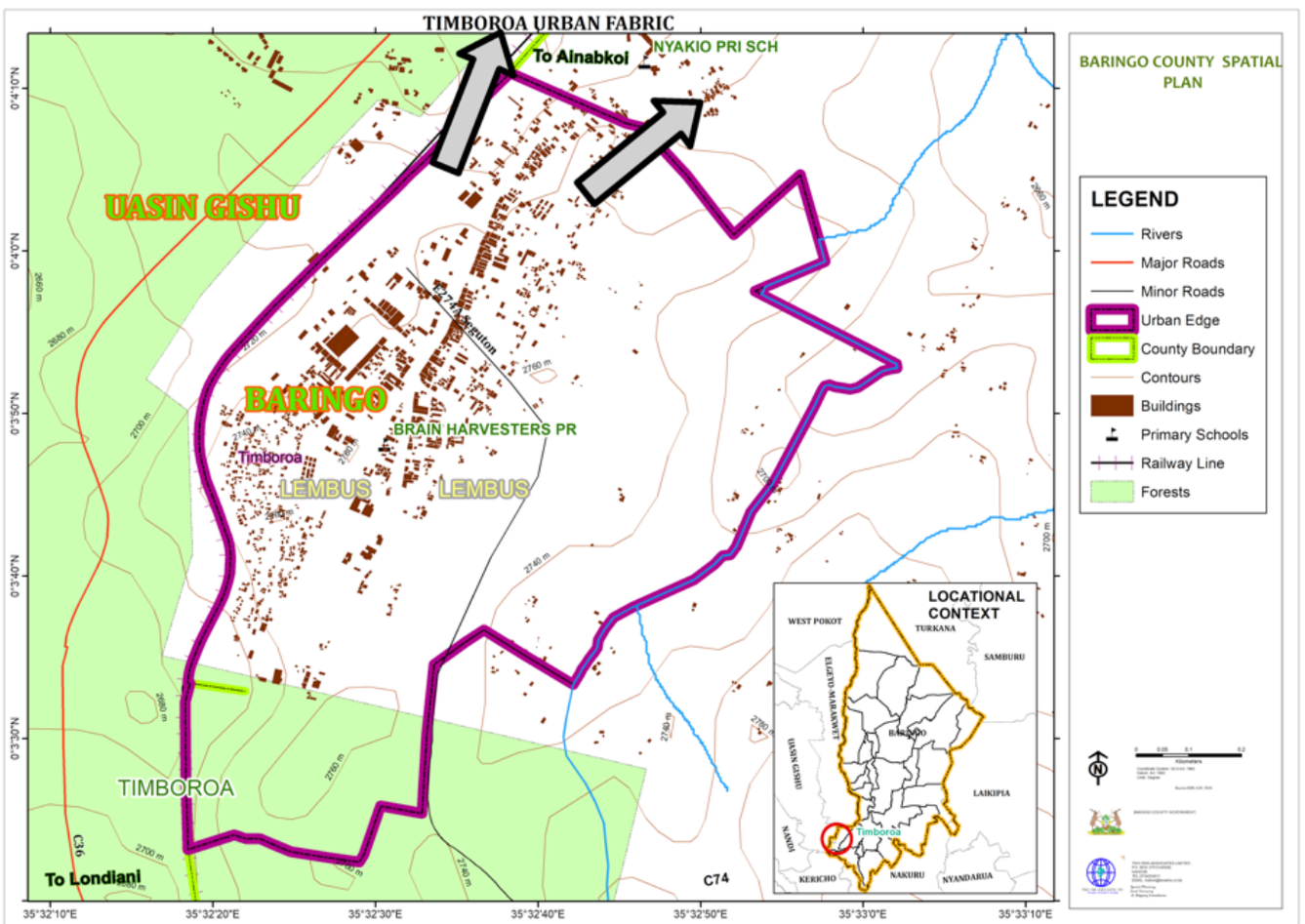


Source: Two Ems, 2018

Timboroa Urban Fabric

The Urban Extent of the centre is defined by existing settlements. Urban edge is shaped by the road networks, railway line and rivers. The Eastern boundary has been adopted from the railway line, the northern and southern boundary has been adopted from a road network. The bottom part of the western boundary has been adopted from a road network and the top part from a river. Due to the presence of Timboroa Forest on the southern part of the town, the urban centre is now growing to the north towards Ainabkol where there is a presence of educational facilities.

Map 36: Timboroa Urban Fabric

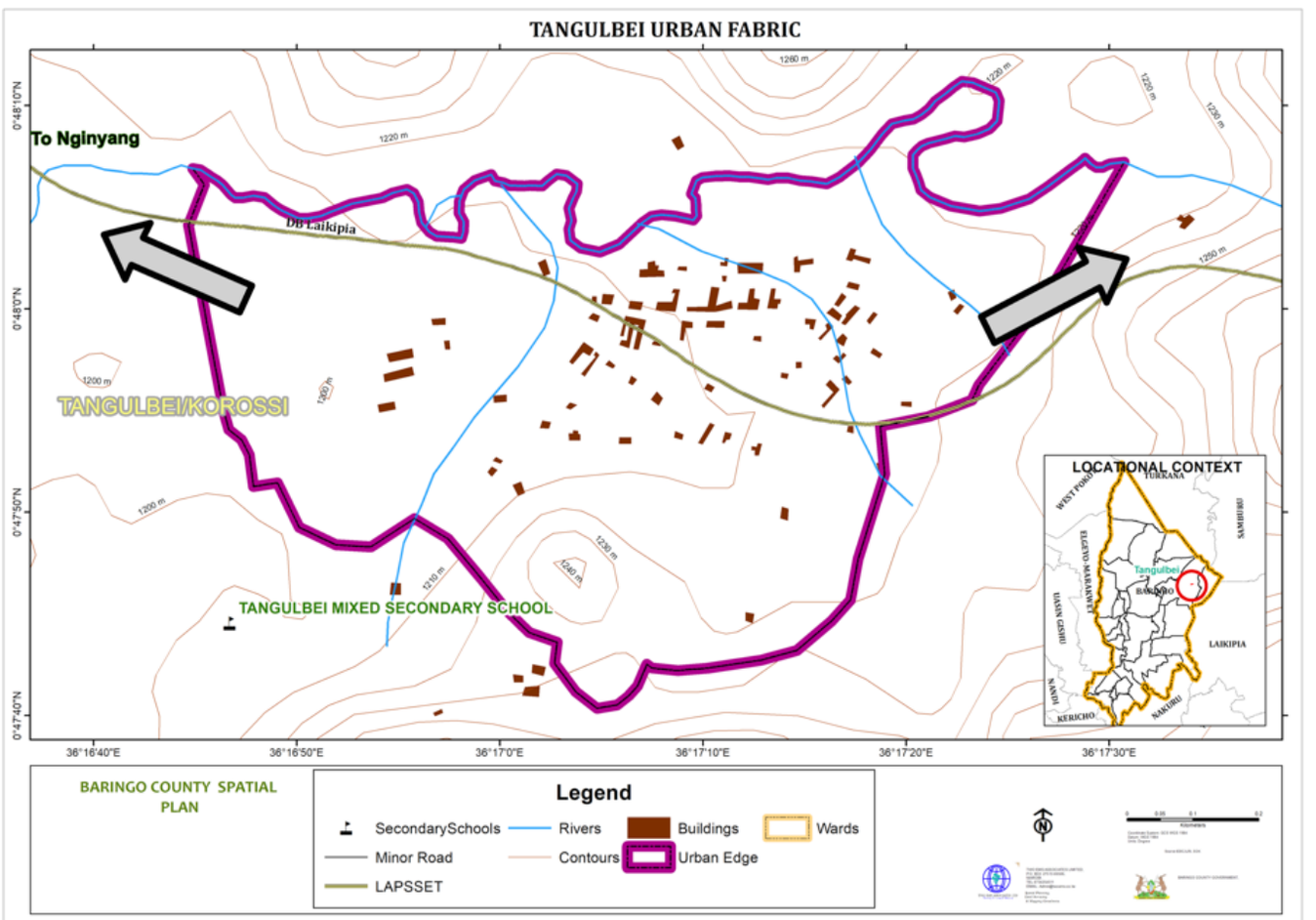


Source: Two Ems, 2018

Tangulbei Urban Fabric

The Extent of the urban centre is defined by existing settlements. Urban edge is shaped by the road networks, terrain and rivers. The northern boundary has been adopted from a river and road, the western and part of the southern boundary has been adopted from the terrain using the habitable slope of 25 degrees. The eastern boundary has been adopted from a road network. The urban centre is growing linearly along the LAPSSET road

Map 37: Tangulbei Urban Fabric



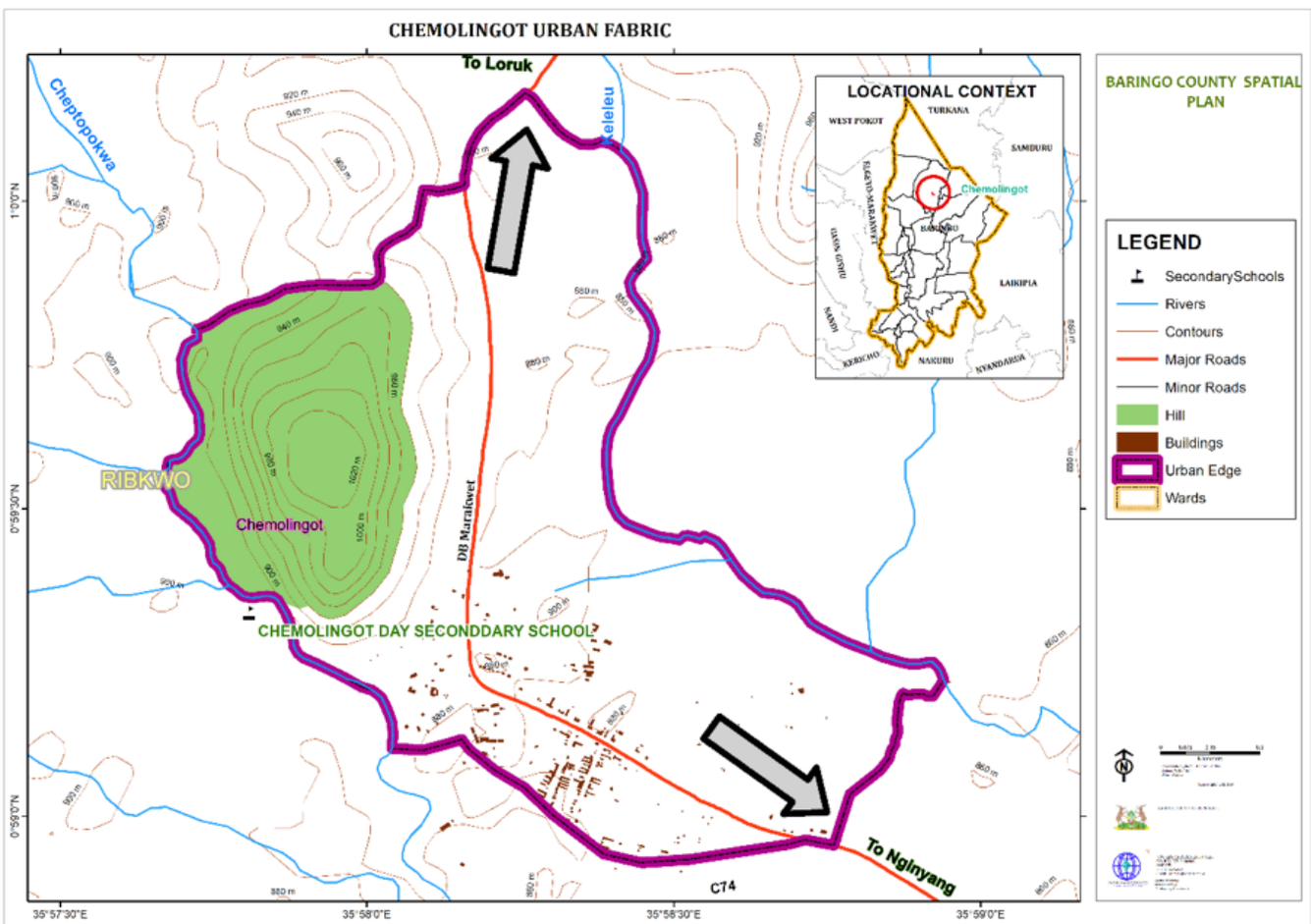
Source: Two Ems, 2018

Chemolingot Urban Fabric

The Extent of the urban centre is defined by existing settlements. Urban edge is shaped by the road networks, and rivers. The eastern boundary has been adopted from River Kileleu, the western boundary has also been adopted from a river. The northern boundary has been adopted from a road and the hill boundary. The southern boundary has been adopted from a road network.

The urban centre is growing linearly along the B4 road due to the good habitable terrain along the road.

Map 38: Chemolingot Urban Fabric



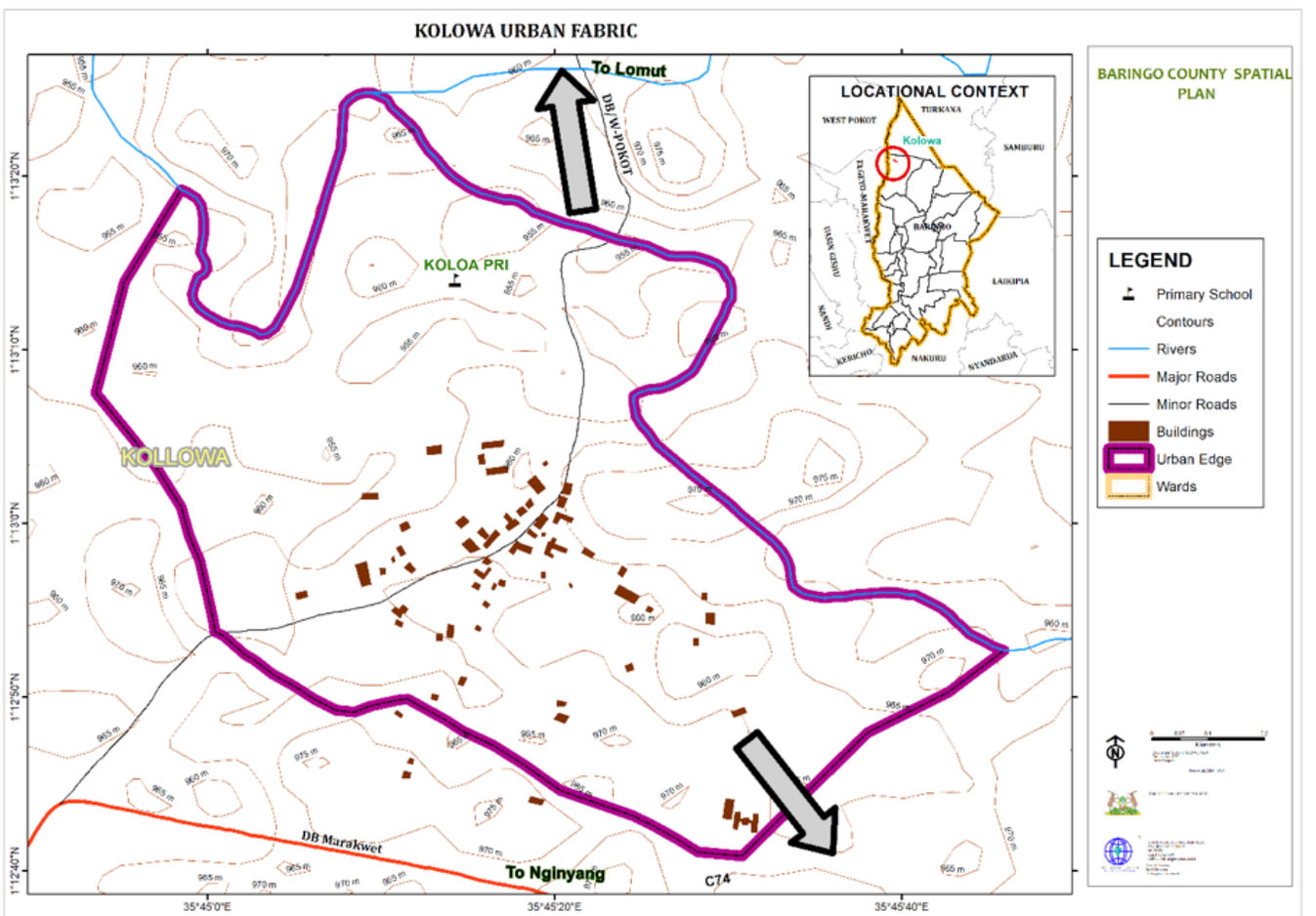
Source: Two Ems, 2018

Kollowa Urban Fabric

The Extent of the urban centre is defined by existing settlements. Urban edge is shaped by the road networks, and rivers. The top and bottom boundary has been adopted from rivers and the left and south eastern boundary has been adopted from road networks.

The growth of the urban centre is linear is mostly growing northwards due to the presence of educational facilities such as Kolowa primary school and the tourist attraction site.

Map 39: Kolowa Urban Fabric



Source: Two Ems, 2018

8.3.4. Analysis of the Growth centres

GROWTH CENTRES	FUNCTIONS, GROWTH INDUCING FACTORS AND CHALLENGES
Kabarnet	• County headquaters. • Good infrastructure furniture (good internal circulation and regional linkages), • Presence of banking institutions and higher learning institutions. • Airstrips and Museum. • Kabarnet district Hospital (to be upgraded to referral hospital). • Economic hub. • Tourism potential. • Challenges • Solid and liquid waste management. • Urban sprawl. • Poor provision of pedestrian infrastructure.
Eldama Ravine	• Subcounty headquater. • Serve as administrative headquaters for Mogotio (some functions have been moved to Mogotio). • Commercial hub. • Good transport linkages (rail and road) and streetlighting. • County forest headquaters. • Surrounding farming activites. • Horticulture and tourism. • Challenges • Poor sanitation. • Poor provision of pedestrian infrastructure. • Encroachment and contamination of Eldama Ravine river. • Emergence and growth of informal settlements.
Marigat	• Subcounty headquaters for Baringo south. • Economic hub due to irrigation, livetock keeping and tourism in the region. • Perkerra irrigation scheme. • Good transport network and street lighting. • Tourism and natural resources.spured by presence of L. Bogoria and L. Baringo. • Polytechnic and research institutions such as KALRO. • Presence of NIB in Marigat inn. • Industrialization. • Challenges • Insecurity • Sanitation challenges. • Lack of water supply. • Invassive mathenge plant. • Urban sprawl.
Kabartonjo	• Sub county headquaters for Baringo North sub county. • Presence of Kabartonjo health centre and police posts. • Farming activities and tree logging activities in the neighborhoods. • Presence of good road network (Kabarnet-Kabartonjo-Barwesa) • Poor water supply in the urban area. • Commercial hub. • Challenges • Urban sprawl • Sanitation challenges

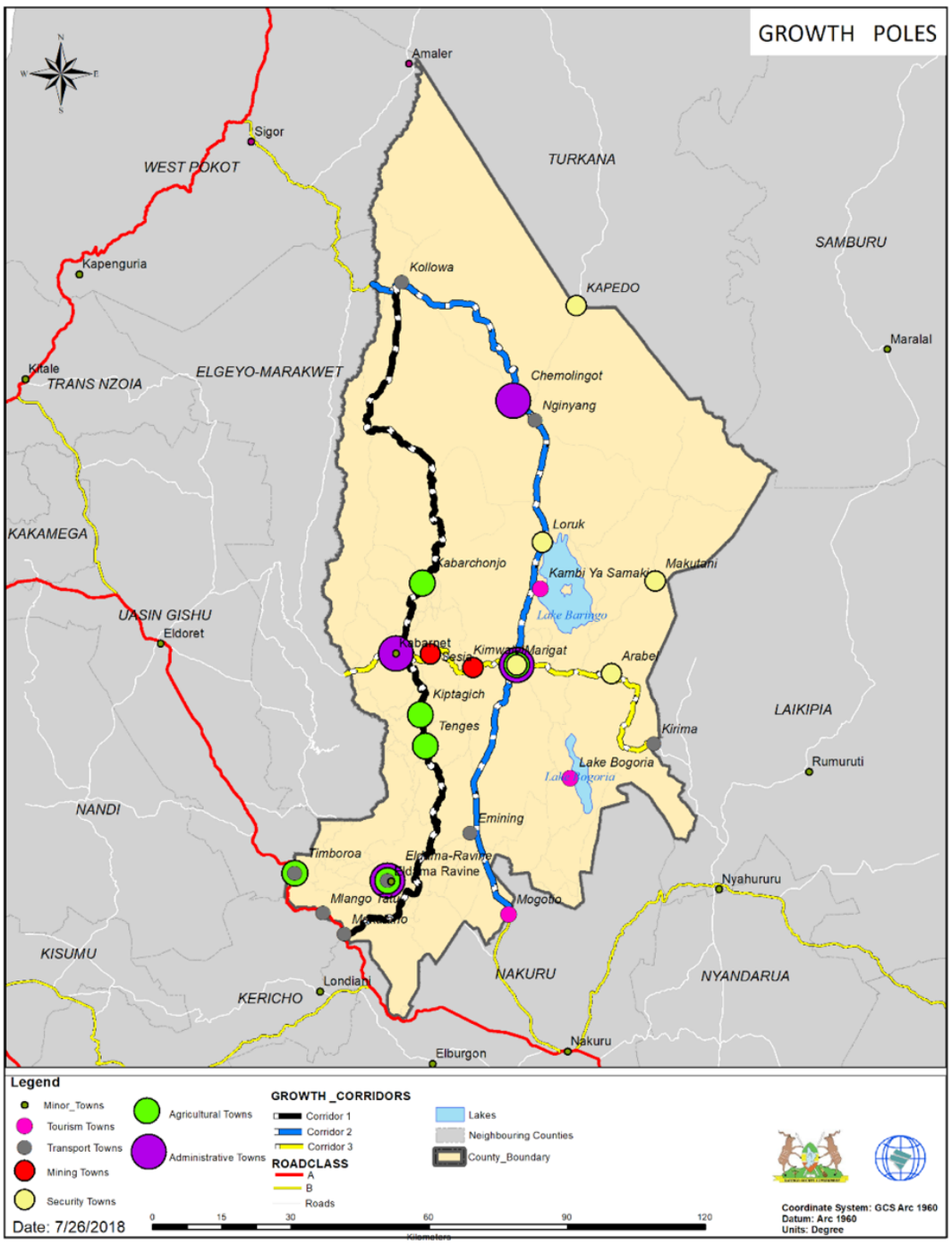
GROWTH CENTRES	FUNCTIONS, GROWTH INDUCING FACTORS AND CHALLENGES
Mogotio	• Sub county headquaters for Mogotio sub county. • Police station and district hospital. • Good stransport network. • Presence of Mogotio polytechnic and baking institutions. • Gateway to Baringo county. • Equator line and tourism. • Commercial hub (for retail, wholesale, auctions and market yards). • Proximity to sisal plantations and industries. • Challenges • Poor water supply. • Lack of sewerline and dumpsites. • Poor drainage system and streetlighting. • Poor urban infrastructure and street lighting systems. • Decaying CBD.
Chemolingot	• Subcounty headquaters for Tiaty subcounty. • Police station and health centre. • Good transport linkage. • Commercial hub (animal auctions, Market, retail and wholesale, Banking) • Challenges • Lack of LPDP • Lack of street lighting. • Poor water supply

8.3.5. Urbanization Trends and Future Projections

8.3.5.1 Growth Poles

The principal urban centre s and growth centres in the county are Kabarnet, Eldama ravine, Mogotio, Chemolingot and Marigat. The current Drivers of urbanization in the County include natural resource potential, administrative function, tourism and culture, transport connectivity, Growth centre potential, security, agricultural, education hub and growth centre potential. Urbanization follows transport corridors in the county.

Map 40: Growth Poles in Baringo



Urbanization aligned along three major corridors.

Corridor 1: -

It follows a transit route through Tugen hills. The centres in the corridor include Timboroa-Tenges-Kabarner to Kakapul in Tiaty.

Corridor 2:

The corridor follows class B4 road through Mogotio-Marigat to Kolowa. The corridor follows the lowlands and it is the major tourist circuit in the county.

Corridor 3:

Urbanization corridors linking the lowlands and highlands include the roads from Mochongoi thru' Marigat to Iten through Kabarnet and Road from Nakuru to Metipso through Eldama Ravine.

a) Growth Centres Potential

With the rapid urbanization and population increase, various urban centres have strong economic functions that are driving development in the county. These offer massive employment opportunities, increase access to services and overall better living standards. The urban centres have a great development potential as their activities act as pull factors for development.

POTENTIAL GROWTH CENTRE	PULL FACTOR
Kabarnet Town	Administrative Function, level of service provision, agricultural success, scenic view and meandering roads
Eldama Ravine Town	Agro-industrial induced growth- Strong horticulture and agricultural base.
Timboroa Centre	Lumbering and Logging activities and related industries as a prime shaper of development.
Marigat	Agro-industrial induced growth-Pekerra irrigation scheme and related value addition activities as core movers of development.
Mogotio Town	Administrative function, institutions and livestock related industries.
Chemolingot Centre	Administrative and proximity to LAPSST corridor.
Kabartonjo Centre	Administrative function, lumbering and logging activities and related industries as a prime shaper of development.

b) Transport Driven Growth

Existing Railway- This route to Busia offers prime opportunity to compliment the vibrant logging industry. Timboroa Urban centre has a potential of Logistics Hub- The border urban centre is strategically placed along the A104 corridor thus making it a prime area to establish a logistics hub for ease of transit of goods and services.

c) Natural Resource Potential

The massive green energy potential of the county is going to be a great driver of growth and development in the years to come within Baringo. There is high potential for geothermal power in Arus and L. Bogoria, Silale and areas around L. Baringo.

The Mathenge Power Plant that uses biogas energy to generate power. This will attract establishment of more economic activities, industries and human settlements. Wind energy potential in Eldama Ravine areas. This will attract Human settlements.

d) Education and Research Institution Hub Potential

Presence of Kisii University, Moi University, County University (proposed) and Egerton University in Kabarnet Town have a great potential to spur development within and around the town. Other towns that have education and research hub potential include Mogotio, Marigat and Eldama Ravine.

e) Tourism and Culture

The rich culture and heritage of the diverse communities in Baringo county offers a high potential for tourist attraction opportunity. Lake Baringo and Lake Bogoria offer rich panoramic views. Tourism and culture potentials if exploited fully can drive growth in the county.

8.3.5.2 Patterns of Urban – Rural Development

The degree of urbanization in Baringo County is very low. There is need to develop and evaluate strategies that can be used to develop both rural and urban areas. Models for projections of urban and rural linkages are discussed herein.

a. Model of concentration

The model allows natural market forces to prevail. Large towns like Kabarnet and Eldama Ravine are left to grow more rapidly than the emerging towns. Large towns grow rapidly because of high economic momentum. The emerging and smaller towns are left to grow slowly because of less economic momentum.

Growing urban settlements will lead to encroachment of neighbouring land uses and exert overwhelming pressure on the existing urban facilities and amenities. The model is not appropriate for urban – rural linkage as it leads to underdevelopment of rural areas and urban congestion.

b. Model of complete dispersal

The model requires dispersal of government (county and national) and private capital investment in every feasible place throughout the county. It aims at opening up all areas for development. The model however is hard to implement because of preference of private investments

and inadequate support infrastructure for the dispersed government functions.

c. Model of selective concentration

Due to unequal economic development of urban areas, there is existence pole centres which are rapidly growing faster than other centres. The model is urban oriented as it deals with distribution of urban and industrial growth functions.

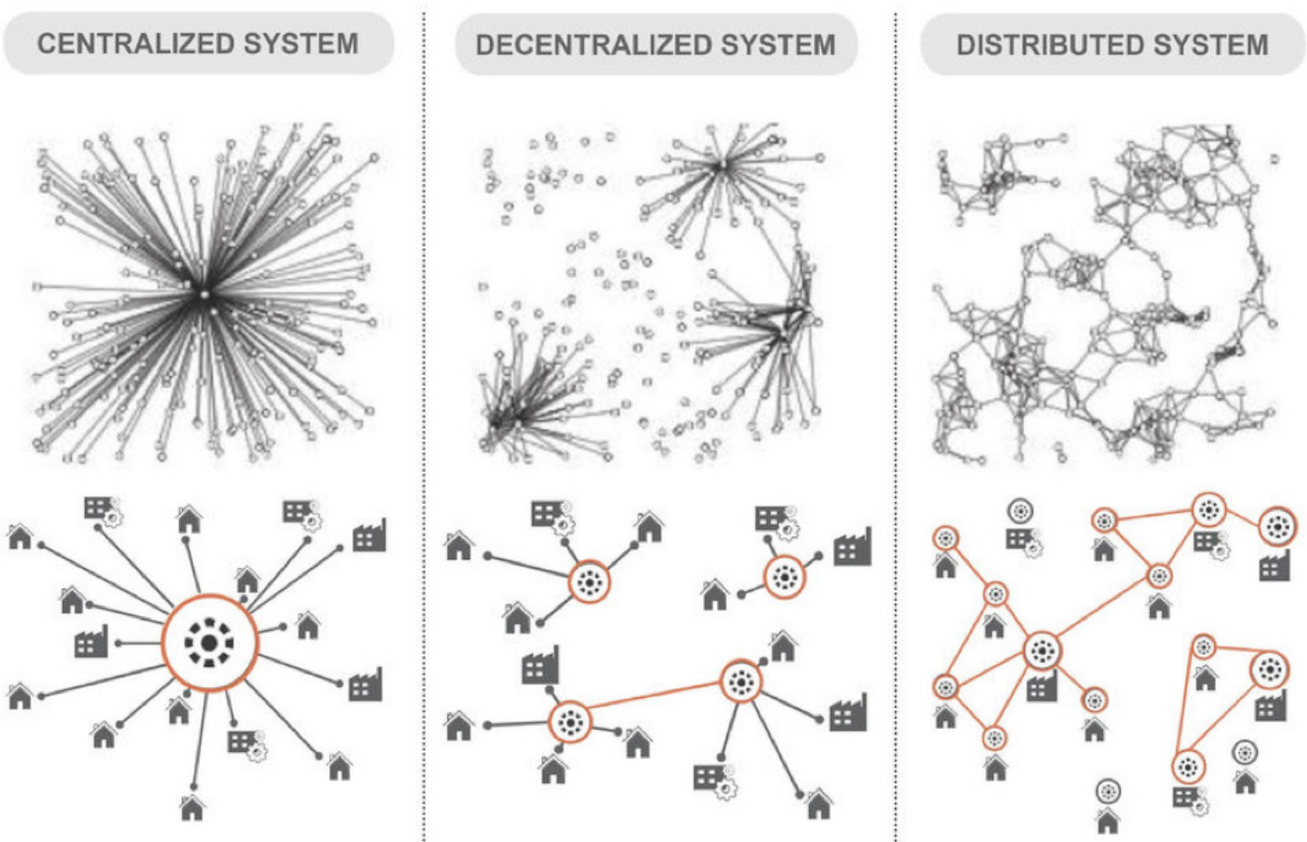
d. Model of Selective dispersal

It is the most employed model in the current settlements. Large concentrations of settlements attract services and government functions. Services that are found in these settlements include health centre, markets, education, administration and handling of agriculture processing. The model is good for the linkage of urban and rural areas.

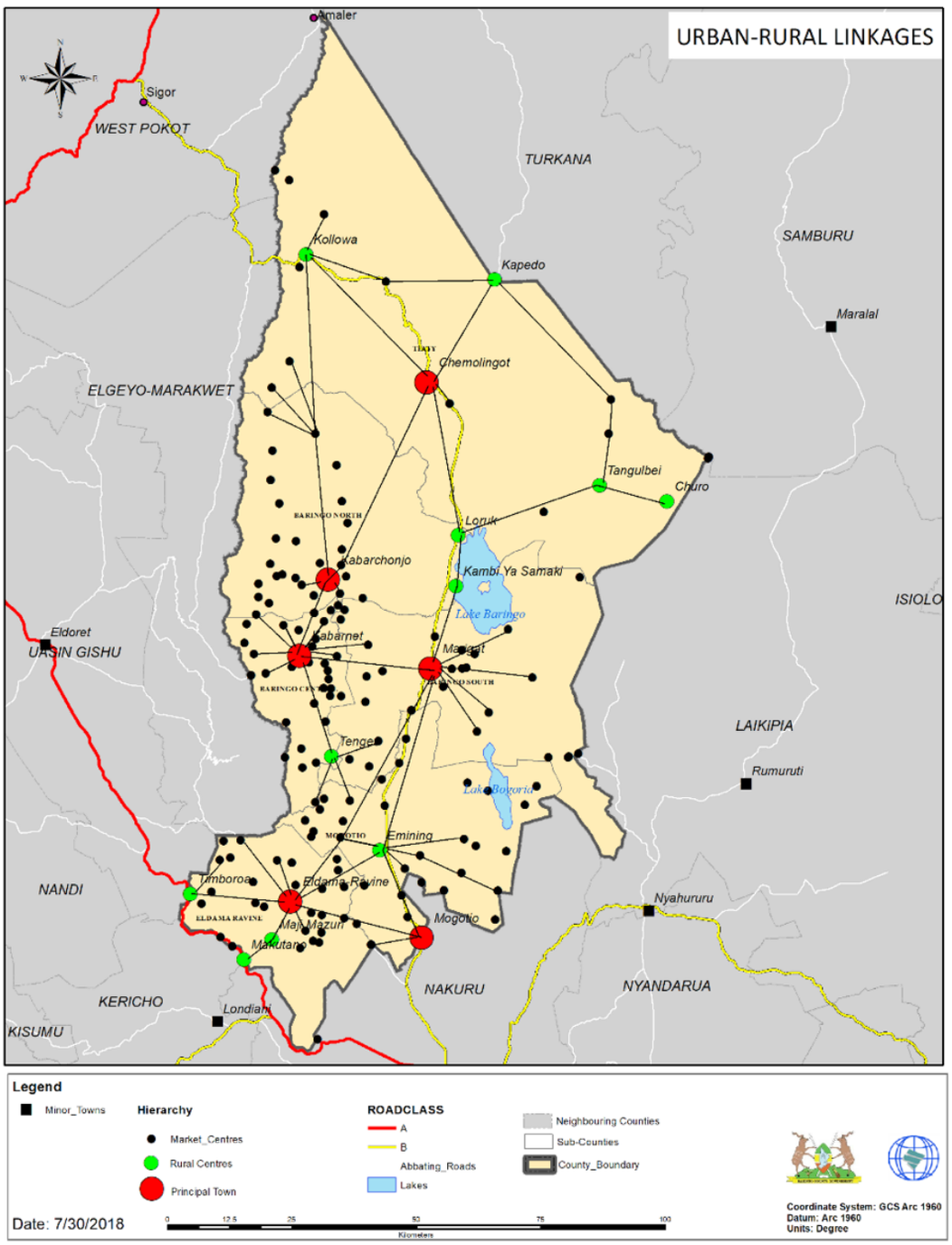
8.3.5.3 Preferred model for urban – rural linkage

Urbanization in Baringo County is very low. The economy of the county is highly dependent on rural population. It is prudent therefore, to develop both urban and rural economies through model of selective dispersal.

The model encourages provision of urban services and amenities in existing and emerging centres throughout the county. Market, health centres, education, administration, handling of livestock and agricultural processing plants are selectively dispersed in areas where there are settlements. Government functions and private investments are distributed in the county based on concentration of settlements and administrative boundaries.



Map 41: Possible growth Modell model of selective dispersal



- Tiaty Sub County has least linkages due to wide are and least economic variables.
- Kabarnet town serves many Rural and market centres. This is due to high end functions and services of the town.
- E/Ravine town serves smaller region and interact with other rural centres trading in agricultural produce.
- Marigat is the economic hub of the lower region. Tourism and irrigation leads to high level of interactions with the rural centres.
- Kabartonjo town interacts with less rural centres because of less rural centres in the region and less urban functions.
- Chemolingot urban centre serves wider region. Administrative and commercial functions of the town.

In bid to accelerate rural development, there is need to spur selective dispersal and integration of urban and rural economies to realize sustainable development.

8.4. Housing

Baringo County experiences an acute shortage of housing and there is an urgent need to mobilize investment into housing to attract entrepreneurs and investors. This requires tracking of housing stock within the county to know the housing deficit.

8.4.1. Housing typologies

Housing typologies are also largely influenced by the level of services within the County and also by the indigenous culture of the people. Nomadic pastoralism as a way of life is predominant in the planning.

Majority of people within the study area use mud/wood for construction of their houses as this is easily available and affordable. A smaller percentage of the population use brick and blocks. This can be attributed to the nomadic nature

and lifestyle of the various communities in the region thus the need for temporary structures that can be easily demolished when need arises. However, it is important to note that the plot densities around Kabarnet town are beginning to increase and this will require development control in future.

Grass thatched and Mud wall houses in Emining

High Rise development constructed from cement and blocks in Kabarnet

Source: Field Survey, 2016

Urban settlements in the county are both nucleated and clustered. There is need for guided development with adequate provision of social and physical infrastructure. There is need to control development of temporary structures in urban areas to curb growth of informal settlements. There is need to improve provision of amenities in rural areas in the county. Waste disposal in both urban and rural areas need to be improved.

8.4.2. Housing materials

Floor material

In Baringo County, 25% of homes are constructed by use of cement material, 73% have earth floors and less than 1% have tile floors. Baringo central has the highest share of cement floors at 46%. Tiaty has the least cement floors 4%. (Source of KNBS and SID, 2013).

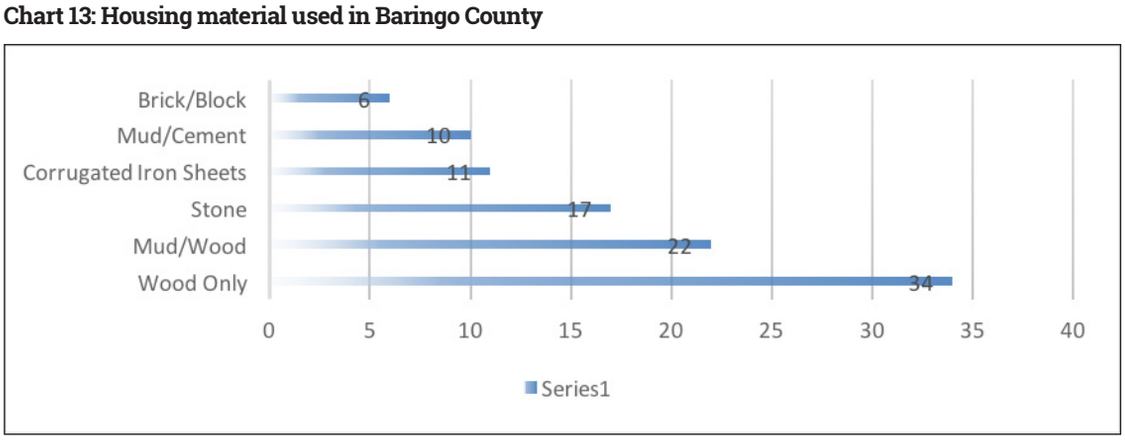
Roof material

Corrugated iron sheets are commonly used the county at 58% and grass and Makuti thatched houses 39%. Other roofing materials are mu/dung and concrete each at 1%. Ravine Sub County has most of the houses with corrugated roofs while Tiaty has the highest number of homes with Makuti roofs 92%. (Source of KNBS and SID, 2013).

Wall material

The most common material used in the county is mud/wood at 57%, wood only at 26%, grass/thatched walls at 2% while 1% made of tin and other materials. (Source of KNBS and SID, 2013).

Chart 13: Housing material used in Baringo County



Source: KNBS, 2009

8.4.3. Urban Informal Settlements

Informal settlements in urban areas are settlements that have no legal ownership of land they occupy and the buildings do not comply with planning and building standards. Informal settlements in the County include; Bondeni in Eldama Ravine, Bondeni and Kaptimbor in Kabarnet, Kivumbini and Kampi Turkana in Marigat and Katorong'ot in Mogotio sub counties. There is need for the county government to coordinate all slum upgrading projects in the county.The county government should facilitate the regularisation of slums and informal settlements, towards providing sustainable housing solutions.

8.5. Emerging Issues

SECTOR	OPPORTUNITIES	CONSTRAINTS
Urban settlement	• Growth Centre opportunities. • Reclassification of Baringo urban centres most have outgrown their current designation. • Sustainable solid waste disposal opportunities within the urban centres. • Urban centres linked to transit corridors.	• Urban sprawl encroaching on fragile ecosystem. • Lack of physical development plans and zonation plans. • Encroachment of forests reserves and fragile ecosystems. • The population growth in urban centres does not match the service provided.
Rural settlement	• Young population (human resources). • Irrigation opportunities to boost the food security. Irrigation can be done along rivers and using water from lake Baringo. • Service provision.	• Westernization and erosion of culture. • Encroachment of forests reserves and fragile ecosystems. • Subdivision of land in areas with high agricultural potential. • Insecurity in some areas of the county • Poor access to social infrastructure and amenities. • Animal – wildlife conflicts. • Rugged terrain making areas difficult to access i.e. Waseges.
Housing	• Construction skills are taught in local institutions within the county. • Availability of construction materials in the county i.e. sand, building stones, water, grass for thatched houses. • National housing policy. • Shelter is a basic need and an integrated land-use • Need for increased investment and funding in the housing sector	• Land tenure dynamics in the county. (Lack of titles and other identifying documents in some areas). • Housing shortages in urban areas. • Access to amenities problems.

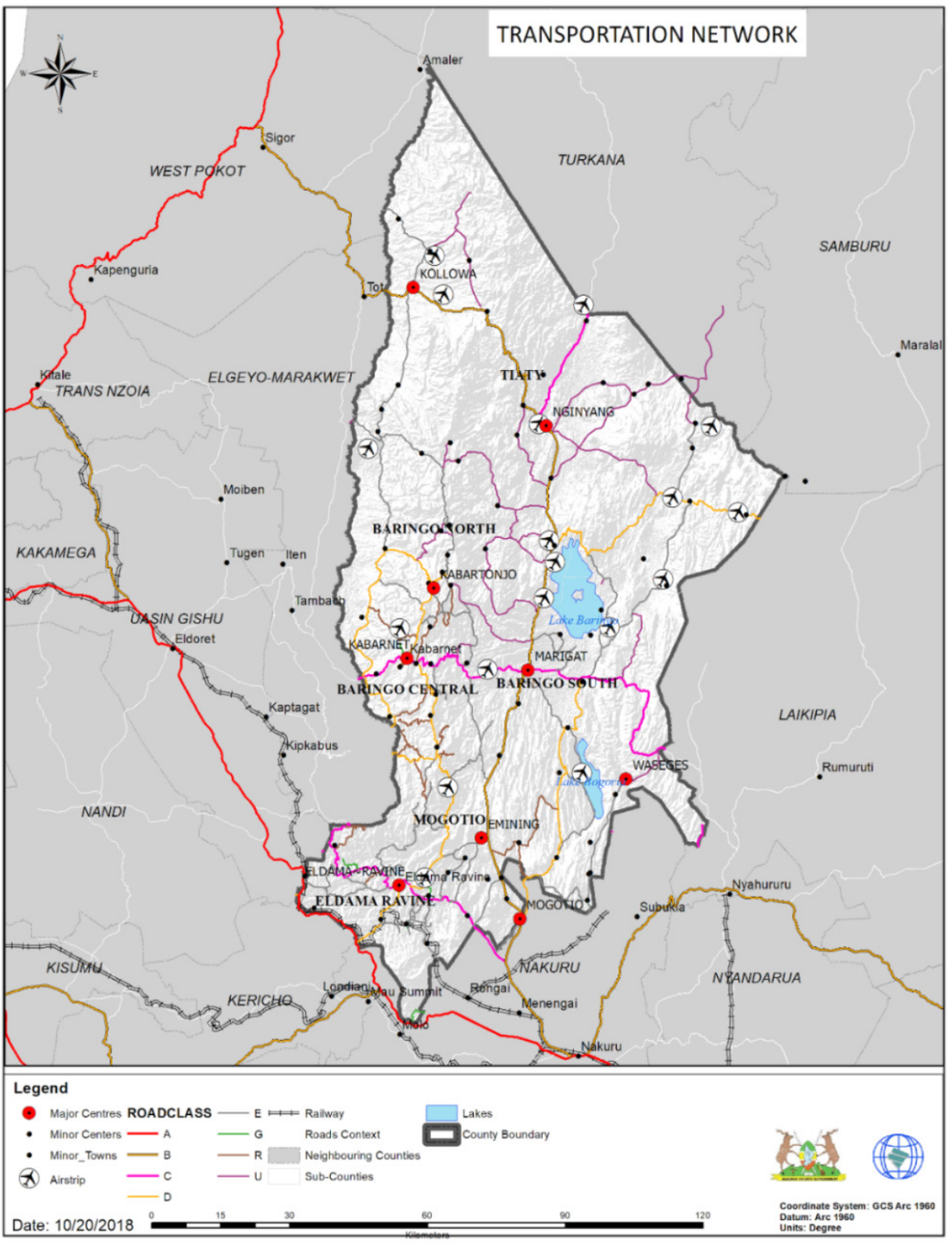
CHAPTER NINE

Transport, Infrastructure and Services

9.1 Transport Network and Distribution

Transport infrastructure consists of fixed installations (such as roads, railways, airways, waterways, and canals) and terminals (such as airports/airstrips, railway stations, warehouses, trucking terminals, and refuelling depots). Transportation is important because it facilitates economic, industrial, social and cultural development. It also contributes to shaping land use patterns and structures as well as human settlements.

Map 35: Transportation Network



9.1.1 Road Transport

9.1.1.1 Road Network

Road transport is the major mode of transport as it caters for pedestrians, motorbikes, transit matatus and buses, lorries and private vehicles. The road network in the County is poor, as there are few classified roads. The County has a total of 5,943.92km of road with Class B, D, E, G, R and U having 66.4km, 339.22km, 1810km, 46.85km, 1,538.08km, and 2043.37km respectively (CIDP, 2018).

Table 24: Road Classification

CLASS	DESCRIPTION	LENGTH (KM)
A	International link roads	LAPPSET Proposed 100km
B	National trunk roads – linking provinces and counties	66.4
C	Primary roads – linking important centres or to higher class roads	
D	Secondary roads – linking important centres together	339.22
E	Minor roads – linking minor centres	1810
G	Government roads	46.85
R	Rural access roads	1,538.08
U	Unclassified roads	2,043.37
Total		5,943.92

Source: Draft Baringo CIDP, 2018-2022

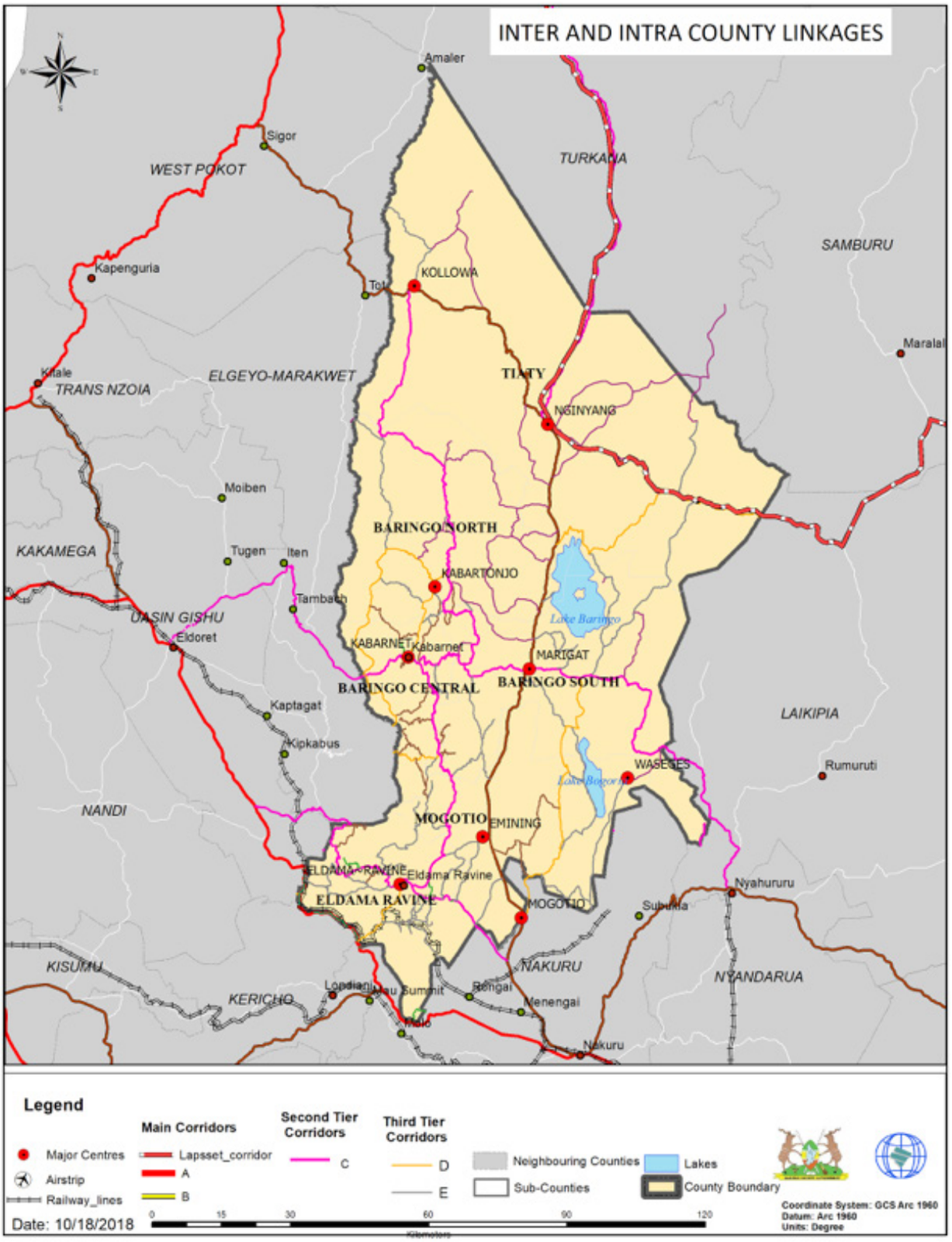
Factors influencing Transport Networks

- **The terrain:** The areas that are relatively steep have hindered connectivity due to the high initial infrastructure costs involved in road development. For example; there are no roads connecting the upper end to the lower end of the Kerio valley. In the steep areas i.e. highlands the roads are rugged and in the lowlands the roads are relatively smooth.
- **Resource endowment** - In places such as Silale, it is well connected because of the ongoing GDC projects, Eldama Ravine due to its high agricultural potential and Marigat due to its tourism attractions. This has enabled to capture resource and market opportunities.
- **Need for intra-county linkages**- The county has seen economic opportunities to enable regional competitiveness
- **Demand driven**- Due to increasing urbanization, it presents the need for flow of goods and services. The transport corridors Class B and Class D and E roads influence urbanization in the region.
- **Political factors**

Transport and Connectivity

There are poorly connected areas in Mogotio, Baringo Central and parts of Baringo South sub counties. Some of these areas include Kapkelelwa, Sabor, Turkwo and Kapcherebet. Kollowa, Saimo, Trimion.

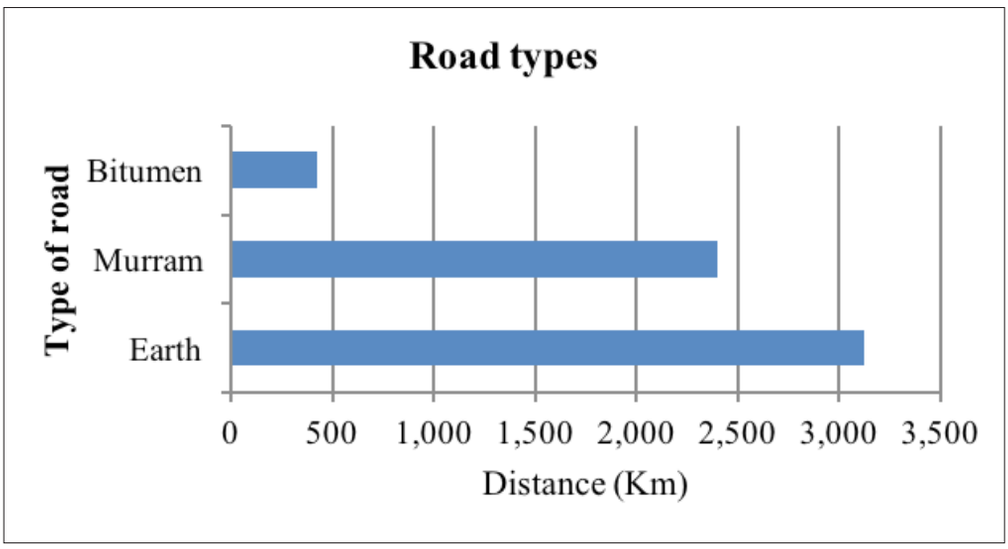
Map 36: Inter-county and Intra-county linkages



9.1.1.2 Road types

Majority of roads in the County are mainly earth and mixed type, which are located in the highlands and the bitumen roads are mostly found in and around the urban centres. The County government has taken the initiative to ensure upgrading, maintenance and improvement of all the earth and gravel roads.

Figure 13: Road types



Source: Draft Baringo CIDP, 2018-2022

9.1.1.3 Road conditions

The major arterial roads traversing thought the major urban centres such as Kabarnet- Iten road (C51), Nakuru-Marigat road (B4) and C55 road are paved and considered to be in good condition.

However, the access roads within the CBD, which link the towns to the peri-urban areas are in poor condition. The roads within the town centres are relatively narrow and have not catered for Non-Motorized facilities such as footpaths and cycling lanes. There is a need for facilitation of road expansion to accommodate non-motorized traffic facilities in Kabarnet, Marigat, Kabartonjo, and Eldama Ravine towns. In the rural areas, majority of the roads are either earth or gravel roads. There are only 15.4% of paved roads in the County. This is attributed to the steep/ harsh terrain and the vastness of the region which makes infrastructure development costly. Consequently, this has resulted in the inability to transport goods and services to the markets and the inaccessibility to public facilities like schools and health centres.

In the highlands, such as; Timboroa, Tenges, Mumberes, Sirwa and Torongo, have high agricultural potential, but the poor road network and inaccessibility during the rainy seasons has limited their agricultural development. In the lowland areas, such as; Marigat, Tiaty and Mogotio there is high potential for livestock and livestock products, but transportation challenges have limited exploitation of the above resources and industrial development.

9.1.1.4 Means of Transport

a) Motorized Transport

Motorized transport is composed of public and private transport. Public transport is generally the main means of motorized transport in the County.

1. Private Transport

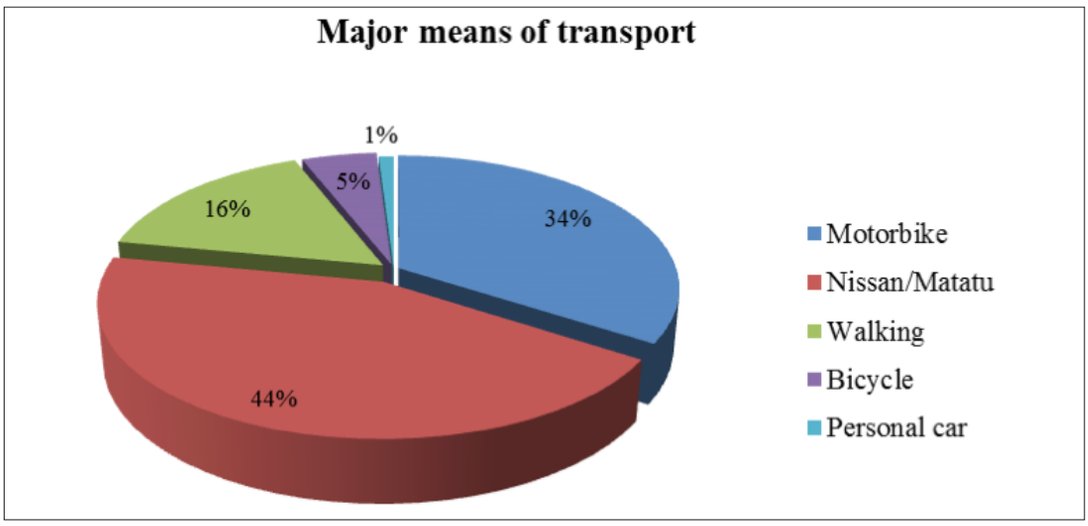
Private transport is composed of personal cars and motorcycles. Private transport is however common in major urban areas, especially in Kabarnet and Eldama Ravine towns and its environs.

2. Public Transport

The key means of transport in the County is the use of Nissan/Matatu and Boda boda services. A good number of the population use matatu `s for travelling long distances as well as, connecting from urban centres to small towns and vice versa. Motorbikes are also commonly used for shorter distances to the nearest centre/facilities such as; schools and health centres.

The main challenge facing public transport in the region is the poor road network and conditions. This has resulted to limited transport options that are cheap, comfortable and safe for People with Disability and women which hamper access to employment, as well as contribute to weakened social networks. It is therefore important to provide multi-modal transportation systems that can provide much needed options for people who typically lack options, like women, children, the disabled and the poor. It is also necessary to ensure linkage to public transport as it is an important consideration for safety in urban areas.

Chart 14: Major means of transport



Source: Field survey, 2016

The preferred means of transport by the people is motorcycles. This is because it is convenient and appropriate in the rural areas because of its ability to navigate in the bad roads in the region.

b) Non-Motorized and Intermediate Means of Transport (NMIMTs)

Non-Motorized and Intermediate Means of Transport (NMIMT) include head loading, on bicycles, motorcycles, or through animal transport. NIMTS is an important means of transport both in urban and rural areas. It is mainly used to support rural mobility needs between homes and farms, markets, rivers, meeting grounds, schools, dispensaries, churches, local administrative offices and rural homes. These journeys facilitate the production of goods and their movement to markets and their supply to urban areas.

In the County, NMT comprises of Boda boda, walking, and animal transport. There is animal transport, i.e. use of donkeys to transport goods in places such as Mogotio and Chemolingot. This is because of the lack of proper road networks.

The existing road network in urban centres does not cater for NMT provision. This is attributed to the poor design of roads i.e. the roads are narrow and do not meet the standard width required. Therefore, the county has not provided for NMT facilities such as pedestrian sidewalk networks and bicycle/ motorcycle lanes. Lack of NMT facilities hinders the ability of women, children and People with Disability to effectively use NMT means of transport. This is because without the provision of cycle lanes or safe areas for cycling especially in the urban centres these vulnerable groups feel unsafe in congested roads (UN-Habitat, 2015). It is thus important to provide adequate space for pedestrian sidewalk networks and designate bicycle/motorcycle lanes to ensure safe, comfortable, and easy movement in urban areas as well as involve all groups of people in the planning and design of NMT facilities.

c) Parking facilities

The County has three operational bus parks, which include: Eldama Ravine, Kabarnet and Marigat bus parks. There are limited parking facilities for boda boda, taxis and Lorries within the urban centres. However, the county government has improved parking bays and parking lots for cars within Kabarnet CBD. The existing parking areas have not demarcated sections for People with Disability. This leaves the People with Disability to compete for the limited parking spaces available.

9.1.1.5 Effect of climate change on road infrastructure

Climate change poses a critical threat to road infrastructure. Extreme weather conditions pose a costly hazard to roads in terms of degradation, necessary maintenance, and potential decrease in lifespan due to climatic impacts. The climatic events have resulted to lost connectivity, traffic accidents and reduced mobility.

In Baringo county, certain areas face severe environmental degradation. Some parts are covered with deep gullies especially in Tiaty, Mogotio, Kerio Valley and lower parts of

Eldama Ravine. In lower zones of Mogotio and Tiaty sub counties, flooding has destroyed roads causing inaccessibility to various centres e.g. Kisonei to Eitui and poor connectivity between Baringo and Elgeyo Marakwet county. Bridges have been washed away by floods. Some of these bridges affected include; Kabasis-Sosion, Kollowa bridge aming others. This has paralyzed transportation trickling down to businesses and education affected in the area since there is no connectivity and traders or children cannot ferry their goods to the market.

Challenges in road transport sector

The major challenges faced in the County while using road transport are: poor road conditions, especially during rainy seasons, no feeder roads, lack of bridges, expensive transport fares and inadequate public means of transport in some parts of the sub-counties such as Kirobon, among others.

9.1.2 Air Transport

The county has twenty-one (21) airstrips, but currently only three (3) airstrips are functional. These include: Kabarnet airstrip, Kimalel airstrip and L. Baringo airstrip. The rest are dormant because they have not been serviced with the necessary facilities. There are also several un-gazetted helipads in all the sub-counties that require permission to land. These include school playfields, forest glades, bare hilltops and open grasslands.

Kabarnet Airstrip has a tarmacked runway, however, it is rarely used (one (1) flight per week), because the wind direction is not conducive. KAA has plans to upgrade the airstrip and operate 2 flights per week. The Lake Baringo Airstrip has just a runway with no airstrip related facilities. The airstrip is mostly used by tourists. It is important for the County government to upgrade the status of the airstrips and airfields to accommodate more traffic and boost the economy of the County through import and export trade.

The names of Airstrips and condition are listed in the table below:

Table 25: Airstrips

AIRSTRIP	CONDITION	REMARKS
Kabarnet Airfield	Serviceable, Tarmacked, with1.7km runway, Gazzetted	Has an all-weather access road to Kabarnet town, parking bay and security housing. Urgently requires rehabilitation as well as windsock replacement.
Kimalel Airstrip	Partially serviceable, Dirt surface, Gazzetted	Apron and access under encroachment
Marigat Airstrip	Unserviceable, Dirt surface, Gazzetted	Apron and access under encroachment
Lake Baringo Airstrip	Serviceable, Dirt surface Gazzetted	Currently handling tourist traffic. Urgently requires rehabilitation and facility provision. On the western shores of the lake
Loboi Landing Strip	Unserviceable, Not gazzeted	Airstrip has been submerged in Lake Bogoria
Eldama Ravine FTC Airstrip	Unserviceable and Gazzetted	Land under cultivation. Urgently requires restoration
Kamara Airstrip	Disused and decommissioned	Area demarcated for settlement
Tinomoi Landing Strip	Disused	Land under dispute
Kiserian Airstrip	Currently under reconstruction	On the eastern shores of Lake Baringo
Mukutani Airstrip	Partially serviceable	Needs rehabilitation
Loruk Airstrip	Disused	Urgently requires reconstruction. Land is available and has been set aside.

Tangulbei Airstrip	Disused	Urgently requires reconstruction. Land is available
Churo Airstrip	Disused	Urgently requires reconstruction. Land is available
Arus Aistrip	Serviceable	Needs rehabilitation and expansion
Nginyang Airstrip	Serviceable	Needs rehabilitation and expansion
Maron Airstrip	Disused	Needs rehabilitation
Kapedo Airstrip	Partially serviceable	Needs rehabilitation. Jointly used by Baringo and Turkana
Barpelo Airstrip	Not in use	N/A
Ngoron Airstrip	Never took off	Land available
Kinyach Airstrip	Serviceable	Needs expansion
TukTuk	Proposed	Land available – under grazing

Source: Draft Baringo CIDP, 2018-2022

9.1.3 Rail Transport

The Uganda rail road transverses through Eldama Ravine sub county. The railway line covers a length of 45km. There is only one functional railway station, the Timboroa railway station. The station has trains making 2 trips a day and its services are used to transport cargo and agricultural produce. However, the County does not utilize it effectively.

9.1.4 Water Transport

There are two types of water transport i.e. inland and ocean waterways. In the County, Lake Baringo falls under inland waterways whereby small boats are used by fishermen and tourists for transportation. The tourists are transported by boat to the islands where there are tourist lodges and also for site seeing. Fishermen use their boats to move to and from to the processing plants. The Njemps and Tugen communities who live on Olkokwe Island use the boats to travel to and from their homesteads. The residents of Mukutani area also use boats to across the lake since it's convenient and faster.

9.1.5 Emerging issues of Transportation

Impact of LAPPSET to the economy

The LAPPSET corridor consists of road, rail and pipeline infrastructure components. The presence of the LAPSSET corridor in the county will:

- Open up the marginalized regions of the county hence enabling improved security, poverty reduction and employment generation
- Facilitate the production and processing of livestock and agricultural products
- Enhance multimodal connectivity and linkage to domestic and global markets
- Facilitate regional trade and investment with neighbouring countries e.g. south Sudan

OPPORTUNITIES	CONSTRAINTS
• Promotion of inter-county linkages due to development of the LAPPSET corridor • Opening up/upgrading of strategic rural roads that will spur development and promote security • Well-articulated transport network. • Upgrading of all airstrips across the county to boost economic trade • Development of effective NMT facilities • Establishment of safe, comfortable public transport system • Construction of all-inclusive parking bays • Use of rail transport and restoration of dead railway stations • Emergence of new towns/ urbanization • Development of water transport in L. Baringo • Public Private Partnerships in road development	• Poor road conditions make some areas inaccessible (especially rural areas during the rainy seasons). • The lack of designated non-motorized transport spaces has led to frequent accidents involving pedestrians and boda bodas/bicycles in major towns. • The under-utilized and undeveloped airfields limit transport interchange options. • Lack of/ broken bridges on feeder roads • Poor rural-urban linkages hindering the transportation of produce and people to and from the market and urban centres • Under-utilized rail services • The lack of effective public transport system has alienated vulnerable groups such as People with Disability • Inaccessibility limiting response to conflict concerns

9.2 Energy

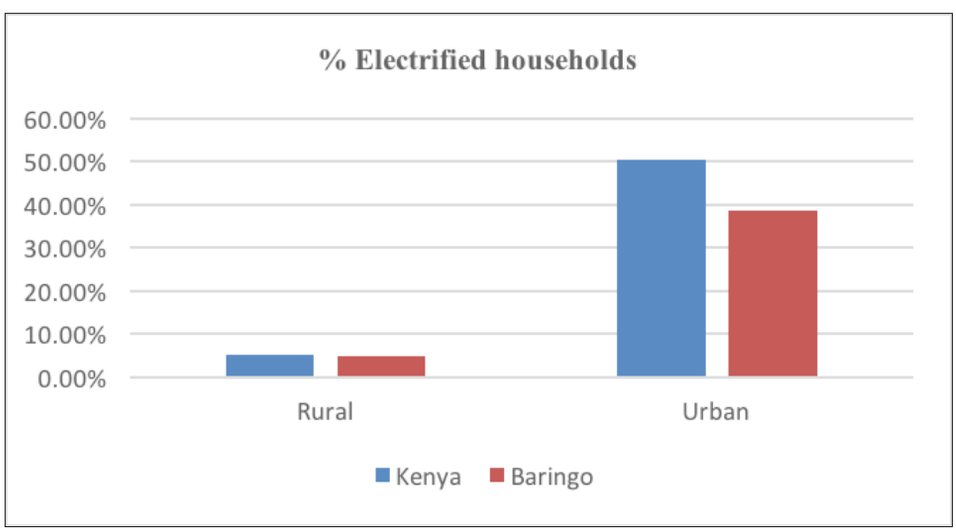
Energy sub-sector is regulated by Energy Act of 2006. Energy plays an important role in sustainable development and poverty eradication. The major sources of energy in the county are: Firewood, Charcoal in the rural across the county, while Electricity, LPG and Kerosene are used mainly in urban areas.

9.2.1 Energy Sources

a) Electricity Supply

The power supply network by KPLC is unevenly distributed, with only 16,190 customers connected, comprising of 8,926 in Kabarnet and 7,264 in Eldama ravine sub-counties respectively. The company has only two branches, one in Kabarnet town and the other one in Eldama Ravine town and there is an existing sub-station in Kipsaram. The main transmission line used is the Eldoret line (33KV).

The percentage of population able to access electricity energy is about 40%, which is mainly because of the expensive initial cost of installation involved and the steep terrain of the county which hinders electricity connections. The consumers of electricity consist of domestic, small commercial and large industries customers as well as small scale micro enterprises. In the rural areas, the electricity connectivity is at 4.7% which is low compared to the national average (CIDP, 2013).



Source: KNBS, 2009

Street lighting

Street lighting is necessary for security and lighting for services in the night. Street lighting coverage is along major roads in the urban areas of Kabarnet town. The County government is in the process of installing street lights in all the major centres.

Rural Electrification Authority

The Rural Electrification Authority has contributed towards electricity network expansion to public institutions in the County. This has enabled communities to benefit from the programmes. The number of public facilities the authority has been able to provide electricity is as follows:

Table 26: Public facilities

PUBLIC FACILITIES	ELECTRIFIED	NON-ELECTRIFIED	TOTAL
Primary schools	272	57	329
Secondary schools	156	0	156
Health facilities	187	0	187

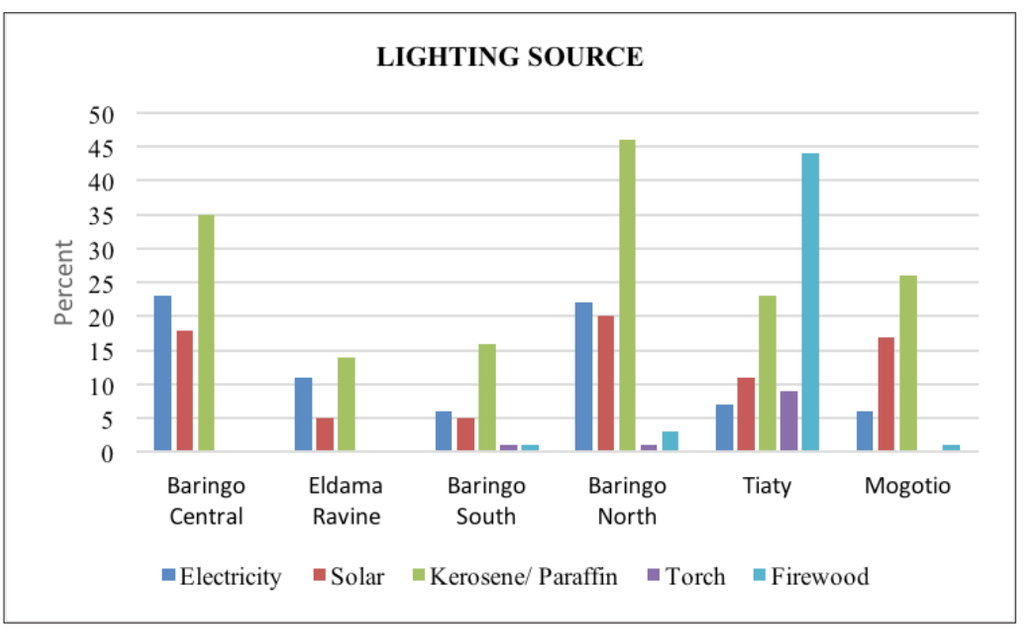
Source: REA, 2014

9.2.2 Energy Use

Energy for lighting

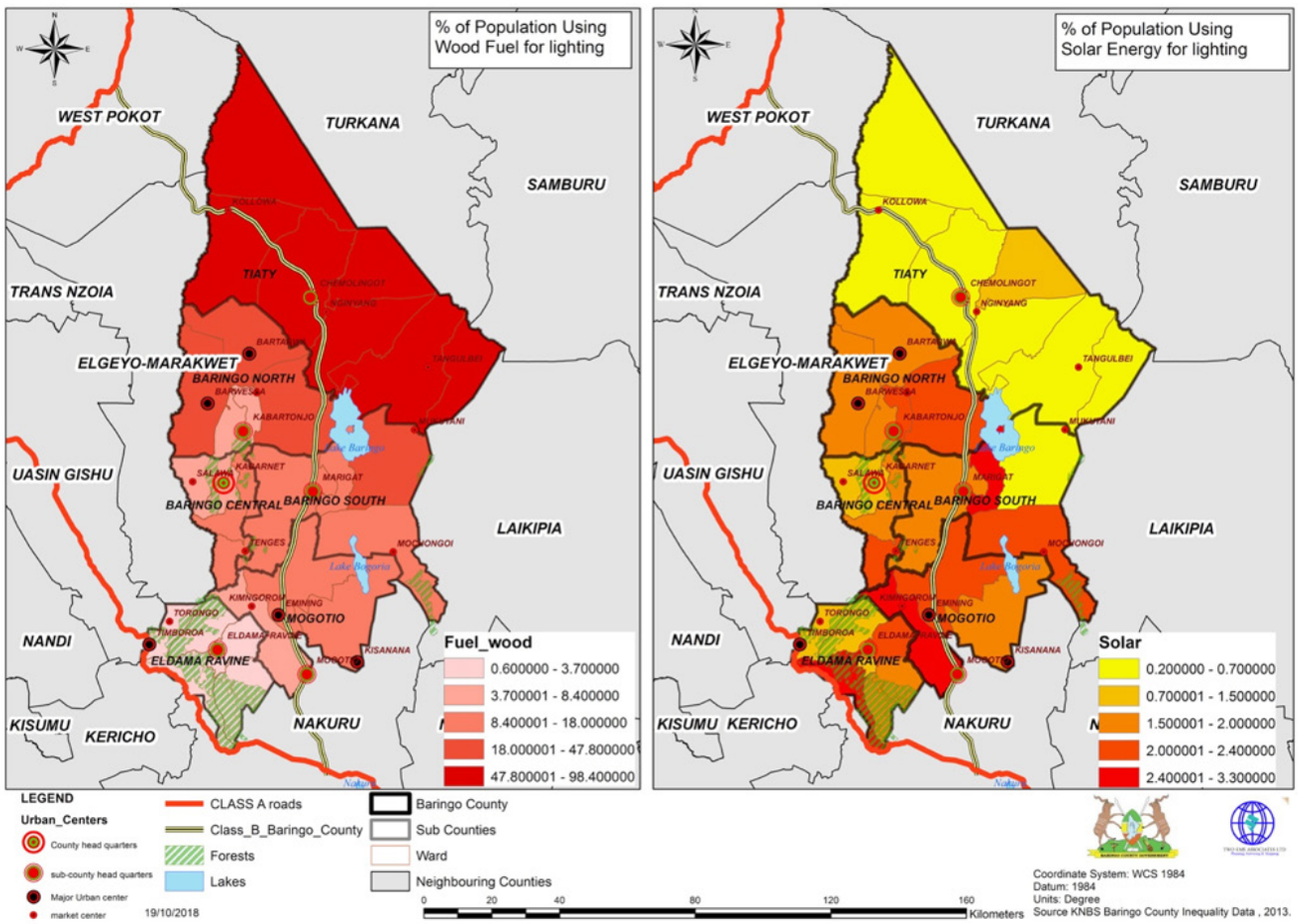
60% of the households in Baringo county use Kerosene/paraffin for lightning, while 10.9% use electricity for lightning. Only 2% of the households use solar power for lighting.

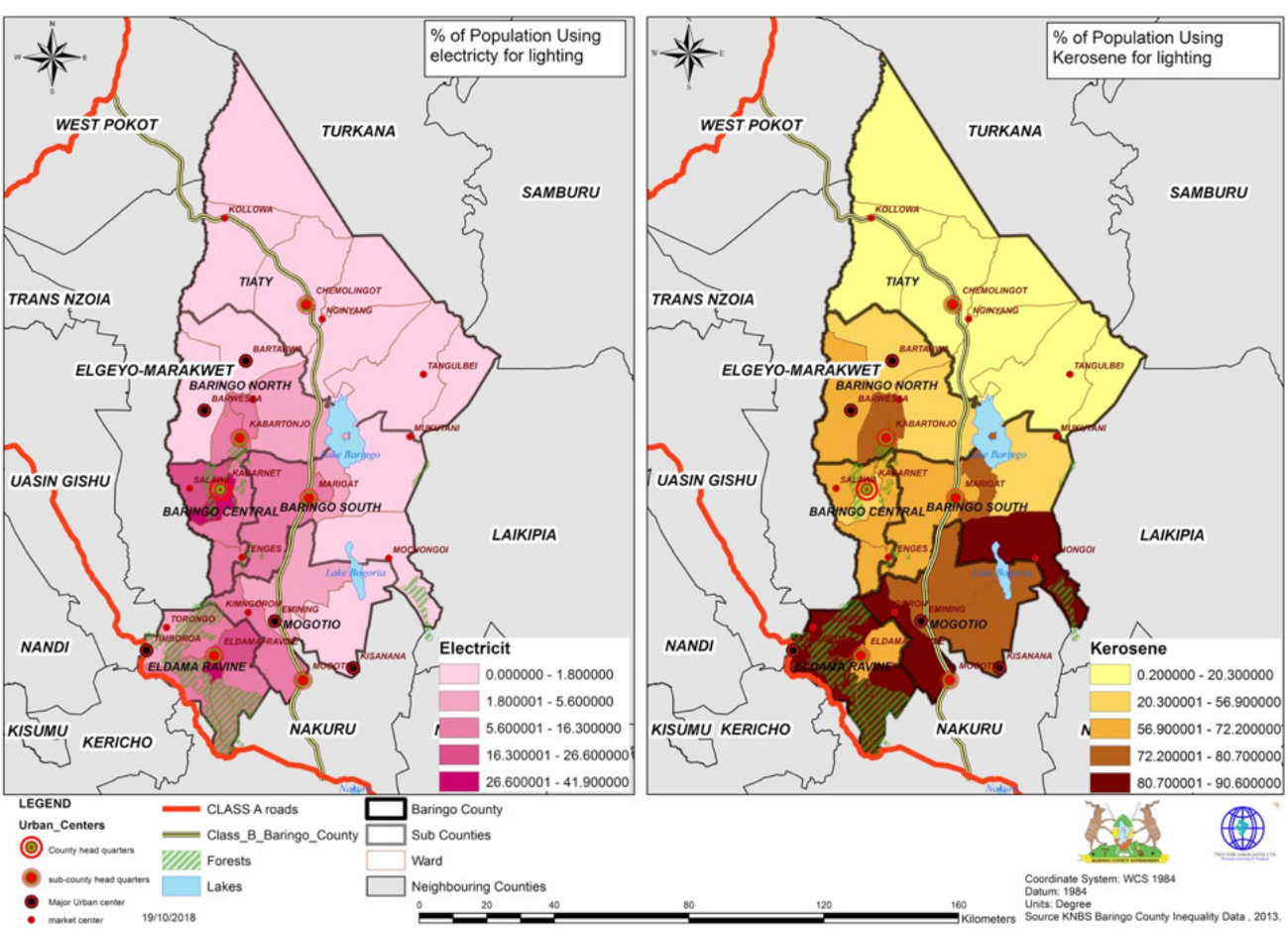
Chart 15: Energy source in Lighting



Source: Field survey, 2015

Map 40: Source of Lighting Energy

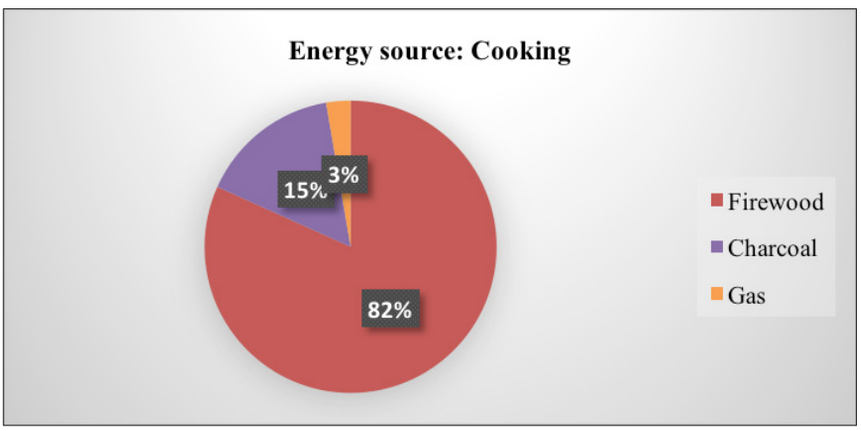




Energy for cooking

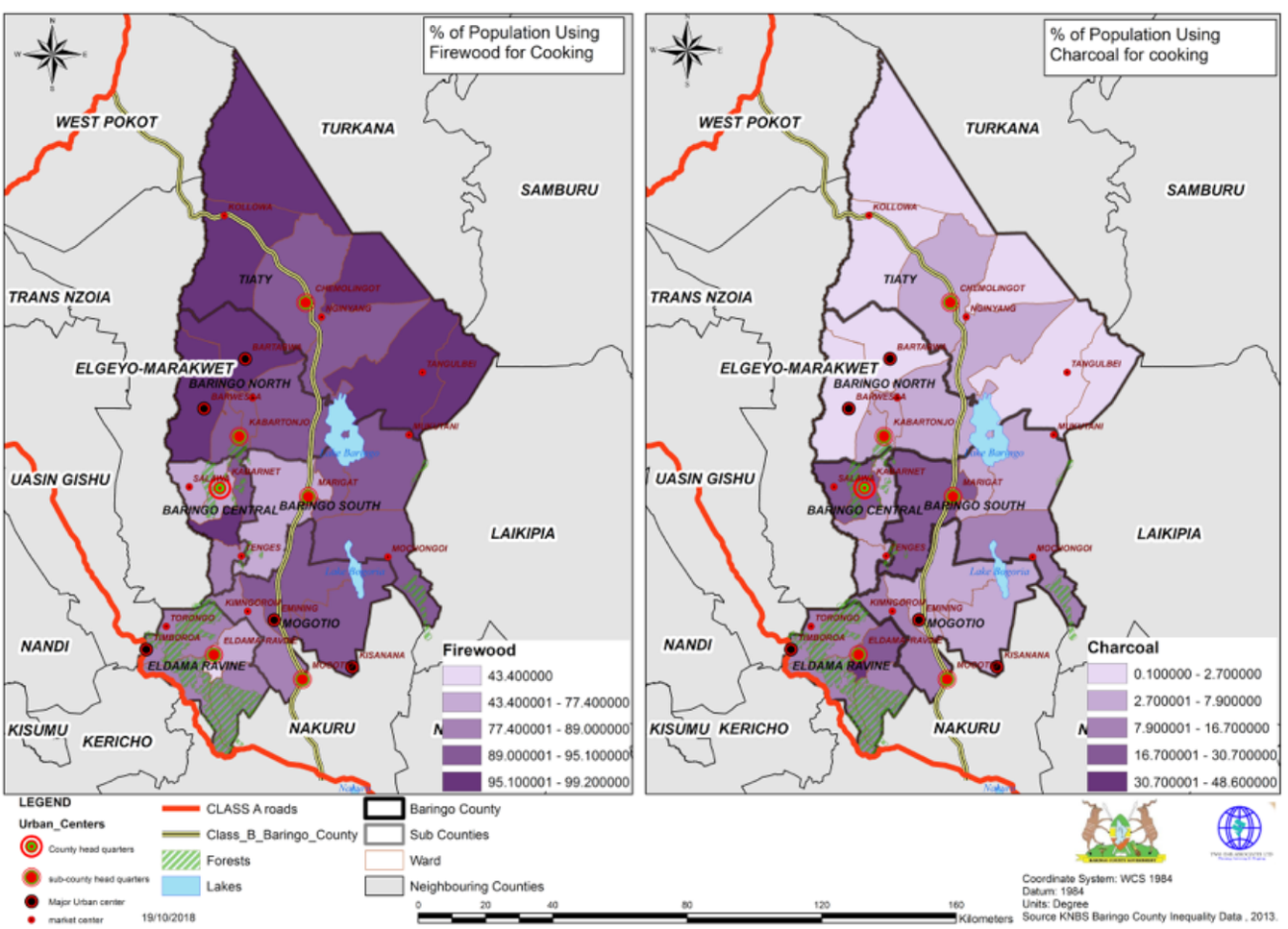
Majority of the households (82%) use firewood for cooking, followed by charcoal at 15%, 3% use LPG, this indicates the rate of overdependence on forest vegetation that has caused rapid depletion of forest cover in the County. It is necessary to encourage alternative sources of cooking to ensure forest protection and avoid soil erosion incidences.

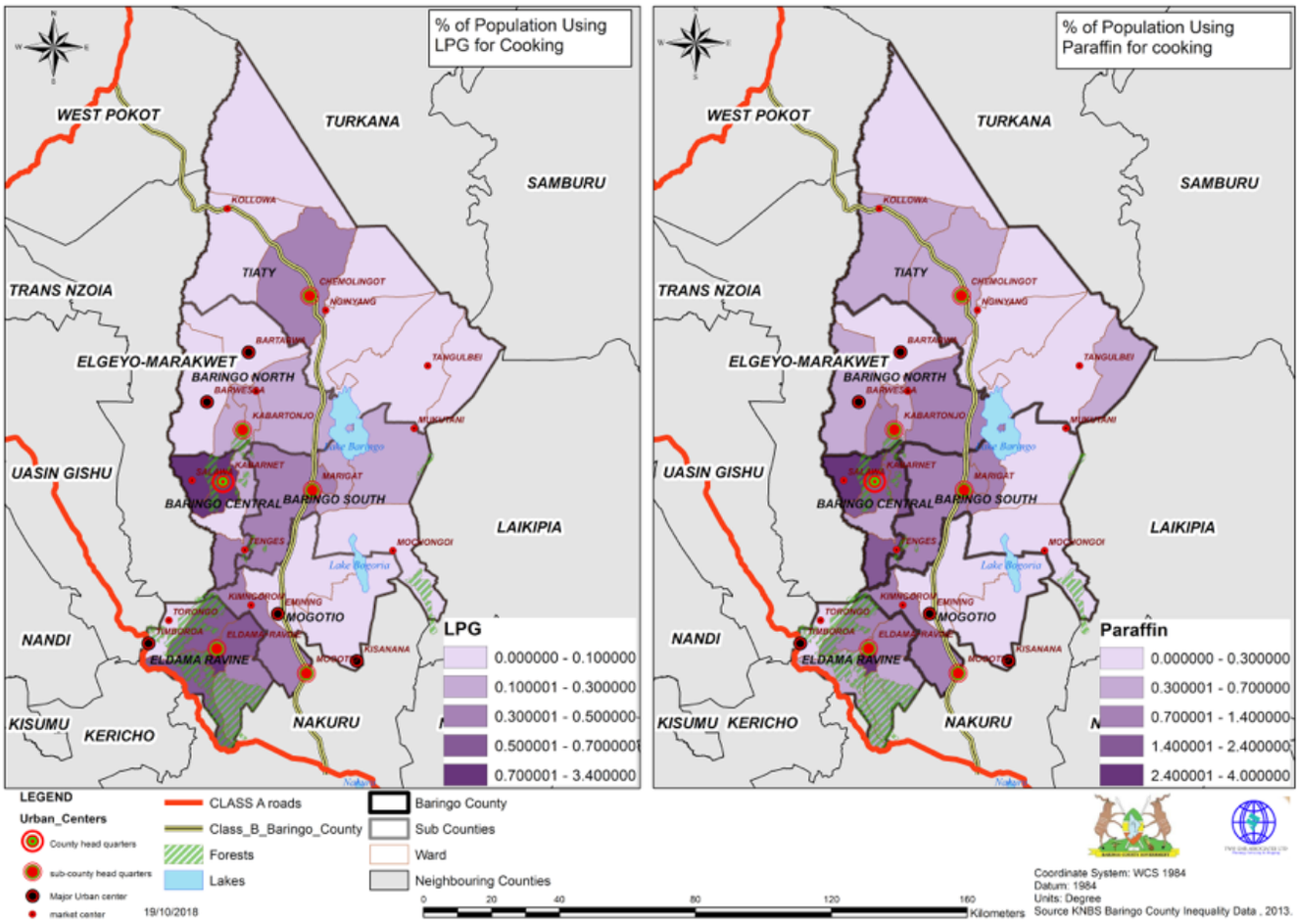
Chart 16: Energy source for cooking



Source: Field survey, 2015

Map 41: Source of Cooking Energy





9.2.3 Energy Demand and Supply

There is high demand of electricity in the county, but the inability to purchase the required infrastructure due to the high costs involved is the problem. The supply is considered to be insufficient for the whole population, therefore, there is a need to construct new substations. The demand for firewood is high considering it is a cheap source of energy although, the supply is depreciating with the uncontrolled cutting of trees.

Table 27: County Peak Demand Forecast in (MW)[9]

County	2015	2017	2020	2025	2030
Baringo	5.4	6.9	9.8	17.6	32.0
Kenya	**2219.1**	**2818.7**	**3933.0**	**6866.4**	**12211.5**

Source: KPLC, 2015

9.2.4 Emerging issues of Energy sector

POTENTIAL/OPPORTUNITIES	CONSTRAINTS
• Availability of renewable of energy sources e.g. solar energy potential, geothermal resources • Increased investment in electricity production • Potential for hydro power energy from Perkerra, Molo, Waseges and Kerio river • Potential for biomass fuel from Jatropha circus for bio-diesel • Presence of Public Private Partnerships	• Pollution and long distance to access energy sources such as firewood, kerosene and charcoal • Frequent power blackouts • Unreliability of solar during non-sunny seasons • Lack of electricity • Deforestation leading to scarcity of firewood • Community reluctance to provide land for setting up electricity substations • Scattered settlements especially in the rural areas • Inadequate funds to finance infrastructure development • The rocky terrain makes it hard to dig holes for electricity poles

9.3 Water Supply
9.3.1 Water Sources

According to Kenya National Bureau of Statistics as at 2013, 24% of Baringo county residents use water from improved sources while the rest of 76% from un-improved water sources. Gender wise male headed households 24% use water from improve sources, and 23% for female headed households. Improve water sources are protected from outside contamination this includes boreholes, piped water, and protected spring, protected well amongst others.
The major sources of water in the County are:

- Rivers
- Ground water sources. These include: Springs, Dams, shallow wells, Water pans and Boreholes
- Lakes

Rivers/streams and springs are the main water sources for the Mixed and Marginal mixed farming zones in the highlands. Water pans and boreholes are the main water sources in the Pastoral and Agro pastoral regions.

The average time used by households to access water is 10-30minutes. This implies that water is available to the households. However, in Tiaty Sub County, it takes longer to reach the nearest water source.

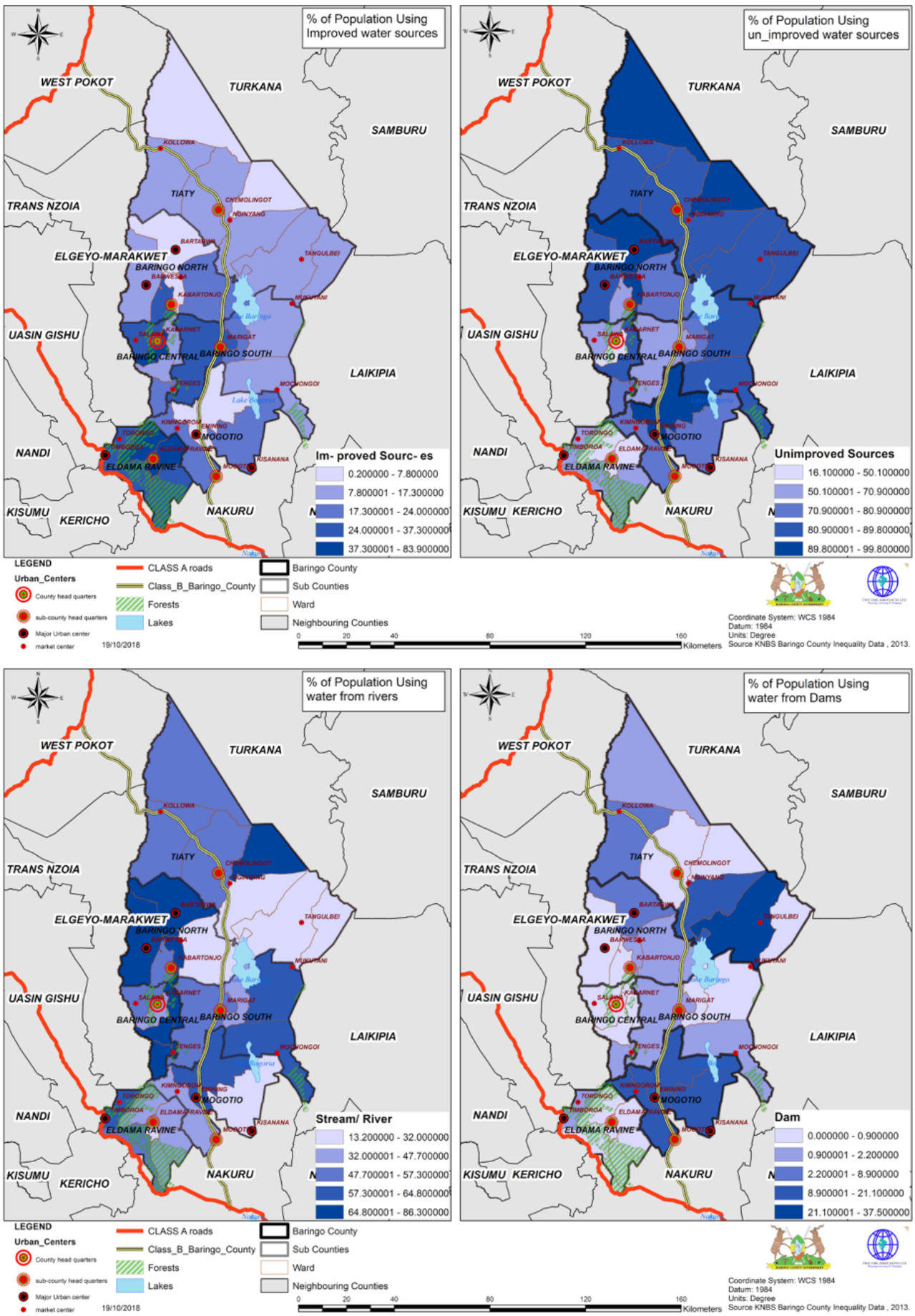
As at 2013 only 10.2% of the households in Baringo County had piped water connection and 1.5% of them with piped water running in their dwellings. Sub-counties with the highest number of resident households connected to piped water include Eldama ravine at 28.7% against 3.4% with water running in their dwelling, Baringo central with 19.8% against 3.6% dwelling connection, Baringo south and Mogotio at 6%, while Baringo North is the least connected at 1.8%. Ravine and Perkerra wards in Eldama Ravine sub-county have household piped water connection ranging 40-73%, this is attributed to presence of ERAWASCO which is the appointed water supply agent.

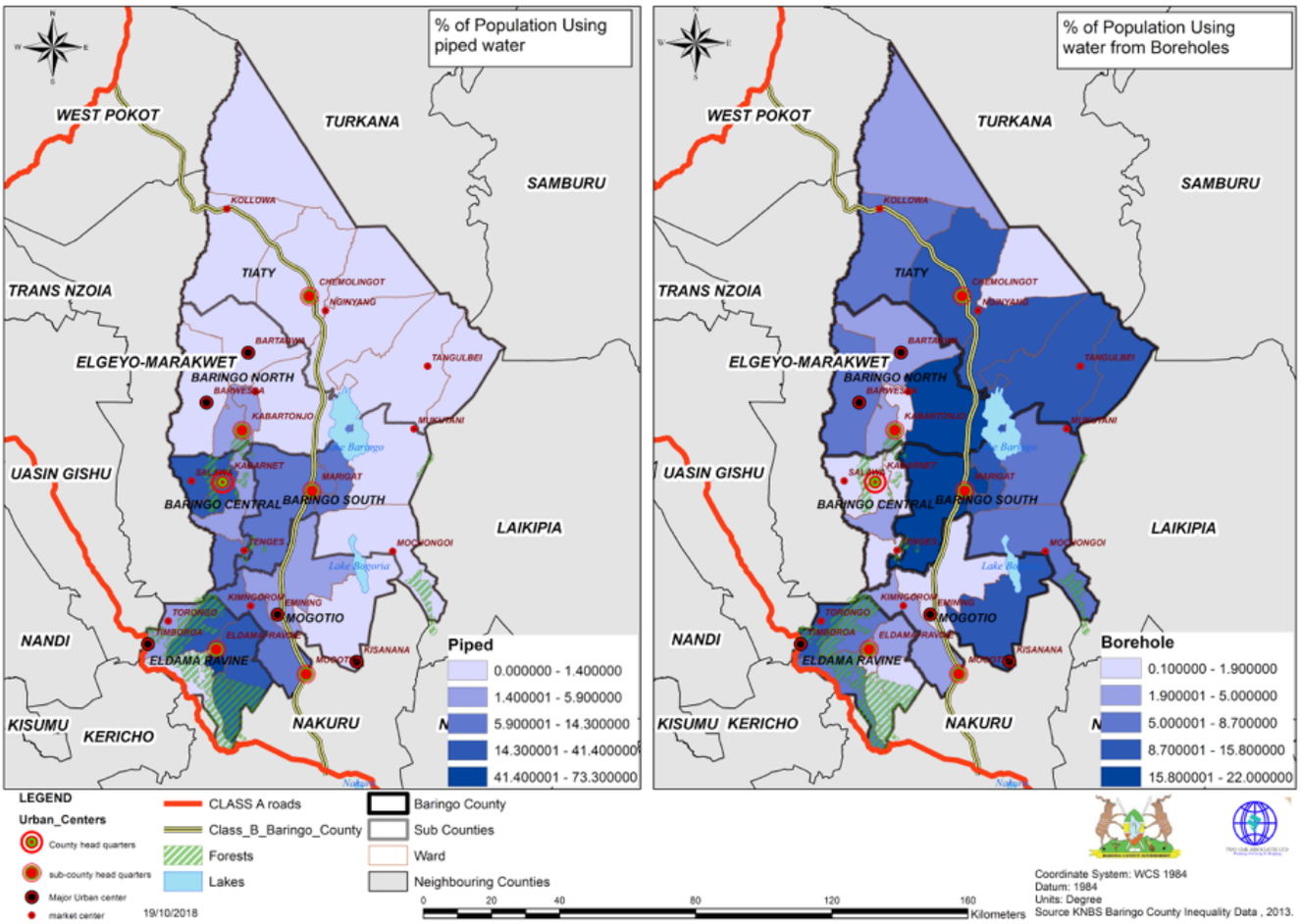
Boreholes supply water to 6.9% of the county residents, with majority of users reside in Baringo south at 13.5%and Tiaty at 7.8%. Boreholes are main water sources in Marigat and Soi wards with water consumption of 22.0% and 18.9% respectively. Rivers and streams are the main water sources across the county, with 52.9% reliance .however reliance is below the county average in Eldama Ravine at 44.0% due to presence of a reliable alternative of piped water. In Tiaty river water reliance is approximate at 46.0% attributed to dry conditions, hence most stream s are seasonal. In Baringo north sub-county, 67.5% rely on rivers and streams this is due to lack of a better alternative, while 80-85% of residents in Sacho, Saimo, -kipsaram and Barwessa wards depend on river s for water.

Dam water is mainly used in Mogotio and Tiaty sub-counties at 17.5% and 8.9% respectively, while at ward level Tangulbei/ Korossi at 37.5% and Kisanana 22.1% reliance in Tiaty and Mogotio sub-counties respectively. Mogotio sub-county has highest population relying on ponds as water source at 11.8% while Kisanana ward within the sub-county has the highest reliance on pond water at 23.9%

Water vending is not very prominent in Baringo, however 0.8% of the population rely on water vending as their water source. Majority of this population is found in Perkerra, Mogotio and Ravine ward.

Map 37: Water Sources in Baringo County.





Due to rapid urbanization and increased population growth in urban areas, a lot of pressure is exerted on the limited existing sources of water. Water supply schemes in the urban areas are managed by the Rift Valley Water Service Board. In the major urban centres, like Kabarnet town water supply is mainly through piped water from the Kirandich dam. Eldama Ravine is served by the Eldama Ravine Water and Sewerage Company Ltd (ERAWASCO). The other urban centres and small trading centres are served by water vendors which constitute 3% of water suppliers (Field Survey, 2016).

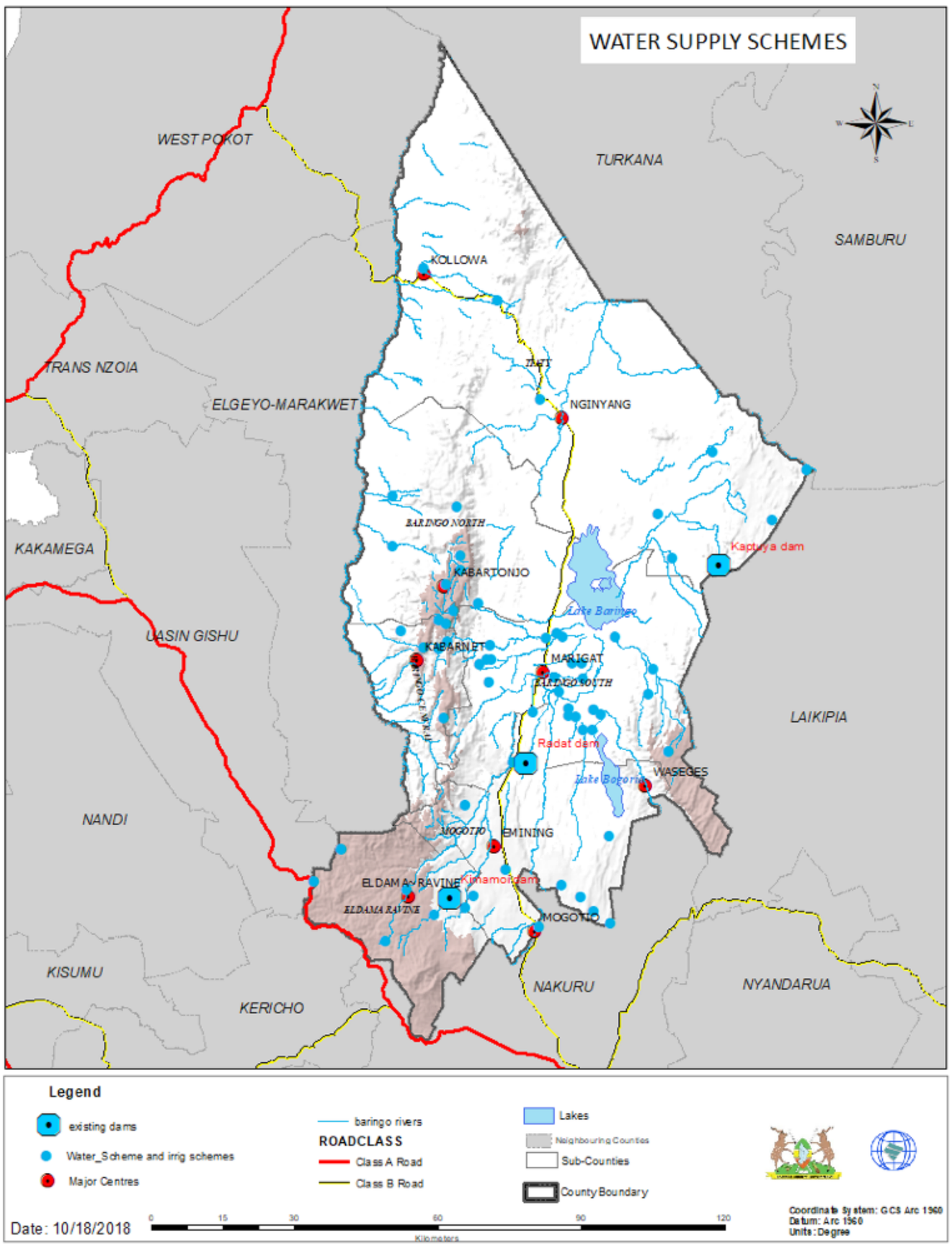
Table 28: Urban water supply schemes

WATER SUPPLY SCHEME	SERVICE TOWNS	SERVICE POPULATION	CAPACITY(M^3/DAY)
ERAWASCO	Poror, Eldama Ravine town, Kabimoi	57,364	5,200
Rift Valley Water Service Board- Kirindach water supply	Kabarnet, Kituro, Milimani/Kapkut Kaprogonya, Kaptimbor,Kapropita/ Chepsiri, Kapsoo/Kasoyo, Riwo zone	36,400	3,000

Source: Field survey, 2015

In the rural areas, the community initiative water programs manage water supply schemes. Water supply is from the point sources. From the field survey, only 37.8% of the population are connected to a water supply scheme. There is need for an elaborate water supply programme that will ensure adequate water supply in all areas especially Tiaty, Mogotio and Baringo North subecounties.

Map 38: Water supply schemes



Capacity Distribution

The water reticulation system in the county is found within the major urban areas of Kabarnet and Eldama Ravine. The town of Karbanet is not well connected with ample water supply networks, as the existing water distribution system, serves an area of 35km2 and can only accommodate 3,000 m3. The water treatment plant is within the vicinity of Kirandich dam, which consists of conventional treatment units with a design capacity of 14,000m3/day (Field Survey, 2016).

In Eldama Ravine, the Chemususu water supply system serves an area of 285km2 and the water distribution network is dilapidated with 71% unaccounted for water (Field Survey, 2016). There is an existing treatment plan which was abandoned due to siltation and technical issues at Narosura water supply scheme.

In the rural areas, there are no water distribution systems. The water coverage is around 55%. The poorly water connected areas include:

- Baringo centrale Areas such as between Kapkelelwa and Tenges, Salawa, Kerio valley region
- Baringo Southe Kibingor, Chepbaruswa, Ewalel, Patkwanin, Mochongoi (due to issues on title deeds), Mukutani (Due to insecurity)
- Eldama Ravinee Kaptama (the source of water is very far), Emining, Saos, Lembus
- Baringo Northe Kerio Valley, Barwessa to Kinyach, Kalabata, Karatunon, Yatia
- Mogotio
- Tiaty

9.3.2 Water Demand

The water demand in the County is mostly for domestic, livestock and irrigation purposes. From the field survey, 59.8% of the households use less than 100 litres of water per day. According to the World Health Organization (WHO), the estimated demand for water per person is 80 litres. It is therefore necessary to increase water supply networks to cater for water demand in the County.

Water demand calculations.

URBAN CENTRE	POPULATION (2016)	POPULATION (2026)	CURRENT CAPACITY (2016) (M^3 / DAY)	REQUIRED CAPACITY (M^3 /DAY)	PROJECTED WATER DEMAND (2026) (M^3 /DAY)
Kabarnet	36,400	43,509	3,000	3,640	4350.9
Eldama Ravine	57,364	68,568	5,200	5736.4	6856.8
Mogotio	32,689	42,496	-		4249.6
Kabartonjo	23,036	29,947	-		2994.7
Marigat	32,963	42,852	-		4285.2
Total	69, 363	86,361	-		18,487.6

*Standards used 100 litres/person

9.3.3 Water Quality

The levels of pollution in the major water bodies/sources are due to: Soil erosion, household waste due to lack of latrines in some regions and high fluoride levels by ground water discharge. From the field survey, 50.1% of the respondents had soily water quality issues, 14% with fluoride concentration level water quality issues. However, the ground water quality in Kabarnet town can be described as very good. The water is lowly mineralized while the fluoride levels are low.

Challenges in water infrastructure

- Long distances to source of water
- Dirty/Unsafe/Untreated water
- Harsh terrain to access water sources
- Inadequate and dilapidated water distribution network system `
- Small sized water distribution network systems
- Unreliable/unavailability water supply sources
- Lack of a functional water treatment plant in Eldama ravine

9.3.4 Emerging issues for Water

POTENTIAL/OPPORTUNITIES	CONSTRAINTS
• Irrigation development • Exploitation of the natural water sources for water supply • Exploitation of rainwater harvesting technologies • Favourable topographical sites for dam construction • Emerging technologies in water treatment	• Terrain of the County • The nature of community livelihood i.e. pastoralism • Limited funding to facilitate water projects • Community reluctance to give up land for water projects • Pollution of water sources

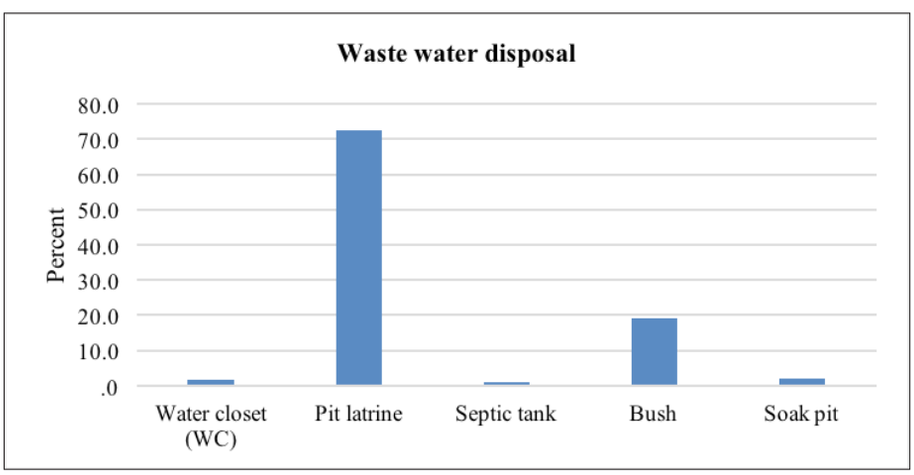
9.4 Waste Management and Sanitation

Sanitation facilities play an important role as it is known to have a significant beneficial impact on health both in households and across communities. Inadequate sanitation is a major cause of disease outbreak world-wide and it is therefore important to have improved sanitation.

9.4.1 Wastewater

The main waste water disposal methods include; pit latrines, soak pits and the bush.

Chart 17: Waste water disposal methods



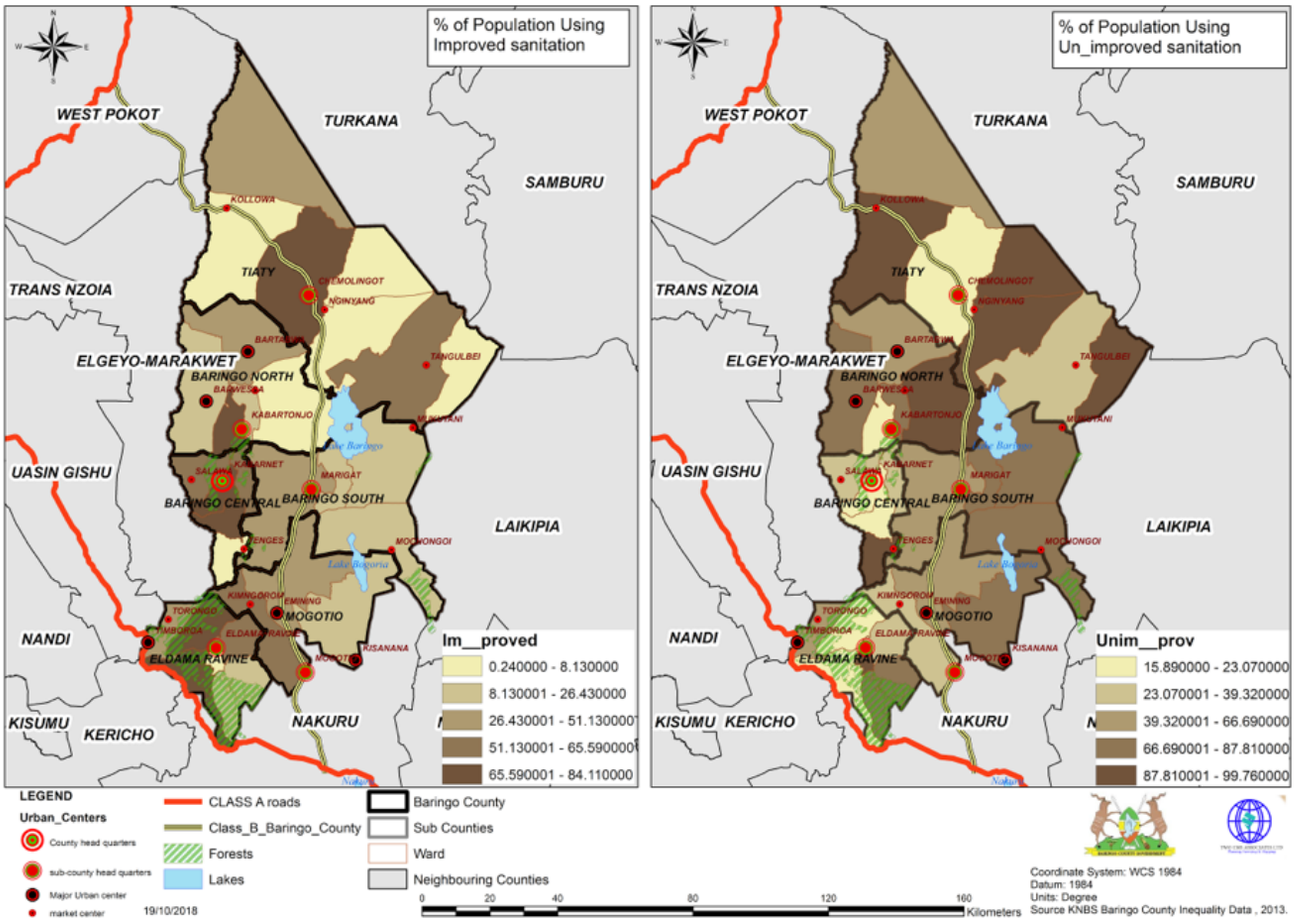
Source: Field survey, 2016

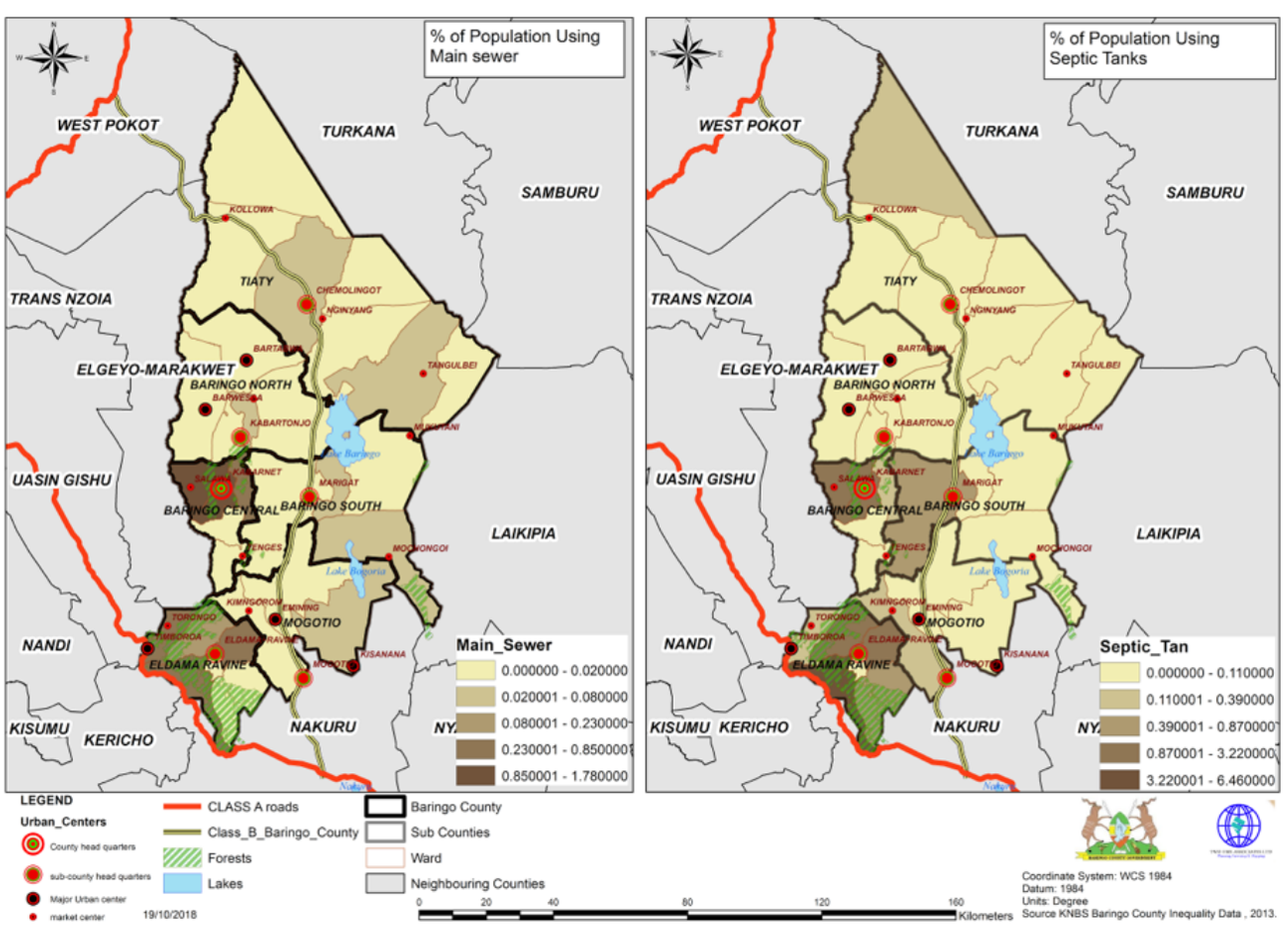
Over 90% of the population does not have access to good sanitation. In Tiaty subecounty, majority of the households (47%) use bushes to relieve themselves (Field Survey, 2016). Sewerage network system is limited to certain areas in the town centres of the county. Just over 0.2% of households in the county are connected to the main sewer. In the county capital Kabarnet only 1.77% of households are connected to main sewer. While 0.67% use septic tanks although most of the time they dispose the waste into water sources. The water table is high, and construction of septic tanks is no longer sustainable. In the perieurban and rural areas, majority of the households use pit latrines. There are onegoing proposals to construct a sewer line in every subecounty.

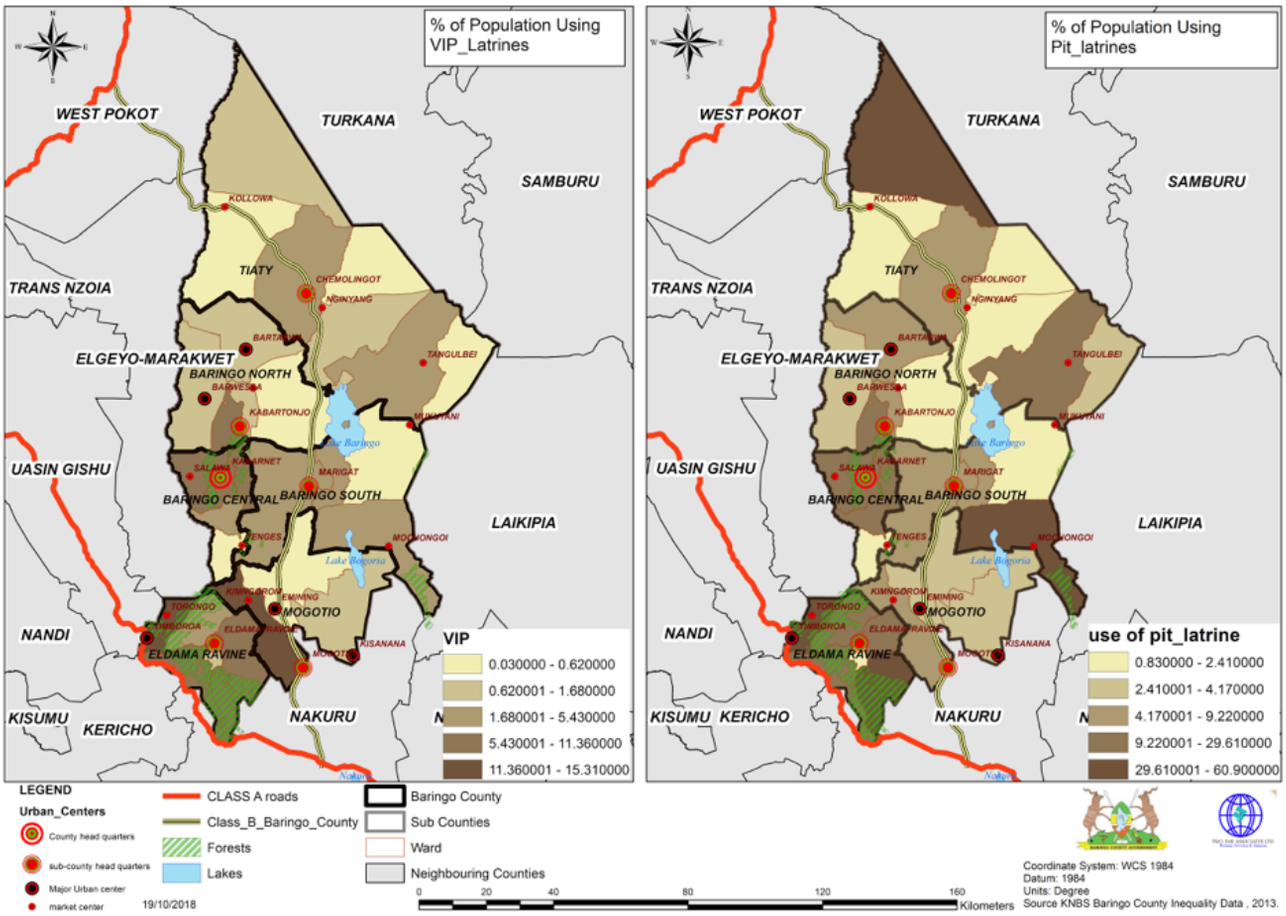
Demand capacity of wastewater, according to water design manual for water services, wastewater accounts for 80%of the total water demand. Future demand in urban centres is 18, 487.6 M3/day hence wastewater produced is approximately 14, 790.08 M3/day.

Generally, sanitation levels in the county are poor as 60.6% of the locals use uneimproved methods of waste disposals against a limited 39.4% who use improved waste disposal methods. Uneimproved waste disposal methods include: of bush and buckets, while improved methods include use of Pitelatrines, septic tanks, main sewer WCs, VIP latrines amongst others.

Map 39: Improved and Unimproved waste disposal





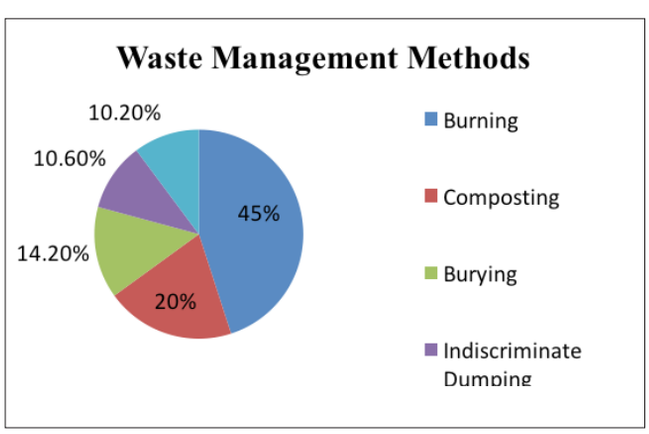


9.4.2 Solid Waste

The County does not have any designated dumpsites, which has resulted into the unpleasant views of the urban centres, pollution of wetlands, air pollution and death or diseases of livestock by ingesting the plastic bags. 36% of the population dispose their solid waste through burning, mostly done in the rural areas. It is followed by composting at 10.6%, which is practised in the urban areas.

Solid waste management is a challenge in the County especially disposal of plastic waste. There is need for the County to put in place designated dumpsites and formulate a policy in the use and management of plastic bags.

Chart 18: Solid waste disposal methods



Source: Field survey, 2016

9.4.3 Emerging issues for Sanitation

POTENTIAL/OPPORTUNITIES	CONSTRAINTS
• Irrigation development • Development of sewerage system and treatment plants • Exploitation of the natural water sources for water supply • Exploitation of rainwater harvesting technologies • Sensitization of community on observing sanitation • Favourable topographical sites for dam construction • Emerging technologies in water treatment	• Terrain of the County • The nature of community livelihood i.e. pastoralism • Limited funding to facilitate water projects • Lack of land for construction of a sewerage system • Community reluctance to give up land for water projects • Lack of sewerage networks • Lack of designated dumping sites • Pollution of water sources • Siltation of storm water drainages • Poor sensitization on waste disposal

9.5 Social Infrastructure
9.5.1 Education

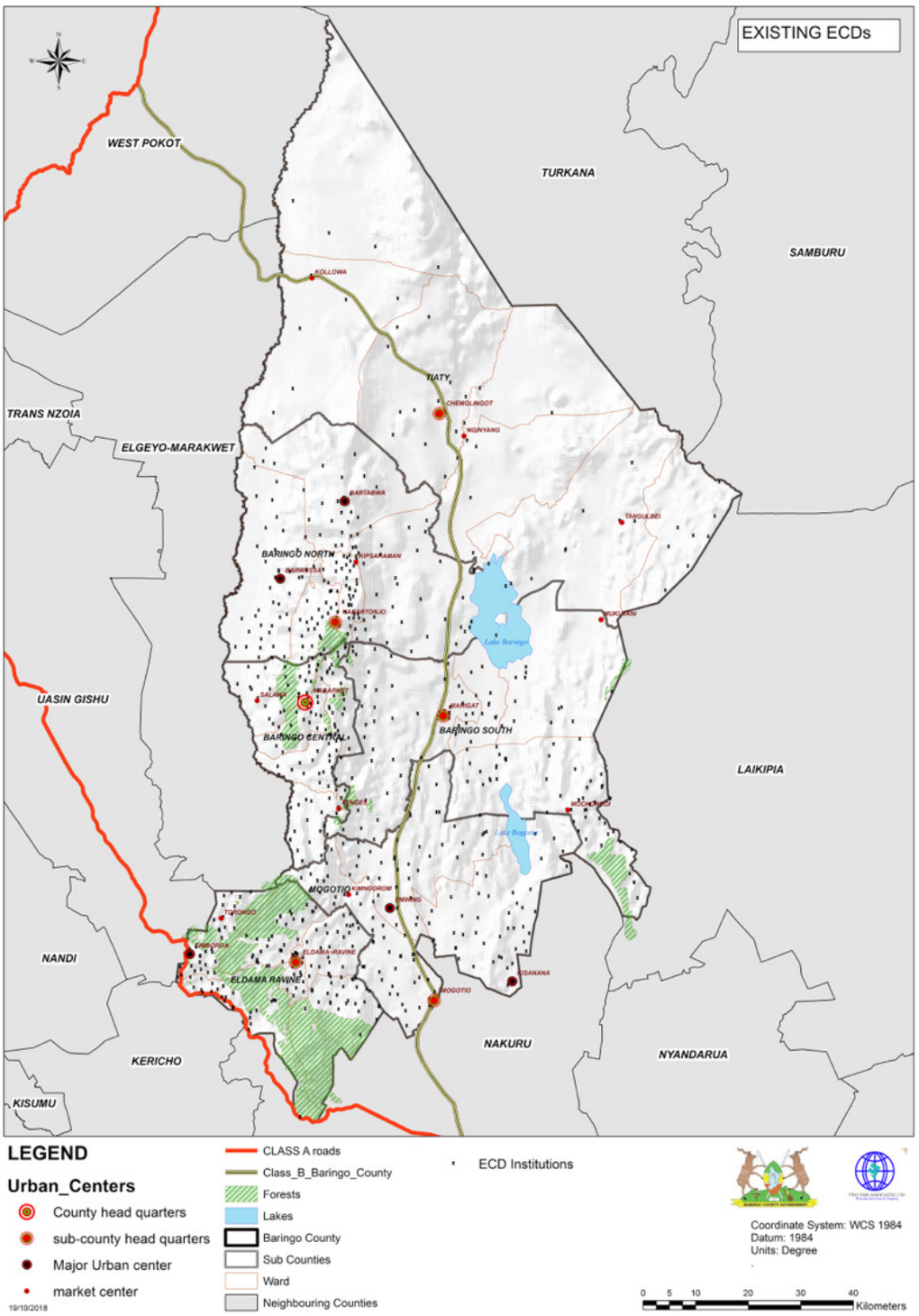
According to the physical planning handbook, the provision of education facilities should take into consideration the catchment population. This implies that for every 2500-catchment population they should be served by a kindergarten independent of a primary school. For every 4000-catchment population in rural areas and 3500 population in urban areas, they should be served by at least one primary school. For every 8000-catchment population, they should be served by at least one secondary school. The recommended walking distance should be 0.2-1Km for urban areas and 0.5-2Km for rural areas. The Handbook also provides that the provision of learning facilities and their land allocation should depend on the age and the size/ number of the pupils/students.

Education Facilities Distribution

a) Pre-primary/ECD Facilities

There are 47,409 pupils in ECDs served by 1,012 public ECD schools in the County. The teacher/ pupil ratio is 1:27 with a total of 1772 ECD teachers. The rate of enrolment is approximately 49%, which shows that there is still a significant number of children out of school. This could be attributed to the limited number of ECD schools within the required distance range especially in Tiaty and Baring North. The main challenges facing ECD institutions include; insufficient school feeding program funds, inadequacy of outdoor learning facilities and special needs school under ECD and inadequate teaching personnel.

Map 49: Distribution of ECD Facilities



According to the Physical Planning Handbook, it is evident there are adequate ECD facilities in comparison to the catchment population

SUB-COUNTY	NUMBER OF CENTRES	NUMBER OF STAFF NUMBER OF TEACHER UNDER COUNTY GOVERNMENT			NO OF PUPILS AS AT DECEMBER 2017		
		Female	Male	Grand Total	Boys	Girls	Total
Baringo Central	124	269	8	277	2358	2267	4625
Eldama Ravine	145	249	5	254	3857	3591	7448
Tiaty	171	127	159	286	5264	4478	9742
Baringo North	216	331	29	360	5281	4881	10162
Mogotio	176	252	18	270	3753	3652	7,405
Baringo South	180	268	57	325	4069	3958	8,027
Total	1012	1497	275	1772	24,582	22,827	47,409

Source: Department of Education, Sports, Culture and social Services, Baringo County, 2017.

Special needs ECDE

LEVELS	BOYS	GIRLS	TEACHERS
ECCDE [Ages 4 – 9 yrs.]	174	157	12

Source: Department of Education, Sports, Culture and social Services, Baringo County, 2017.

b) Primary schools

There are 681 public primary schools with a total enrolment of 143,445 pupils. The county's teacher/ Pupil Ratio is 1: 27 for public primary schools and the transition rates from ECD to primary school is 83.3% among boys and 82.9% among girls. Average school size in majority for primary schools is 219pupils. The enrolment of boys in primary schools is higher that of girls. Since the introduction of free primary education, the primary school going age population has greatly increased. There is need for investment in provision of education facilities to cater for the increasing demand.

Table 39: Primary schools enrollment rates.

SUB COUNTY	NO. SCHOOLS	BOYS	GIRLS	TOTAL
Baringo Central	125	12111	11908	24019
Eldama Ravine	90	13395	12934	26279
Tiaty	114	10129	8195	18324
Baringo North	153	14441	13520	27961
Marigat	95	12933	12401	25334
Mogotio	104	10531	10947	21478
Total	681	73540	69905	143445

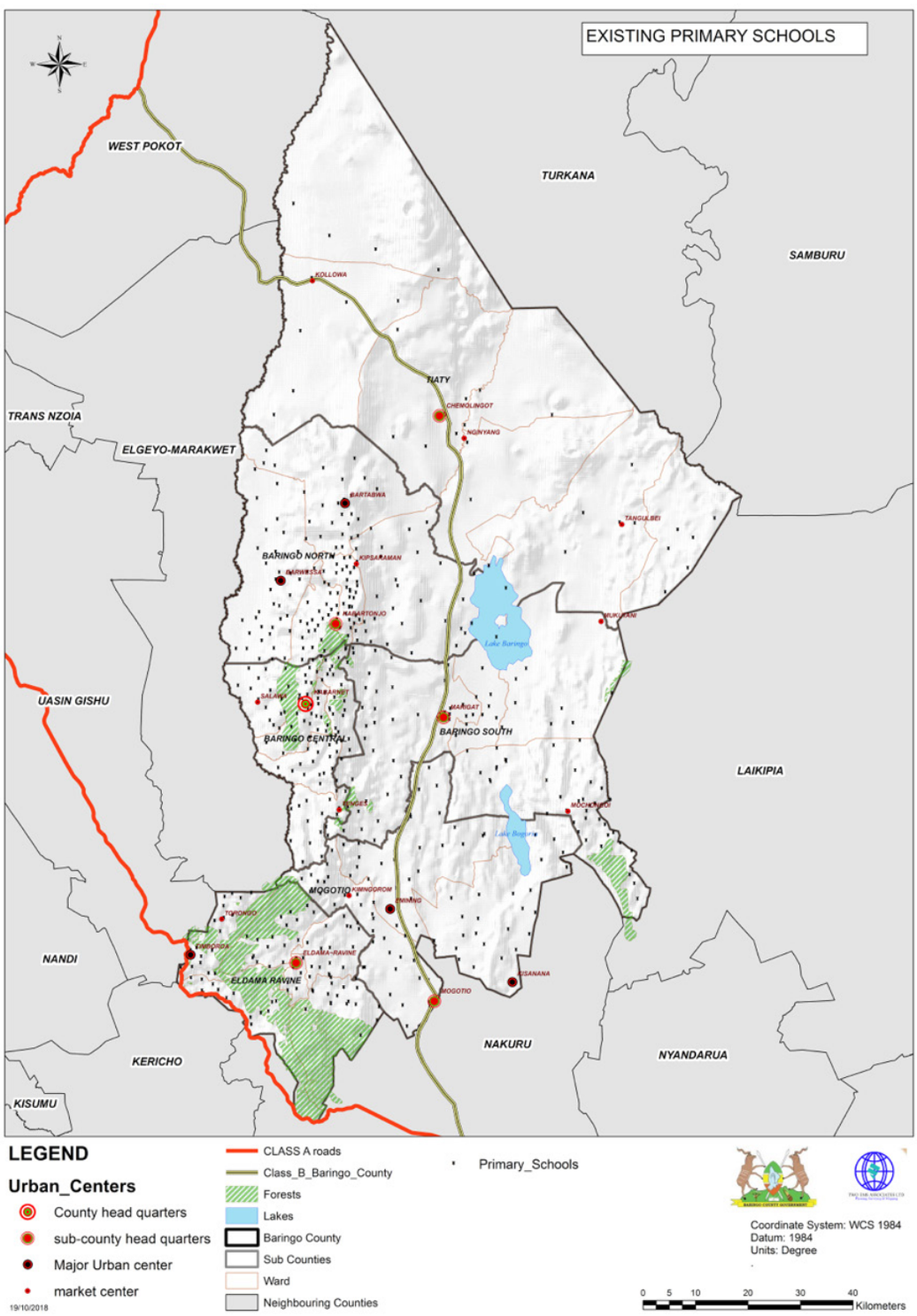
Source: CIDP 2018-2022.

Table 40: Primary schools by gender

PRIMARY SCHOOLS		
BOYS	**GIRLS**	**MIXED**
1	0	680

Source: Department of Education, Sports, Culture and social Services, Baringo County, 2017.

Map 44: Distribution of Primary schools



Gap analysis

SUB-COUNTY	POPULATION	NO. OF PRI. SCHOOLS	GAP
Tiaty	169, 483	35	7
According physical planning handbook a population of 4000, should be served by at least one primary school. Therefore Tiaty sub-county has a shortage of seven schools.			

c) Secondary schools

The County has a total of 159 public secondary schools with a total enrolment of 38,731 students of whom 19469 are boys and 18962 girls. The teacher/ student Ratio is 1: 27 for public secondary schools and the transition rates from primary school to secondary school is 83.5% among boys and 77.7% among girls. The enrolment rate of girls in secondary schools is lower than that of boys.

Table 41: Secondary school erolment rates

SUB-COUNTY	NO OF SCHOOLS	ENROLMENT			TEACHERS		
		Boys	Girls	Total	M	F	T
Marigat	23	2219	1490	3709	97	52	149
Baringo North	29	3554	3816	7670	160	91	251
Baringo Cent	37	4419	4847	9266	224	172	396
Mogotio	26	3279	3110	6389	160	97	257
E/Pokot	8	1266	781	2047	47	18	65
Eldama Ravine	36	4732	4918	9650	182	138	320
Total	**159**	**19469**	**14962**	**38731**	**870**	**568**	**1438**

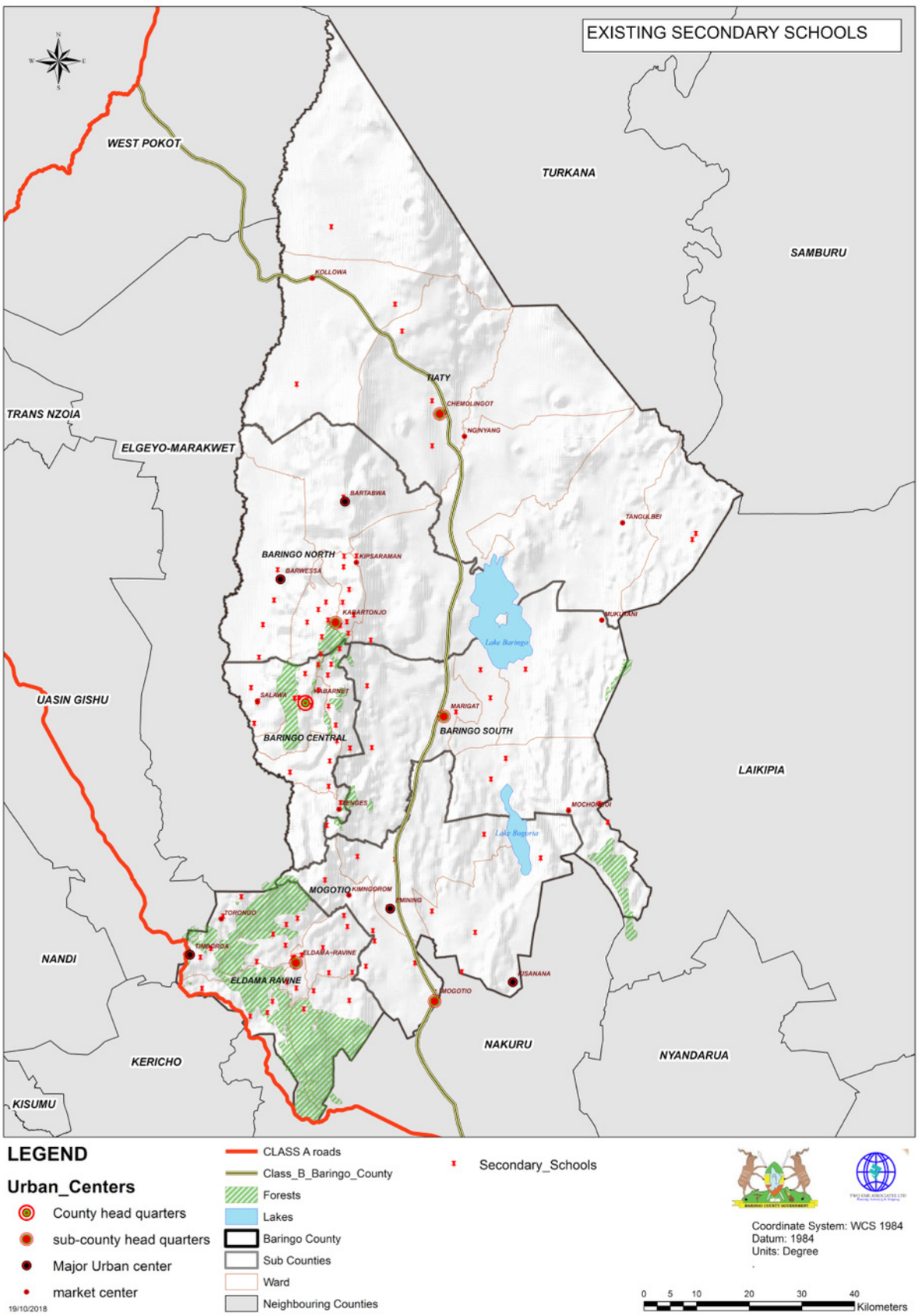
Source: Department of Education, Sports, Culture and social Services, Baringo County, 2017.

Table 42: Secondary schools by gender

SECONDARY SCHOOLS		
BOYS	GIRLS	MIXED
10	14	135

Source: Department of Education, Sports, Culture and social Services, Baringo County, 2017.

Map 45: Secondary school facilities distribution.



Gap Analysis

SUB-COUNTY	POPULATION	NO. OF PRI. SCHOOLS	GAP
Tiaty	169,483	8	13
According physical planning handbook 2008 a population of 8000, should be served by at least one secondary school existing there are adequate number of secondary schools except in Tiaty sub-county, there is a shortage of 13 schools.			

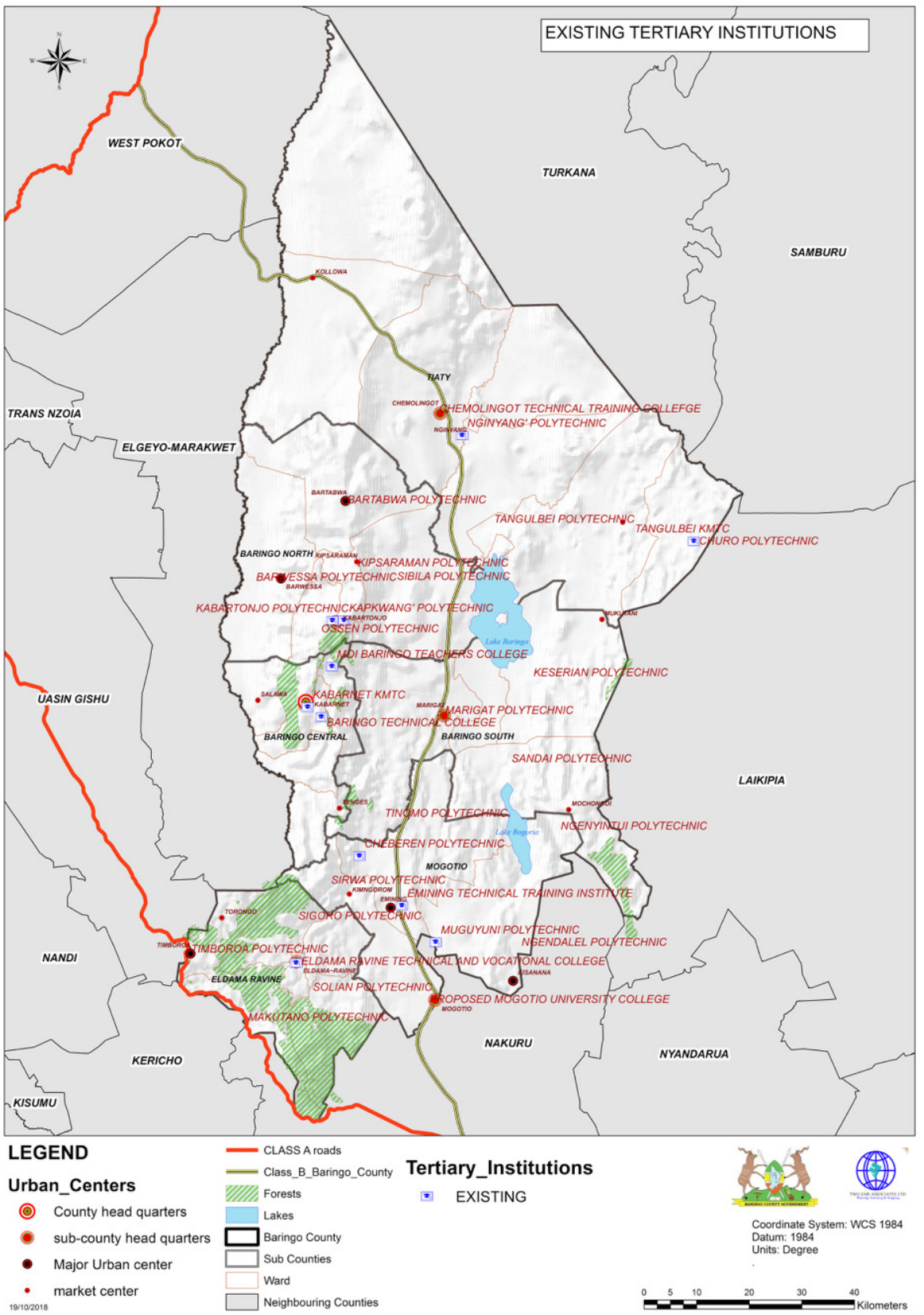
Causes of low/ high enrolment by gender

Enrolment to school for the boy child is higher than that of the girl child. The girl child drops out more especially in Marigat and other regions in the county while in Tiaty, dropout rates among boys is higher. This is due to retrogressive cultural practices which include: Early marriages, FGM, Early pregnancies and Pastoralism in Tiaty keeping boys out of school.

d) Tertiary schools

There are 23 tertiary institutions, which include; the Baringo Technical College Kapsoo, Kenya Medical Training College (KMTC-Kabarnet) and the Moi-Baringo Teachers College and Emining Technical School, among others. The current student population in these facilities is 1,257 and the gender enrolment ratios are 1:1. The transition rate from secondary to university and tertiary institution is at 30%. While the enrolment into tertiary institutions is relatively low compared to the County's population. The adult literacy classes' enrolment as of 2016 is 4,377.

Map 46: Distribution of Tertiary institutions



The main challenges facing tertiary institutions include; Low enrolment rates, except in Mogotio, Kituro and Kabimoi, Inadequate learning machinery in the institutions and few lecturer/trainers.

SUB-COUNTY	NO. OF TERTIARY
Baringo Central	11
Eldama Ravine	3
Baringo South	1
Tiaty	2
Baringo North	0
Mogotio	6

Gap analysis

Wards with greater need of tertiary institutions include silale, lembus, mochongoi, Tirioko, churo/ Amaya.

(e) Special needs schools

There are 34 special needs schools with total enrolment of 2080, with 850 are girls and 1230 boys. Special schools in the county range from deaf, for the Blind, all inclusive, the physically impaired, visually and hearing impaired and the mentally handicapped/challenged.

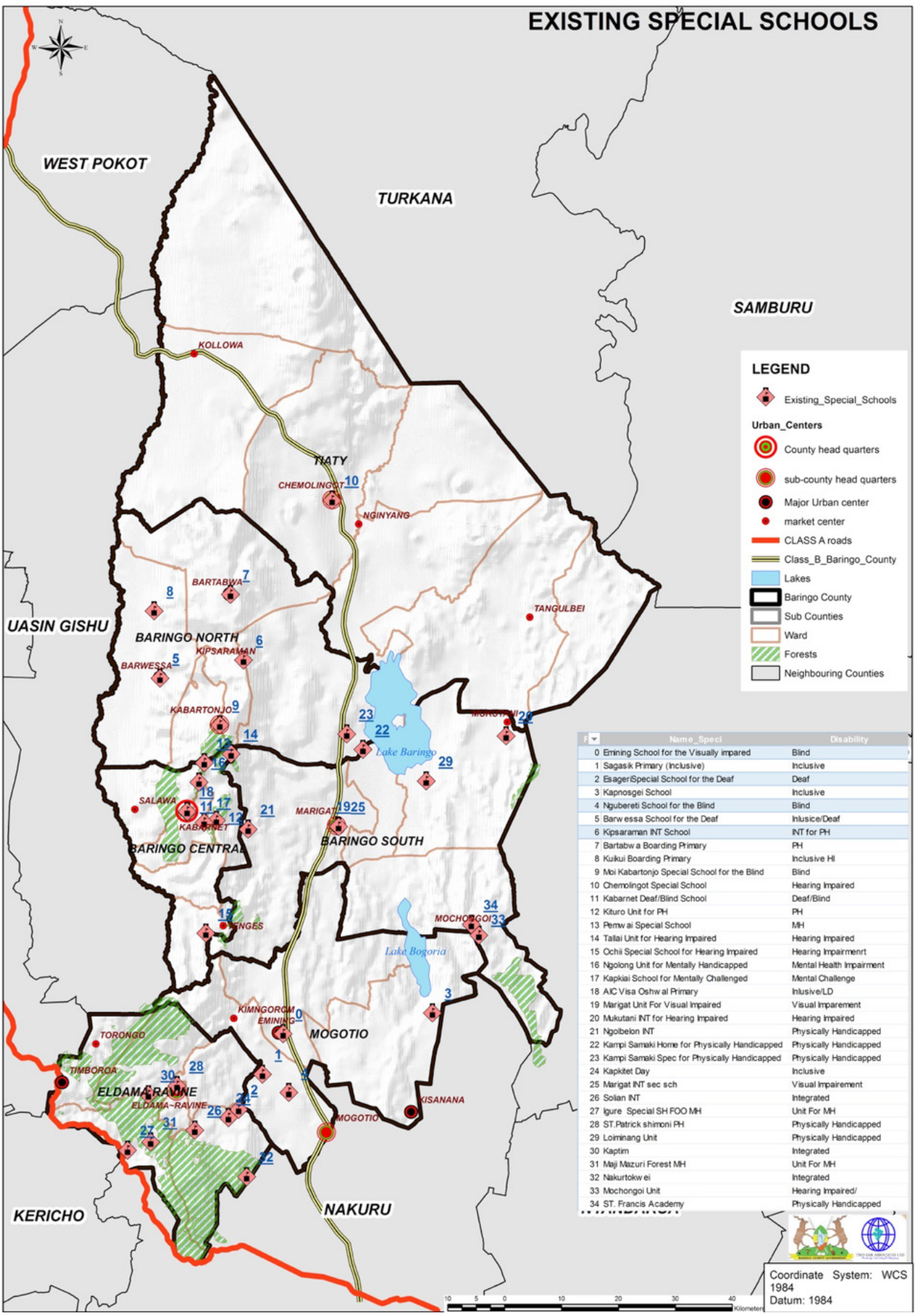
Table 43: Number of schools per Sub-county.

SUB-COUNTY	NO OF SCHOOLS
Baringo North	4
Baringo Central	8
Tiaty	1
Marigat	9
Mogotio	5
Eldama Ravine	7
Total	34

Source: Department of Education, Sports, Culture and social Services, Baringo County, 2017.

Tiaty (Tiaty) with a population of 238, 899 has one facility for the disabled, hence there is need for provision of three more education facilities for the disabled, in Kollowa, Tangulbei and Kipnai.

Map 47: Existing Special schools



	Name_Speci	Disability
0	Emining School for the Visually impared	Blind
1	Sagasik Primary (Inclusive)	Inclusive
2	EsageriSpecial School for the Deaf	Deaf
3	Kapnosgei School	Inclusive
4	Ngubereti School for the Blind	Blind
5	Barw essa School for the Deaf	Inlusice/Deaf
6	Kipsaraman INT School	INT for PH
7	Bartabw a Boarding Primary	PH
8	Kuikui Boarding Primary	Inclusive HI
9	Moi Kabartonjo Special School for the Blind	Blind
10	Chemolingot Special School	Hearing Impaired
11	Kabarnet Deaf/Blind School	Deaf/Blind
12	Kituro Unit for PH	PH
13	Pemw ai Special School	MH
14	Tallai Unit for Hearing Impaired	Hearing Impaired
15	Ochii Special School for Hearing Impaired	Hearing Impairmenrt
16	Ngolong Unit for Mentally Handicapped	Mental Health Impairment
17	Kapkiai School for Mentally Challenged	Mental Challenge
18	AIC Visa Oshw al Primary	Inlusive/LD
19	Marigat Unit For Visual Impaired	Visual Imparement
20	Mukutani INT for Hearing Impaired	Hearing Impaired
21	Ngolbelon INT	Physically Handicapped
22	Kampi Samaki Home for Physically Handicapped	Physically Handicapped
23	Kampi Samaki Spec for Physically Handicapped	Physically Handicapped
24	Kapkitet Day	Inclusive
25	Marigat INT sec sch	Visual Impairement
26	Solian INT	Integrated
27	Igure Special SH FOO MH	Unit For MH
28	ST.Patrick shimoni PH	Physically Handicapped
29	Loiminang Unit	Physically Handicapped
30	Kaptim	Integrated
31	Maji Mazuri Forest MH	Unit For MH
32	Nakurtokw ei	Integrated
33	Mochongoi Unit	Hearing Impaired/
34	ST. Francis Academy	Physically Handicapped

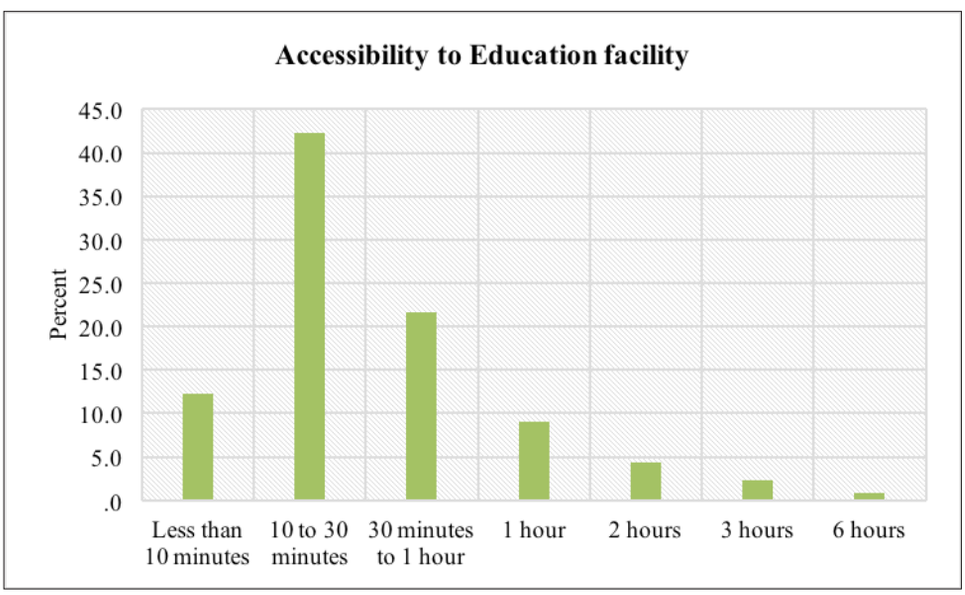
Skills offered and gaps

Some of the courses offered in the polytechnics are: Food processing technology, Agribusiness, Electrical and Electronics Technology, Motor Vehicle Technology, Building Technology and Leather Work Technology among others. The skills gaps experienced in the County include Plumbing courses, Hair dressing and beauty and ICT.

Accessibility to Education Facility

The average time taken to reach the nearest education facility is 10-30 minutes. This is estimated to be 0.5-2Km distance travelled. However, in areas such as Tiaty it takes more than 30 minutes to reach the nearest education facility.

Chart 19: Access to Education Facility



Source: Field survey, 2016

Education services

About 36% of Baringo residents have no formal education. Tiaty sub-county and silale ward have the highest of the population with no formal education at 82% and 98% respectively. Only 48% of the population have attained primary education, with Baringo North with the highest percentage at 60%, and Tiaty with the lowest at 15%. Numbers for secondary education are significantly low as it stands at 16% across the county. From the field survey, it emerged that most of the education facilities had inadequate teaching personnel, poor facilities such as desks, books, lab equipment and libraries and low education standards. According to the physical planning handbook, the number of primary and secondary schools in the County are adequate for the catchment population. However, the condition of the education facilities needs improvement as well as increment in the number of teaching personnel.

Emerging issues for Education facilities

POTENTIAL/OPPORTUNITIES	CONSTRAINTS
• Employment of more teaching personnel • High number of young population • Incorporation of ICT in education systems • Capacity building seminars for teachers • Community sensitization forums on the importance of education for both the boy and girl child • Construction of more higher learning institutions • Provision of mobile schools and libraries for both young children and adult education • Promote adult education in the region • Promote school feeding programs	• Insecurity leading to closure of schools • Food shortage • Inadequate number of education facilities and teaching personnel • Lack of permanent learning structures • Cultural hindrances especially early marriages • Natural disasters like flooding limiting access to schools • Harsh/steep terrain • High illiteracy rates among parents, especially in ASAL areas who encourage retrogressive cultural practices such as FGM, early marriages and skipping school hours to herd cattle

9.5.2 Healthcare

According to the WHO standards, health is defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The prescribed doctor patient ratio is 1: 600. The provision of primary health care is essential and it can be achieved through ensuring convenient, accessible and affordable health care services are planned for the well-being of the residents. The healthier a society is the more productive it is reverse is true. According to fourth schedule of the 2010 constitution, health is a devolved function of the county government. This is in effort of improving the delivery of services to the lowest level possible.

Health Facilities distribution

The County has several healthcare facilities, which total to 224. There are 5 hospitals, 188 primary care facilities and 31 community units. Some of the hospitals found within the County include Kabarnet District Hospital, Eldama Ravine District Hospital and Mogotio District Hospital. The number of health facilities and medical personnel deployed are indicated below:

Table 44: Health Facility Ownership

OWNER	NUMBER
County government (public)	201
Faith based	12
NGO	2
private	18

Source: ehealth.go.ke, 2014

Table 45: Health facilities per sub-county

SUB COUNTY	FACILITY				
	Level 5	**Level 4**	**Level 3**	**Level 2**	**Level 1**
Baringo North	**-**	1	4	35	3
Baringo Central	**1**	-	6	37	1
Marigat	**-**	1	3	18	5
Eldama Ravine	**-**	1	4	29	10
Tiaty	**-**	1	4	25	4
Mogotio	**-**	-	5	23	6
Total	**1**	**4**	**26**	**167**	**29**

Source: DHIS 2, 2016

Table 46: County Health Personnel

SUB COUNTY	BARINGO CENTRAL			BARINGO NORTH			TIATY			MOGOTIO			BARINGO SOUTH			ELDAMA RAVINE		
Cadres	GoK	FBO	Private	GoK	FBO	Private	GoK	FBO	Private	GoK	FBO	Private	GoK	FBO	Private	GoK	FBO	Private
Medical officers	15	-	-	2	-	-	3	-	-	0	-	-	3	-	-	13	-	-
RCO	40	-	-	13	-	-	21	-	-	11	-	-	12	-	-	32	-	-
Nurses	163	-	-	67	-	-	55	-	-	55	-	-	67	-	-	120	-	-
Occupational Therapist	4	-	-	0	-	-	0	-	-	0	-	-	0	-	-	2	-	-
Dentist	3	-	-	1	-	-	0	-	-	0	-	-	1	-	-	2	-	-
Dental Technologist	1	-	-	1	-	-	0	-	-	0	-	-	1	-	-	1	-	-
Pharmacists	5	-	-	1	-	-	3	-	-	0	-	-	3	-	-	3	-	-
Pharmaceutical Technologist	3	-	-	5	-	-	2	-	-	2	-	-	2	-	-	5	-	-
Physiotherapist	2	-	-	0	-	-	0	-	-	0	-	-	0	-	-	2	-	-
Orthopaedic technologist	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Medical Social worker	1	-	-	1	-	-	0	-	-	0	-	-	1	-	-	0	-	-
Plaster technicians	5	-	-	3	-	-	0	-	-	0	-	-	0	-	-	4	-	-
Laboratory Technologists	13	-	-	9	-	-	6	-	-	6	-	-	4	-	-	22	-	-
Health Records& Information Officers	7	-	-	3	-	-	3	-	-	3	-	-	2	-	-	5	-	-
Nutritionists	6	-	-	2	-	-	1	-	-	3	-	-	2	-	-	6	-	-

Public health officer	38	-	-	29	-	-	12	-	-	23	-	-	16	-	-	33	-	-
Medical Engineering	7	-	-	3	-	-	0	-	-	0	-	-	2	-	-	3	-	-
Radiographer	4	-	-	0	-	-	0	-	-	0	-	-	0	-	-	2	-	-
Community Oral Health Officer	2	-	-	1	-	-	0	-	-	1	-	-	0	-	-	3	-	-
Biochemist	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Economist/Health economists	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
CHEWs	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Health Administrative Officer	1	-	-	1	-	-	1	-	-	2	-	-	1	-	-	1	-	-
ICT Officer	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Procurement Officer	2	-	-	0	-	-	0	-	-	0	-	-	0	-	-	1	-	-
Accountant	1	-	-	0	-	-	1	-	-	0	-	-	1	-	-	1	-	-
Drivers	7	-	-	4	-	-	5	-	-	3	-	-	2	-	-	6	-	-
Clerk/cashier	16	-	-	4	-	-	1	-	-	0	-	-	2	-	-	10	-	-
Cooks	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Store Man	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Support Staff (Casuals)	50	-	-	20	-	-	9	-	-	4	-	-	20	-	-	48	-	-
Trained CHW/CHVs	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Mortuary attendants	2	-	-	0	-	-	0	-	-	0	-	-	0	-	-	1	-	-
Grand Total	398	-	-	170	-	-	123	-	-	113	-	-	142	-	-	326	-	-

Source: Department of Health services, Baringo County 2017

Table 47: Health personnel per 100, 000 people

PERSONNEL	COUNTY STATISTICS	NATIONAL STATISTICS
Doctors	7	10
Nurses	70	55
Clinical officers	30	21

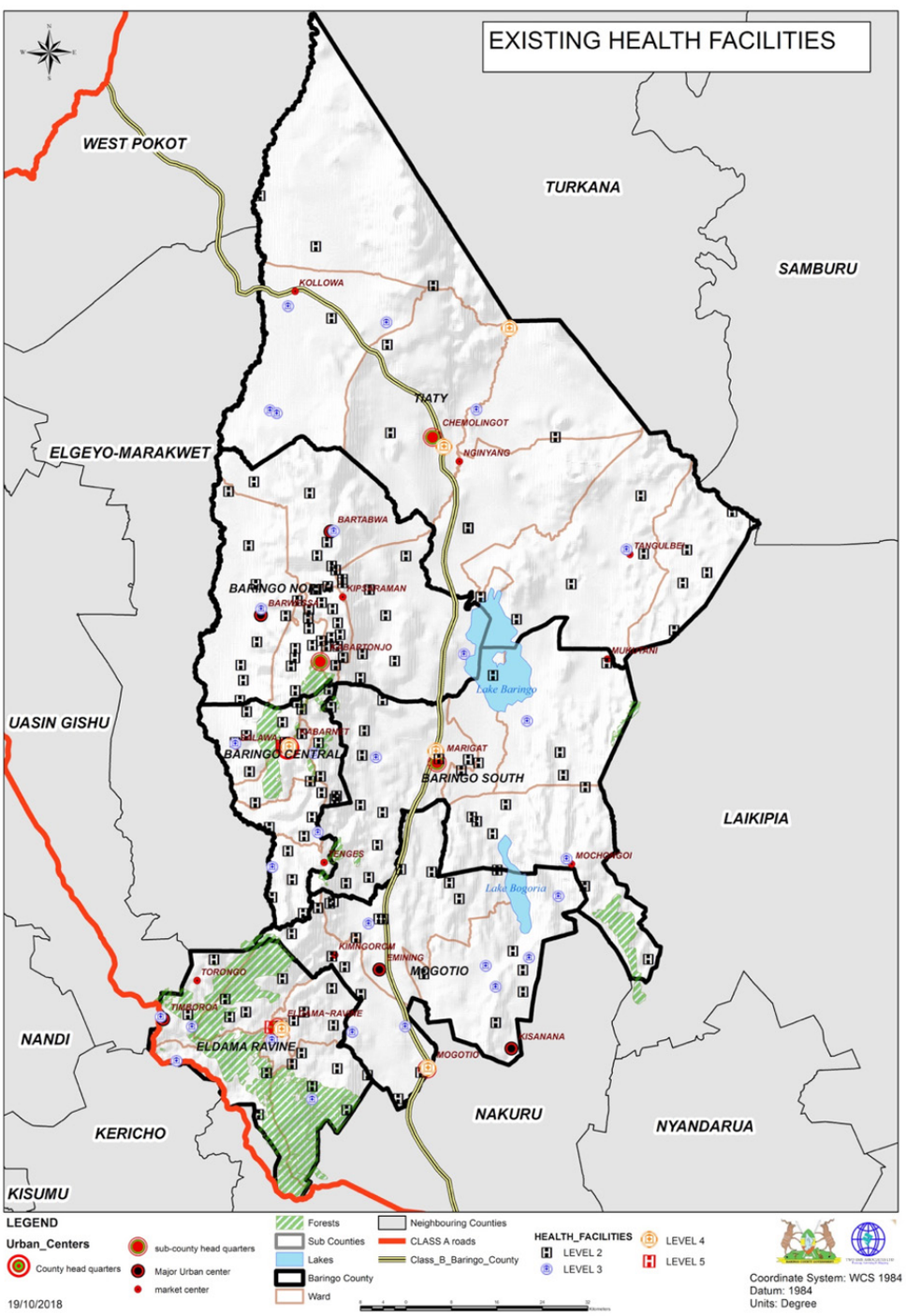
Source: Kenya Service Availability and Readiness Assessment Mapping Report, 2013

Table 48: Hospital Capacities

HOSPITAL	NO OF BEDS	NO OF COTS
Kabarnet County Hospital	160	11
Eldama Ravine Hospital	112	4
Chemolingot hospital	14	4
Marigat hospital	13	0
Barnet Hospital	17	0
Mercy Hospital	64	0

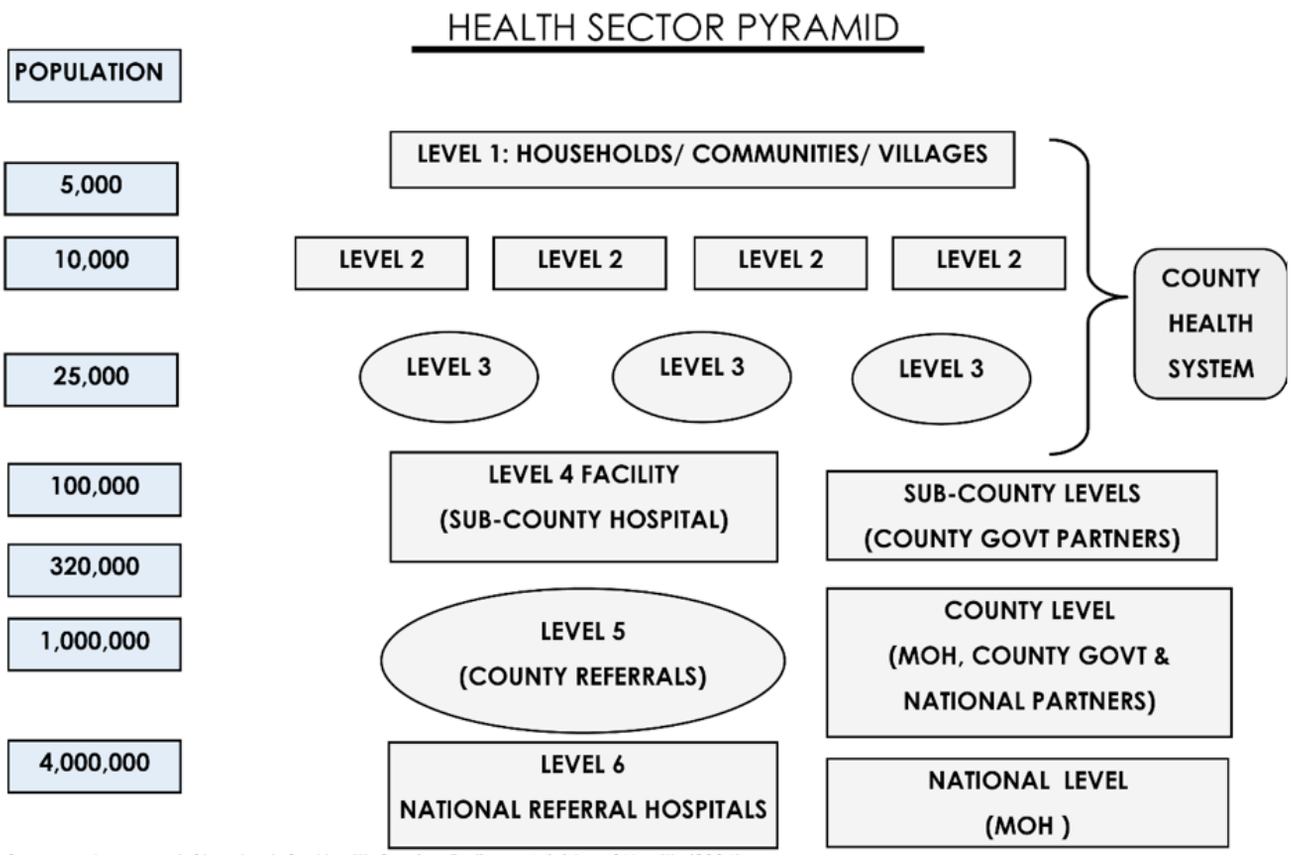
Source: A360.com, 2018.

Map 48: Distribution of Health facilities



Health care Gap analysis

According to the standards manual for health services provision the following is the proposed hierarchy of health facilities.



Source: Norms and Standards for Health Service Delivery, Ministry of Health (2006)

Modified by: Two Ems Associates (2018)

Henceforth according to the provisions of the pyramid the following gaps were identified in every sub-county.

	Tiaty			Mogotio			Baringo central			Baringo south			Baringo north			Eldama Ravine			Totals
Existing population (2018)	**169,483**			**78,427**			**114,729**			**78, 427**			**119, 719**			**140, 752**			**701,537**
	Std	Es	Gap	Std	Es	Gap	Std	Es	Gap	Std	Es	Gap	Std	Es	Gap	Std	Es	Gap	
Level 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 (needed)
Level 4	2	1	1	0	1	0	1	1	0	0	1	0	1	1	0	1	1	0	
Level 3	51	9	42	23	4	19	34	6	28	24	3	21	36	4	32	42	5	37	
Level 2	67	34	33	31	17	14	46	38	8	31	22	9	48	39	9	56	24	32	
Level 1											4						9		
Totals Std	120			54			81			55			85			99			494
Totals Es		44			22			45			26			44			30		211
Totals Gap			76			33			36			30			41			69	283

Acronyms

Std-Ministry of health standards in terms of facilities provision that would adequately provide health services to the sub-county population
Es-existing facilities within the sub-county
Gap-number needed to meet the demand of the population.

Accessibility to Health Facility

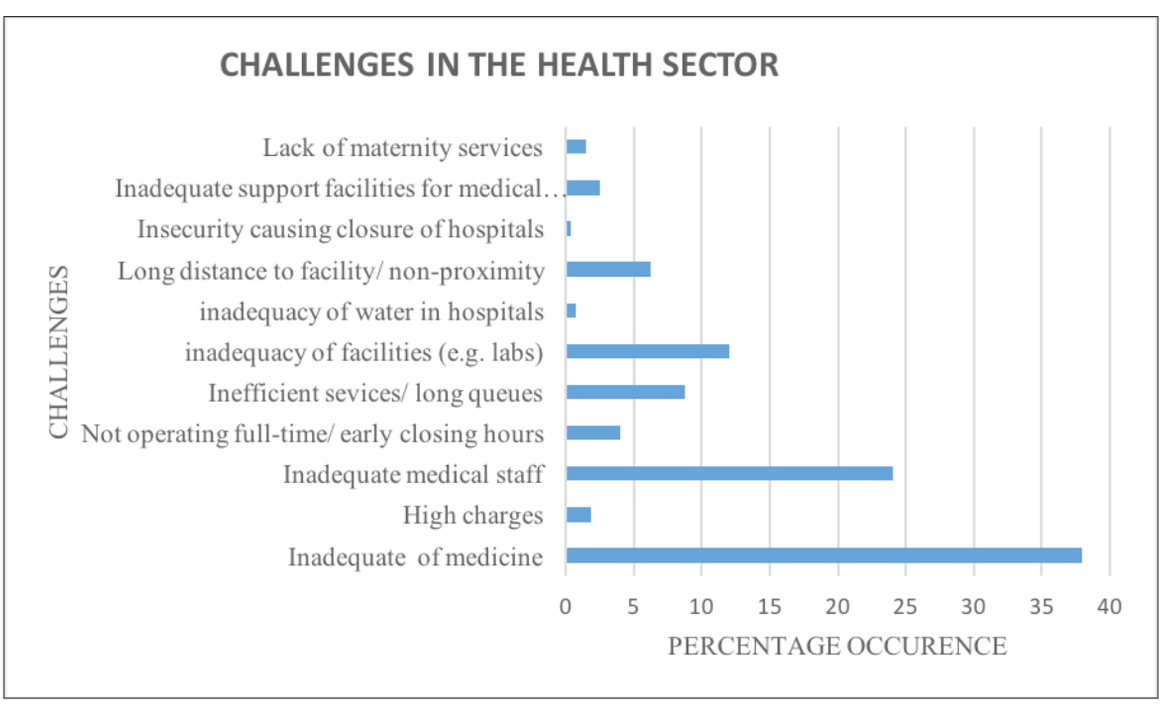
The distance travelled to access the nearest health facility is 15km, which is beyond the recommended distance given by the WHO standards of 5km. It indicates the poor distribution of public health facilities in the County. The distance varies depending on the urban or rural setting, where people in urban areas travel shorter distance than in the rural areas.

Health Services

The services offered by health facilities in the County are outpatient and in-patient curative services, preventive and promotive services: family planning, maternal child health, laboratory care services, comprehensive care services, rehabilitative and physiotherapy services, HIV counselling and testing and immunization services. County health department records indicates only 53.5% of the maternal births were delivered in a health facility, the rest of 46.5% were delivered using traditional midwifery methods, this could be attributed to deep cultural values, un-affordable health care NHIF data records show that only 17.1% of the population were covered.

According to the field survey conducted, 52.8% of the households are not satisfied with health services offered in the County. The challenges that hinder provision of adequate health services include; Inadequate medical/ health personnel, Inadequate medicine supply, Lack of health facilities such as labs and ambulances and Non-availability of doctors due to the poor road infrastructure which hinders ease of mobility.

Figure 27: Challenges in the health sector



Source: Field survey, 2016.

Disease prevalence

The common prevailing ailments in the County are upper respiratory tract infection (common among children), malaria, diarrhoea, skin diseases, eye and ear infections, typhoid, parasitic stomach infections and injuries from accidents.

Table 49: Health Indicators

HEALTH INDICATOR	BARINGO COUNTY	NATIONAL
HIV prevalence rate	3%	6.2 %
HIV transmission rate during birth	4.6%	8.5%
TB prevalence rates	208/100,000	102/100,000
malaria prevalence rates	21,512/100,000	20,252/100,000

Source: Department of Health Services Baringo County, 2015.

Figure 28: Immunization coverage.

SUB COUNTY	FULLY IMMUNIZED CHILDREN(FIC) UNDER 1 YEAR	PROPORTION OF CHILDREN UNDER ONE YEAR WHO ARE FULLY IMMUNIZED
Baringo Central	2322	61%
Baringo North	2119	47%
Eldama Ravine	3257	69%
Marigat	2785	67%
Mogotio	2212	76%
Tiaty	1051	18%

Source: Department of Health Services Baringo County, 2016.

Low immunisation rates are recorded in Tiaty and Baringo North are attributed to low numbers of medical personnel and medical facilities. The prevention and treatment mechanisms that have been put in place include:

1. Empowering the community by providing health education
2. School health programs, whereby the teachers are encouraged to teach children on importance of sanitation
3. Development of community units which have health volunteers who have reporting tools to provide feedback on number of households or villages which require for example mosquito nets.

Mobile Health Facilities

The aim of mobile health facilities is to be able to reach even the marginalised communities in Baringo County. The county has about 5 mobile clinics donated through the Beyond Zero Campaign which seeks to give maternity services to all citizens.

There is need to provide more mobile health facilities in the County to reach as many residents as possible.

Emerging issues for Health facilities

POTENTIAL/OPPORTUNITIES	CONSTRAINTS
• Deployment of qualified health personnel • Construction/ Upgrading of existing health facilities with necessary infrastructure • Construction of health personnel quarters • Establishment of maternity wards • Improved transport infrastructure enabling access to health facilities • Promotion of health insurance schemes • Provision of mobile clinics	• Inadequate number of health facilities in Baringo North and Tiaty sub-counties. • Shortage of medical personnel especially Doctors across all medical facilities. • Lack/low supply of drugs within health facilities • Inaccessibility to health facilities especially in rural areas • Lack of facilities in hospitals and dispensaries • Lack of adequate funds • Many dispensaries are not upgraded

9.6 Security Facilities

The security situation is a major hindrance to development in the County. The county is prone to cattle rustling, land conflicts, natural resource management conflicts and transboundary conflicts. These conflicts have resulted to the following impacts:

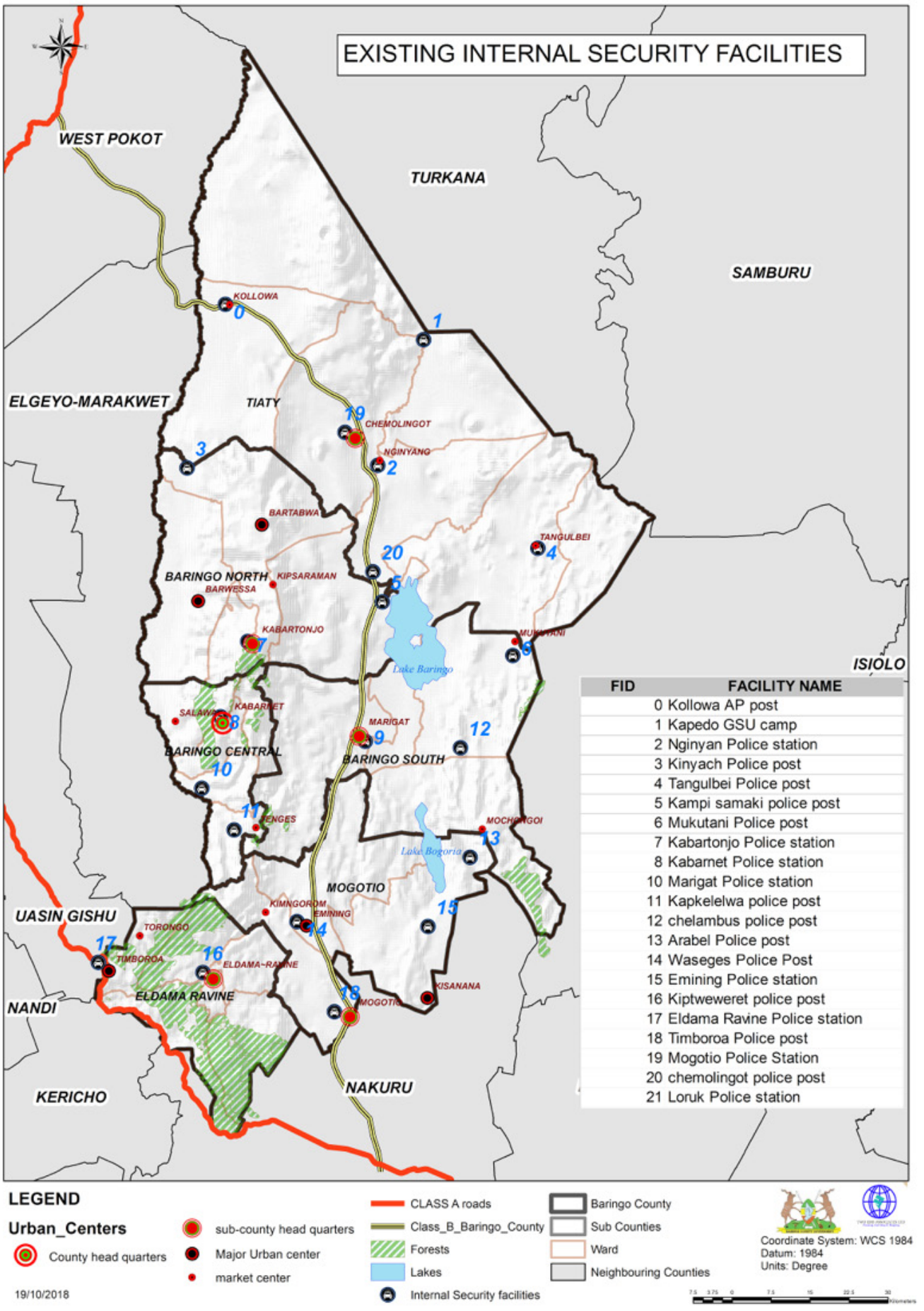
Village elders, Chiefs, Peace caravans, Nyumba Kumi initiatives and religious leaders aid in resolving conflicts across the county. There is need to establish security roads to help security personnel access the conflict areas, develop a land policy to address land issues and increase security personnel. There are several security facilities that have been established in the County and they are distributed according to need. The number of security facilities in the county are as follows:

Table 50: Security facilities inventory

SUB-COUNTY	NO. OF POLICE STATIONS	NO. OF POLICE POSTS	PATROL BASE
Baringo Central	1	3	0
Baringo North	1	2	0
Baringo South	1	3	0
Mogotio	2	0	1
Eldama Ravine	1	1	0
Tiaty	2	5	0
Total	8	14	1

Source: CIDP 2018.

Map 49: Distribution of Security facilities



From the stakeholders' forum, the following challenges were encountered:

- Inadequate police posts especially in rural areas
- Low response to emerging insecurity cases
- High rates of insecurity i.e. mostly cattle rustling
- Poor road connectivity hindering response to insecurity cases
- Dilapidated police posts.

9.7 Recreational and Community Facilities

Recreational and community facilities play an important role in facilitating social interaction and creating healthy, inclusive communities. Access to high quality open spaces for sport, recreation and community facilities can make an important contribution to the health and well-being of communities.
According to the physical planning handbook, it requires that a small area of recreational space should be located within walking distance and it should include 1-2 playing fields and children's equipped playgrounds. For every 20,000-catchment population, they should be served by a social Hall and Community Centres. The public recreational facilities in the County include:

9.7.1 Stadia and Playgrounds

There are only two existing stadia `s in Kabarnet and Eldama Ravine. The stadia `s are however in a dilapidated state due to poor management. Currently, the county government has invested Ksh.10million to upgrade the Stadium in Kabarnet town to 10,000 seater stadium. There are also plans to construct stadia `s in Mogotio, Kabartonjo and Tiaty sub counties as well as three athletics camps at Sirwa, Otany and Ossen.

9.7.2 Talent Centres

Baringo County has two talents development centres located in Torongo and Talai which are still under development.
The youth engaging in athletics have been using the centres as holiday training camps. The facilities are situated in sites with conducive altitude thus the need to develop and make them more conducive for training.

9.7.3 Recreational parks

There are two (2) main recreational parks in the county, the garden square and Obama gardens located within the CBD in Eldama Ravine town, and others located around the county.

9.7.4 Museums

There is one national museum which is located in Kabarnet town. There is also the Kipsaraman Community Museum located on top of Tugen Hills. The two museums form unique tourist sites where people are able to learn Baringo's history and culture.

9.7.5 Libraries

There are two public libraries in the county run by the Kenya National Library Service (KNLS). These include the Kabarnet KNLS library, the Meisori KNLS library. Other libraries include Kenya School of Government library and the Polka dot library in Kabarnet. There is also the Eldama Ravine Community Library, which is an upcoming library whose construction is being done under a partnership between KNLS, Eldama Ravine CDF and Ravine Roses. In Baringo North sub-county, there is also a public library donated by the Koreans in Pemwai area to boost education services in the County. The existing libraries are mostly concentrated in Baringo central sub-county hence calling for special consideration to the other 5 sub-counties.

9.7.6 Cemeteries

The cemeteries are located in Kabarnet, Eldama Ravine and Marigat town. There are no designated public social amenities spaces such as; social halls and public toilets in the County. This is attributed to encroachment and grabbing of public land designated for social and recreational purposes.

9.7.7 Cultural & Empowerment centres

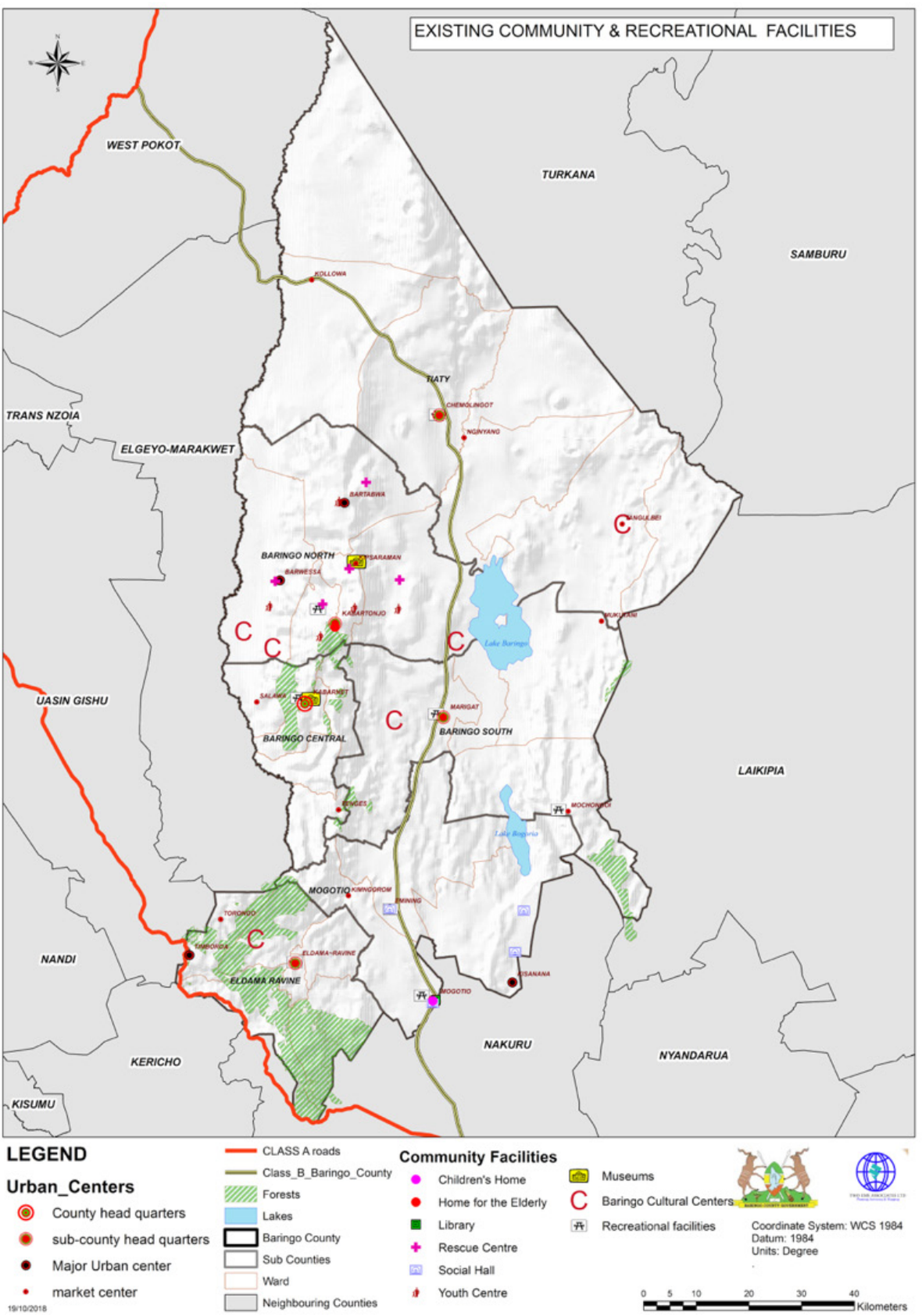
The county has several Community cultural centres at Lembus, loboi, Eldume, Turu turu in Kapluk and Meisori, Endmois, Arror, Uchamus etc. There is one operational youth empowerment centre in Emining. However, one youth empowerment centre in every sub-county is under construction. There are also plans for construction of social halls.

9.7.8 Cultural & Empowerment centres

The county has a number of cultural sites with historical significance. The cultural centres managed by the county government and the community, some of which include: Lembus Culture Centre, Loboi Cultural Centre, Kimalel Cultural Centre, Turuturu Cultural Centre, Meisori.

There is one operational youth empowerment centre in Emining. However, one youth empowerment centre is under construction in every sub-county. There are also plans for construction of social halls.

Map 50: Distribution of Recreational and Community facilities



9.7.9 Emerging issues for Recreational & Community Facilities

POTENTIAL/OPPORTUNITIES	CONSTRAINTS
• Investment in recreational facilities i.e. children play areas • Availability of land for recreational development • Rich county with a wide cultural diversity • A high vibrant youthful population • Development of scenic views for tourist attraction	• Encroachment/Grabbing of public open spaces • Lack of green space allocated for relaxation • Lack of public social amenities such as social halls, open markets, public toilets

CHAPTER TEN

Economic Base

10.1 Overview

Economic analysis is important for development planning as it provides important indicators upon which the rate and level of growth and development of a region can be assessed. Economic performance influences living standards of people and indicates how well people are able to utilize their natural and human resources. For spatial planning to be sustainable, it must respond to the existing economic realities and order economic activities in a sustainable manner.

Information about an area's future population is incomplete without a parallel understanding of the local economy, which largely shapes its future. If the local economy is strong, population growth is usually brisk. In times of economic trouble, though, an area often will experience a loss in population.

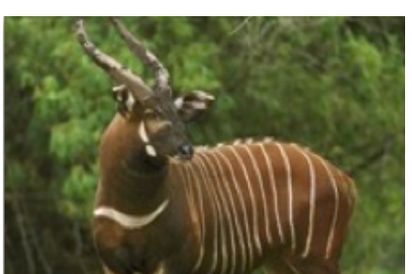
The following analysis will therefore provide important indicators upon which the rate and the level of growth of Baringo will be measured. These indicators will influence or inhibit the standards of living (and by extension the speed of county development).

The total area under food crops is 9,000ha, with 10ha under cash crops, implying that agriculture is the backbone of the county's economy. Other economic activities include; livestock rearing, tourism, trade and industry which are carried out by both large-scale industries and SMEs across the county.

Picture 2: Main economic activities in Baringo

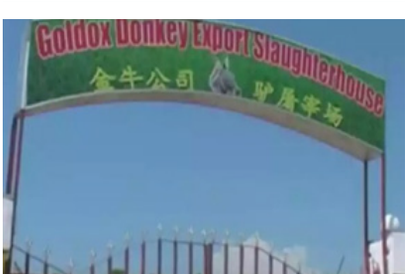
CROP PRODUCTION

LIVESTOCK PRODUCTION



TOURISM

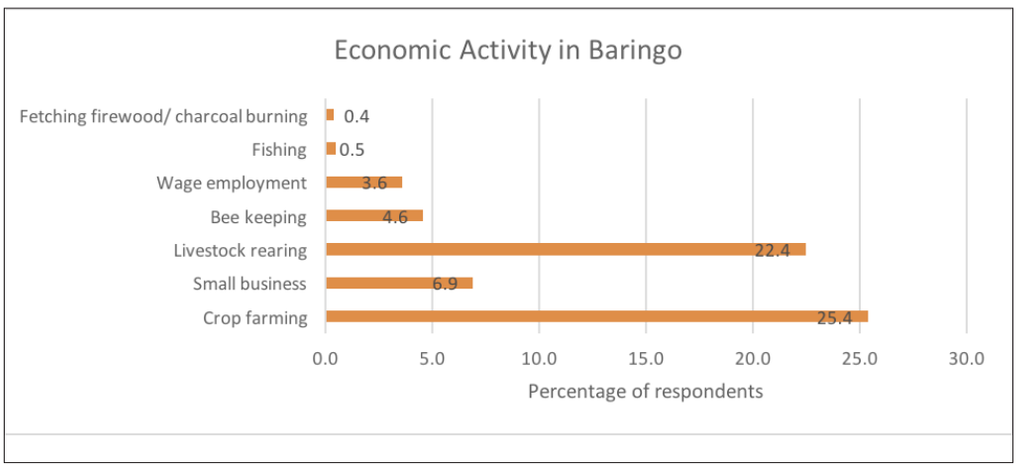
LUMBERING



INDUSTRY

MINING

Figure 12: Respondent Economic activity



Source: Field Survey, 2016

10.2 Agriculture

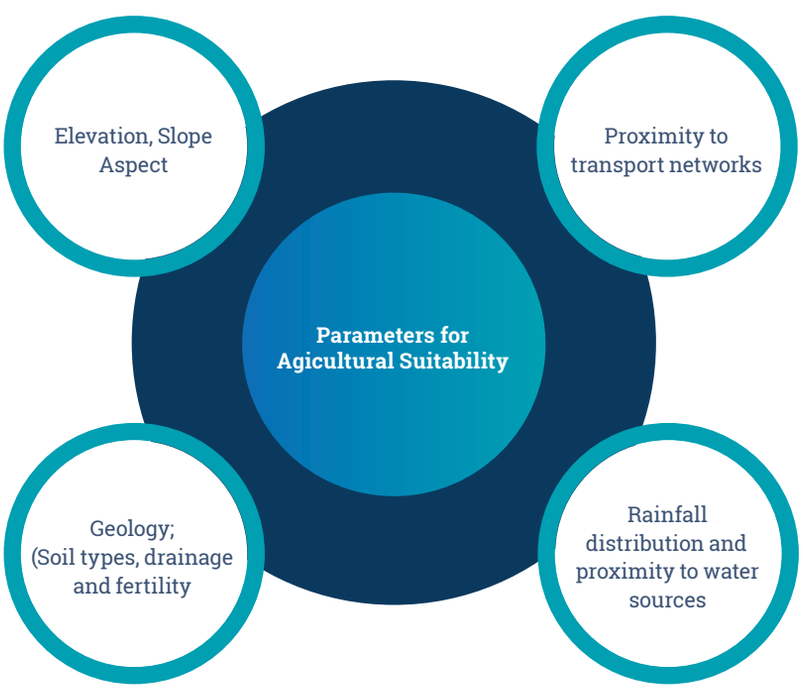
Agriculture in the county contributes to 80% of the county's income, with 25,854 people employed in this sector. Food production, cash crop farming (including horticulture and fruits), livestock rearing, beekeeping, and fisheries constitute the major economic activities.

10.2.1 Crop Agriculture

Food crops grown in the County are usually mostly for subsistence use. The production is mostly below the demand of the County. This is mainly due to post-harvesting losses, since most farmers lack adequate storage facilities. Where there is surplus however, it is sold to home-grown school feeding programs. About 45% of its land in Baringo is either too steep or too dry for agriculture.

Agricultural Land Suitability Analysis

Farming requires good geology and soil types with good drainage ability. Road, rail and air networks are also significant for the easy transportation facility of the raw and processed products of agriculture. While Baringo is a County with highlands and lowlands, elevation, slope and aspect come to the decision-making process for identifying suitable land for agricultural development. For suitable site identification, all these parameters were considered during the analysis of potential agriculture zone.



Weighted overlay method (WOM) along with the analytic hierarchy process provides a very assuring outcome for the site suitability assessment of agricultural land use. The method can be useful to the multi-level hierarchical structure of various constraints and criteria (Triantaphyllou and Mann 1995). It has steps to analyze the relative influence of weights on each parameter, before obtaining the final score (Boroushaki and Malczewski 2008; Bunruamkaew and Murayam 2011).

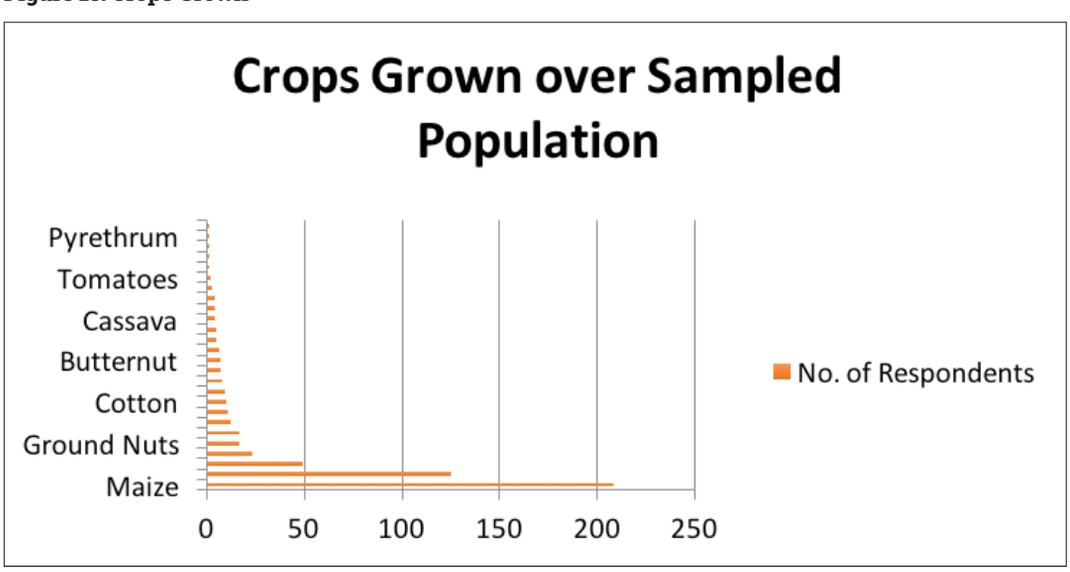
The following section provides an analysis of the potential of crops by sub-county.

SUB-COUNTY	MAIN AGRO-ECOLOGICAL ZONE	ZONE	CROP POTENTIAL
Eldama Ravine	UH 1	Upper Highland Zones	Forest Reserve
	UH 2	Upper Highland Zones	Pyrethrum - Wheat Zone Others: peas, cabbages, potatoes, carrots
	LH 2	Lower Highland Zones	Wheat/ Maize – Pyrethrum Zone Others: peas, beans, potatoes, carrots, beetroot
Baringo North	LH 2	Lower Highland Zones	Wheat/ Maize – Pyrethrum Zone Others: peas, beans, potatoes, carrots, beetroot
	LM 4	Lower Midland Zones	Marginal Cotton Zone Others: Cassava, sorghum, millet, green grams, beans, groundnuts
Baringo South	LH 3	Lower Highland Zones	Wheat/Maize – Barley Zone Others: finger millet, potatoes, tomatoes, cauliflower, maize, sunflower
	LM 6	Lower Midland Zones	Lower Midland Ranching Zone Crops: cowpeas, sorghum, cassava Livestock: indigenous cattle, camels, sheep and goats
Baringo Central	LH 2	Lower Highland Zones	Wheat/ Maize – Pyrethrum Zone Others: peas, beans, potatoes, carrots, beetroot
	UM 3	Upper Midland Zones	Marginal Coffee Zone Others: finger millet, sweet potatoes, beans, potatoes, onion, macadamia nuts, cassava
	UM 4	Upper Midland Zones	Sunflower – Maize Zone Others: sorghum, cabbages, cassava, pawpaw, groundnuts, beans, onions, soyabeans
Mogotio	UM 4	Upper Midland Zones	Sunflower – Maize Zone Others: sorghum, cabbages, cassava, pawpaw, groundnuts, beans, onions, soyabeans
	UM 5	Upper Midland Zones	Livestock – Sorghum Zone Others: sorghum, sisal and pasture Livestock: indigenous cattle, sheep and goats

Tiaty	UM 4	Upper Midland Zones	Sunflower – Maize Zone Others: sorghum, cabbages, cassava, pawpaw, groundnuts, beans, onions, soyabeans
	UM 5	Upper Midland Zones	Livestock – Sorghum Zone Others: sorghum, sisal and pasture Livestock: indigenous cattle, sheep and goats
	LH 3-4	Lower Highland Zones	Wheat/Maize – Barley Zone Others: finger millet, potatoes, tomatoes, cauliflower, maize, sunflower
	LM 5	Lower Midland Zones	Livestock – Millet Zone Others: sorghum, cassava, simsim Livestock: indigenous cattle, sheep and goats
	LM 6	Lower Midland Zones	Lower Midland Ranching Zone Crops: cowpeas, sorghum, cassava Livestock: indigenous cattle, camels, sheep and goats
	IL 6	Inner Lowland Zones	Inner Lowland Ranching Zone Grazing Lands. Livestock: cattle, camels

The chart below gives a summary of the crops grown based on the household survey conducted and the number of respondents.

Figure 13: Crops Grown

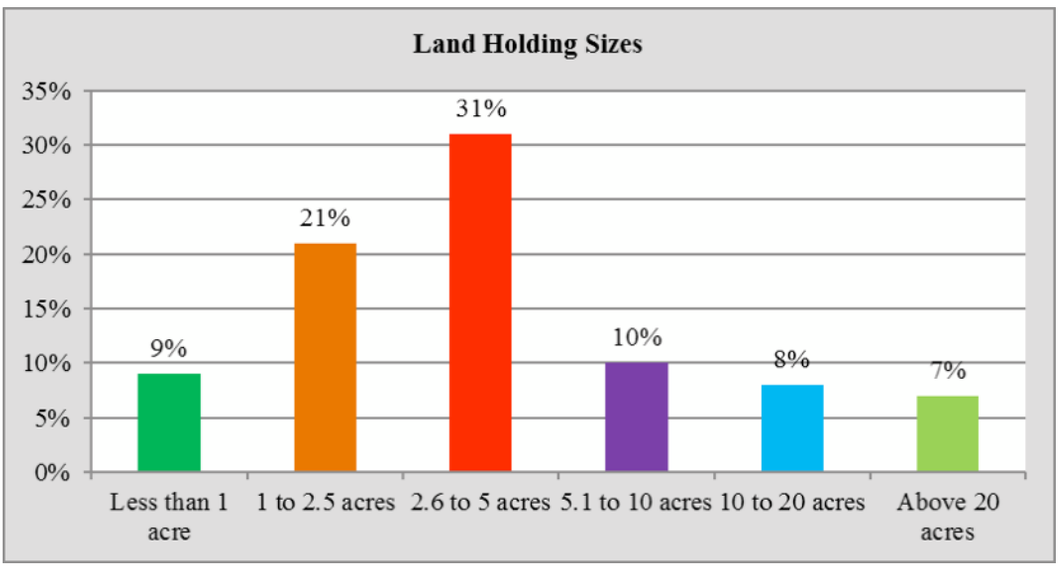


Source: Field Survey, 2016

Agricultural Land Size

The county predominantly consists of small holder farms especially in the highland areas like Eldama Ravine sub-county. Medium and large-scale institutional farms are mainly in form of the communal land, ranches and conservancies in the lowland parts of the county.

Figure 14: Land Sizes



Source: Field Survey, 2016

Agricultural Technologies

Majority of farmers in Baringo use traditional farming technologies like use of animal drawn carts to farm. The use of tractors in farming remains significantly low compared to oxen and manual labour. This greatly reduces the ability to intensify farming.

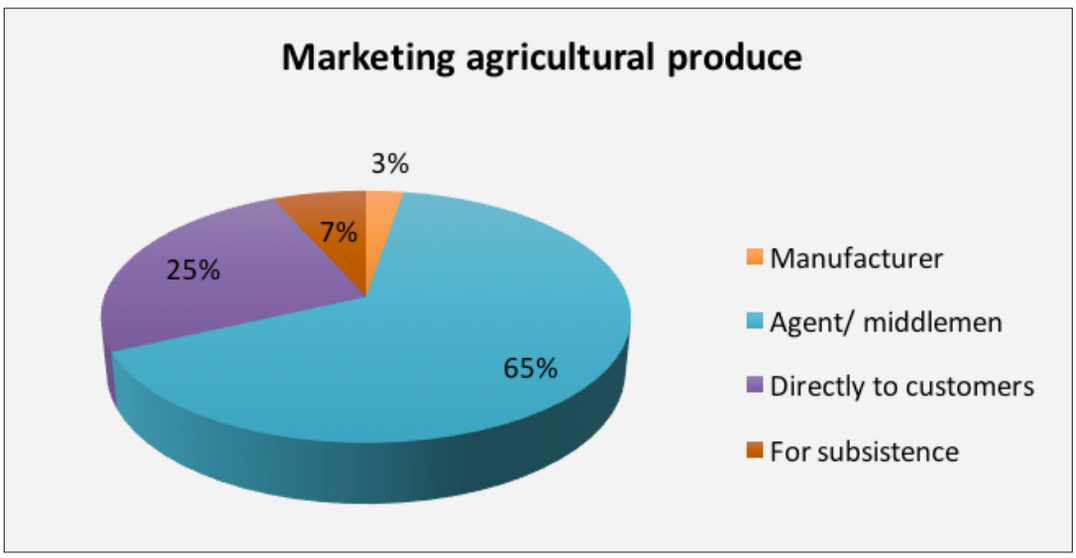
This situation can be attributed to a number of factors, including the small size of farms (which reduces maneuverability of machinery), the lack of agricultural technology, and level of farmer knowledge about available mechanization. For the farmers who used tractors, the machinery/equipment used was hired. The mean cost of hiring for ploughing, harrowing and planting was KES 2,960, 1,850 and 1,800 per acre respectively (Baseline Survey Report, 2014).

TECHNOLOGY	ADVANTAGES	DISADVANTAGES
Oxen/ Donkey drawn Carts	• Steadier pulling power. • Good for heavier tasks like ploughing hard or wet ground.	• Less ground coverage. • High maintenance cost as the animals need feeding.
Tractor	• Timely. • Increased productivity.	• High costs.
Manual Labour	• Time consuming. • Delays	• Cheap in cost terms.

Marketing and Processing

A high percentage of agricultural produce is for subsistence purposes. The County is also served by the National Cereals and Produce Board, which has four depots in the County that are located in Eldama Ravine, Marigat, Kimalel and Kabarnet. The stores assist farmers to store surplus produce. Agricultural cooperatives have not been active. There are only 7 coffee factories spread across coffee growing zones, the only functioning coffee cooperatives are located in Kituro and another in Kapkawa, Macadamia cooperative in Kabarnet and a Maize cooperative in Marigat (seed maize production and rice production). There is an inactive cotton cooperative.

Figure 15: Marketing of Agricultural Produce



Source: Field Survey, 2016

The chart indicates that farmers (65%) mostly depend on agents and middle men for sale of their crops, which makes them extremely vulnerable to exploitation. This is a situation that can be solved by formation of cooperatives, furthermore, about 7% of the sampled populations grow crops for subsistence purposes. This means that knowledge of agricultural intensification is still low.

Maize and beans are mainly grown in the highlands while sorghum and finger millet are grown in the lowlands. There is need to put incentives in agriculture like subsidized farm inputs to encourage more people into farming to reduces incidences of food shortage.

A summary of the market prices for produce in the County is shown in the table below:

Table 22: Market Prices for Crops

CROP	YEAR 2015			YEAR 2016			YEAR 2017		
	Area (Ha)	Quantity (Tons)	Value (KShs)	Area (Ha)	Quantity (Tons)	Value (KShs)	Area (Ha)	Quantity (Tons)	Value (KShs)
CEREALS									
Maize	38,301	87,802	2,370,655,350	34,318	76,754	2,558,475,000	34,667	555,565	18,518,893,652
Sorghu	1,274	942	36,401,000	1,159	522	2,349,000	530	7,470	33,615,000
Finger Millet	2,704	2,254	120,062,700	3,437	1,451	13,055,985	4565	34,625	311,553,053
LEGUMES									
Beans	21,527	19,278	1,067,468,200	20,120	20,948	169,679,853	17,972	92,826	751,895,266
Cow Pea	605	699	51,719,000	454	53	481,140	487	1425	12,936,311
Green Grams	579	499	45,451,200	513	78	706,320	723	1421	12,867,701
ROOTS AND TUBERS									
Irish Potatoes	3,549	58,089	880,253,000	1,564	2,765	12,163,888	1798.6	3179.75	13,988,471

Sweet Potatoes	397	4,522	92,122,000	185	35	69,040	185	2063	4,069,414
Cassava	353	3,585	76,500,000	44	7	34,650	44	1100	5,445,000
NUTS AND OILS									
Groundnuts	1,080	1,386	74,136,000	507	558	7,973,537	637.5	12,750	182,191,033
Macademia Nuts	299	687	82,459,200	350	1,400	98,000,000	594.5	583.13	40,819,100
Coffee							1811	5406	74,650,000
Cotton							160	120	3,600,000

Source: Draft Baringo CIDP, 2018-2022

Value Addition

Baringo is reflective of Kenya's capacity for value addition – such processes are poorly developed, and where they exist, value addition is at a small scale.

Due to the low productivity of the agricultural sector, value addition has been relegated to small scale production of raw materials. The agriculture department is currently engaging farmers to grow fruits in order to revive Kenya Wine Agencies Limited (KWAL). The county faces several challenges in the value addition chain;

a) Market access - there is poor road network, high cost of production and low compliance to standards and safety regulations.
b) Innovation and technology development - low technology utilization and lack of innovation and use of obsolete technology has led to low quality products.
c) Budget Allocation - inadequate budgetary allocation for livestock processing infrastructure development.
d) Low development of the private livestock sub sector- the entrepreneur development is low in the county

The county government is promoting value chains in fruits, cotton, coffee, pasture/hay, horticulture, aloevera, macadamia nuts, and groundnuts.

Table 23: Value Addition

ACTIVITY	LOCATION	VALUE ADDITION DETAILS
Macadamia Nuts	Tenges Kabarnet	Raise the acreage of macadamia from 152ha to 1000ha by 2018 Set up macadamia nursery at Tenges Establish a macadamia nuts processing machine at Kabarnet
Sisal Production	Kapkechui, Simotwe, Oterit and Molosirwe locations as well as Chemogoch sub-location	Raise the acreage of macadamia from 400ha to 1000ha by 2018 Procurement of a mobile sisal decorticating machine
Forest Products	Mogotio	Develop sustainable utilization of forest products like aloe products, furniture and bamboo for income generation

Source: Baringo CIDP, 2013 - 2017

Extension Services

Provision of extension services occurs on demand, with the government being the key provider. The department of agriculture is currently partnering with Catholic Relief Service (CRS) and USAID in offering E-extension services.

Agricultural Training Collage at Eldama Ravine provides an opportunity in application of scientific research and new knowledge to agricultural practices through farmer education. The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators in agriculture, agricultural marketing and value addition.

Agricultural and machinery services agency based in Marigat provides new farming technologies to the farmers and provides subsidized equipment as part of farm input strategy in the sub sector.

Table 24: Extension Services in Baringo

TYPE OF EXTENSION SERVICE	PLAYER/FROM WHO	FREQUENCY
Advisory (Trainings)	Egerton university.; World Vision; Action Aid; Catholic Relief Service (CRS) ; KALRO	Demand & content driven Quarterly
Physical inputs	Action Aid; KALRO	
Farm visits (individual/ group)	Egerton university.; World Vision; Action Aid; CRS; KALRO	
Public forums	PPT of agriculture	
E-extension	CRS; PPT of agriculture	
Regulatory services	Agriculture Food and Fisheries Authority (AFFA)	

Source: Field Survey, 2016

Research undertaken/ on-going into agricultural improvement include:

- Ongoing research on new variety of drought-tolerant crops which are high yielding, drought tolerant and adaptable to climate change.
- Pathological/ soil sustainability test for each crop meant to look out for harmful insects in the soil
- Studies on promoting hydroponics (growing of crops without having to use soil)
- KALRO research station is located in Marigat specializes in dry land/adaptive research with drought resistant crop varieties such as dry bean varieties, rain fed agriculture in agro ecological zone UM5.

The challenges faced in the provision of extension services include; Low funding, Limited number of staff and the workforce is rapidly ageing at the county level (in Mochongoi, Mukutani, Kiserian, Kiboiwo, Loboi, Kamoskoi), Low capacity to cope with the demand for extension service provision, Limited machinery and equipment inhibits staff mobility and Shortage of extension officers.

Irrigation

Irrigation has the potential to increase a single smallholder farmer's income by four times in a single production cycle, particularly by focusing on high value crops, intense cropping, and year-round production. On the other hand, irrigation requires a large amount of water. Given that Kenya is a water scarce nation, competition for the scarce resource is high.

Perkerra irrigation scheme is the largest irrigation scheme in the county. The total area developed for furrow irrigation in the scheme is 2000 acres (810ha) out of which only 1200 acres (500ha) is cropped per season. There are 750 farm households with the majority having 3 to 4 acres of farm land and half an acre of village area for settlement. The scheme mainly grows horticultural crops which include: bulb

onions, dried chilies, pawpaw, watermelons, sunflower, rice and seed maize crop under contract agreement with Kenya Seed Company.

Other schemes include; Eldume, Sandai, Kamoskoi and Kapkuikui Irrigation Schemes which are community-based and with their own source of irrigation water from rivers Molo, Waseges and Lorwai springs respectively.

The table below lists all the stations with Perkerra Irrigation scheme.

Table 25: Irrigation stations under Perkerra Irrigation Scheme and their current status:

SCHEME	READILY ARABLE AREA (ACRES)	AREA CROPPED (ACRES)	AREA HARVESTED (ACRES)	TOTAL PRODUCTION (TONS)	TOTAL GROSS INCOME (KSH. MILLION)	NET INCOME KSH. MILLION
Perkerra	2000	978.25	978.0	1,440.54	93.96	48.0
		(370.0)	-	-	-	
Sandai	1000	587.75	527.75	567.18	40.27	10.9
Kamoskoi (T)	100	58.0	58.0	33.12	2.39	0.51
Kamoskoi (K)	200	125.0	125.0	56.29	4.10	2.15
Kapkuikui	300	72.0	72.0	41.21	2.63	0.97
Eldume	600	Nil	-	-	-	-
Sub total	**4,200**	**2,126.0**	**1,760.75**	**2,138.34**	**143.35**	**62.53**

Source: National Irrigation board, 2016

Other irrigation schemes in Baringo are: Barwessa (Kiboi Irrigation scheme) which sits on 167 acres of land. Plants irrigated here include: pawpaws (15ha), Maize (10ha), Beans (10ha), Onions (10ha) and bananas (18ha). There are more than sixty farmers under this irrigation scheme, which is managed by Drought Resilience Livelihood Support Programme. Furthermore, plans are underway to expand it to 350 acres. Smaller irrigation schemes in Baringo North include Kipcherere, Barwessa and Poi.

Table 26: Irrigation schemes

SUB COUNTY	POTENTIAL HA	IN USE HA	IRRIGATION SCHEME AND STATUS
Baringo Central	7,000	4	No developed schemes
Baringo North	10,000	140	1) Kiboi: potential – 200 ha; in use-60 ha; Crops: maize, Cotton, Kales, Onions; 2) Barwesa: potential- 250ha; in use – 86.8 ha; Crops: Maize, Beans, Onions, Kales, Water melons;
Marigat	8,000	1,580	1) Eldume: potential -320 ha; in use – 120 ha; Crops: Seed maize, Commercial Maize, Horticulture- onions, tomatoes, Pulses – beans; Others - Nerica rica, Local vegetables; 2) Perkerra: potential-3,200ha; in use-480 ha; Crops: Seed maize, Commercial Maize, Horticultural Crops – paw paws, onions, tomatoes; Scheme under NIB management.

Mogotio	160	20	No developed schemes
Eldama Ravine	5,000	65	No developed schemes
Tiaty	10,000	250	1) Kolowa: in use-100 ha
Total	**40,160**	**2,059**	**5 irrigation schemes**

Source: National Irrigation board, 2016

There are plans to construct surface runoff structures from Kelelwa to L. Baringo to improve access to water for livestock and irrigation. The following challenges were identified during stakeholder engagement with farmers from the irrigation schemes:

1. Water shortage from the various rivers and competition with domestic water use.
2. Crop diseases that result to total crop failure
3. Underground salty water from streams
4. Limited security of tenure in the schemes undermines the farmer's ability to access finances
5. Upstream uptake of water along the rivers affects irrigation in the lower parts of the river
6. The rainy season causes flooding which in turn destroys the weirs.
7. Lack of an irrigation policy has curtailed funding for irrigation projects across the county. However, the National Irrigations Board Act is being reviewed to allow the board's expertise to be applied to small-scale irrigation projects.

Untapped Crop Potential

The following diagram indicates some major crops that have the potential to be grown in Baringo County:

Coffee

- Coffee production is low due to negligence by farmers
- Coffee farmers feel dissatisfied with the management and cost of inputs

Macadamia

- Has potential for production in Baringo North and Mogotio, with proper management and marketing input

Groundnuts

- Groundnut production is currently low due to low value addition initiatives and also lack of certified seeds.
- The County government in conjunction with Egerton University is currently researching on the best seed quality.

Fruits and Vegetables

- Have the potential to do well, since they require an agro-ecological zone of 1000-2200mm above sea level

Climate change impacts on crop production

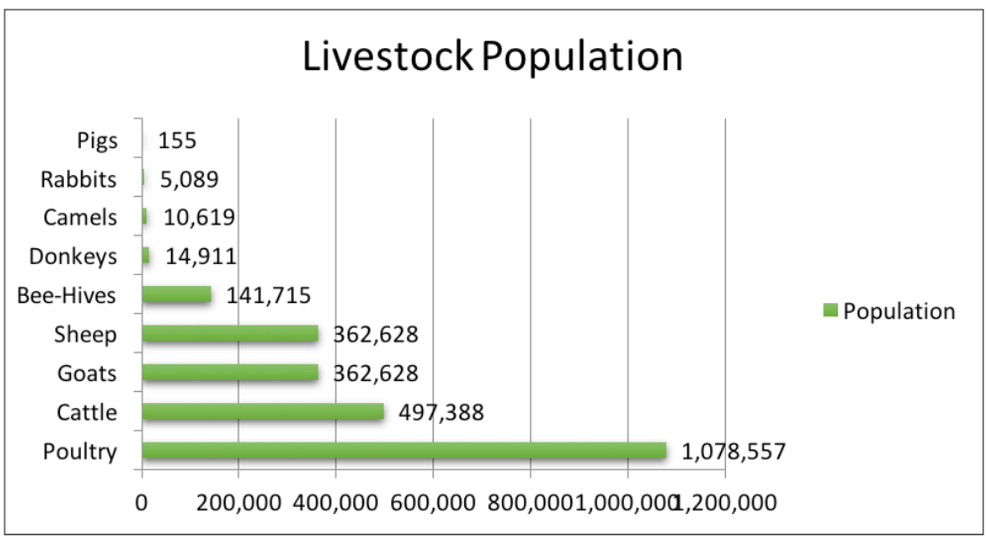
As was the case with livestock, the effect of climate change on crop production will have the following effects:

- Abnormal onset of the rainy season results in severe consequences, where abrupt floods destroy infrastructure and hamper physical mobility, damage crop fields, increase disease epidemics, death to livestock, and severe impact on livelihoods;
- Increased frequency and severity of droughts has aggravated the aridity of the drylands, making it drier and adversely affecting ecosystems balance (biodiversity and habitats)
- Droughts have led to rampant environmental degradation, resource use conflicts and desertification.

10.2.2 Livestock

Livestock rearing is one of the main economic activities of the Kenyan economy that directly contributes 43% to the agricultural sector, according to the IGAD Livestock Policy Initiative 2003. Animals reared in Baringo include dairy cattle, beef cattle, mutton and dairy goats, sheep (for wool & hides/ skins), poultry (indigenous and exotic), camels, rabbits, pigs and bee keeping.

Figure 16: Baringo Livestock Population



Source: County Livestock Offices, 2016

The production per animal product and its contribution to GDP in the County is a total of Ksh 2,244,478,568 and it is as indicated in the table below:

Table 27: Livestock products and estimated livestock revenue

SUB-COUNTY												
	Milk (Kg)	Beef (kg)	Wool (kg)	chevon (Kg)	Mutton (Kg)	Pork (kg)	Rabbit meat	Poultry meat	Camel meat	Honey (kg)	Wax (Kg)	Eggs (No. of trays)
BARINGO CENTRAL	3,931,200	114,013	0	118,184	3,130	0	0	61,313	0	73,617	0	26,025
BARINGO NORTH	2,581,030	250,640	0	169,620	32,840	0	0	45,292	0	67,120	820	41,675
MOGOTIO	5,985,720	486,270	0	170,779	76,687	0	0	55,456	0	103,472	0	50,158
MARIGAT	1,296,000	271,525	0	202,764	47,246	0	0	62,910	0	193,864	0	40,892
TIATY	67,046	514,503	0	385,610	50,780	0	0	181,481	27300	113,381	0	117,963
ELDAMA RAVINE	10,593,890	186,750	480	26,130	39,945	4,700	0	46,161	0	16,075	0	36,006
TOTAL	24,454,886	1,823,701	480	1,073,087	250,628	4700	0	452,613	27300	567,529	820	312,718
PRICE	35	300	10	400	400	350	0	250	300	200	500	240
REVENUE	855,921,010	547,110,300	4,800	429,234,800	100,251,200	1,645,000	-	113,153,250	8,190,000	113,505,800	410,000	75,052,408

Source: Field Survey, 2016

Rearing and Management Practices

The main livestock in the county include; the East African Zebu Cattle in the lowlands and exotic cattle in the highlands of Baringo Central and Eldama Ravine Sub-Counties

The livestock rearing and management practises in the County include:

1. For the Dairy livestock, the communities practise:
    - Free range grazing which is mostly practised
    - Zero grazing
    - Semi-intensive
2. For the beef livestock, free range rearing is mostly practised.
3. Ranching

Erosion of traditional community leadership such as elders has seen a reduction in traditional pastoralist management opportunities that existed in the County. These elders regulated traditional livestock feeding practices. There are, however practices which can be encouraged such as trees management. Such as dry season tree species preservation, this practice has been eroded due to charcoal burning.

The group ranches in Baringo were under adjudication and registration between 1968 and 1982 when the Kenya Livestock Development project phase I and II was functional. Most of the ranches have not completed the registration process and have low level ranch development carried out by the members due to lack of finances. This situation has led to members of some of the group ranches demanding for subdivision of their ranches into individual holdings as indicated above. The group ranches neighboring urban centers are being encroached by the expanding towns.

Table 28: Ranches in Baringo

GROUP RANCH	SIZE (HA)	TYPE	CURRENT STATUS
Marigat G.R	8757	Group	Has 438 members, fully registered and allowed to subdivide
Kimalel G.R	6073	Group	Has 655 members, fully registered and allowed to subdivide
Sabor G.R	8100	Group	651 members fully, registered allowed to subdivide
Kokwa Island	506	Group	116 members, fully registered No subdivision requested
Ngambo G.R	5501	Group	1659 members, not registered
Salabani G.R	7522	Group	857 members, not registered
Eldume G.R	5052	Group	671 members, dispute with Sandai adjudication section
Barkibi 'A' G.R	6443	Group	801 Members, fully registered, no request for subdivision
Barkibi 'B' G.R	6443	Group	250 members, fully registered, subdivision allowed
Bartum Ranch	19,086	Group	Not registered group numbers
Ngaratuko Ranch	1,900	Group	Not registered due to dispute

Source: Draft Baringo CIDP, 2018-2022

Extension Service Providers

Extension services are important for the dissemination of knowledge and new technologies. Such services are needed to transform Baringo from a subsistence economy to a commercial economy. Baringo has numerous extensions which include both the private and public sectors. The core mandate of the livestock department in the County is the provision of extension services including Livestock improvement services for cattle, sheep goats and poultry, Modern apiculture, Range rehabilitation and Fodder and pasture production.

The veterinary sub sector has also invested heavily in extension services to improve the animal husbandry in the county and add value and income to the sector. Kenya Agricultural, Livestock Research Organization (KALRO) and Egerton University have set bases in the county to assist in research and development in agricultural sector in order to improve farmer incomes and develop resilience in the arid areas.

Table 29: Livestock Extension Services

TYPE OF EXTENSION SERVICE	PLAYER	FREQUENCY
Distribution of pasture	County Government	-No specific schedule -Demand driven mostly -Arrange barazas once in a while
Training on planting of pasture seeds	SNV	
Market development	County Government partnering with SNV	
Capacity building	SNV	
Procuring breeding materials	World Vision	

Source: Field Survey, 2016

The extension services are accessed through field days, demonstrations, seminars and workshops and farm visits. They are distributed at the divisional levels.

The challenges faced in using livestock extension services include; Inadequate staff, Low funding for transportation and the use of vehicles, Inadequate and affordable of credit and Limited adaptation of new technologies.

Marketing Channels

There are three types of livestock co-operatives that exist in the County. These are:

Dairy co-operatives - There are twenty (20) dairy co-operatives in the county. Their mandate is to collect milk from the farmers and market their products. For instance, in Eldama Ravine, KCC, Brookside and Daima purchase the milk from Sabatia Co-operative society. The milk companies have processing and cooling plants.

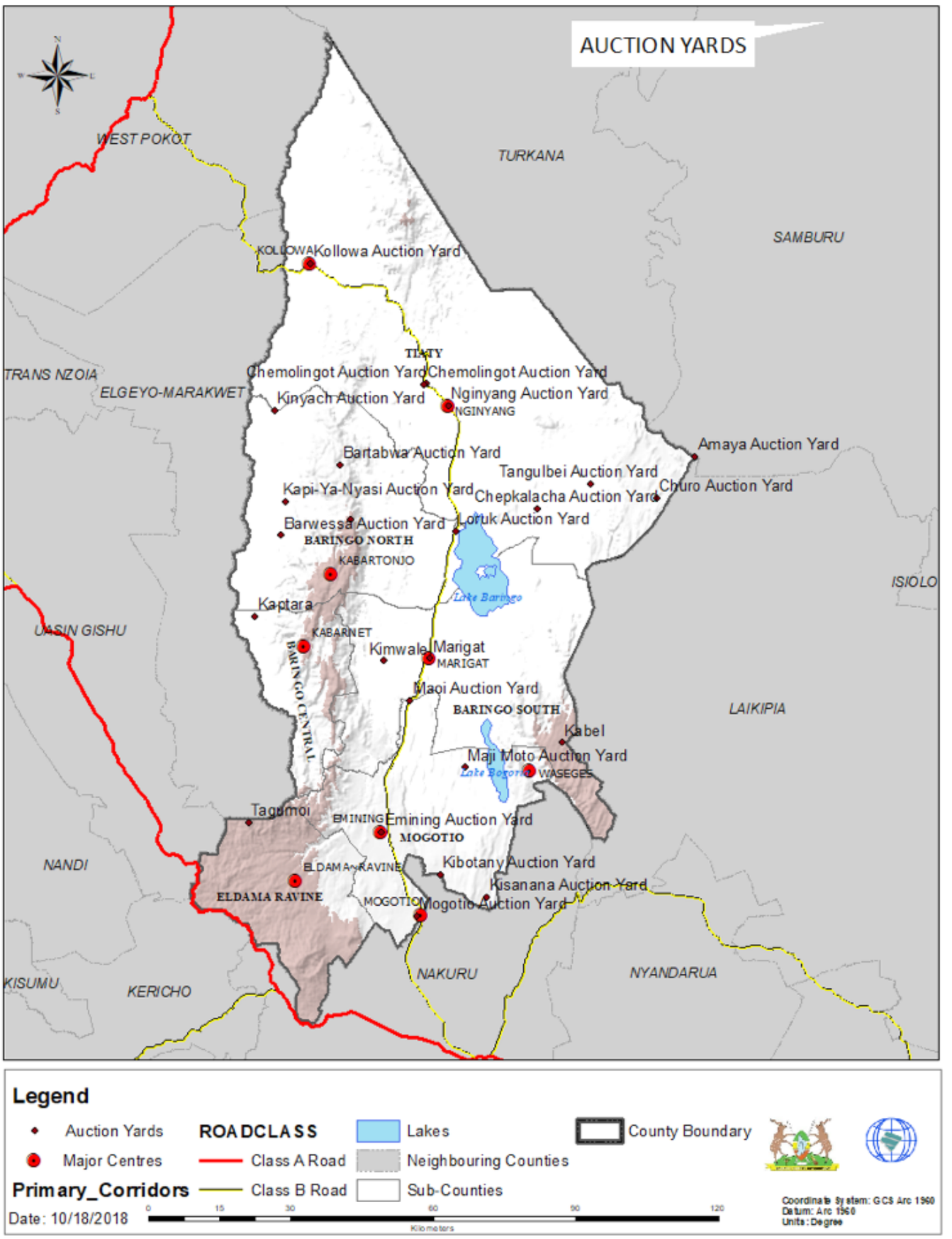
Bee-keeping co-operatives - There are three (3) in the county and they are located in Baringo South (Marigat).

Nginyang (Tiaty) livestock co-operatives society. The mandate of this co-operative is to conduct livestock trade and assist pastoralists in fattening their livestock.

Livestock cooperatives societies are mainly in the dairy industry. They are especially instrumental in the whole milk value chain from production to marketing. External markets that exist for livestock are Eldoret and Nakuru taking up 60% of livestock sales, while 40% is transported to Nairobi. 40% of the honey produced is taken up by KVDA and processed for sale in Nakuru and Nairobi. Hides and skins are taken to tanneries in Nairobi and Nakuru, while 95% of indigenous poultry is sold in Nakuru. The County has government operated Auction yards where livestock is sold to middlemen.

The map below portrays the distribution of livestock sale yards.

Map 28: Livestock Sale and Auction yards in the County



Value Addition

The county government is promoting value chains in fish, honey, dairy, red and white meat, hides and skins. Value addition is done through economic stimulus programmes. Farmers in the region engage in value addition activities on honey, hide and skins preservation by wet salting on a small scale level.

Existing and potential Value Addition Opportunities include:

- Dairy processing plants
- Bee-keeping (Honey). There are only small scale processing initiatives. (Not fully exploited)
- Abattoirs- There is only one privately owned abattoir in Emining owned by a Chinese company which specialises in Donkeys
- Tannery- There is one under construction in Mogotio
- Slaughter houses- Currently there are four slaughter houses in Kabarnet, Mogotio, Eldama Ravine and Esageri. Farmers and pastoralists provide their cattle to these slaughter houses.
- Cattle Auctions- There are 17 cattle auction markets across the County. In some areas, they happen fortnight, weekly and yearly. For example, in Marigat, the auction happens on Thursdays on weekly basis. An auction and annual cultural fair whose purpose is to promote the cultural practises of the communities and attract investors is usually held in Kimalel.

Disease Prevalence

A number of diseases plague livestock within the county. Disease prevalence is mainly influenced by vegetation, ecology, changes in climate, and other factors. Livestock diseases in the county include: Contagious Caprine Pleuropneumonia (CCPP), Lumpy skin Disease (LSD), Tick borne diseases e.g East Coast Fever (ECF), worm infestation, sheep/goat pox. The identified disease prevention and treatment mechanisms are; Annual vaccination, Dipping (the county government has constructed 100 dips across the county to enhance disease control), Regular deworming, Clinical services by veterinary staff, Creating awareness on the impact of climatic changes and Training on animal husbandry.

Beekeeping

Bee keeping is mostly practised in Baringo South and Tiaty. 40% of the farmer's practice bee keeping. The county produces an estimated 600 tonnes of honey annually valued at Kes. 120 million. Due to the low investment and variable costs involved, beekeeping is becoming increasingly popular in the county.

The department of livestock plans to increase productivity in honey among other commodities. The target is to construct honey processing plants as well as revive existing honey refineries. Besides educating farmers on modern beekeeping methods, harvesting and processing techniques, there are plans to open up more collection centers and demonstration apiaries to be ran by the local communities.

The types of bee hives mostly used within the County include; Log hive and KTBH/longs troth representing 95% and 5% of the hives respectively.

TYPE OF BEE HIVE	ADVANTAGES	DISADVANTAGES
Log bee hive- (Mostly used by traditional farmers)	• It is cheap to make • Can harvest both honey and wax	• Requires cutting down of trees during its construction and harvesting of honey through charcoal burning • The quality of honey is not the best
Kenya top bar bee hive- (second popularly used bee hive)	• Does not require charcoal/firewood burning during honey harvesting • Better quality honey than log bee hive	• Expensive to construct • Bees not comfortable due to heat
Lang troth bee hive	• Best quality honey • Has high honey productions • It provides bigger capacity	• Cannot produce wax • It is expensive

There are value addition activities which are done on small scale level through community groups in Koriema, Kapkuikui, Siati, Rachemo and Gaore. The groups produce wax and honey for sale.

The challenges faced in beekeeping in the county include:

a) High prices of equipment and accessories
b) Lack of skills and knowledge on how to improve the quality.
c) Resource competition where uptake of agriculture means vegetation is continually destroyed during charcoal burning.
d) Limited value addition opportunities meaning most of the products are sold raw
e) Drought and Climate change affect bee keeping
f) Highly unorganized market where marketing is on an individual basis
g) Agricultural chemicals killing bees in the highlands
h) Infrastructure problems- It is difficult to transport honey due to the steep terrain which hinders infrastructure development.

Fish Farming

Fishing activities within the county happen in both fish ponds and water bodies. The Economic Stimulus project in the country had targeted Eldama Ravine and Mogotio in the construction of fish ponds for livelihood improvement. These fish ponds are being rehabilitated.

Fishing business takes place in Lake Baringo. However, over fishing in Lake Baringo is a challenge. The County is trying to restock the fish population in L. Baringo. There is also fish farming in community dams such as Kirindich dam and Chemusus dam. There are no value addition initiatives on fish farming in the county although there's potential for this. The challenges faced in fish farming in the county include; Poor acceptance by the community of fishing as a viable economic activity, Lack of skills and knowledge on how to undertake fish farming, Expensive to establish a fish pond and Poor soil retention conditions.

Climate change impacts on livestock production

Rainfall contributes a major resource, water, which is a paramount factor for sustenance of life. Water allows pasture growth and is used for drinking. Climate change is expected to have the following effects on livestock:

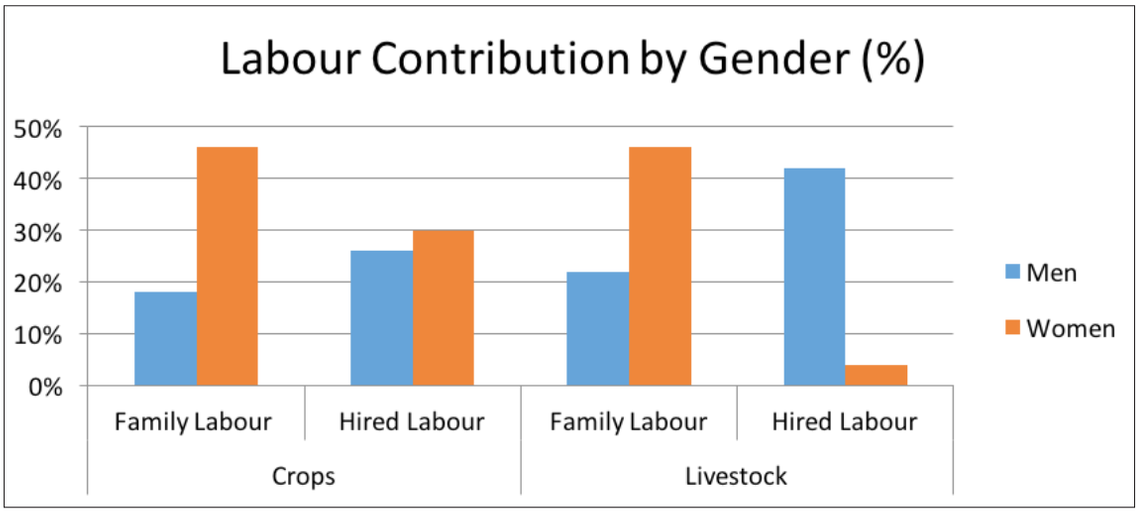
- Reduced grassland and rangeland productivity meaning less feed for the animals.
- Heat distress suffered by animals will reduce the rate of animal feed intake and result in poor growth performance
- Lack of water and increased frequency of drought in certain areas, especially ASALs, will lead to a loss of resources, existing food insecurity and conflict over scarce resources such as pastures and water
- Increase in occurrence of livestock diseases like Rift valley Fever , East Coast Fever and Foot and Mouth diseases. Temperature and humidity variations could have a significant effect on ecto- and endo-parasite infections.

10.2.3 Gender Related Issues in Agriculture

Majority of household heads (46%) particular youth and women are engaged in crop or livestock farming as their only source of livelihood. Of the 46% engaged in agriculture, 30.2% are in male headed households, 5.7% in female headed households and 10.1% in youth headed households. The survey also revealed that the adult females provide the largest share of family labour in crop production (46%) but are the least hired in livestock production labour.

This is because the adult males have attained a form of education (66%) and therefore can exploit other forms of employment. Only 13% of the adult females have attained a form of education. Due to the intensive labour required in livestock keeping, the youth population cohort is preferred for hire in providing the needed labour.

Figure 17: Labour Contribution



Source: ASDSP, 2014

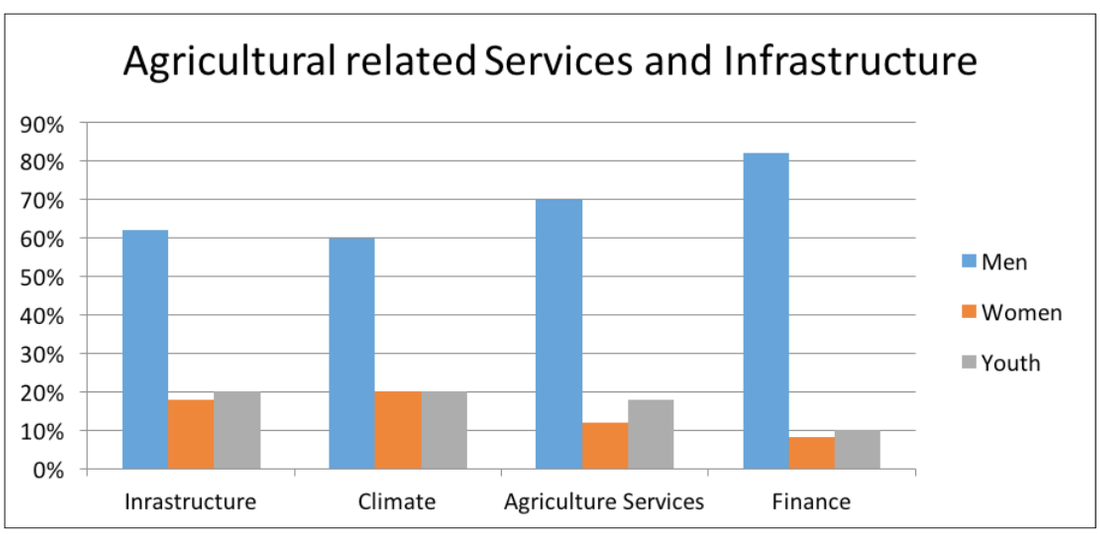
In the livestock sector, adult males made most of the production decisions on cattle, goats and sheep while adult females and youth females dominated decision-making on chicken. Youths were less involved in production decisions on most livestock. This is because livestock is a sign of wealth for most communities in Baringo County therefore most of the decisions and benefits of livestock production are left for the men.

About 73% of the male headed households are food insecure compared to 76% and 38% of the female and youth headed households respectively (ASDSP, 2014). This is because, even though the women provide the most labour in the farms, they have no input in decisions to do with agriculture and therefore do not fully benefit from the agriculture as an economic activity of for food provision.

Access to Extension Services

The figure below shows that male-headed households had more access than female and youth-headed households to most of the services available in the county. The agricultural services included extension, research, AI services, agricultural credit (finance), dipping, sensitization of effects of climate on agriculture and capacity building on input and output markets). The adult males were dissatisfied with the level of access to agricultural credit services. Minimal access to credit services hinders investment in agricultural inputs leading to low crop productivity hence the low on-farm income experienced below.

Figure 18: Extension Services



Source: ASDSP, 2014

From the table above, it is clear that men have nmore access to extension services in the county leading to more knowledge and skills in the sector and ultimately earning more from agriculture than women.

Access to Marketing and Processing

The three main crops that households had market contractual arrangements were maize (44%), beans (25%) and both finger millet and Napier (13%). The three main institutions that farmers had contracts with were individual actors (others 64%), cooperatives (12%), traders (12%) and individual consumers (12%).

Average annual farm income earned by the households was KES 26,438 with crop, fishing and livestock activities contributing 25%, 23% and 20% of this income. Male headed households on average earned much more (KES 30,330) than female headed households (KES 9,672) and youth headed households (KES 15,749).

Table 30: Income from Agricultural Activities

INCOME SOURCE	ADULT MALE		ADULT FEMALE		YOUTH		AVERAGE
	%	KES	%	KES	%	KES	KES
Crop Activities	22.5	40,998	19.9	11,552	52.9	50,115	39,186
Livestock Activities	19.1	34,806	51.3	29,750	26.6	25,196	32,161
Woodlot Activities	16.0	29,062	17.2	10,000	5.0	4,750	22,909
Fishing Activities	19.8	36,000	-	-	-	-	36,000
Pasture	13.0	23,583	0.4	233	6.0	5,733	13,283
Other Income	9.6	17,533	11.2	6,500	9.5	9,000	15,087
Average		30,330		9,672		15,799	26,438

Source: ASDSP, 2014

10.3 Trade

Trade is an important economic activity in Baringo. Since Baringo is predominantly agricultural with little value addition activities taking place, SMEs have the potential to contribute significantly to economic growth and poverty reduction (through increased production and employment). The most prominent forms of SMEs in the county are traders (both wholesale and retail), boda boda/cyclist operators, agro-traders, processors, and hotel industry operators.
Data on the contribution of SMEs to the county's GDP is not documented. However, there is untapped potential for development in this sector.

The private sector refers to the sector of the economy that is privately owned, either by an individual or a group of individuals. This includes micro-small, medium, and large enterprises, sole proprietors, incorporated companies, and groups. Private sector enterprises are entities that are used to mobilize available services and direct them towards the provision of the goods and services that the market demands (Information Economy Report 2011, UNCTAD).

The private sector plays a critical component in addressing development challenges such as poverty, food insecurity, climate change, and other areas:

Growth - Private firms and entrepreneurs invest in new ideas and new production facilities.

Jobs - In most counties, the private sector is a major generator of income and a major employer and creator of jobs. Over 90% of jobs in countries are within the private sector.

Poverty reduction and inclusive growth - According to extensive research, economic growth contributes significantly to poverty reduction and to higher living standards for the poor.

Service delivery - Besides directly contributing to the economic growth, poverty reduction, and job creation, the private sector also provides essential infrastructure that improves living standards.

Food security, climate change, and environmental sustainability - Critical public issues related to food security, climate change, and environmental sustainability also depend on the successful operations of private sector firms – such businesses produce food, generate greenhouse gas emissions, and affect the environment. For example, meeting the food challenge highly depends on improving the operations and productivity of agricultural firms. Addressing climate change requires energy efficiency in businesses and utilization of low carbon power technologies. Environmental sustainability requires firms to use and supply appropriate environmental technologies.

Taxes - The private sector and its employees largely provide the taxes that support government operations.

The table below is a summary of the sub-sector in the county:

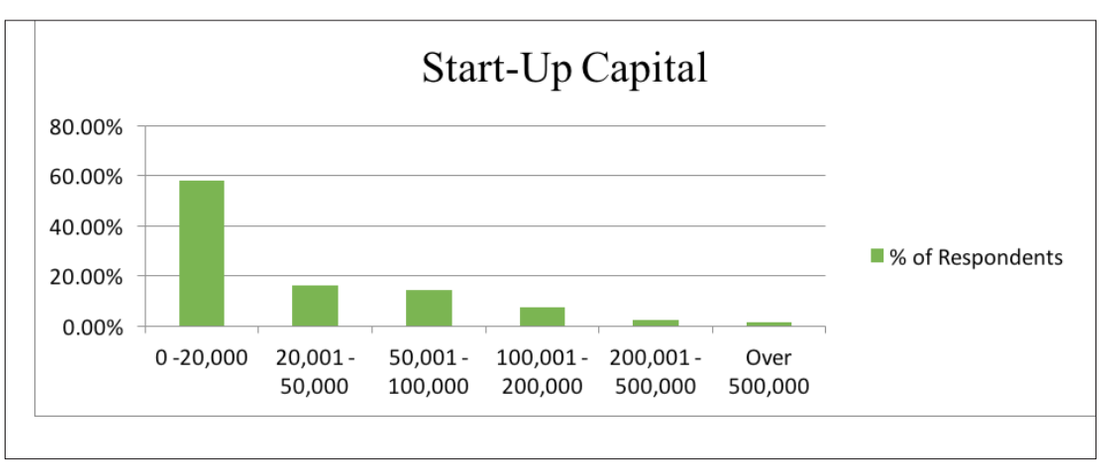
Table 31: Baringo County Trade Fact Sheet

SUB-COUNTY	TYPE OF FINANCIAL INSTITUTIONS				
	Banks	**SACCOs**	**Insurances**	**Micro-finances**	**Other Financial institutions**
Baringo Central	5	2	0	0	18
Baringo North	1	1	0	0	0
Tiaty	0	1`	0	0	0
Mogotio	2	2	0	0	2
Marigat	3	2	0	0	7
Eldama Ravine	3	5	0	0	5
Totals	14	13	0	0	32

Source: Baringo County Department of Commerce, 2016

Majority of the businesses sampled had a start-up capital of less than 25,000 shillings. Based on this result, most businesses can be classified as micro or small enterprises (MSE). To grow trade in the county, pro-MSE policies should be adopted. The presence of MSEs in Baringo presents an impetus for new policy formulation and implementation.

Figure 19: Start-Up Capital



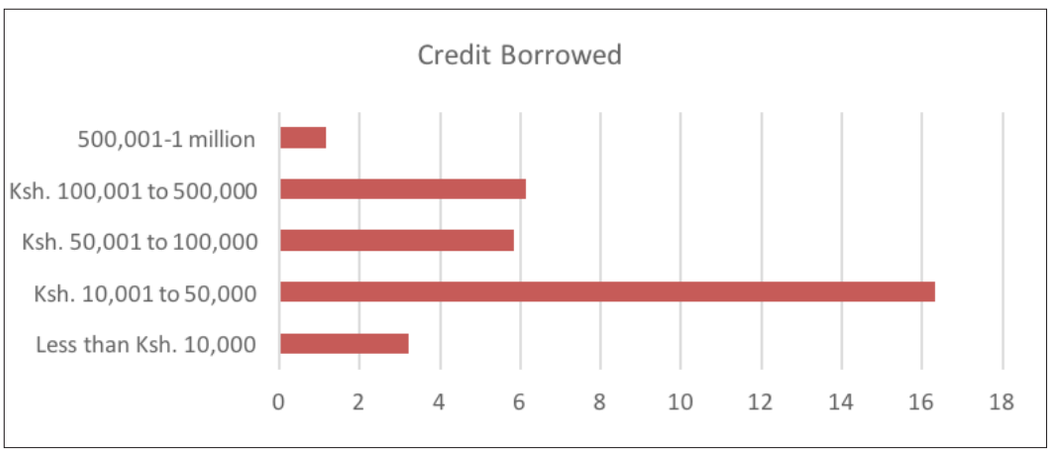
Source: ASDSP, 2014

The source of capital for the businesses ranged from savings, sale of agricultural produce, loans, and contributions from friends and relatives as well as from merry-go-rounds/chamas.

10.3.1 Access to Credit

Access to credit and financial inclusion is an important indicator in business growth and development in any region. Among the sampled population in Baringo, only 35% have access to credit. The range of credit from final institutions is between Ksh.10,000 to 50,000. This access to credit has implications on the ability to start and run a successful business in the County.

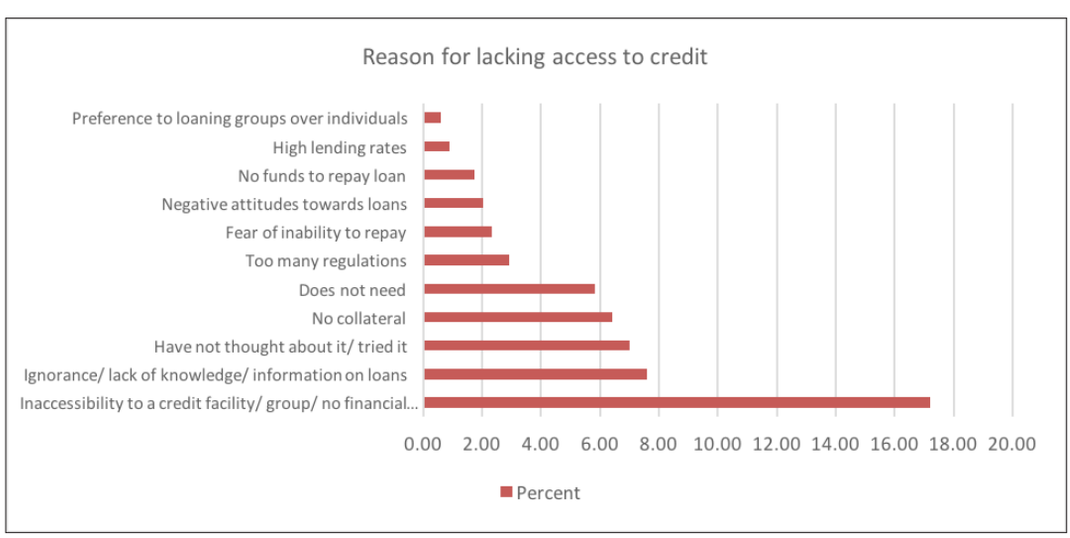
Figure 20: Credit Borrowed



Source: Field Survey, 2016

Some of the reasons preferred as to why people have no access to business credit included: inaccessibility to credit facility, lack of knowledge on existing facilities, they did not require credit, the fear of the inability to pay for the credit, among other reasons that indicate challenges that hind effective credit access.

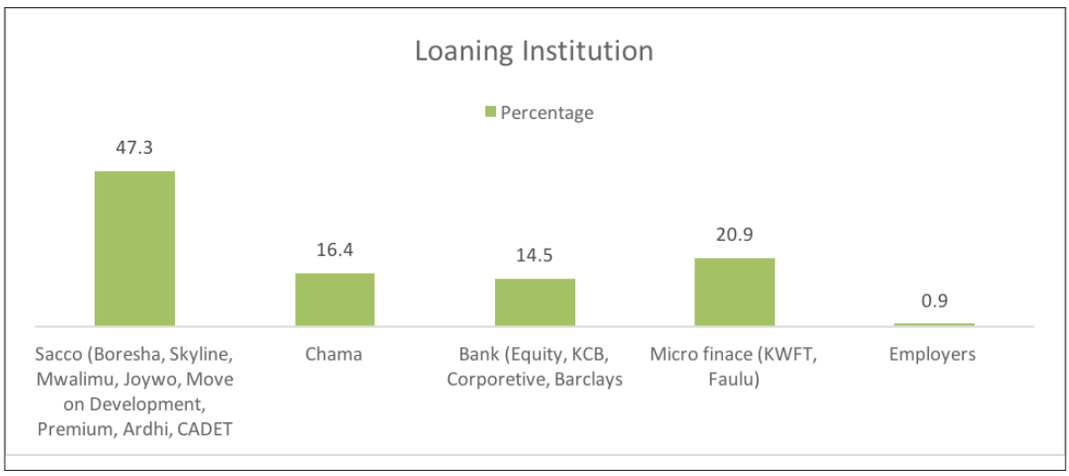
Figure 21: Reason for lacking credit access



Source: Field Survey, 2016

The County Government together with the financial institutions should create awareness of accessible lending facilities to business people. The financial institutions should reduce their interest rates. Residents borrow money to start new businesses or boost existing ones, support farming activities, pay school fees, develop land and real estate, purchase land, for medical purposes and domestic uses.

Figure 22: Loaning Institution



Source: Field Survey, 2016

The sources of collateral given for the loans varies from shares and contributions (in chamas and SACCOS) to title deeds, livestock, using a guarantor, using a payslip, farm produce, logbooks and house equipment.

The following is a table indicating the suggestions on improving access to credit among traders.

Figure 23: Proposed solutions to poor credit access

EDUCATION RECOMMENDATIONS	Education to the locals
	Sensitization on wise investment of loan money
	Training on Sacco management
POLICY RECOMMENDATIONS	Lower Interest rates
	Easing collateral requirements
	Design of repayment periods to match harvesting seasons
	Reduce loan application procedures
	Giving titles for use as collateral
OTHERS	Increase number of facilities
	Formation of groups to ease access to credit
	Improving mobile network

Source: Field Survey, 2016

10.3.2 Business Environment

A majority of the people in the county who were sampled as business people felt that the business environment was conducive. Business returns on the other hand were not as good as would be desired because of lack of adequate designated space by the county for business expansion. To this end, the business owners preferred that the County government should designate space for business expansion in the town center. They should also provide small scale business loans at a reasonable interest rate and access to social and physical infrastructure (like water, electricity, street lighting, security and market sheds) to improve the business environment.

The bulk of sampled businesses only had one license, a number had daily permits, and others had no business permit. The lack of business permits can be attributed to the lack of a trade policy in the county. The lack of business permits implies that there is considerable loss of income

to the county which in turn impedes its ability to provide services.

10.3.3 Markets

There are produce markets at Kabel, (Mochongoi); Emining; Kapkelelwa; Equator/Mumberes/; Koloa; Tenges; Kabarnet; Barbachun; Kipsaraman and other markets have been renovated like the Eldama Ravine and Mogotio markets. Each of these markets has capacity to host upto 60 traders translating to the creation of 660 enterprises and 990 jobs respectively. It is anticipated that traders operating in these markets are able to optimize profits and enjoy higher incomes.

Additionally, the County also constructed two (2) curio shops at Lake Baringo (KampiSamaki) and Emsos in Lake Bogoria, 18 Honey Stalls and 80 retailer stalls each accommodating upto four traders.

To enhance the benefits derived from the markets, the County provides training to business operators to equip them with entrepreneurial and financial management skills to be able to start, grow and sustain profitable enterprises.

Table 32: Markets in Baringo

TYPE OF MARKETS	NO. OF MARKETS	NO. OF ENTERPRISES CREATED	NO. OF JOBS CREATED	NO. OF HOUSEHOLD BENEFICIARIES
Modern Retail Market	11	660	990	4,950
Curio shops	2	20	30	150
Honey stalls	18	18	27	135
Retailer stalls	80	320	480	2,400

Source: Draft Baringo CIDP, 2018-2022

10.4 Industry

The LAPPSET corridor, the National power grid from Lake Turkana wind power, and the Nakuru- Marigat-Loruk-Kapedo highway positions the county as a strategic location for industrialization and investment.

Other drivers of industrialization in the county include:

1. Availability of raw materials - Majority of the industries can benefit from the local presence of rich agricultural produce.
2. Existing infrastructure - The laid-down infrastructure (in terms of road networks, sewer and water systems, and housing) attracts industrial activity to the area.
3. Availability of regional markets – neighboring counties like Nakuru rely of agricultural produce from Baringo like eggs.
4. Availability of cheap labor

The County does not have an industrial park at the moment, however, there are plans to develop one in a strategic location that can attract local, regional and international businesses in all sectors. Completion and operationalization of the industrial park will help create massive employment and wealth for the people of Baringo.

The county potential for industrialization is yet to be fully exploited, mainly in the following sectors: Honey Refinery, Diatomite mining, Meat processing, Leather processing & manufacturing of leather products e.g. shoes, belts, handbags, Coffee processing, Timber, Dairy processing and Aloe processing & manufacturing among others.

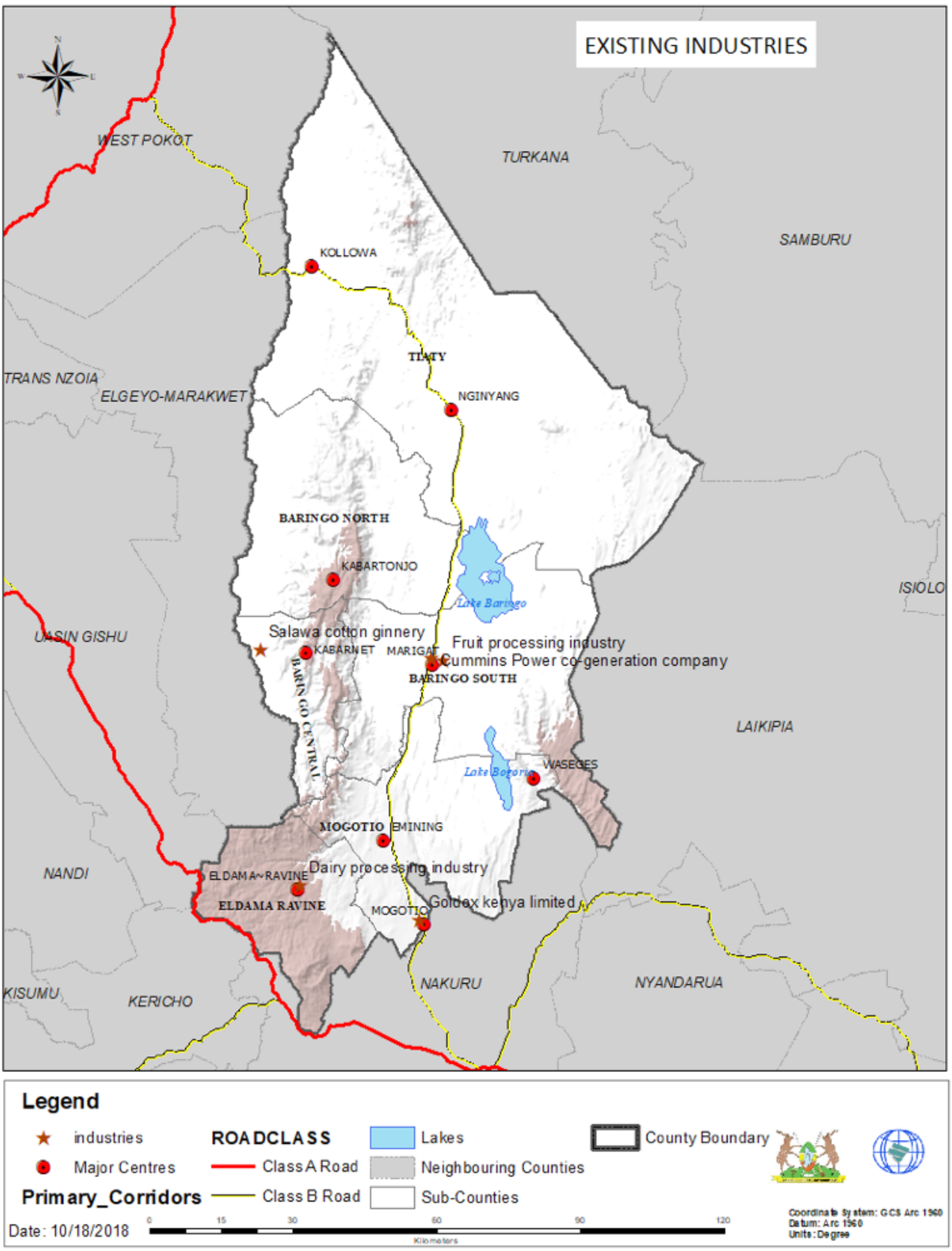
The existing industries in the county are inadequate. This is because the county is rich in diverse agricultural produce that require more value addition industries to enhance product maximization.

10.4.1 Cottage Industry

The County has two operational Jua Kali sheds located in Kabarnet and Eldama Ravine. These sheds accommodates close to forty (40) businesses mainly in carpentry and welding and employs at least 60 people, directly or indirectly.

Additionally, the county has initiated construction of BodaBoda sheds at Barwessa, Seguton, Torongo, Sawich, Tugumoi, KampiSamaki, Timboroa and Arama. There are plans to construct more Jua Kali and BodaBoda sheds in other locations to create better working environment for the fast growing informal businesses.

Map 29: Existing industries



10.4.2 Lumbering Industry

Several economic activities are done using forestry resources. These include:

1. Timber production- This is done both in individual forests and state forests. In state forests, the community members are supposed to acquire prequalified licenses for timber extraction. The timber milling industries created have provided employment opportunities for locals.
   Under the Community Forest Associations, there is a felling plan, which states the level of utilization of the forests. The plan is in tandem with the forest management plan, which highlights on the level of forest development by defining zoning of land uses in forest land.
2. Eco-tourism- The wildlife are managed in specified areas to avoid human-wildlife conflicts. The community members are encouraged to have eco-tourism sites as a source of livelihood. Tourists rent out the sites for safaris. However, to improve eco-tourism in the County infrastructure development is necessary.
3. Medicinal plants- The community members sell herbal medicine locally. However, there is need for value addition industries. Exploitation of medicinal plants such as Sandle wood (OsyrisLancolata) which is found in plenty in the County is required, since it has potential for attracting international markets.
4. Quarrying- The zonal office has allocated areas for undertaking mining in the forest lands.
5. Source of water especially Kabarnet forest which has a dam which people use to sell water
6. Plantation and livelihood development programme through the Community Forest Associations which allocates the community members land to cultivate food crops to help towards food security.

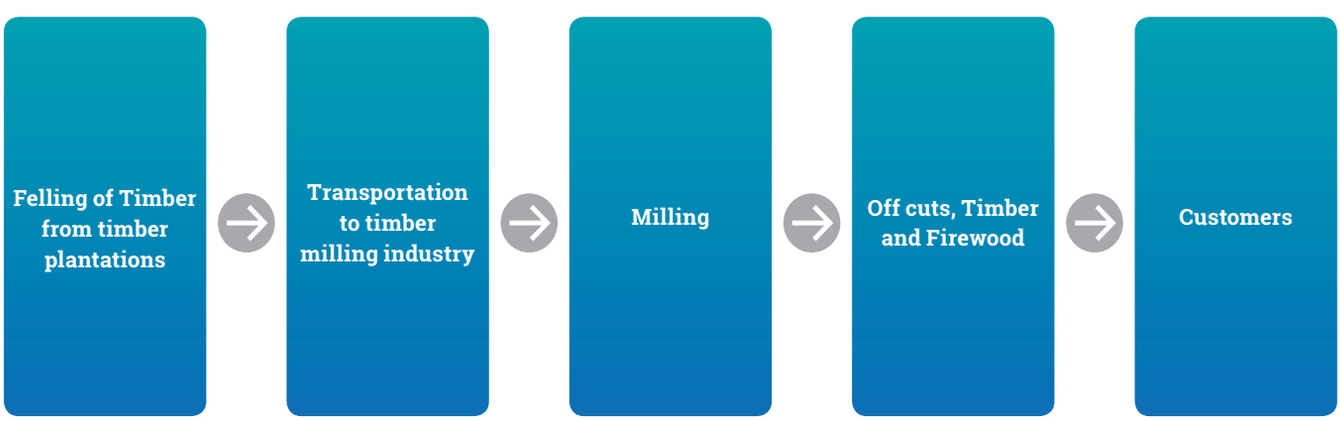
The County Government has allowed timber production with the requirement of pre-qualified licences. The business has good business returns because of the high demand for timber. The combination of factors makes the business environment conducive and timber exploitation a key economic activity with the county.

The key challenges in the lumbering industry include:

i. The high initial cost required to start the business is a hindrance to full exploitation of the resource.
ii. It is recommended that the County Government should construct better roads to reduce the high transportation cost required.
iii. The County government should also provide internal markets instead of having to transport outside the county.
iv. Long procedures to acquire the license as one required to go to Nairobi
v. High cost of acquiring the license
vi. The skills required to run the business is training on the process of saw milling and its products. The skills are not taught locally.
vii. There are no special lending facilities to people in this industry, but it is easy to acquire loans.

The timber products are sold locally in Nairobi, Mombasa and Kisumu. The main competitors in this industry are business people from Kiambu and Kisumu.

Figure 24: Timber Milling Value chain



When the trees are cut from the timber plantations, they are taken to the saw milling industry and converted into fine timber, off cuts and firewood for use by community members. They are not able to convert the trees into prime wood because of high cost to purchase machinery for that purpose. The licenses required to start the business are two; one for business permit and the other one from the Kenya Forest Service.

Challenges in Industry Promotion

The main challenges faced by the industries in the county are;

- Under-developed infrastructure - The necessary infrastructure such as electricity, roads, sewer system to effectively operate an industry is inadequately provided for. This means that the cost of operating an industry becomes expensive limiting investment in industries.
- Inadequate capital - Some of the industries like the KWAL and aloe-vera processing industry in Baringo South, have stalled due to lack of collateral to access loans.
- Lack of capacity building - The people have not been exposed to the possibility and knowledge of operating an industry for value addition purposes. However, increased capacity building among producers would help curb these challenges.

10.4.3 Effect of Industries on the Environment

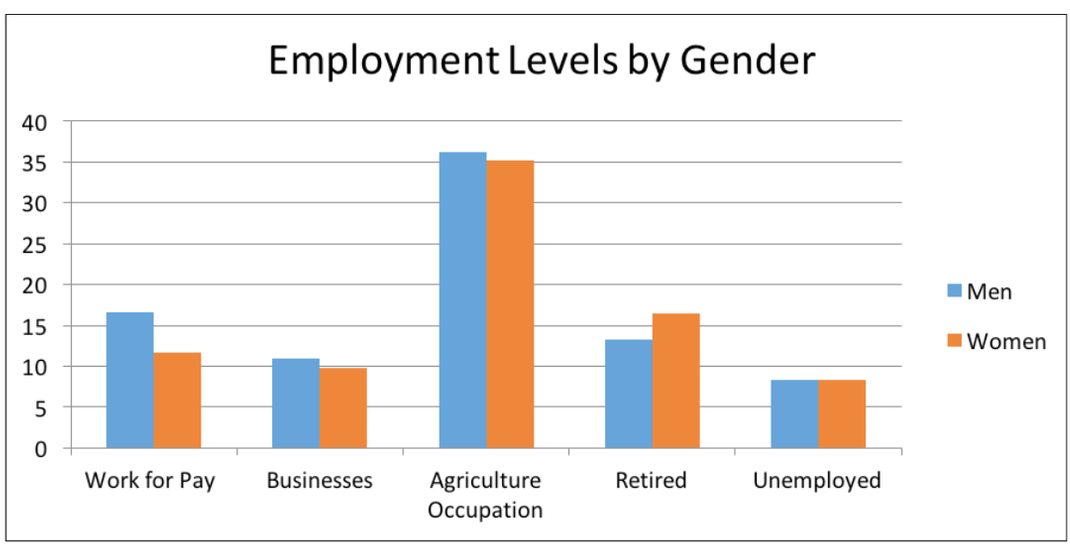
The light industries such as Jua kali sheds and commercial activities found in urban and market centres contribute largely to the pollution of rivers. The manufacturing industries such as the abattoirs in Mogotio and the tannery cause foul smells to the neighbouring areas due to the slaughter of animals in such industries.

Quarrying and logging activities in search of building and road construction materials has depleted the forest cover and turned some parts into shrub land. These activities have also affected groundwater quality via contamination by dissolved and suspended materials.

10.4.4 Gender Issues in Trade and Industry

In Kenya, the male population is engaged more in the mining and quarrying as well as construction industry more than the female population. According to the KNBS and SID findings of 2012, there are more men than women in all economic sectors.

Figure 25: Occupation by Gender



Source: KNBS & SID, 2012

10.4.5 Knowledge Industry and ICT

The main economic activities in Baringo include; farming and commerce. However, locals lack the advanced technological knowhow and training required for smart agricultural practices and business management. Entrepreneurs also require capacity building with respect to marketing. There is a great disconnect in the value chain, and awareness needs to be created if producers are to prosper going forward.

Some of the reasons why residents engage in business despite having no formal training include: Ease of entry, Inherited skills, On-the-job training, Only option available, Passion, Gap in the business market, Available capital and Need for income.

There is need for tertiary institutions within the county to offer training in soil analysis, animal health and entrepreneurship among others in order to fill the human resource gap.

10.5 Tourism

Baringo falls within the larger Rift Valley tourism circuit. The circuit is marked by the Rift valley lakes, escarpments, culture and various national parks/reserves.

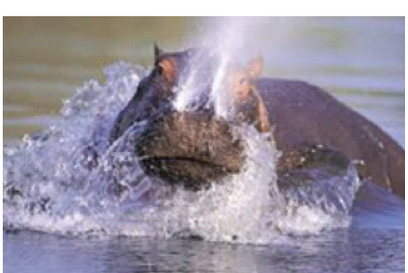
Baringo falls within the central sector of the Rift Valley between two escarpments and a range of hills. This makes it unique due to the diverse altitudes with a number of mountainous peaks (Saimo peak, Morop peak, Tiaty peak, Kimng'ochoch peak, Kipimochor peak). This altitude gives rise to various habitats: acacia woodlands, deserts and plains, transitional altitude, forests and moorlands. These features give rise to a variety of diverse wildlife.

10.5.1 Tourism attraction sites

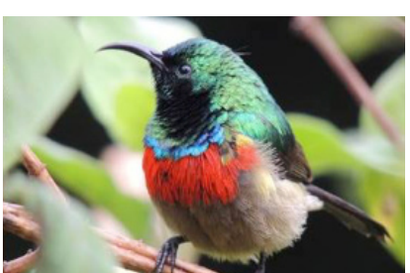
Tourist attractions in Baringo include:

- Indigenous Bird Species in the numerous forests and a number of bird fly ways
- Indigenous wild species in Londiani Forest
- Scenic features of the rift valley
- The Kapedo Hotsprings and Mt. Tiaty in Baringo North
- Home of numerous bird Species in Baringo
- Wildlife attractions in Lake Baringo
- Cultural Diversity in Baringo

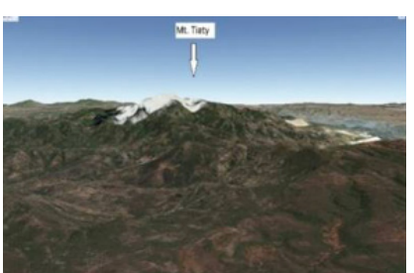
Picture 3: Tourist Attractions in Baringo



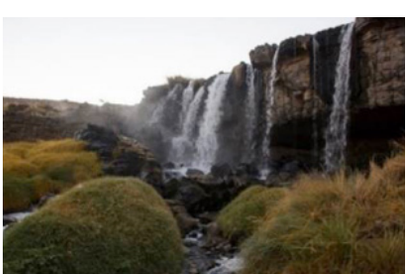
HIPPOS IN L. BARINGO



SUNBIRD TACAZZE IN LEMBUS FOREST



MT.TIATY PEAK



WATERFALLS

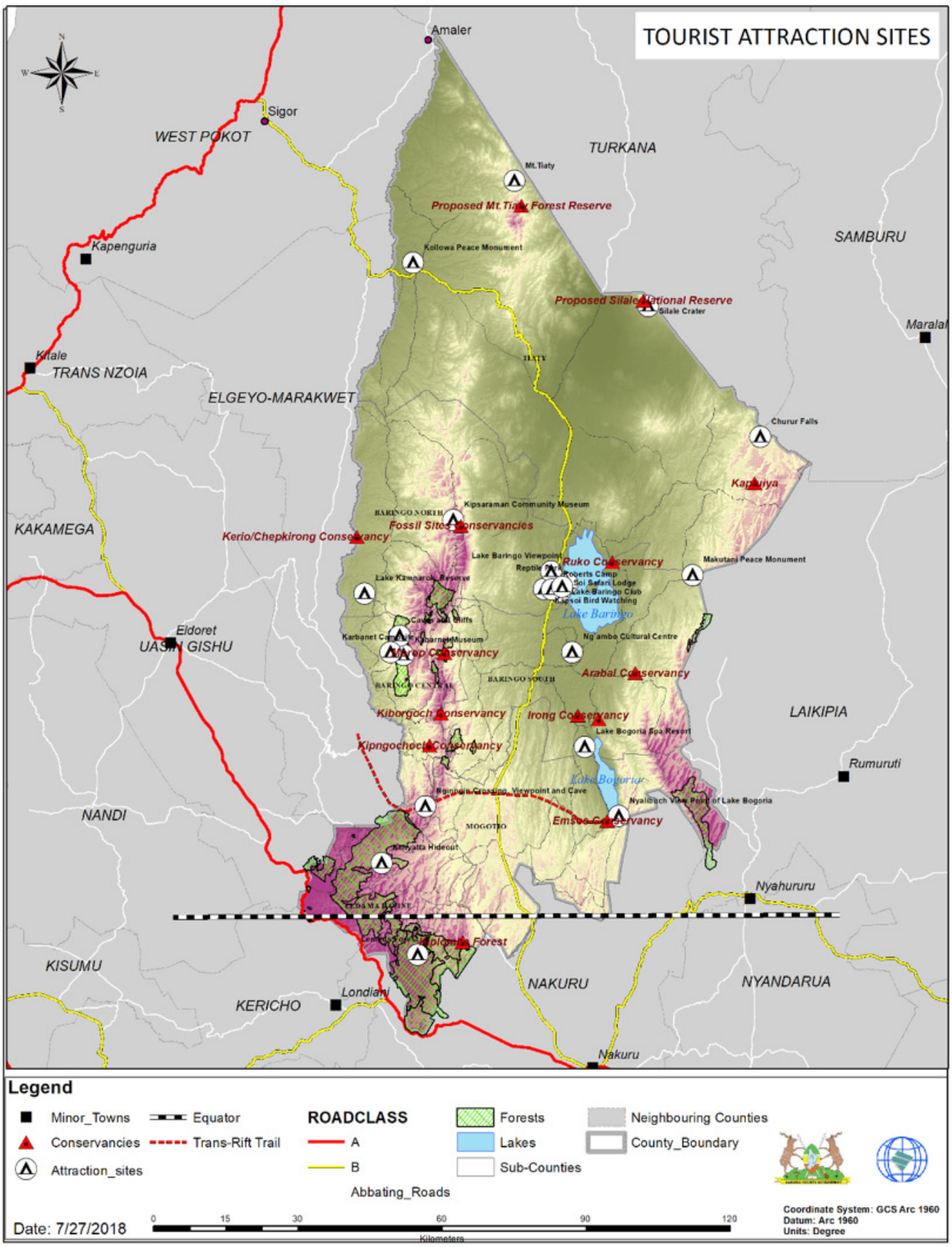
NATURE TRAILS

UNWINDING ROADS

Source: Field Survey, 2016

The map below shows the main attractions:

Map 30: Tourist Attractions



Major stakeholders contributing towards marketing of tourist sites and culture of Baringo include; the community, County government, Tourism Regulatory, KVDA, Miss Tourism Kenya, the hospitality industry and Magical Kenya.

A) Lakes:

Lake Bogoria and Baringo

Lake Bogoria and Baringo are well connected by the B4 road. It is also a habitat for a wide variety of birdlife and bird watching is a key activity in these lakes. Lake Bogoria has seven islands although some have submerged with the rising water levels. Lake Bogoria hosts a reptile park and is also suitable for spot fishing.

These lakes are however subject to pollution especially from the adjacent human activities. Lake riparian observation is a key area the plan should observe. It is also critical that urban development next to these important but fragile eco systems be observed. Additionally, the population pressure of the island communities requires be sufficiently anticipating and planning for in a sustainable manner.
They also host several attractions including: Viewpoints from the fault lines, Wildlife Habitat- greater Kudu, Flamingos, Bird Watching, Hot springs and geysers and Warm Springs.

Lake 94

Formed overnight in May 1994, this lake has its own biodiversity that holds potential for tourist activities.

Lake Kamnarock

Lake Kamnarok is the only ox-bow lake in Kenya, it had the second largest population of crocodiles in Africa after Lake Chad. It's famed as a bird watching sites, a habitat for more than 500 elephants, habitat for Buffalos, bush pigs, dik diks and a Diversity of flora. However, in 2008, the lake dried up due to:

- Uncontrolled Charcoal burning and tree felling in Embobut forest (degradation of Lake's catchment)
- Fast dehydration of Kerio river due to drought, catchment degradation etc.
- Inadequate community involvement in conservation processes (Gabion construction)
- Long lasting dispute on relocation of people out of the gazetted reserve
- Collapse of Kiptilit gulley (lake's outlet) hence lake water drained into River Kerio
- High siltation of the lake (raised the lake bed making it easier for invasive plants to take hold as well raising the rate of evaporation

The other attractions is the Kapedo/ Cheparwas hot springs that feed into Kapedo and Suguta Rivers.

B) Forests And Forest Reserves:

In addition to the below listed forests, the region boosts of a number of community forests that are protected by the local community and form ritual sites and community sacred sites. Further, the following forests and forest reserves provide a host of attractions to the County.

Lembus forest

This forms the catchment of the Pekerra River, forms an ideal site for eco-tourism as it is a host to the remnants of the tropical rain forest. It hosts unique species such as the colobus monkeys, Bar tailed trogon habitat. The forests is also a host to the Lembus cultural centre. The forest should be protected.

C) Mountains And Caves:

The County hosts a number of caves ranging from riverside caves to mountain caves. They form the famous Maumau hideouts. The following provide the key mountains within the Region:

Mt Tiaty

Mt. Tiaty is ideal for Mountain climbing it also hosts some, extint volcanos in Korosi and Paka. There are Silale Caves (Lomochang Caves), Nachurur caves found in Churwa in Amaiya. Tiaty is anticipated to host the LAPPSET corridor which will open up the region to Tourism Exploitation. Mt. Tiaty needs protective status as a county forest.

Mt. Londiani crater

(Between Salgaa and Ravine) that has a bamboo forest, which was previously a bongo and colobus monkey Habitat that has since been poached or fallen prey to numerous forest fires, deforestation. This habitat is in need of protection. Mt. Londiani is also a stopping place for terrestrial resting birds.

Mt. Kiplombe

Located in Eldama Ravine, this Mountain is currently a protected area by the County Government as a forest reserve. It forms a former rhino sanctuary. There is need to curb encroachment and enhance protection. The reserve has room for eco-tourism and related investments.

D) The Equator Crossing.

The Equator traverses the County at Mogotio, at this crossing exists a center that has now been enhanced to form the basis of tourist information.

E) Historical Sites And Cultural Sites:

The county is home to several historical and cultural sites such as:

- Kipsaraman Community Museum and fossil site- Kipsaraman Museum is a community museum in Rondonin Village. It hosts the oldest human fossils known as Orrorin Tugenensis which is 6 million years old. There is room for upgrading the site to include paleontological tourism and an internationally accredited and affiliated paleontological archeology institute. It however needs to be protected.
- Kibingor Fossils
- Kiserian Boma in Mukutany. This was an earlier colonial administrative site.
- Kabarnet Museum
- Sabatia Railway Station -The Sabatia Railway station and railway house, has historical significance, the Kenyatta hideout in Arama are potential sites that require gazette and restoration as tourist attractions. Timboroa railway station is also the highest point in the common wealth region.

Other cultural monuments include: Endmois cultural center, Arror Tugen cultural center, Uchamus cultural center, Shrines at MoropTarambas Conservancy and Shrine at Chemorgong. The county government holds annual cultural competitions for all sub counties and the annual Kimamlel livestock auction to ensure cultural practices are not washed away:

F) Hiking And Nature Trails:

The Trans Rift Trail

These trails are indicated in the map above, the however still require health and safety. They also require proper mapping and marketing. Activities such as mountain biking can be promoted along these trails.

Hiking trails in Baringo North

The forest in Baringo North has potential for establishment of hiking trails. These trails however require appropriate health and safety investment.

G) Scenic Landscapes Associated With The Great Rift Valley Geological Feature:

These scenic landscapes include views of the rift Valley feature that can be viewed in a number of spots across the county. Further enhanced by the winding roads. This includes a number of 360 degrees hills that allow for scenic viewing of the landscape with the most popular being Morop Hill. Kolowa also hosts the Kerio-Valley elephant corridor at the Kerio River. Chebloch Gorge is also a scenic feature within the County.

H) Conservancies:

Conservancies in the County were established to help communities conserve wildlife and generate income from them. The following is a list of the conservancies in the County and the functions these conservancies play in the conservation.

- Morop Tarambas Community conservancy- fossil sites conservancies
- Ruko wildlife conservancy- Bird watching and Baringo Girraffe
- Ngenyin Community conservancy- Bird watching and Baringo Girraffe
- Kaptuinya community conservancy- Bird Watching and dispersal area for wildlife
- Emsos community conservancies- Nature trails
- Kipngochoch Community conservancy- Kiplambe forest reserve
- Chuine Community conservancy- Dispersal area for wildlife
- Irong Community conservancy- Dispersal area for wildlife in Lake Bogoria
- Chepkirong Community conservancy- Elephant corridor and rapid terrain along the river
- Lokis (Kolwa) Community conservancy
- Arabal Community conservancy

Proposed conservancies include: Kiborgoch conservancy, Tomolokwo conservancy, Mt Tiaty Conservancy and Silale-Transboundary Conservancy.

Case study: Ruko Conservancy as a Tourism Based Case study

The conservancy is located between Komolion (Tiaty) and Rugus. It was started in 2007 and its main objective is to re-introduce tourism species and curb poaching. The conservancy currently has no management plan.
Ruko conservancy has introduced 8 Rothschild giraffes in 2011 and 35 impalas. The conservancy's main source of income is achieved through tourism. 60% of the revenue goes back to the community in form of bursaries (secondary and tertiary) and health facilities. However, the conservancy's revenue has reduced since 2012 due to floods, poor infrastructure, terror attacks in the county (travel restrictions issued to potential tourists) and community conflicts in Tiaty.

The conservancy management holds quarterly meetings with the community. Ruko's umbrella organization is the Northern Rangeland Trust.

Challenges faced by Ruko conservancy

- Insufficient income through tourism. The conservancy depends almost entirely on donor funds
- Lack of market strategies
- Encroachment from some communities (especially Pokots)
- Need for conservancies connectivity for grazing back up
- Lack of grazing management projects
- Human wildlife conflicts
- Lack of vehicles to properly manage the conservancy

10.5.2 Impact of tourism

Tourism is having an impact to the environment, surrounding communities and county's economy in the following ways:

1. Protected areas such as the National Reserves and conservancies have secured the bio diversity
2. Communities within the tourist attraction sites have gained additional livelihood opportunities through employment and market for their products
3. The county has earned revenue through tourism gate charges to National Reserves and conservancies.
4. A good percentage of the county's revenue (approximately 50% estimated to be Ksh. 118, 312, 057 Based on the County Fiscal Strategy Paper, 2014) is comes from tourism

10.5.3 Untapped tourism potentials

The untapped tourism attraction potential in the county include; Sport tourism at Cheploch gorge and paragliding along the rift valley, Hiking and Paleontological safaris.

10.5.4 Impact of Climate Change on Tourism

Climate change/variability has caused both direct and indirect impacts on lakes and their ecosystem. The direct impacts of extreme climate events (floods and droughts) include fluctuation of lake levels, salinity and aquatic life disturbance. The indirect impacts which are anthropogenic in nature include; silting, soil compaction, illegal abstraction of feeder waters to the lake, change in aquatic species composition and famine.

Implications of climate change:

- Fluctuating levels of water in the lake. During the dry seasons, the water levels go down and increase during the rainy season. Low level of water in the lakes reduces the amount of water available for use by the communities along the lakes. High water levels cause flooding and submerging of the adjacent areas.
- High evaporation rates make the water alkaline (mild

salty) during droughts, this affects the aquatic life in the lakes in Baringo County.

- One important factor leading to rapid recession of lakes in recent years is siltation caused by variability in rainfall. The soil in the Baringo catchment is very loose with no bedrock for depths of between one and two metres. Layers of exposed fine sediments are a common feature in the area. This makes the catchments area highly vulnerable to water erosion.
- Fish Production in the lakes fluctuates between dry and wet years. The severe drought of the 1990s reduced the production to very low levels. The worst decline was during the prolonged drought of 1990 to 1995, which led to a ban on fishing from the lake due to shortage of fish in the waters.
- The impacts of climate change and especially on lakes has an impact on the tourism in Baringo. High rainfall causes the water level to rise submerging the adjacent areas which are mainly hotels overlooking the lakes. This reduces the revenue gained by the county from the sector. The high levels of siltation also contribute largely to the rising water levels.
- Low levels of water affect the aquatic life and related bio-diversity which also adds to the reduced tourism in the area.

10.5.5 Challenges faced in the tourism sector

The challenges faced in the tourism industry include; Insecurity, Travel advisories keeping tourists away from the county, Misinformation (media exaggeration), Poor infrastructure (road to Lake Baringo), Limited funding for marketing and promotion, Tourism has not been perceived as a high-return sector by private businesses in the county and the hospitality industry and supporting industries are not fully developed to allow for mass marketing hence no single tour operator exists within the county.

10.6 Emerging Issues

SECTOR	OPPORTUNITIES	CONSTRAINTS
Crop Production	• Promotion of agro-industrialization and agro-tourism (branding mursik, koriema and promotion of traditional foods) • Intensification of the agricultural value chain to meet agricultural demand • Intensification of agricultural research initiatives. • Exploiting potential high value crops • Intensification of irrigated agriculture • Adaptation to climate-smart technologies • Fabrication of small farming machinery (invest in these with jua kali sector). • Establishment of a one-stop-shop to address value addition across the value chain (seed suppliers to farmers to storage to processors) • Invole women in all aspects of crop production	• Reliance on rain-fed agriculture • Low investment in agricultural initiatives • Low utilization of appropriate farm inputs to improve on crop productivity) • Poor infrastructure • Unfavourable terrain • Environmental challenges arising from agricultural practices (siltation, overuse of chemicals, deforestation) • Little contribution by the women in crop production
Livestock Production	• Natural vegetation that supports livestock production such as bee keeping, goats, sheep and cows • Opportunity for Livestock marketing improvement • Opportunity for Livestock Value addition opportunitie • Disease prevention and treatment	• Extension service provision • Inadequate marketing strategies • High prices of equipment and accessories • Lack of skills and knowledge on how to improve the quality. • Perception challenge towards improved livestock breeds, fish farming • Steep slopes in Eldama Ravine ans Baringo Central make the establishment of fish ponds difficult

Trade and Industry	• A vibrant business environment within the county and conducive regulatory environment • Opportunities to grow trade and industry exist through capacity building of the people and improving of regional markets • Sufficient forest conservation measures have been put in place to ensure sustainable exploitation of forest resources • Myriad of unexploited opportunities from the timber sub sector that have potential to grow the region economy	• Underdeveloped infrastructure • Low capacity building among producers influences the ability start and run a successful enterprise • Access to business capital is poorly developed, with this being a challenge of both perception and availability. • Unexploited potential in value chain and processing. • Undeveloped legal framework • License acquisition for lumbering is complex and expensive • Product diversification for forest products has not been exploited in the County this has mainly been due to the high cost of technology • Poor road conditions
Tourism	• Baringo County is being listed in the elite global UNESCO geo parks designate. • Vast biodiversity • Room for zoning of Tourist sites in the County • Inter county partnership in Marketing between Baringo and Elgeyo Marakwet • Investment in requisite facilities such hotels, infrastructure, health and safety. • Creation of proper tracking trails and routes for long distance walking. • Opportunities for: Adventure tourism, Filming, Photography, Auto sports, paragliding, came treks, canoeing and white water rafting	• Lack of sensitization on conservation of tourist resources • The attractions are undocumented • Promote all other attractions to the region, not just the lakes • Poaching and biodiversity degradation is threatening the industry. • Climate change and resultant impacts are affecting the attractions • Human Wildlife conflict is rampant • Insecurity due to banditry and cattle rustling makes some attractions inaccessible. • Rising waters of Lake Bogoria have a negative impact on the biodiversity of the lake including submerging of the attractions such as the hot springs. • The scenery is continuously under pressure from increasing population pressure.

CHAPTER ELEVEN

Governance

Governance is an essential tool in determining the level of success or failure of any intervention in the County. The County has several institutions, which play a major role towards development in the region.

11.1. National Government
11.1.1 Roles:

- Formulation of national policies and standards and provision of policy direction to the counties
- A constitutional duty to ensure revenue allocations to the counties, so as to enable efficient and effective management and development in the counties
- Financing of major projects that requires the governments intervention within the counties
- Formation and implementation of Education policy, standards, curricula, examinations and the granting of university charters
- Provision of Universities, tertiary educational institutions and other institutions of research and higher learning and primary schools, special education, secondary schools and special education institutions.
- Facilitate national statistics and data on population, the economy and society as a general

11.1.2 Financial Capacity:

Revenue raised nationally is shared equitably among the National and County Governments. The National Government transferred 43% of its revenues to the County Governments. County Governments may be given additional allocations from the national government's share of the revenue, either conditionally or unconditionally (CRA, 2014). This has often experienced challenges of; Inadequate funding, corruption, lack of comprehensive budgets from the county governments and controversies between the distinct functions of the county government and National government.

Baringo County was allocated Kshs. 5.21 billion as its equitable shares by the national government as at 2016/2017 budget allocations.

11.2. County Government

The county government was mandated by the constitution to undertake mainly; county legislative processes, exercising executive functions and the establishment and staffing of human resources for the county.

11.2.1 Roles:

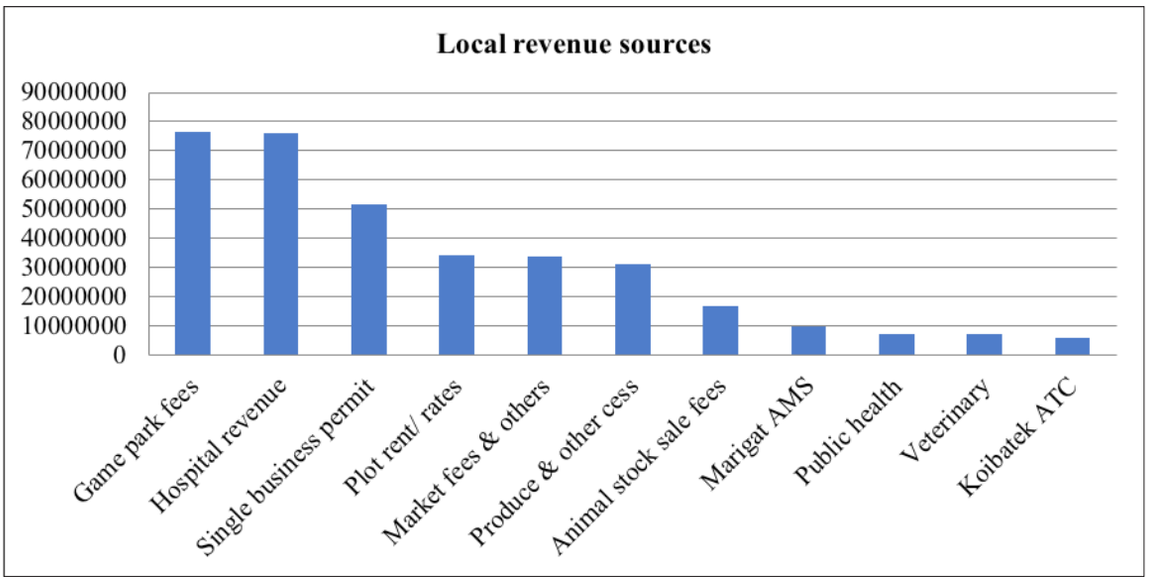
- To ensure there is proper coordination in terms of the participation of communities in governance issues at the local level
- To provide pre-primary education services, village polytechnics, home craft centers and child care facilities
- To coordinate in the implementation of specific national government policies on natural resources and environmental conservation.
- To facilitate and coordinate County public works and services including storm water management in built up areas and water and sanitation services
- To ensure protection of natural resources and environmental conservation in the county
- To enable mobility, accessibility and connectivity through provision of proper transportation and infrastructure in the county.

To this effect, the County government will facilitate and monitor the process of preparing the CSDP, its formulation and adoption of all the planning proposals within the county.

11.2.2 Financial Capacity:

The county collected Ksh 350,000,000 from local revenue sources. Game park fees and hospital revenue fetched the highest amounts at above Ksh 76 million.

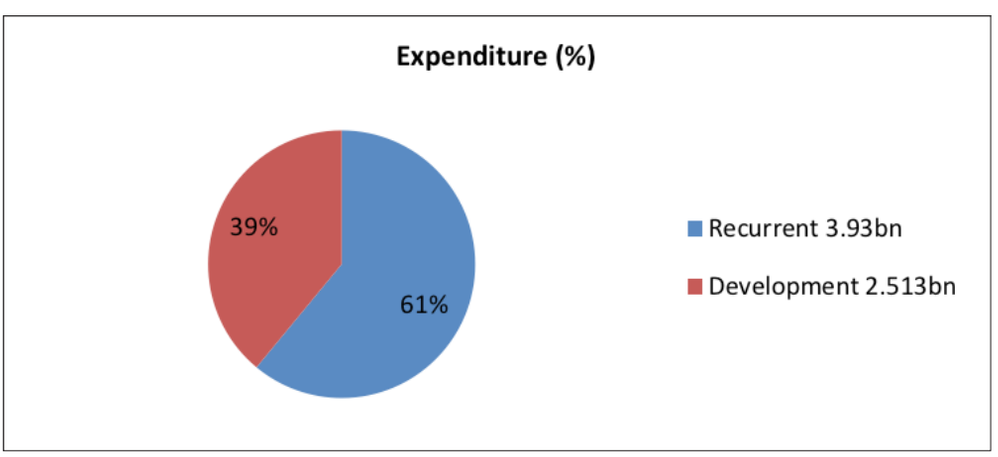
Chart 20: Revenue Sources in the County



Source: Baringo Budget Statement, 2016

The County was allocated Kshs. 5.21 billion as its equitable shares by the national government as at 2016/2017 budget allocations. The County allocated 61% of its revenue to recurrent expenditure and 39% to development expenditure. This distribution is depicted below:

Chart 21: County Expenditure

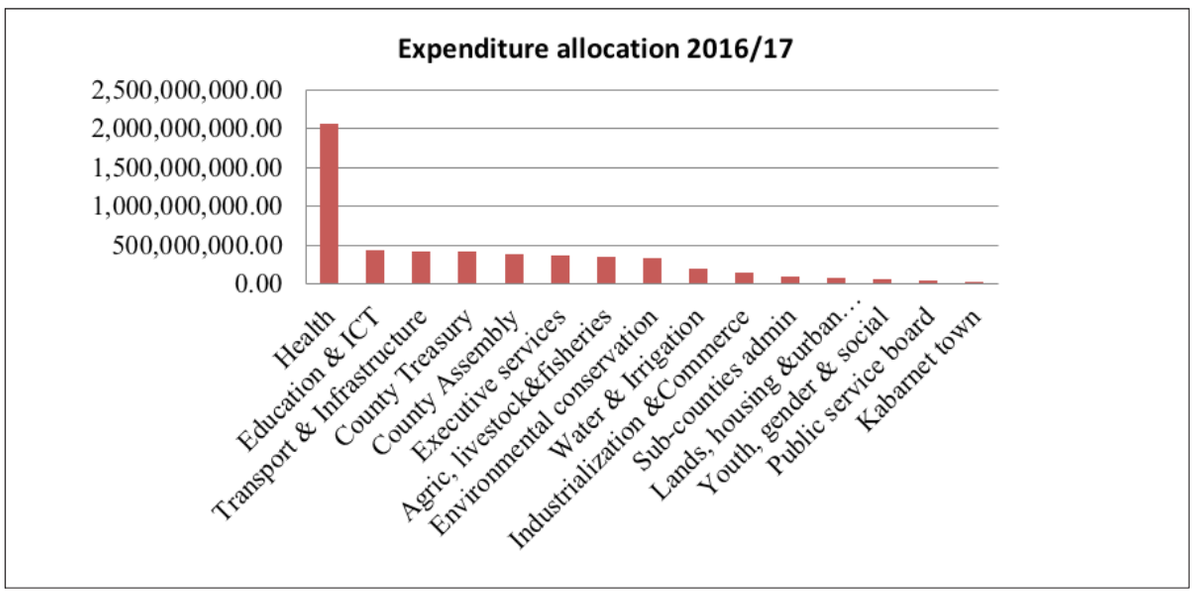


Source: Baringo Budget Statement, 2016

A higher recurrent expenditure may lead to a long-run decline in development output. Shrinking the amount spent on recurrent expenses should be a goal for the county's policy makers as this would enable the economy perform better and would boost prosperity and make Baringo more competitive.

Nearly half of the County's budget was allocated to the health sector. The logic behind this is that the department is an indirect contributor to economic growth by contributing to a healthy population. A healthy population, in turn, is able to work productively and thus contribute to the growth of the county's economy.

Chart 22: County expenditure by Sector



Source: Baringo Budget Statement, 2016

An analysis of the County's budget allocation and sources of revenue provides a context in which the CSDP is enabled to fit into the County's agenda of promoting sustainable and inclusive growth. It is also easy to pick out challenges and constraints faced during budget implementation.

11.2.3 Limitations:

1. Inadequate financial resources- The County is experiencing difficulties in finding sufficient, appropriate and continuous funding for their work as the national government allocations are not sufficient for the development in all sectors.
2. Disregard of work plans in fund allocation- In the county government, some of the appropriations that are deemed not necessary in addressing the county problems were still adopted and approved by the county assembly. Furthermore, the lack of a clearly articulated framework on performance of the functions of the new government offices has hindered proper management of its duties and responsibilities to serve the people.
3. Insufficient working facilities- Institutions within the county government lack adequate facilities to aid in project implementation and monitoring. Facilities available are not at par with the county's terrain.
4. Weak information systems- The County Government has overlapping projects where the institutions have failed to distinguish the existing projects in the old dispensation and struggle to compete with each other just for funding
5. Inadequate skilled personnel- The County has not employed the necessary technical staff personnel required to undertake the responsibilities of fast tracking the projects proposed. The existing personnel in most sectors of the county are over helmed by the devolution to serve in the different wards as they await the recruitment of extra personnel

11.3 Private Sector

The private sector plays a major role in the county. It has partnered with various development sectors to ensure that the drivers of development in the county are met. The private sector is comprised of; financial institutions, SMEs, educational institutions and credit and savings societies.

11.3.1 Roles of the private sector

1. To promote quality education and training, ICT and innovation in the County
2. To promote and partner with ministry of health in health care provision i.e. construction of private clinics & mission hospitals
3. Provision of training & employment by investing in the establishment of County innovation and skills development centers with linkages to industry stakeholders, who provide opportunities for employment.
4. Provide hospitality services and promote investment in conservation of tourist attraction areas/sites
5. Promotion of private enterprises and competition to

enhance economic development

6. Providing knowledge and expertise on sustainable land/ space utilization and investing resources as per the spatial plans

Private sector-led growth contributes greatly to poverty reduction. This CSDP will contribute in providing good policies and proposals which will enable the county government provide strong institutions and effective public goods and services. The private sector will then drive productivity and participation which will in turn drive economic growth.

11.3.2 Limitations

1. Lack of infrastructural facilities

The private sector cannot fully provide for the community's development needs when the county has not availed infrastructure such as; accessible roads, reliable water sources and energy sources.

2. Lack of sufficient coordination among partners

There is un-coordination among partners implementing community-based programmes, resulting in duplication of services, conflicts and inadequate utilization of resources.

3. Lack of a County Industrial Development Policy

This has denied the sector the availability of industrial development guidelines as well as identifying areas of industrial investment.

11.4. Civil Society

This is an aggregate of non-governmental organizations and institutions that are concerned in the social wellbeing of citizens. They are usually financed by a variety of public and voluntary contributions i.e. grants from foreign organizations and donors, governmental agencies and private organizations.

11.4.1 Roles of Civil Societies

- Creation of awareness on rights and privileges of the public/citizens
- Provide technical support & training on food security & modern Agricultural farming methods
- Provision of affordable education institutions for pre-primary and primary education e.g. bridge international academies
- Partnership with the County Government to improve the quality of health indicators in the county
- Provision of Health care, feeding programmes training
- Trainings on environmental management and Conservation of catchments areas

Preparation of the County Spatial Plan recognises the right of the civil society to participate in the spatial planning process. The Civil Society offers collaboration through various advocacy strategies and can link environmental issues, land tenure and human rights issues to the proposals addressed by the spatial plan.

11.4.2 Limitations:

- Development approach- focusing on 'hardware' more than 'software'
- Political interference
- Retrogressive cultural practices
- Poor coordination with other actors resulting in duplication of projects
- Poor infrastructural facilities
- Poor governance and management
- Inadequate resources to move to extremely rural places
- Insecurity/ cattle rustling conflicts
- Limited capacity
- Inadequate networking initiatives

11.5 Cooperatives

11.5.1 Roles:

Baringo County has approximately 146 registered cooperative societies in the county. Out of these, 82 are active, while 66 are dormant. Total membership is approximately 87,998, with 68,626 males and 19,372 females. The role of cooperatives includes:

- Promotion of financial and banking services
- Provision of extension and advisory services
- Facilitate social development and wellbeing of the farmers
- Conducting training and education on farming methods, financial issues among others

11.5.2 Limitations:

1. Weak marketing arrangements- The co-operatives lack marketing strategies and information for agricultural produce and therefore do not fully utilize the potential of resources from farmers. Most of the small-scale farmers are not informed of the financial services accessible to them.
2. Limited human resource personnel- The co-operatives

have understaffed technical and support staff to handle devolved functions in the various sub counties.

3. Poor leadership and management- There are political interferences, which are experienced in the co-operatives election of its management. This has seen election of leaders with political affiliations who are not interested in the social economic development and interests of the members.
4. Inadequate financial resources- The co-operatives have poor institutional arrangements, which are unable to mobilize financial resources for extension services and support to development projects.
5. Weak policy and legal framework- The regulations put in place concerning co-operatives are not being followed through by registered co-operatives and do not address the operation and management of co-operatives effectively.

11.6 Potential Opportunities and Constraints

Table 52: POC Analysis

POTENTIAL OPPORTUNITIES	CONSTRAINTS
1. Support by civil society organizations to initiate development projects 2. Devolved funds from the national government to help in steering development 3. Comprehensive policy guidelines to guide development 4. Well-developed institutions and policies in delivering public service	1. Weak linkage between development planning and budgetary allocation 2. Inadequate public participation in planning and implementation 3. Mismanagement of funds on non-development projects 4. Lack of a clear spatial framework to guide development projects 5. Political interference in finance allocation and infrastructure development 6. Weak policy and legal framework in some institutions 7. Poor interdepartmental linkages and operations

PART III: SYNTHESIS

CHAPTER TWELVE

Summary of Planning Issues

The chapter provides a preliminary summary of the core planning development challenges and opportunities. The issues will provide insight in the development of the plan's vision, goals and objectives and implementation strategies for the county's spatial plan.

THEMATIC AREA	CHALLENGES	OPPORTUNITIES
NATURAL RESOURCES	• Encroachment of fragile ecosystems (forests, riparian reserves, wetlands) across the County • Climate Change across the County • Deforestation on Kabarbet, Tenges and Katimok forests • Soil erosion in Baringo North	• Potential for generation of green energy • Relief offers opportunity for diverse livelihoods • Mining of precious stones like Rubies in Sandai and Opal at Isanda near Perkerra • Irrigation water from diverse water sources
POPULATION AND DEMOGRAPHY	• High Population growth rate • High illiteracy levels • High levels of unemployment • Community conflicts on diminishing resources	• Creation of centers of excellence to promote literacy • Availability of a readily available work force • Rich cultural heritage for tourism
LAND	• Land degradation • Encroachment of all Public land reserves • Limitations to the use of communal ownership of land • Excessive land subdivision in the agricultural rural areas affect production	• Expansive land for development • Implementation of the Draft Baringo County Land Policy to curb land fragmentation • Better agricultural practices to avoid land deradation • Better communal land use policies
HUMAN SETTLEMENTS	• Urban sprawl in urban areas like Kabarnet and Eldama Ravine • Poor waste management in the urban areas • Housing shortage in the urban centres • Proliferation of informal settlements in Bondeni in Eldama Ravine, Bondeni and Kaptimbor in Kabarnet, Kivumbini and Kampi Turkana in Marigat and Katorong'ot in Mogotio sub counties	• Reclassification of Baringo urban centres to enjoy municipality status • Investment in housing • Creation of LPDPs and zonation plans to guide development for urban centres

ECONOMY	• Poor developed economic value chains in agriculture • Untapped tourism potentials • Lack of well-established tourism circuits	• Investment in agro-industrialization
PHYSICAL INFRASTRUCTURE	• Poor road conditions and networks across the County • Underutilized air strips • Poor water quality i.e. untreated and soily water • Lack of sewerage systems in urban centers • Mobile network challenges in some Tiaty sub county • Poor mobile network reception in rural areas	• Lappset corridor passing through the County • Setting telephone masts for better cell connectivity • Infrastructure development for electricity, water and sewer lines
SOCIAL INFRASTRUCTURE	• Ill equipped primary and secondary schools across the County • Shortage of medical personnel • Poor distribution of health facilities in Tiaty Sub-County • Inadequate security personnel and facilities in Tiaty sub-county	• Provision of mobile schools and libraries • Construction/ Upgrading of existing health facilities with necessary infrastructure • Investment in recreational and security facilities

CHAPTER THIRTEEN

Scenario Building

The chapter highlights the possible future development alternatives given the background of the challenges and opportunities identified during stakeholder forum and data analysis. Scenario building looks into the nil intervention (the present situation) and strategic intervention (foreseen future) to model the situation of the county.

The scenarios include:

1. Nil Intervention Scenario
2. Food Security and Value Chain Maximization Scenario
3. Tourism Led Growth Scenario
4. Infrastructure Led Growth Scenario
5. Land Management Scenario
6. Integrated Spatial Development Scenario

13.1 Nil Intervention Scenario

a) Environment

If no action is taken to protect, conserve and preserve the use of the natural resource and the maintenance of a high degree of ecological integrity the implications will therefore be as follows;

Desertification:

Unsustainable agriculture techniques, deforestation, over exploitation of natural resources and over grazing will lead to desertification.

Severe Deforestation:

Non-sustainable use of forest resources has caused forest loss and degradation. The forest cover has diminished from 519.077km2 in 2000 to 468.977km2 in 2012. It is projected that there will be reduction of forest cover at 8%.

Increased occurrence of Natural Disasters

Natural disasters caused by uncontrolled human activity on steep slopes and deforestation, will lead to the occurrence of landslides, which in turn destroys property and human settlements.

Soil erosion

Soil erosion of slopes and siltation of the lakes results to drying up of the lakes, rise in water levels and loss of land productivity

b) Land

Assuming that the land use and management practices existing in Baringo continue unabated, the following impacts will be experienced:

1. On Agricultural Land:

a. Rapid uncontrolled land subdivision in high potential agricultural areas resulting in uneconomical land holdings.
b. Continued settlement on steep slopes will degrade land on these fragile areas leading to soil losses and downstream siltation.

2. On Rangelands:

a. Uncontrolled livestock rearing in the communally-held rangelands resulting in gradual land degradation and soil erosion.
b. Poor communal land management systems will result in increased land conflicts.
c. Climatic changes will lead to increased land aridity.

3. On Urban Land:

a. Land in urban areas will experience disorderly land use.
b. Informal settlements will sprout up in urban, town and market centers.
c. Tracts of land will lay undeveloped, held for speculative purposes.

4. On Public Land:

a. Publicly owned parcels of land (such as those owned by government institutions, riparian reserves and infrastructure wayleaves) will experience wanton grabbing impeding provision of public services.

c) Economy

Crop and Livestock

A nil intervention in the agricultural sector of Baringo County assumes that crop farming and livestock rearing practices currently ongoing remain unchanged over the next ten years. The following impacts are expected:

1. Food insecurity within the county will be on the rise.
2. Low production due to low agricultural mechanization.
3. Climate change effects will cripple agriculture due to lack of Climate smart agriculture initiatives.
4. Maize production will decrease significantly due to post-harvest losses and high rate of agricultural land sub-division.
5. County revenue from livestock rearing will decrease.
6. Poverty rates will increase due to loss of agricultural income.
7. Traditional high value crops such as cowpeas and cassava will cease to be produced as their production has been crumbling.

Tourism

If no action to protect, conserve, preserve and market tourism attraction is taken the implications will be as follows:

1. Destruction of biodiversity will cause migration of wild animals including flamingos in Lake Bogoria, fish& Birds in Lake 94.
2. The loss of wild life and the will lead to drop in Revenue collected both directly and indirectly in the county. Low revenue will mean loss of jobs.
3. With the numerous human activities taking place around Lake Baringo, archaeological sites such as Kipsaraman sites which attracts paleontologist will be eroded away.
4. Failure to capitalize on new marketing opportunities.
5. Erosion of market share due to action of competitive destination areas.

d) Transportation

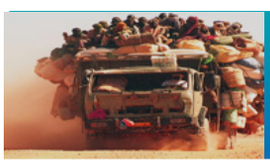
It assumes that the current status of transport system remains unchanged over the next ten years. The future implications will be as follows:

Extreme dilapidated roads due to lack of upgrading and maintenance of roads

Inaccessibility into and out of rural hinterlands resulting to: lack of access to markets and basic services such as schools and hospitals and eventually high mortality and illiteracy rates

Collapse of railway and air transport

Economic backlog due to poor intra and inter linkages and connectivity to markets and centres



Lack of Public transport means leading to overloading on available transport modes

13.2 Natural Resource Conservation And Exploitation Scenario

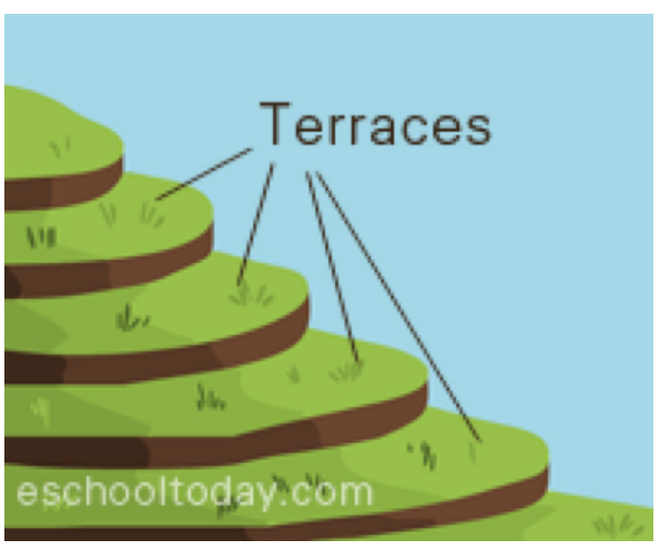
Goal;

- The main goal this scenario is to achieve sustainable growth based on sustainable exploitation and conserving of the natural resources.
- The objective is to use of the natural resource and the maintenance of a high degree of ecological integrity.

Description of the required actions

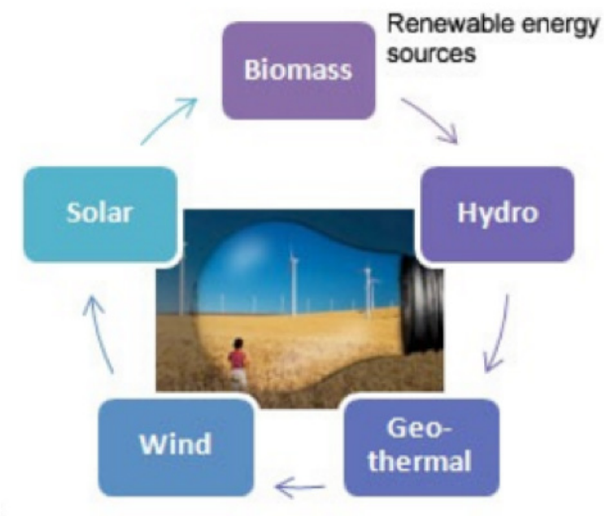
As human population is continuously growing in the county the consumption of natural resources is also increasing. With the increasing industrialization and urbanization of modern human society, the use of resources is rising. If they're not properly used and well managed, a serious scarcity will result. Therefore we need to conserve natural resources. This will upset/interrupt ecological balance. Conservation is the proper management of natural resources to prevent over-exploitation, destruction or degradation.

SOIL CONSERVATION



Protection of Soil from Erosion; Soil conservation measure should be adopted with the aim of preventing or at least minimizing the soil loss and since the county lose a lot of productive soils through various mode of erosion, it therefore calls for various measures like building of gabions in gully affected areas, adopting modern crop farming practices, check on overgrazing and afforestation

ENERGY CONSERVATION



Exploitation of Renewable energy Sources; Power demand in Kenya is rising considerably due to the growth in population and rising incomes, will increase energy demand and result in upward pressures on energy prices and growing risks of importer dependency on a limited range of energy in the next 10 years to come. And with the very limited fossil fuels global reserves, sources of renewable energy such as solar, wind, biomass and limited hydro power are the probable alternatives to offset energy crisis in the County.

FOREST CONSERVATION

Protection and Management of Forests; the existing forests in the county is being threatened by deforestation for wood logs, expansion of agricultural lands, Firewood and charcoal burning and the misused Shamba systems. Therefore there is need to encourage agro-forestry practices to reduce pressure on forest as a source of firewood, encouraging alternative energy sources such as briquettes to reduce demand for firewood and charcoal, erecting of a perimeter fence around gazetted Forests to discourage deforestation, Community forest conservation projects and sharing of forest resources

13.3 Food security and Value chain maximization Scenario

Objective:
This Scenario explores the possibilities of developing a commercially oriented approach to land use. This is achieved by:

1. Maximizing Production
2. Building the capacity of farmers on intensive small holder farming and the use of smart farming techniques.
3. Promotion and establishment of agro industrial zones.

To achieve appropriate value chains, the following chains will need to be promoted:

- Beef value chains (meat and leather products) at Amaya, Churo, Kokwatoto and Chepkalacha
- Milk value chains in Ayiebo, Mogotio, Ossen, Kisanana, Eldama Ravine
- Poultry value chains in Molo Sirwe, Ossen
- Honey value chains in Marigat and Chesirimion(Tiaty)
- Fish value chains in Kampi Samaki and Kamnarok
- Pasture and Forage
- Hides and Skins Value chains in Mogotio, Maoi, Chemolingot, Loruk, Chepkalacha and Amaya

a) Livestock Value Chain

To achieve appropriate value chains, the following chains will need to be promoted:

- Beef value chains (meat and leather products) at Amaya, Churo, Kokwatoto and Chepkalacha
- Milk value chains in Ayiebo, Mogotio, Ossen, Kisanana, Eldama Ravine
- Poultry value chains in Molo Sirwe, Ossen
- Honey value chains in Marigat and Chesirimion(Tiaty)
- Fish value chains in Kampi Samaki and Kamnarok
- Pasture and Forage
- Hides and Skins Value chains in Mogotio, Maoi, Chemolingot, Loruk, Chepkalacha and Amaya

Required Actions:

1. Ensure consistent all year supply of fodder through drought reserves in the county
2. Development of auxiliary services such as cattle dips, holding areas, veterinary stations, and quarantine facilities along livestock routes or close to livestock markets
3. Development of Special Economic Zones in Nginyang and Mogotio to take advantage of LAPPSET corridor
4. Planning for adequate markets/auction yards and other facilities to encourage off-take of livestock at Olkokwe, Midworld, Kipcherere, Kasisit and Ameyan(Ribkwo)
5. Zoning certain pasture areas close to markets for livestock fattening/finishing.
6. Promotion of Baringo as a disease free zone.
7. Promote and encourage private sector investment in the livestock value chain through beef processing and cooling plants, livestock production packaging and product and animal transportation.
8. Development of Abbatoirs in Kisanana Tangulbei, and Mao.
9. Intensification of extension service provision.
10. Agri-business training to commercialize the sector and efficient capacity building.
11. Improvement of market information systems.
12. Investment in an international market for the products made.
13. Investment on tailored institutions with tailored academic disciplines in beef production through lobbying among existing institutions and incentivising additional institutions.

Research on processing and storage methods for livestock products especially in pastoral areas

b) Crop Value Chain

Required Actions:

1. Damming of gorges to harness water for agriculture in the county
2. Development/Upgrading of irrigation schemes in Perkerra, Nginyang, Amaya and Kolowa
3. Investment in storage facilities in Kabartonjo, Bartolimo
4. Introduction and farmer capacity Building on high value potential crops such as leeks, strawberries, apples, cowpeas in Mogotio
5. Development of rural infrastructure (roads, water, electricity) to promote production for the agro industries.
6. Tailor and develop education institutions and programmes that supplement the requirements of the industries
7. Appropriate research into industrial technology and product mix
8. An appropriate and enabling business environment for investors into the Business Park and industrial zones.

To achieve appropriate value chains, the following chains will need to be promoted:

- Horticulture (strawberries, apples, avocadoes, leeks, celery, Kohlrabi, radish, cauliflower, rapeseed and tomatoes) in Kabartonjo, Eldama Ravine, Kabarnet
- Traditional High Value crops (Sorghum, Millet, Cassava, Sweet Potatoes, cow peas) in Tiaty,
- Irish Potatoes
- Cotton
- Maize value chain
- Groundnuts and Macadamia in Cheberen and Kabogor
- Oats, quinoa;

a) Livestock Value Chain

Scenario Objective:

This Scenario envisage the promotion of lumber industry for rural development through sustainable exploitation of community and individual forests. It also has potential to be a source of revenue and employment generator from value added products hence resulting to poverty reduction.

Required Actions:

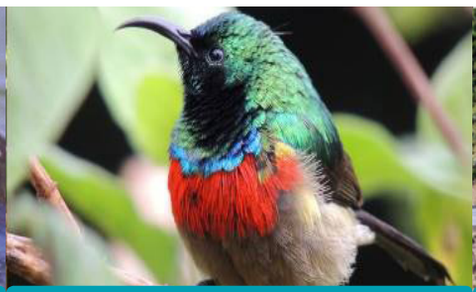
- Creation of a positive business climate. This includes focus on low taxes, loan incentives, and industry incentives.
- Implementation of the existing streamlined regulations. This includes high environmental standards, sustainability in manufacturing operations and responsible utilization of the wood resource.
- Ensuring stable and clear policies, institutions, and operating environments, including those related to tenure and concessions
- Implementation of a CSR for lumber business to promote the communities that protect the forests.
- Diversification of products to include: Treated lumber, engineered wood products, shakes and shingles, posts, poles, construction materials, mouldings, fibre boards, wooden furniture, cultural paper (i.e., newsprint and other printing and writing paper), industrial paper, paper bags, Tissue papers
- Investment in infrastructural facilities i.e. Transport, Electricity to reduce production cost
- Established long term and short term logging agreements
- Established forest plantation programmes.

13.4 Tourism Led Growth Scenario

This scenario focuses on one of Baringo's major economic pillar; Tourism and wildlife to be a regional tourism hub. This is achieved by:

a) Promoting Protection, conservation and preservation of tourism attraction sites
b) Marketing of tourist sites and culture of Baringo county

Hippos in L. Baringo



Sunbird Tacazze in Lembus forest

Unwinding roads

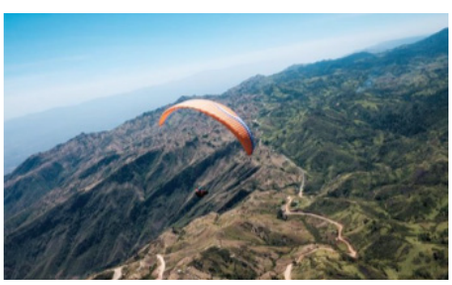
Tugen hills

Flamingoes

Nature trails

c). Exploiting untapped tourism potentials

Sports Tourism in Cheploch gorge



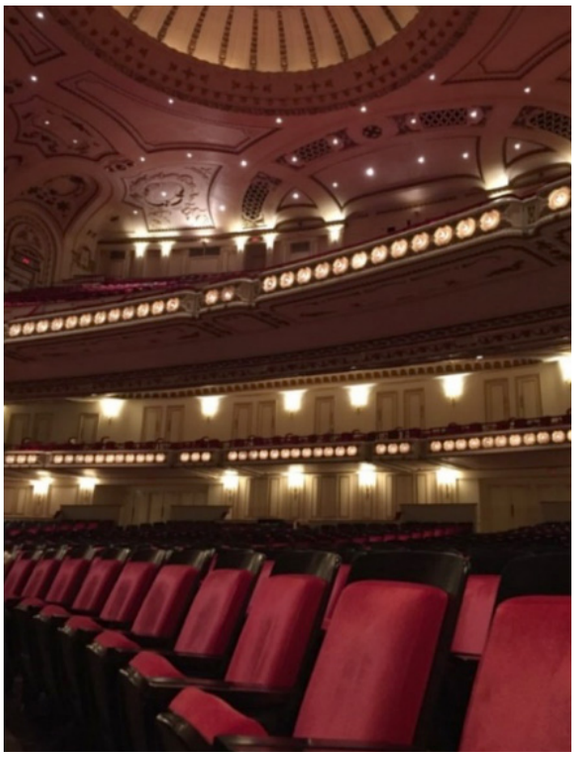
Paragliding along the rift valley

Annual Cultural festival

Required Actions:

- Promotion of tourism circuits with necessary infrastructure.
- Promote Cultural Heritage to Boost Tourism - The festival will include a range of activities like dance, storytelling, preparation of local cuisine and mountain climbing.
- Improve linkages between attractions so as to have a smooth tourism circuit.
- The county should attract and partner with the private sector to promote provision of sufficient Hospitality and accommodation facilities near tourism sites through subsidies, appropriate and enabling business environment for investors into the tourism industry.
- Develop tourism action plans for focal points
- Aggressive marketing and mapping of all attraction in the County.
- Awareness creation to the local community about the opportunities in tourism
- Improve security
- Zoning dual-purpose wildlife and grazing areas, dual-purpose livestock-wildlife migration corridors
- Partner with regional Marketing Bodies in tourism promotion
- Conservation of fragile ecosystems

d) Promoting construction and development of tourism supporting infrastructure such as MICE Facilities. (Meetings, Incentives, Conferencing and Exhibition Facilities.)



Convention Facilities

13.5 Infrastructure Led Growth Scenario

Objective:

This Scenario seeks to achieve the following;

- To enhance global competitiveness and export trade
- To enhance livelihoods through provision of social and physical infrastructural services.
- To improve economic and social development of the county

a) Transport

INTERNATIONAL LINKAGES

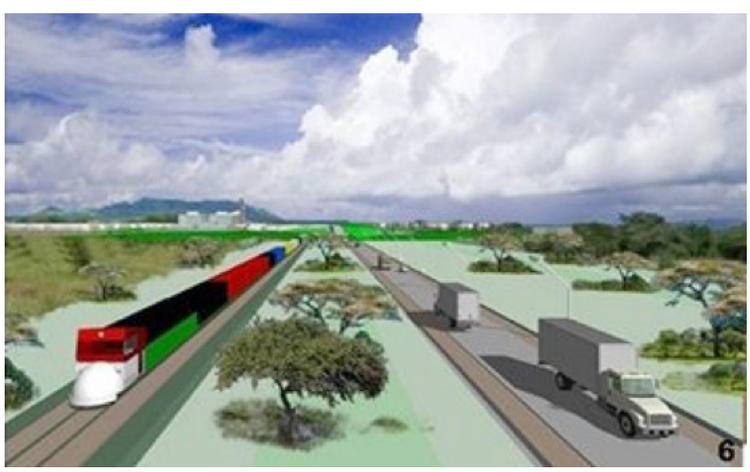
Baringo - Kolowa - Juba

INTER-COUNTY LINKAGES

Baringo to Nairobi - Nakuru - Uasin Gishu - Elgeyo marakwet counties

INTRA-COUNTY LINKAGES

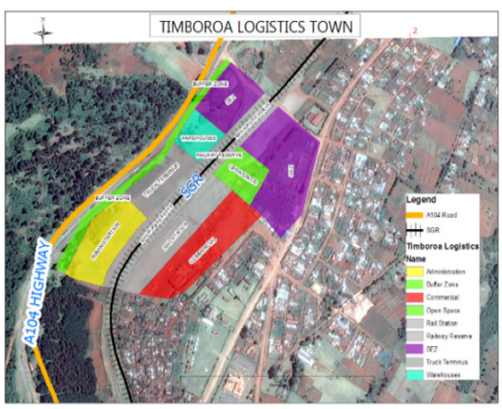
Timboroa - Arama - Tenges - Kapkelelwa -Kolowa



Impact of LAPPSET to the economy

LAPPSET corridor consists of road, rail and pipeline infrastructure components. The presence of the LAPSSET corridor in the county will:

- Open up the marginalized regions of the county hence enabling improved security, poverty reduction and employment generation
- Facilitate the production and processing of livestock and agricultural products
- Enhance multimodal connectivity and linkage to domestic and global markets
- Facilitate regional trade and investment with neighbouring countries e.g. south sudan



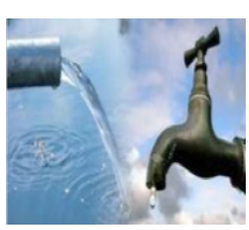
Required actions

- Development/Upgrading of strategic roads such as agricultural, security, tourist and geothermal roads e.g.
    - **Agricultural road;** Saos-Tenges-Kabarnet-Kabartonjo road
      Timboroa – Arama – Sirwa – Kapkelelwa – Oinamoi – Barwessa - Kolowa Road
    - **Security road;** Marigat- Mukutani-Tangulbei-Churo
    - Kampi Samaki – Kipcherere – Kasisit - Kabartonjo – Kapkiamo – Barwessa (D364)
    - **Tourism Ring Roads:** Mogotio- Kipkitur- Emsos- L. Bogoria
      - Lake Baringo- Kasisit- Tiriminion- Kapkiamo-Barwessa road
- Completion of missing link i.e. Kabartonjo- Chemalingot
- Upgrading of airstrips to an all-weather standard with all necessary equipment e.g. Eldama ravine, Kimalel
- Development of new transport towns e.g.-Timboroa-take advantage of the railway line and A104 road

b) Infrastructure

Required actions

- Construction of dams along kerio valley
- Establishment of pan dams in Baringo North and Tiaty sub-counties.
- Distribution of piped water from Chemasusu dam.
- Construction and completion of Oke dam and Kibundir dam
- Construction of more water points especially along the livestock routes
- Drilling of boreholes in suitable areas identified
- Provision of mobile social services (mobile maternity clinics, libraries, mobile schools) to cater for the dispersed settlements in Baringo South and Tiaty
- Agricultural Research Center and business incubation centres distributed across areas with a high youthful population
- Supply of electricity in all rural centres through sustainable exploitation of geothermal wells in Paka, Korosi and Silale line and A104 road



Prerequisites for the scenario to work

- Governance arrangements to ensure there is appropriate planning, management and accountability for the on-going provision of infrastructure
- Mobilization of capital resources to finance the provision of physical assets, facilities and equipment
- Human capital resources to enable the provision of on-going staffing, operational and maintenance costs of infrastructure provision
- Progressive community participation

13.6 Land Management Scenario

Goal:-

1. To promote optimal maximization of agricultural land in the Baringo.
2. To ensure proper management and utilization of rangeland resources (community land).
3. To ensure coordinated and orderly development of urban areas.

Required Actions:

1. Operationalization of the County Land Policy.
2. Preparation of special land areas spatial plans (such as community land, wildlife corridors, etc).
3. Preparation of local physical development plans for all urban centers to guide in land use and management in urban areas.
4. Reclamation of all grabbed or encroached land in urban areas.
5. Development of a land information system.
6. Development of a sustainable land management system for private, public and communal land including the following components:

Land Management Elements:

- ON FRAGILE AREAS- Non-approval of development/ restricted use of ecologically senitive areas
- ON AGRICULTURAL LAND- Curbing land fragmentation/ change of use; soil testing and sustainable agricultural (crop/ livestock) practices.
- ON URBAN LAND- Deliniation of urban fringes/ edges and compacting of urban development.
- ON PUBLIC LAND AND WAYLEAVES- Inventorizing of all public land; reclaimation of all grabbed parcels and protection of public land and walevaes from encroachment.
- ON SPECIAL AREAS FOR ECONOMIC ACTIVITY (TRADE, INDUSTRY OR TOURISM)- Development of planned zones for economic activities, in harmony with surrounding users.

LAND TENURE EXPLOITATION

GENUINE

REPUBLIC OF KENYA

THE REGISTERED LAND ACT

Title Deed

Title Number

Area

Registry Map Sheet No.

This is to certify that

is (are) now registered as the absolute proprietor(s) of the land comprised in the above-mentioned title, subject to the entries in the register relating to the land and to such of the overriding interests set out in section 30 of the Registered Land Act as may for the time being subsist and affect the land.

GIVEN under my hand and the seal of the Trans Nzoia Land Registry this day of 19

Land Registrar

Security of Land; Un-demarcated areas in the county have largely contributed to low developments of land and therefore to have elaborate land tenure systems and increased security of tenure will spur economic development of the County. There is interest in having community lands registered that people can have documents. Tittle of lands will help land owner to acquire financial aid in banks, be able to easily sell land when required and make it easier to develop and exploit as there is reduced consultations with other people on what to do with the land.

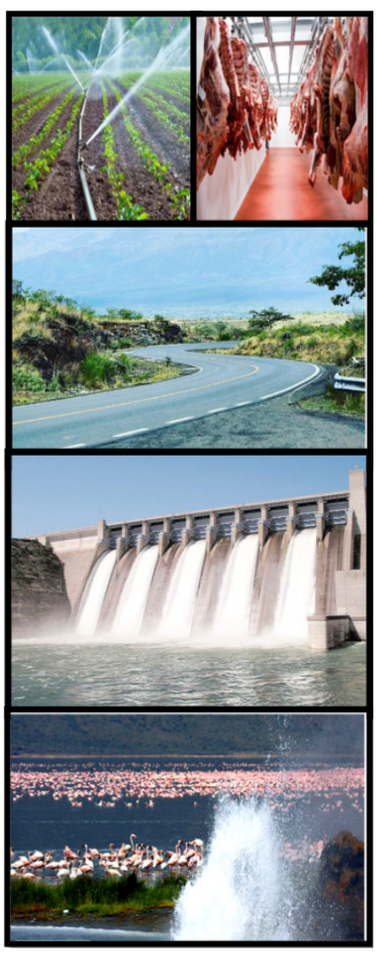
13.7 Integrated Spatial Development Scenario (Preferred Option)

The scenario seeks to promote balanced county development by agglomerating the crucial sectors in the economy in order to achieve social, ecological and economic development. This is achieved by;

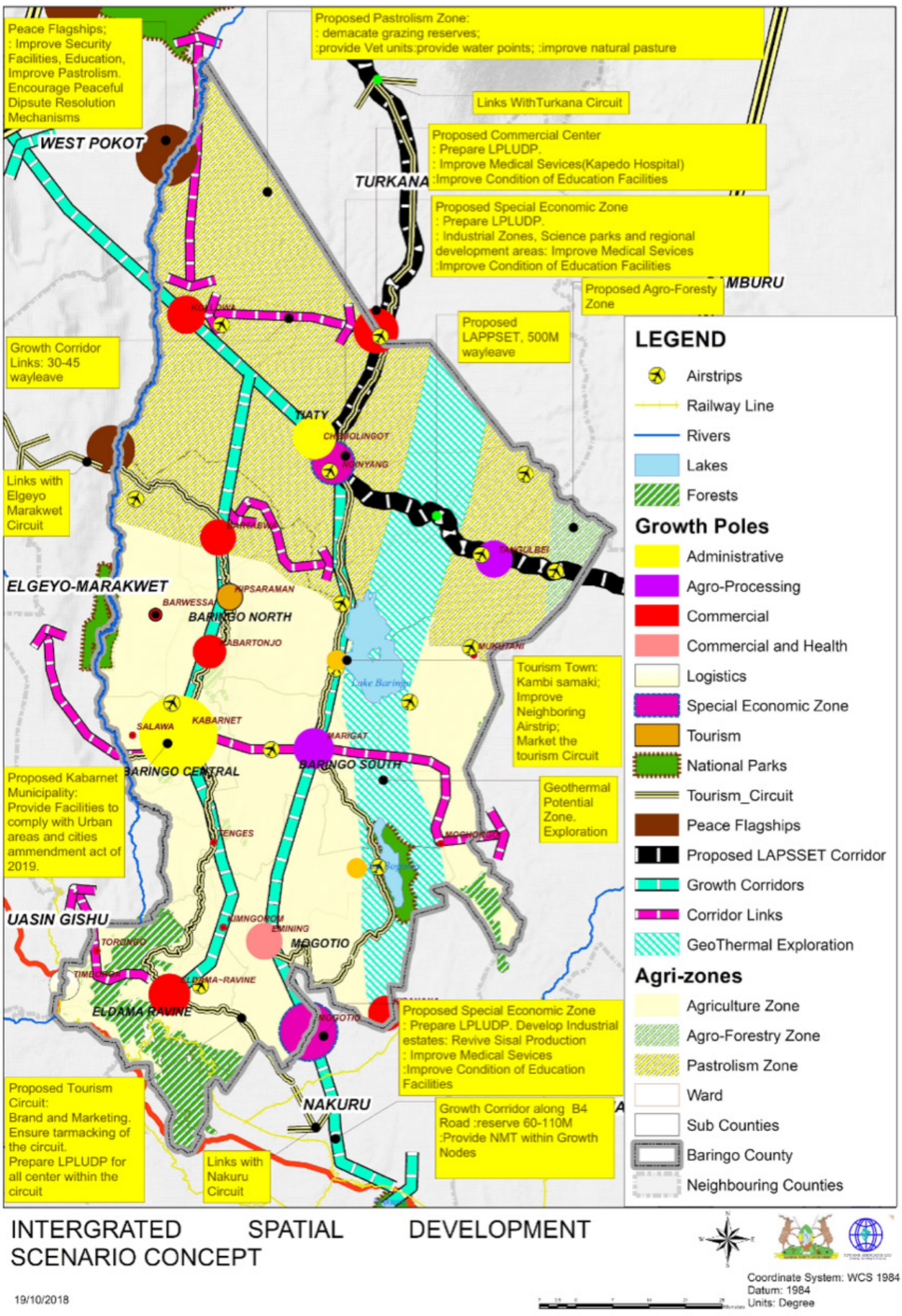
- Integration of urban-rural and regional and international transport networks.
- Assigning of specific functions to the towns to trigger development
- Harnessing the potential of resources in the county

Required actions

1. Upgrading of strategic roads to facilitate agricultural development, security, tourism and trade.
2. Upgrading of airstrips in the county to facilitate international trade and tourism.
3. Assigning of specific functions to the towns to trigger development
4. Value chain maximization through intensive crop and livestock production and value addition to promote food security.
5. Development and upgrading of the tourism circuits linking the main transportation corridor with tourist attraction sites in the county.
6. Environmental conservation through zoning and buffering of fragile ecosystems.



Map 16: Integrated Spatial Development Scenario



PART IV:
PLAN PROPOSALS

CHAPTER FOURTEEN

Policies, Strategies and Actions.

Strategies are the courses of action geared to the achievement of the vision of any entity. The strategy formulation process is informed by the existing background documents, synthesis in terms of the potentials, opportunities and constraints of data collected, the consultant's experience and stakeholders' inputs gathered throughout the process.

14.1 Environmental Conservation Strategies

High population growth and shrinking productive land, coupled with climate change make it necessary to ensure sustainable management and use of the environment and natural resources. An environmental strategy has been proposed, integrating conservation and sustainable exploitation of all natural resources within the county as depicted below:

ENVIRONMENT

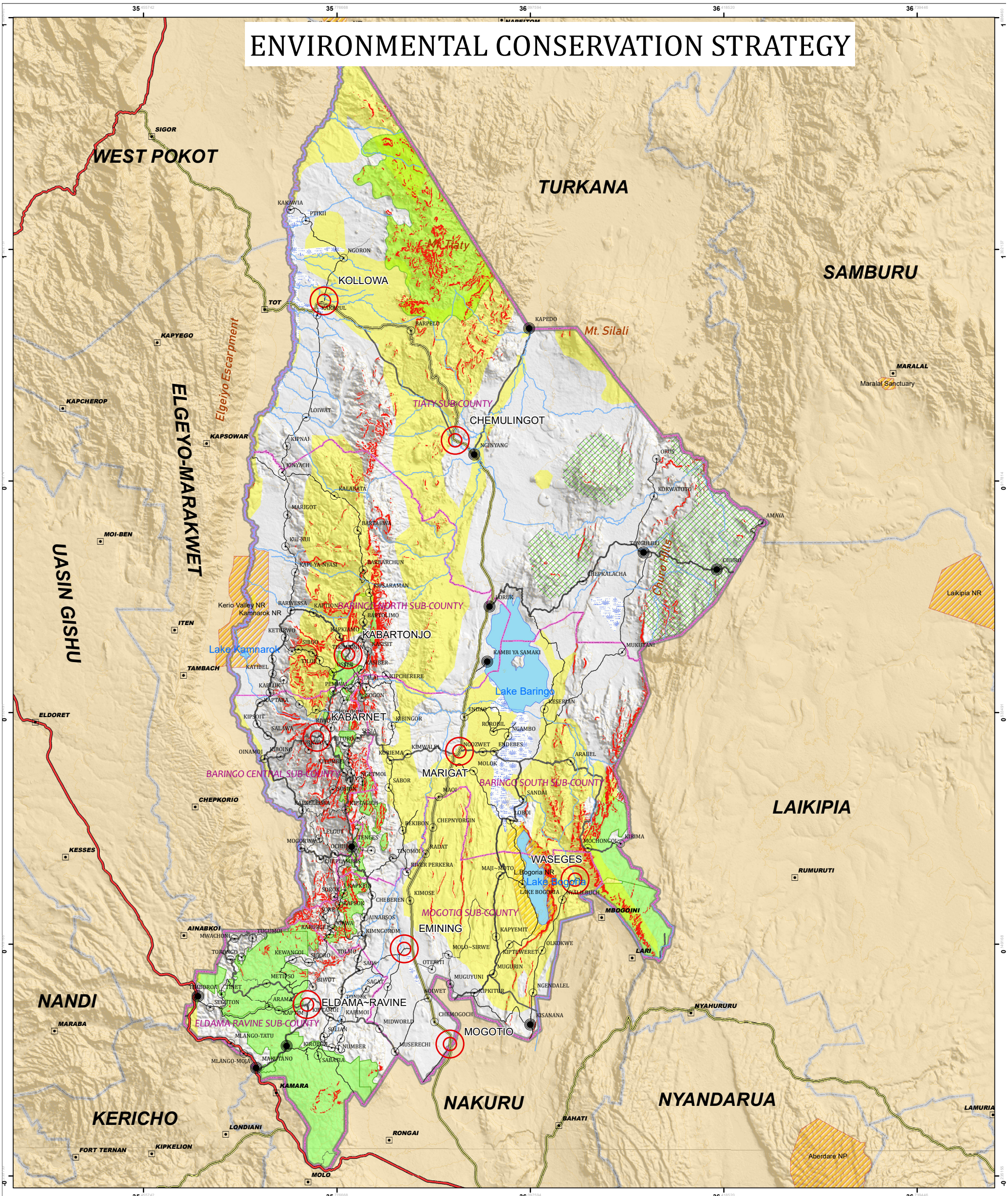
- Geological Resources (Soil, Sand Construction Stones)
- Water
- Forest
- Green Energy Resources (Solar, Wind, Hydropower)

SOIL CONSERVATION
- Construction of terraces on slopes
- Deployment of skilled personnel to advice on soil practices

SUSTAINABLE FORESTRY
- Awareness creation on forest importance and conservation.
- Participatory forest conservation projects

GREEN ENERGY
- Utilization of green energy resources like solar, wind, biomass and geothernal energy

ENVIRONMENTAL CONSERVATION STRATEGY



BARINGO COUNTY SPATIAL PLAN (2018-2028)

Legend

- Proposed Floodable Zone
- Steep Slopes: Proposed Conseravation measures
- Proposed Agro forestry Zones
- Proposed Wildlife Reserve
- Serverely Eroded Zones Proposed Soil Conservation
- Regional Towns
- Market Centre
- Rural Centre
- Principle Towns
- Contour 100m
- Rivers
- Class A Roads
- Class B Roads
- Class D & C Roads
- Other Roads
- Lakes
- Wetlands
- National Parks and Reserves
- Forested Areas
- Proposed Urban Edges
- Sub-County Boundaries
- Baringo County Boundary
- Kenya County Boundaries

1:400,000

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

0 5 10 20 30

Kilometers

DATA SOURCES:IEBC,ILRI, SOK,BARINGO COUNTY ,KRB, FARM MANAGEMENT HANDBOOK.

Date: 4/6/2019

CLIENT

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a) Forest Conservation Strategy;

SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
Forests	Forest protection.	Forest protection from deforestation and encroachment	• Erecting of a perimeter fence around gazetted forests for access restriction.	Ministry of natural resources-Baringo county. KFS. NEMA KWS. NGOs CBOs. Local communities.	Conservation of bio-diversity. Implementation of laws. Increased forest and vegetated areas. Improved conservation efforts. Community participation in conservation efforts. Protection of environmentally fragile zones.
			• Maintaining a forest buffer of at least 60 meters from the forest reserve edge.	NEMA	
			• Awareness creation on forest importance and conservation. • Awareness of better ploughing and grazing methods to preserve the forests	Ministry of natural resources-Baringo county. KFS. NEMA KWS. NGOs CBOs.	
		Improved forest management.	• Participatory forest conservation projects such as honey harvesting, ecotourism and sustainable charcoal burning/ logging	KFS. Ministry of natural resources-Baringo county.	
			• Effective trans-boundary management of all Forest reserves	KFS.	

			• Deployment of forest department personnel. • Provision of phone and network for communication	KFS.	
			• Developing of updated database system and a monitoring software for forest.	KFS.	
		Increasing forest cover in county	• Encouraging agro-forestry practices to increase tree stocks.	KFS.	
		Alternative wood fuel energy sources	• Encouraging alternative energy sources such as briquettes to reduce demand for firewood and charcoal.	Ministry of natural resources-Baringo county. KWS. NGOs CBOs	

a) Water Conservation Strategy:

SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
Water	Protection of water sources.	Protection of riparian reserves.	• All rivers in the county should have their riparian reserves protected (a distance of 30 meters on either side based on the highest recorded flood level).	Ministry of Water Resources. WARMA NEMA. NGOs. WRUAs Local communities	Conserved riparian reserves.
			• Planting of appropriate tree and shrub species along riparian reserves to prevent siltation into water bodies		
			• NEMA must license any abstraction of water or effluent discharge into water sources.		

			• 50 meters buffer between irrigation schemes and their water discharge points		
			• Discouraging farming and settlement along riverbanks.		
		Water springs protection.	• 100 meters buffer from springs along which trees can be planted.		Protected water springs
			• Encasing the sources of springs most at risk in concrete, forcing water to flow through a pipe rather than seeping from the ground, thus preventing siltation and contamination from groundwater.		
			• Community maintenance of protected springs coupled with behaviour modification among community members to stop contaminating water sources.		
		Flood control	• Construction of small multipurpose flood control dams.		Reduced flooding in flood prone areas
		Improved water resources management	• Preparation of long-term water resources plans. • Vibrant community involvement in water resources management. • Integration of both modern and ancient water conservation and management measures		Better managed water resources
			• Encouraging water recycling to minimize waste.		

		Wetlands Protection	• Buffer of 30 meters from the high water mark should be maintained.		Conserved wetlands and riparian reserves.
			• Sustainable uses of wetlands allowed by EMCA 2009 Regulations.		
		Underground water protection	Underground water reserves require a buffer of 100 meters each.		Improved underground water quality

c) Soil Conservation Strategy:

SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
Soil	Conservation of soil.	Soil conservation in the whole county.	• Construction of terraces on slopes above 15 degrees.	Ministry of Agriculture. Local communities	Reduced soil erosion
			• Encourage terracing on areas with slopes of between 5 and 15 degrees (not obligatory).		
			• Development in areas of slopes of above 40 degrees should be restricted to only planting of trees, grass or bananas. • Capacity building on proper farming and grazing techniques to encourage soil conservation and eradicate soil erosion • Controlled charcoal burning activities		
		Soil testing	• Mobile soil test lab • Deployment of skilled personnel to advice on soil practices in Marigat, Kabarnet, Eldama Ravine, Mogotio, Chemolingot, and Kabartonjo.		Better soil information on county
			• Establishment of a county soil lab in Marigat town.		

d) Sand And Construction Stone Strategies:

SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
Sand and Construction Stones.	Utilization of the sand and stone resource.	Sand harvesting.	• Sand harvesting may be allowed from any riverbed	Ministry of Natural Resources. NEMA. WARMA Local communities	Controlled sand harvesting
			• Sand harvesting will not be allowed on any riverbanks.		
			• No sand harvesting shall take place within 100 meters of either side of any physical infrastructure including bridges, roads, railway lines, dykes, etc.		
		Stone blasting	• 1km buffer from settlements is recommended	Ministry of Natural Resources. NEMA. Local communities	Controlled sand harvesting

e) Green Energy Resources Strategy:

SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
Green Energy	Utilization of green energy resources.	Hydropower generation	• Building of dams and construction of hydropower stations.	Ministry of energy resources Baringo County.	Alternative sources of energy from solar and wind supply. Reduced reliance on electricity and wood fuel. Increased supply of hydropower energy Acquired skills on management of the solar and wind energy. Increased supply of Geothermal energy

			• Feasibility studies on other possible sites for hydropower generation in Kerio Valley and Perkerra River.		
		Solar energy tapping	• Tapping of solar energy in Baringo South, Parts of Baringo North and Tiaty(Chemosion)	Ministry of energy resources Baringo County.	
		Wind energy harnessing	• Tapping of wind energy for small-scale us in Eldama Ravine and Tiaty(Tilam) small scale generation.	KENGEN.	
		Geothermal Power	• Tapping of Geothermal Power along the GDC Belt. • Very inclusive community participation in geothermal power potential exploration and exploitation • Implementation of strong mitigative actions for any community losses incurred due to large-scale geothermal projects.	GDC KENGEN Kenya Power	
		Biomass	• Feasibility studies in Baringo South (Marigat) on the approximate coverage and the amount of energy it can produce to power the County. • Mitigative policies to be set by the County Government to sustainably use the Power Plant without depleting it	Ministry of energy resources Baringo County	

f) Land Resource Strategy:

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
All Land Categories	Improved management of Land Resources	Digitized County Land Information System	• -Development of a digitized County Land Information System	County Government National Land Commission Local communities	Enhanced land information
		Land Conflict Resolution	• - Establishment of community and village elder land dispute resolution committees in the whole county • - Community meetings for sensitization against land conflict in the whole county	County Government National Government Civil society (NGOs, CBO's and FBO's) Local communities	Reduced land conflicts
Private (Urban Land)	Sustainable Use of Land Resources	Preparation of Local Physical Development plans to guide urban land use	• Preparation of physical development plans for major towns in the county like Kabarnet, Eldama Ravine, Mogotio, Marigat and Chemolingot	County Government	Coordinated development in the major towns Manage land speculation
Private (Agricultural Land)	Sustainable Use of Land Resources	Control Land Fragmentation	• Promotion of minimum subdivision on land through enacting of relevant policy and zoning regulation in Eldama Ravine, Mogotio, Baringo Central and the highlands of Baringo North. • Promote intensive cultivation to sustainable incomes among small holder farmers across the county	County Government National Land Commission Local communities	Economical agricultural land holdings
		Tenure Promotion	• Speeding up and easing the process of issuance of title deeds in the hole county • Land demarcation in areas with community land in Tiaty sub-county	County Government National Government	Increased security of tenure
		Soil Conservation	• Soil fertility monitoring across the county • Bench terracing on areas with slopes greater than 15% in the county	County Government Local communities	Enhanced soil fertility knowledge Reduced soil erosion

Community Land (Rangelands)	Intensive utilization of Community Land	Zoning	• Establish guidelines on zones for grazing and wildlife conservation by developing special areas land use plans in Tiaty, Baringo North and South sub-counties • Development of a rotational grazing system for the community in Tiaty, Baringo North and South sub-counties • Establish separate water points for wildlife and community use in Tiaty, Baringo North and South sub-counties • Community sensitization on the non-land degrading pastoralism techniques in Tiaty, Baringo North and South sub-counties	County Government Local Communities KWS	Protected habitats for both wildlife and livestock Minimal land degradation Reduced human-wildlife conflicts Increased community awareness
		Conservancies	• Create awareness on conservancies and their importance in the whole county • Support to end poaching in the whole county • Provide road infrastructure to the conservancies to increase visitors and increase security across the county • Consultative forums with the locals to own the conservancies in the county	National Government County Government Local Communities KWS	Increased tourism in the conservancies Reduced human-wildlife conflicts Increased community awareness on the importance of conservancies
		Establish effective administration and management on communal land as envisioned in the Community Land Act 2016	• Registration of all community land at the Community Land Register in Tiaty, Baringo North and South sub-counties • Formation of community land management committees in Tiaty, Baringo North and South sub-counties • Equitable distribution of and accountability on income from operations on community land through the community assembly in Tiaty, Baringo North and South sub-counties	National Government County Government Local Communities	Safeguarding of community land Better management over community land Increased economic gains from communal land

		Policy formulation on rangelands	• Establishment of a County Policy on Rangeland Management in Tiaty, Baringo North and South sub-counties	County Government	Improved rangeland management Presence of a completed County Policy on Rangeland Management
Public Land	Preservation of public Land	Control of land grabbing	• Identification and mapping of all public land in Baringo County (location and size) across the county • Repossession of grabbed public land (open spaces, road and public utilities reserves) across the county	County Government National Land Commission	Increased information on public land in County Secured public lands
		Soil Conservation on Riparian Reserves	• Planting protective shrubs and trees to protect riparian reserves in the county • Community sensitization on the importance of protecting soil on riparian reserves across the county	County Government Local Communities	Increased riparian soil conservation Increased community awareness on riparian reserves soil protection
Gender Inclusivity in Land Matters	Women Empowerment	Inclusion of women in land matters	• Community sensitization on the rights of women to own land in the whole county • Involvement of women in decision making on land issues across the county	County Government NGOs CBOs Local Communities	Gender equity in land matters

14.2 Economic Development Strategy

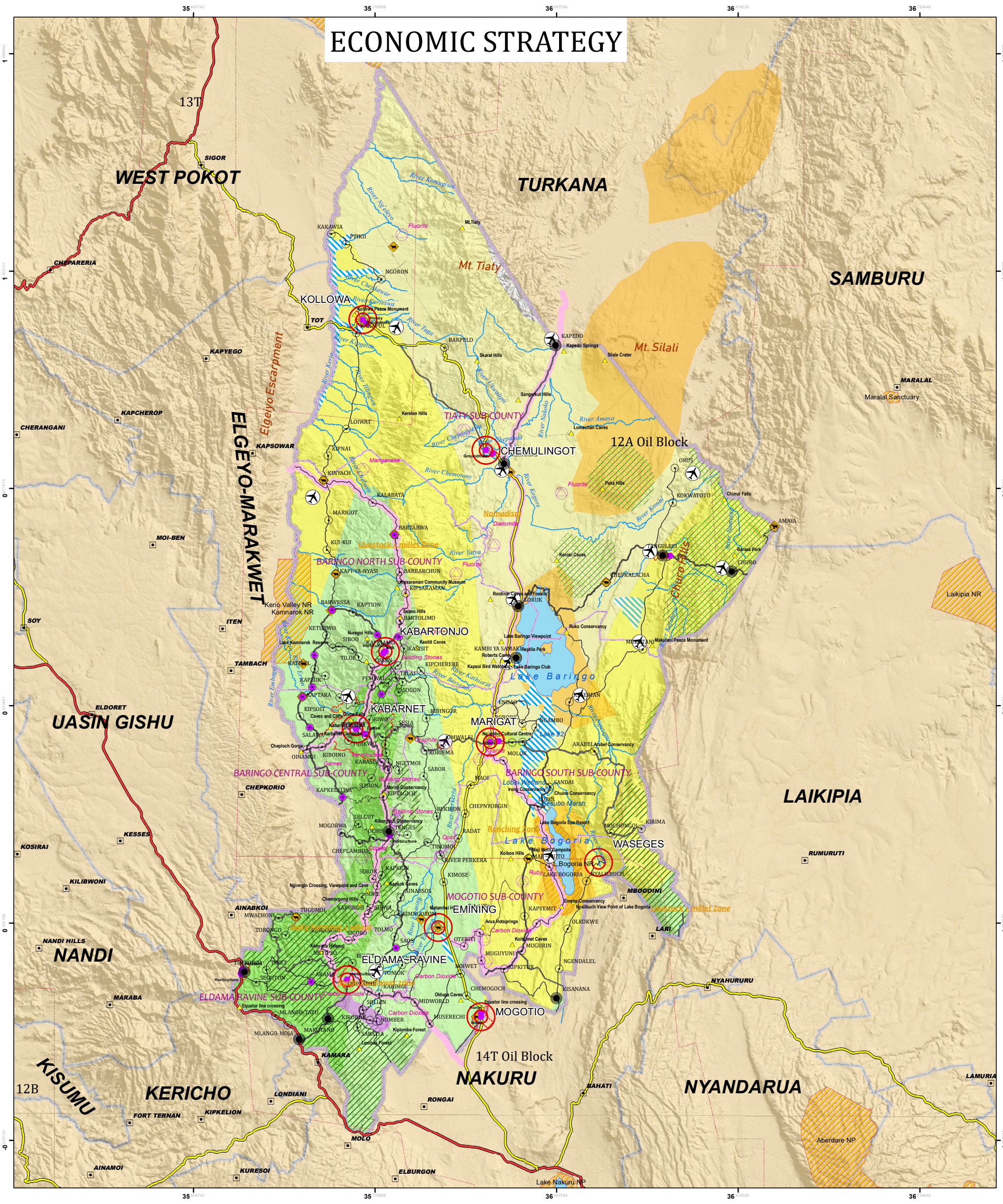
A proposed economic strategy integrates development of all economic sub-sectors within the County depicted below:

Crop Agriculture

Livestock Keeping

Trade and Industry

ECONOMIC STRATEGY



BARINGO COUNTY SPATIAL PLAN (2018-2028)

Legend

Proposed Agricultural Promotion Zones

- PAstrolism, Millet, Cassava,Sorgum
- Ranching,wheat barley sunflower
- Ranching maize sunflower Sisal Cottton wheat
- Dairy Farming CoffeeTubers Maize
- Proposed Agro forestry Zones
- Proposed Floodable Zone

- Proposed Value Addition Centres
- Proposed Auction Yards
- Tourist Attraction Site
- Airstrips
- Regional Towns
- Market Centre
- Rural Centre
- Principle Towns

- Proposed Tourism Circuit
- Contour 100m
- Rivers
- Class A Roads
- Class B Roads
- Class D & C Roads
- Other Roads
- Oil Prospecting Blocks
- Carbon Dioxide Mining Zone
- Proposed Geothermal Exploitation Zone

- Lakes
- Wetlands
- National Parks and Reserves
- Forested Areas
- Proposed Urban Edges
- Sub-County Boundaries
- Baringo County Boundary
- Kenya County Boundaries

1:400,000

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

0 5 10 20 30

Kilometers

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a) Agriculture (Crop Production) Strategies:

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
Agriculture (Crop Production)	Value Chain Maximization: (Maize, milk, irish potatoes, cotton, groundnuts, macadamia, horticulture (strawberries, apples, leeks and tomatoes) Traditional High Value crops (Sorghum, Millet, Cassava, Sweet Potatoes, cow peas)	Improve Access to farm Inputs by:	• Regulate counterfeit agricultural inputs into the market in the county. • Farm inputs subsidies/ farm input loans in the county • Encourage private sector stockiest through subsidized rates in the county • Sensitization on the importance of using improved Input varieties in the county. • Upgrade present research on applicable farm inputs e.g. improved seed varieties in the county • Promote the formation of farmer SACCOs that promote farm input supply at affordable prices in the county • Damming of gorges to harness water for irrigation in the county • Development of irrigation schemes in the county	National Government County Government Financial Institutions KARLO Local Communities	Improved access to farm inputs leading to small holder farmer development
		Soil fertility monitoring and testing:	• Research on soil samples for their water content, PH and salinity levels, clay content and water retention capacity across the county • Establishment of soil survey farms per agro ecological zone across the county • Establishment of a soil testing center in Kabarnet and Eldama Ravine • Capacity building to farmers on suitability crops across the county • Issuance of the soil health cards to farmers across the county • Developing an update system on the condition of soils in the county	National Government County Government KARLO Donors	Appropriate soil health schemes in the county The county will have an existing soils condition report to dvise farmers on tpe of agricultural activit to undertake
		Control and management of crop diseases	• Promote farm based disease monitoring and management in the whole county • • Promote the use of pesticides in the whole county	County Government	Reduction and eradication of crop disease

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Use of technology in agriculture:	• Encouragement of research and development of innovative small holder technological know how in the whole county • Improve agriculture mechanization in the whole county • Invest in commercially subsidized farming machinery in the whole county. • Sensitization on the economic benefits of agricultural mechanization in the whole county • Promote technology based farm management systems in the whole county • Capacity building of women and youth on emerging trends in crop and livestock production in the whole county	County Government	Effective and cient agricultural methods Intensive agriculture Mechanized agriculture Increased productivity Women and youth participation in agriculture
		Promotion of agricultural irrigation projects:	• Preparation and implementation of an irrigation policy for county based irrigation programmes • Promote Runoff water and roof catchment based irrigation in the whole county • Up scaling and upgrading of existing irrigation projects like Pekerra, Amaya and Chemoigot • Development of irrigation projects in Tiaty sub-county like the Naudo, Kudungdung (Tirioko), Kositei (Nginyang) irrigation schemes. Irrigation schemes alon rivers Churo and Kamatak as well as along the gorges of Kositei, Kiriwo, Mukuru, Salawa, Churur, Towut, Tulunguru in Kollowa, Korelaet on Tirikowa in Tiaty sub-county • Carry out feasibility studies for the Tilam Irrigation scheme in Tiaty subcounty	National Irrigation Board County Government Private Sector NGOs	Irrigation lead agriculture

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Improving efficiency and effectiveness of extension service provision:	• Increasing number of extension officers to complement aging extension work force in the whole county. • Sensitizes and capacity build the farmers ability to take up extension services in the whole county. • • Investment in extension officer mobility in the whole county. • Selecting women farmers in extension training courses in the whole county • Development of women preferred extension approaches eg. on farm visits, demonstration and experience sharing in the whole county	County Government NGOs	Effective and efficient Extension Services
		Improve access to markets:	• Encourage and build the capacity of farmers to form and run marketing SACCOs in the whole county. • Use local mass media to communicate and inform on existing marketing channels in the whole county. • Establishment of driers for maize in the whole county. • Investment in storage facilities in the whole county. • Establishment of regional and international bilateral marketing agreements by the county. • Encourage women in join co-operatives in the whole county • Training of both men and women farmers on the market dynamics in the whole county	County Government Private Sector NGOs	Improved market incomes

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Promote Agro-Industrial Development	• Zoning and investment in value addition zones in: Marigat, Kimalel, Kapkelelwa, Kabarnet, Eldama Ravine, Solian and Timboroa. • Promotion of the collection centre concept to encourage economies of scale for industrial zone in the county. • Attraction and facilitation of investors through innovative PPPs in industrial investment in the county.	County Government	Establishment of value addition industries
		Improve access to agricultural credit:	• Sensitize to counter the fear of acquiring loans across the county. • Lobby for farmer friendly MFIs and lending products in the county. • Strengthen access to land for women and youth to enable collateral advantage in the whole county • Capacity building on how to access affordable credit eg. Uwezo fund, WEF in the whole county	National Government County Government Banks and MFIs NGOs Agricultural Finance Cooperation (AFC)	Improved agricultural Lending
		Promotion of climate Smart Agriculture	• Research into potential climate smart agricultural initiatives across the county. • Sensitization and off take of climate smart agricultural techniques across the county • Enhance Equitable access to and use of NRM/weather/ CC adaptation advisory services and appropriate technologies particularly for vulnerable groups in the whole county	County Government Tea and coffee research institutes NGOs and bilateral organizations	Improved climate change resilience

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Promote farmer education and capacity	• Promote capacity on: • Crop varieties and crop intensification techniques across the county. • Soil fertility and soil preservation across the county • Crop disease management • Value addition • Marketing • Crop pests and disease prevention and treatment across the county • Tailoring education programmes at technical and village polytechnics in agricultural production across the county • Set up seminars on empowerment of women farmers through training, facilitation, and networking in the whole county	County Government NGOs	Farmers with improved farming capacity
		Investment on the revival of stalled high potential crops	• Revival of cotton as an alternative crop in Baringo Central • Reviving stalled cotton industry in Baringo North • Introduction and farmer capacity Building on high value potential crops such as leeks, strawberries, apples, cowpeas in Mogotio	National Government County Government	Revival of cotton production and other high value potential crops in the county

b) Agriculture (Livestock Production) Strategies:

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
Agriculture (Livestock Production)	Livestock Value Chain Maximization: Cattle Milk Goats Sheep Rabbits Fishing Wool Honey	Improve livestock breeds :	• Capacity building on the importance of rearing improved livestock breeds and appropriate animal husbandry techniques in the whole county. • Promote the use of A.I. on improved livestock breeds to counter attitude change in the whole county. • Promotion of Zero grazing to counter the reducing grazing fields and improve dry matter feeding in the whole county. • Provision of credit and livestock training facilities to women to encourage them to participate in livestock production in the whole county.	County Government Private Sector	Improved livestock breeds
		Improve access to pasture:	• Promotion of Hay stores (strategic reserves) for animal feed in dairy zones in the whole county. • Hay storage facility at Mogotio • County government to provide seeds for pasture in the whole county.	County Government	Established strategic pasture reserves
		Improve access to veterinary services :	• Reviving and promotion of cattle dips for pest control in the county • Promotion of private vertinary service providers and Community Animal health Workers (CAHW) in the county • Promotion Regular vaccination, dipping and disease control initiatives in the county • Establishment of an animal laboratory in Kipsaraman and Kimalel	County Government Private Sector	Accessible and affordable animal health Reduced emergency response time to livestock pests and diseases.

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Improve efficiency of extension services:	• Adequate staffing to promote extension services to the ward level • Improve facilities especially transport facilities in the county • Improve knowledge on extension services for vulnerable groups in the whole county.	County Government	Efficient and effective extension service provision
		Promote marketing infrastructure and markets:	• Encourage commercialization on livestock production in the county • Promote the cooperative movement in Baringo County • Sensitization to improve farmer attitudes towards commercial farming and credit management. In the county • Improving physical linkages between farmers and markets (roads, communication, storage) in Tiaty (Chemolingot) • Establish collection centers per ward like beef collection centrea at Amaya, Churo, Kokwatoto and Chepkalacha in Tiaty • Establishment of livestock markets/auction yards at Olkokwe, Midworld, Kipcherere, Kasisit and Ameyan(Ribkwo) • Establish a chicken auction yard at Ossen (Kiling'ot)	County Government Private Sector NGOs	Improved livestock performance as an economic venture
		Promotion of disease free zones:	• Development of a County Livestock Policy on meat hygiene Disease control and revenue collection.	County Government	Baringo as a disease free zone
		Promotion of fishing as an alternative source of income:	• Formulate a County fishing policy. • Improve access to fishing gear for farmers and dam users in the county. • Construction of Fish landing beaches around Lake Baringo	County Government	Fishing as a vibrant economic activity Improved value addition for fish Reduction of post-harvest loss in fishing

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Promotion of commercial bee keeping:	• Develop value addition on honey within the county • Sensitization of women on bee keeping as a viable income stream	County Government	Improved Income from honey
		Promotion of Rabbit keeping as a viable alternative:	• Capacity building on rabbit rearing techniques and benefits in the county • Provision of rabbit breeds to farmers in the county. • Sensitization of women on rabbit keeping as a viable income stream in the whole county.	County Government and Development Partners	Improved farmer income from rabbits
		Improved forest management	• Participatory forest conservation and management projects such as honey harvesting, ecotourism and sustainable charcoal burning/ logging in the county • Increased forest department personnel for the county • Developing of updated database system and monitoring software for forest management in the county • Increase investment in research, education and extension services for forest management in the county.	National Government KFS County Government Local communities CBOs.	Enhanced Benefits from forest Community participation in conservation efforts Improved initiative by communities in forest management Improved forest cover
		Promoting afforestation in the county	• Conducting agro-forestry practices to increase tree stocks in the county.	KFS County Government Local communities CBOs.	Increased number of afforestation programmes Increased number of participatory projects
		Alternative wood fuel energy sources	• Organizing alternative energy sources campaigns such as briquettes to reduce demand for firewood and charcoal in the county • Encouraging substitutes like Bamboo farming in the county	County Government Local communities CBOs.	Reduced reliance on wood fuel

c) Trade Strategies:

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
Trade	Improvement of Business Environment to encourage economic growth	Preparation and implementation of a Pro MSE and industry policy in Baringo	• Preparation of a trade policy for the county • Improvement of trade licensing and revenue collection streams in the county	County Government MSEA	Pro –MSEs growth policies
		Harmonization of single business license fees by:	• Establishment of one stop shop licensing in the county • Involving traders in decision making in the county • Improve on issuance of licenses to avoid unscrupulous traders in the county • Regulation of fees to make them business friendly in the county. • Zoning of taxation for it to be fair to rural traders in the county.	County Government	Harmonized Single business permit
		Construction and reviving stalled of market stalls:	• Completing stalled market stalls in all market centres • Introduction of new market stalls where they are not existing in all market centres • • Designate waste disposal space in all markets in all market centres • Redesign the drainage system in major markets in all market centres • Construction of public toilets in all markets in all market centres • Constructions of storage facilities for farmers produce in markets across all market centres	County Government	Operational market stalls

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Improve access to business financing	• Sensitization to counter fear of borrowing in the county • Tailoring lending to small business best captured by MFIs in the county • Developing women-friendly business loans	County Government MFIs NGOs	Improved business financing
		Improved access to infrastructure for businesses	• Connection of trading centres to water and electricity • Improvement of county roads to all major trading centres in the county	County Government ERAWASCO KPLC	Improved infrastructure connection for business growth
		Skills improvement for better managed MSEs	• Skills needs assessment in the county • Skills improvement plans and policy in the county • Formulation of training programmes in the county • Equip vocational training centers with business training facilities in the county • Capacity building of youth and women on business and financial management in the County • Support of women based enterprises like the Kampi ya Samaki, Bartabwa and Barwessa beading centres	County Government MSEA MFIs	Improved business efficiency through a skilled business community
Private Sector Facilitation	Inclusion of the private sector in development of Baringo county	Engagement of private sector	• Identifying local content and training needs in the county • Fostering dialogue around security issues in the county • Annual Investment forums in the county	County Government Private Sector Development Partners	Boosted investors' confidence & protection

d) Industry Strategies:

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
Industry (Agro-Industry)	Promotion of agro industrial growth	Creation of Industrial Zones:	• Establishment of Industries • Milk cooling and processing plant in Ayiebo, Mogotio, Ossen, Kisanana, Eldama Ravine • Establishment of a juice processing factory in Kabartonjo • Fish factory in Kampi Samaki and Kamnarok and a fruit industry at Barwessa • Establishment of coffee factory in Ossen and Sirwa (Kaburgei) • Limestone factory in Barwessa, Loruk, Kipsaraman • Kipcherere • Honey factory in Marigat and Chesirimion(Tiaty) • Establishment of tannery in Mogotio, Maoi, Chemolingot, Loruk, Chepkalacha and • Amaya • Macadamia and groundnut value addition in Cheberen and Kabogor • • Aloe vera refining factory in Kimose and Mogotio • Poultry factory in Molo Sirwe • Abbatoir in Kisanansa Tangulbei, and Maoi • Kabiemit, Sumeon, Muchukwo and Chepchuse ballast industry • Mogotio mango industry • Kimose, and Keturwo cotton ginnery • Carbon dioxide processing in Kipnoron • Diatomite industry in Lelkgrong (above Kapedo)	National Government County Government Private Sector	Agro Industrial led growth and Development

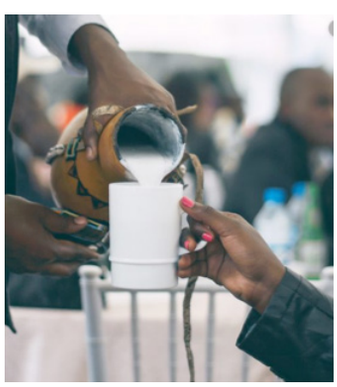
SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Reviving of collapsed industries in Baringo County:	• Research into ways of reviving cotton production in Salawa, Marigat, and Eldama Ravine • Reviving Salawa Cotton Ginnery, Kenya Wines Agencies and Ravine sawmill	County Government	Industrial based growth in Baringo County
		Formation and investment in regional markets:	• Regional and international marketing agreements	County Government of Baringo and neighbouring county governments	Increased regional markets
		Promotion and development of cottage industry:	• Establishment of a jua kali zone in each subcounty • Provision of subsidized machinery for jua kali artisans in each sub-county	County Government NGOs	Vibrant Cottage Industries
Industry (Mining-Industry)	Investment in mining industry development	Economic empowerment for miners and quarry owners	• Offering of subsidized machinery to ballast beaters & quarry miners in Tenges, Emining, and Kisanana • Oversee formation of a strong miners union/ association for quarry owners in Baringo North • Formation of sub regional markets in counties that lack mineral resources available in Baringo • Conducting feasibility studies per mineral resource on their commercial viability in all resource sites in the county	County Government Private Sector MFIs	Observation of personal safety for miners Formation of a miners association Eradication of chain of brokers Income stability for miners Economic viability of mineral resources.
		Sand utilization programme	• Invite potential investors to make use of available sand resources in Tiaty, Salawa, Nginyan, along dry river beds • Policy formulation to regulate prices for minerals in Sandai, Tiaty, Baringo North	County Government Private Sector MFIs Conservation and development oriented NGOs	Observation of personal safety for miners Formation of a miners association Eradication of chain of brokers Income stability for miners

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Bio rights for communities around oil and precious stones	• Community sensitization on benefits and implications of mining and oil extraction in Sandai, Tiaty and Baringo North. • Ensure land owners around mines have legal land ownership documentation in the county • Implementation of a bio-rights project in the county	County Government Private Sector Conservation and development oriented NGOs Community members	bridged gap between local and global interests in minerals Poverty eradication for communities around mines and oil block

e) Tourism Development Strategies:

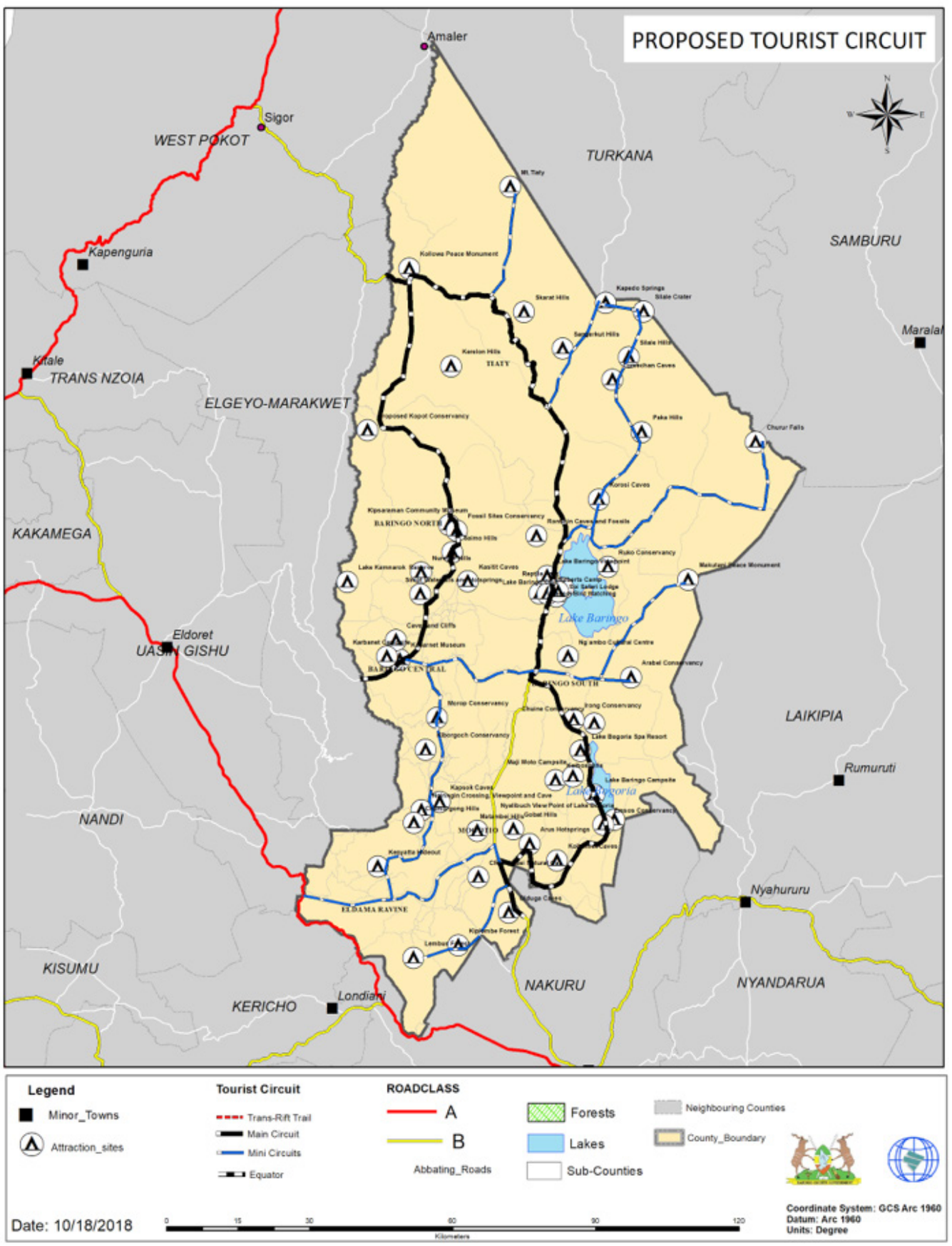
SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
Tourism Development	Investment in the tourism sector	Promote private sector involvement and investment in Tourism	• Marketing of the tourism circuit regionally and internationally • Establishment and efficient management of a circuit management body in the county and regionally • Promoting the utilisation of the tourist information centre in the county and regionally • Innovative incentives to the private sector to encourage their investment in the county	County Government Private Sector	Regional corporation for sustainable tourism exploitation
		Investment in tourist attractions	• Promote tourism activities along Lake 94, Waseges (overlooking L. Bogoria) and Nyalilbuch (Halton view) • Promotion of the existing conservancies in the county • Promote bird watching activities in the county • Establishment of a cultural and ostrich farm in Meisoni • Promote Geoparks (palaentological sites)	County Government KWS Private Sector	Commercially viable tourist attractions

SECTOR	STRATEGIES	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Infrastructure investment and improvement	• Construction of tourism missing links within the county.	County Government Development Partners	Roads being an enabler of tourism promotion
		Promotion of local culture as a tourist attraction tool.	• Cultural festivals whereby the ethnic communities can display their culture through music and dance. • Offer support in in the following aspects of culture: • **Craft:** beadwork, weaving, tapestry, pottery, jewellery, ceramics, mosaic, leather, wireworks. • **Music:** traditional music, contemporary,etc. • **Design:** textile design, Jewellery design, fashion design, craft design • **Performing arts**: Traditional dance, drama / production, etc.	County Government of Baringo. Kenya Tourism Board.	Increased numbers of tourists: both local and international tourist. Increased revenues to the county.



Cultural Tourism

Map 52: Proposed Tourism circuits



14.3 Integrated Transportation Strategy

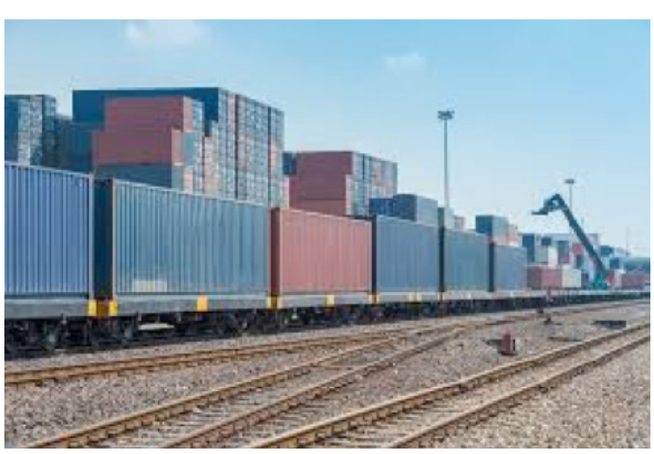
Transport is a critical component of any sustainable and inclusive development to facilitate economic growth and poverty reduction. The transport sector in the County is faced with poor road connectivity and condition, underutilized airfields and railway lines, and lack of NMT facilities. There is need for quality and integrated transport systems to enable economic growth and social development in the region. The strategy proposes the development and maintenance of sustainable and efficient transport systems, prioritizing the development of strategic transport corridors to enable global competitiveness. Additionally, promoting the integration and development of NMT facilities across all rural and urban infrastructure. This will facilitate the development of transport towns to take advantage of the improved transport systems.

- ROAD CONNECTIVITY
- ESTABLISHMENT OF NMT TRANSPORT
- CONSTRUCTION OF BRIDGES
- DEVELOP MULTIMODAL CONNECTIVITY

Road Connectivity

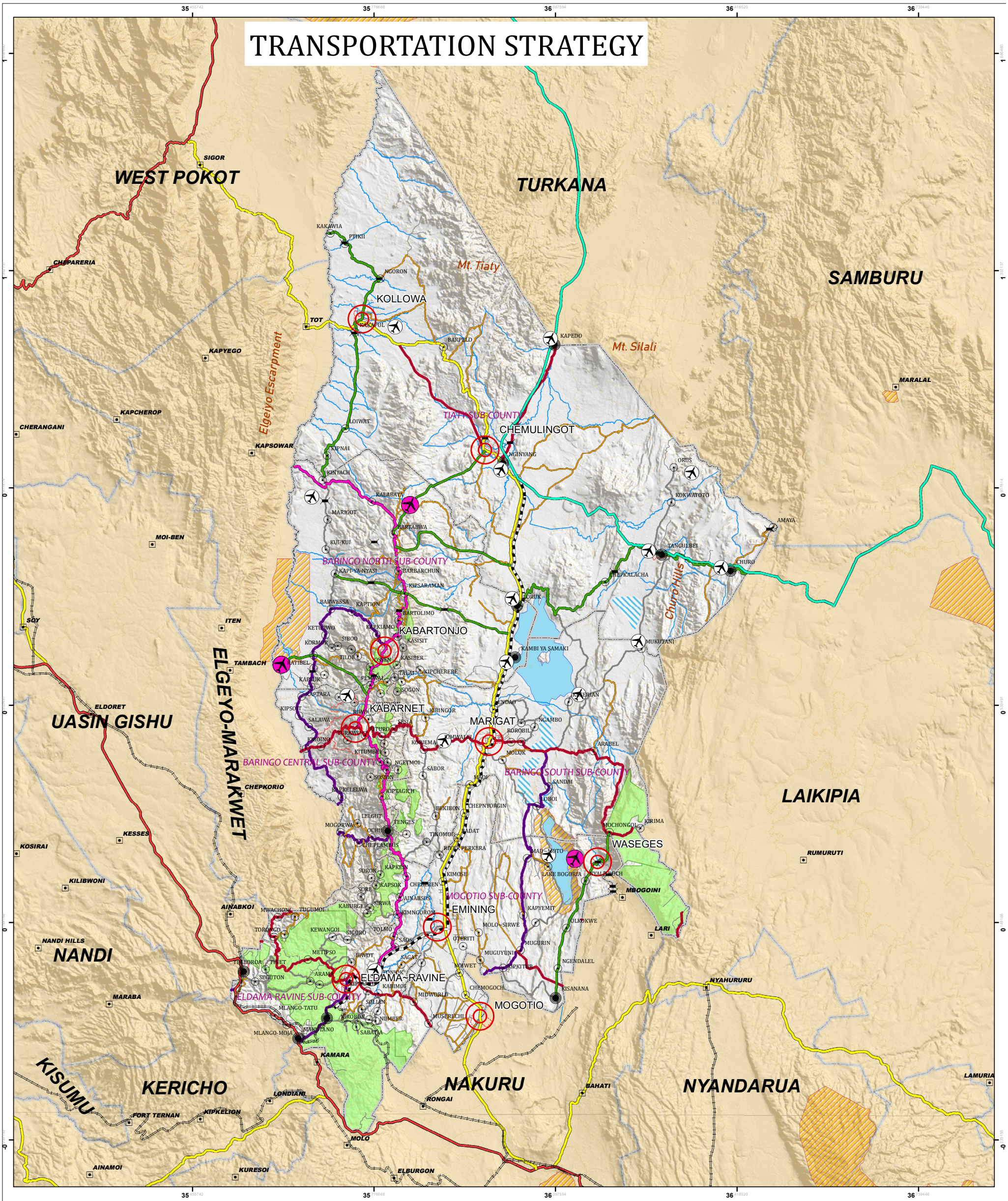
NMT Transport

Bridges



LAPPSET for Cargo Transport

TRANSPORTATION STRATEGY



BARINGO COUNTY SPATIAL PLAN (2018-2028)

Legend

- Airstrips
- Proposed Airstrips
- Regional Towns
- Market Centre
- Rural Centre
- Principle Towns
- Proposed Bridges
- Proposed LAPSSET Corridor
- Proposed Railway Line
- Railway Lines
- Proposed Road for Murraming
- Proposed Upgrade to Class C Road
- Proposed Tarmac Roads
- Contour 100m
- Rivers
- Class A Roads
- Class B Roads
- Class C Roads (County Linkage Roads)
- Class D Roads
- Class E Roads
- Other Road
- Lakes
- Wetlands
- National Parks and Reserves
- Forested Areas
- Proposed Urban Edges
- Sub-County Boundaries
- Baringo County Boundary
- Kenya County Boundaries

1:400,000

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

0 5 10 20 30
Kilometers

DATA SOURCES:IEBC,ILRI, SOK,BARINGO COUNTY ,KRB, FARM MANAGEMENT HANDBOOK.

Date: 4/5/2019

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SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
Transport	Road connectivity	Opening strategic roads (Flagship) Development of Infrastructure support system to determine roads affected by disasters in whole County Development of climate-resilient road infrastructure in whole County	• Upgrading and tarmacking of: • Timboroa – Arama – Sirwa – Kapkelelwa – Oinamoi – Barwessa - Kolowa Road • Karandi – Mochongoi – Marigat to join C51 • Silale – Naudo - Nginyang road • Endao – Ngambo – Mukutani - Churo • Loboi, Lake bogoria, Orus road for geothermal exploitation • Loruk-Komolion-Rugus-Kiserian-Logumgum-Sandai-Bogoria • Kiserian- Ramacha-Chemorongion-Nyimbei-Nyalilbuch-Waseges-Kiribot-Kabuswa-Mbogoini **Flagship roads** • Loruk-Tangulbei-Churo • Kinyach-Kollowa-Ngoron-Takawia • Maili Kumi -Kisanana – Waseges - Mukutani – Tangulbei – Kokwototo – Akwichatis – Nasorot (87 km) • Tumboiywo-Kituro-Kiptilit – Riwo Bokorin – Seretunin – Kaptumo – Talai – (37 km) Kabartonjo • Mugie – Churo – Loruk -B17 – Kipcherere – Kasisit – Talai junction (C660) – Kabartonjo – Kapkiamo – Kaptiony – Barwessa (135 Kms) **Agriculture roads** • Mogotio- Bebekol- Olbat-Kiptoim • Mogotio- Kelewa- Ngoswet • Midworld- Olbat- Lolbugo-Sagasagik • Muserechi- Noiwet • Kipngrom- Sirwa	Ministry of roads and infrastructure KERRA KENHA	Enhanced global competitiveness and export trade Improved access and connectivity in the county Improved security surveillance More exploitation of natural resources Decongestion of existing routes Shopping centres along the opened corridors

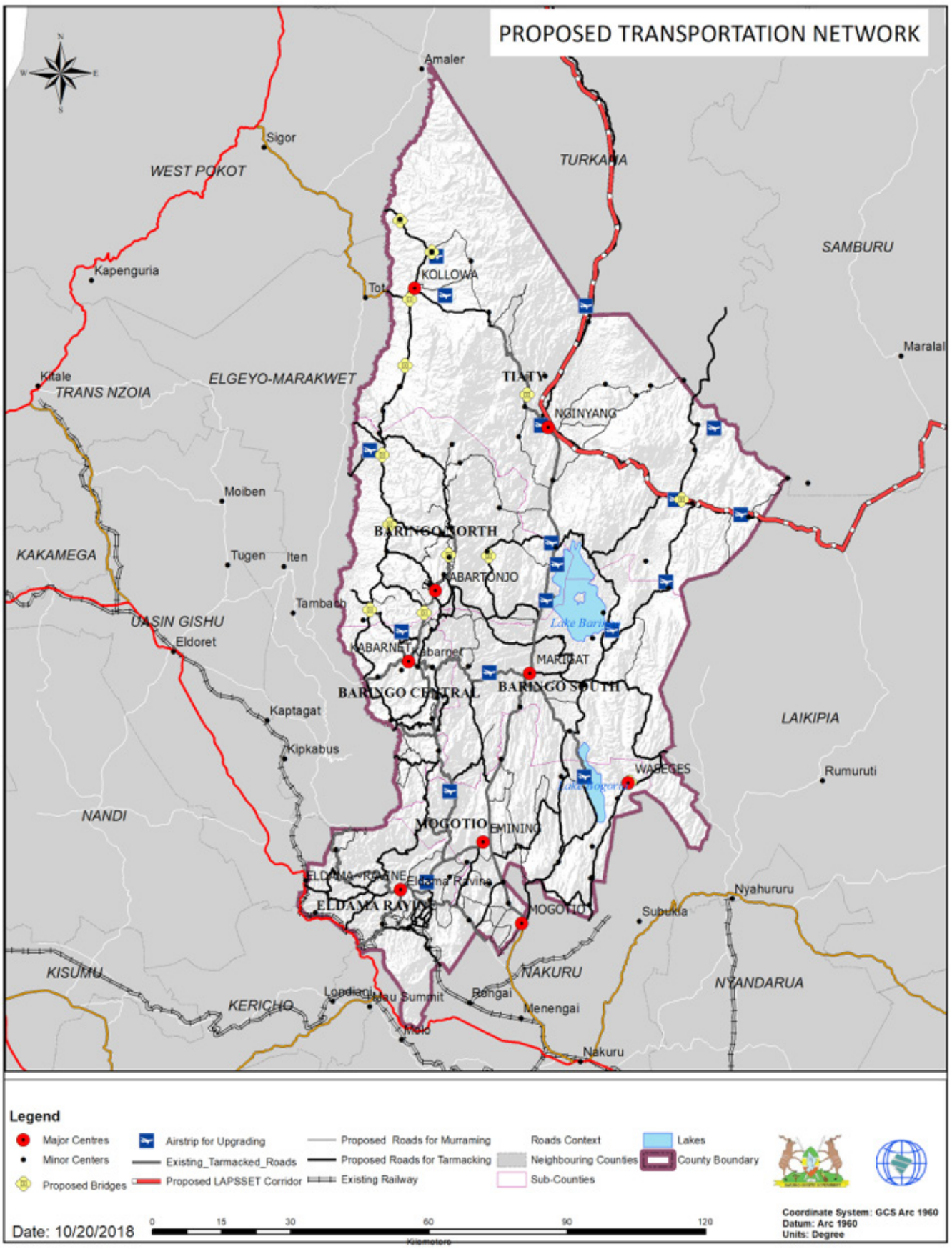
SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
			Commerce road • Maoi- Kaplewa- Lelen- Molok-Chepmutuny- Molo sirwet **Tourism roads** • Mogotio- Kipkitur- Emsos- L. Bogoria **Tourism/ Agriculture road** • Mogotio- Kisanana-Waseges- Mochongoi • Lake Baringo- Kasisit-Tiriminion- Kapkiamo-Barwessa road **Commerce road** • Mogotio- Mukuyuni- Molo sirwet- Chebuan- Kamar **Security road** • Bartabwa- Chemalingot road • Kapindasum- Pastalo- Rigos • Kaptombes- Kamar- Mogotio • Embosos- Sokonin- Loromoru-Mukutani **Others** • Moinonin- Sibilo- Rondinin-Kipsaraman- Poi- Kampi Nyasi • Lemuyek- Yatia- Chemoe-Kaboyon- Chepkesin-Bartabwa road • Kalabata- Bartabwa-Chemoikut- Marigut- Arror road • Katibei- Lake Kamnarok road • Ossen- Tiloi- Barwessa • Siboo- Tiloi • Pemwai- Kamnarok- Katibel		

SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
		Construction of bridges	• Development of new bridges: • All the roads along Rivers Kerio, perkerra, Molo, Esageri, Ol arabel etc • Construction of Lake Kapnarok – Rimoi Bridge • Migingo bridge • Muserechi- Nabumki (Kapng;asio bridge) • Kelelwa- Onugu (Chepkesem) • Tangulbei bridge • Kokwatoto-Tangulbei bridge • Tangulbei-Kadogoi bridge • Tangulbei- Kasitet bridge • Amaya- Nasurut bridge • Akwichatis- Makai bridge • Kokwatoto- Orus bridge • Barpelo-Kapunyang bridge	Ministry of roads and infrastructure KENHA KERRA	Improved access and connectivity in the county
	Establishment of Non-Motorized Transportation	Design attractive and comfortable walk-able and cycle-friendly streets by including features such as landscaping, benches for resting, convenience facilities, and street lighting to create "dignified spaces". Classify all urban roads/ streets according to their desired distinct functions and design them accordingly	• -Construction of walkways and bicycle lanes in Kabarnet, Eldama Ravine, Marigat, Mogotio • -Construction of crossing points for NMT users, including proper signage on the direction of flow of vehicles	Ministry of Roads and Infrastructure	Improved NMT infrastructure Reduced number of accidents Reduced traffic congestion

SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
		Upgrading the state of all roads	• Murraming of the following roads: **Baringo Central** • Tenges- Mogorwo • Tenges- Bekibon • Mogorwo-Kabimoi • Sigirwo- Koigei • Sacho – Kapkelewa • Salawa-Kabarnet E**ldama Ravine** • Arama-Seguton-Timboroa • Timboroa town-Highway • Gogoruonin estate road • Benonin-KCC rd • Isogari-Kiplombe **Baringo South** • Karandi-Mochongoi-Marigat road • Ngelecha-Mukutani road • Eldama Ravine-Sabor-Talai road (E331) • Mukutani-Rugus road • Tulwongoi- Kapkatet- Lawina road • Ngolbelion- Sogon road • Waseges- Nyimbei- Mukutani road • Tuiyobei-Ngenyiek- Kimalel-stage road **Baringo North** • Kipsaraman – Bartabwa – Kapturo- Kositei – Chemolingot • Kampi Samaki – Kipcherere – Kasisit - Kabartonjo – Kapkiamo – Barwessa (D364) **Tiaty** • Kiserian-Mukutani-Sosion-Kaptuya-Muge-Rumuruti • Mukutani-Ngelecha-Kinamba • Ngoron-Sukut-Rotu-Kapedo • Nginyang-Riong'o- Akwichatis • Churo-Amaya • Tangulbei-Kokwototo-Orus-Akwichatis • Barpello- Kapunyany • Chemolingot- Barwessa • Tangulbei- Mukutani	Ministry of roads and infrastructure KENHA KERRA PPPs	Improved access and connectivity in the county Improved road infrastructure Improved security surveillance More exploitation of natural resources

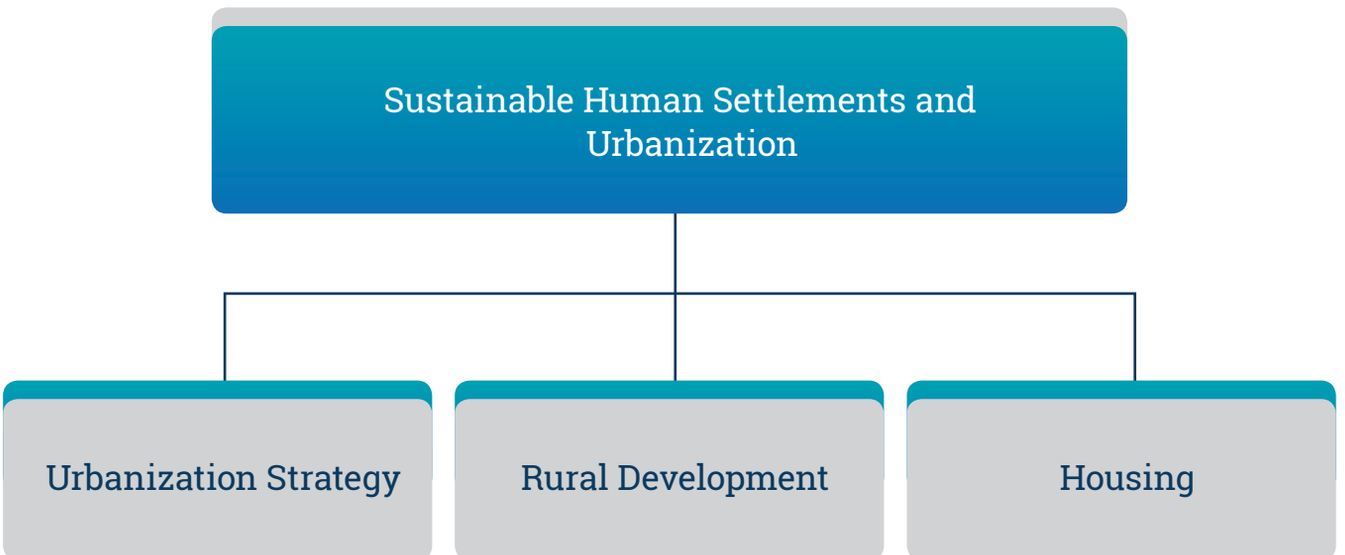
SECTORS	STRATEGIES	PROGRAM	PROJECTS	ACTOR	OUTCOME
			Mogotio • Kiserian- Ramacha - Chemorongion - Nyimbei - Nyalilbuch-Waseges-Kiribot-Kabuswa-Mbogoini • Mogotio – Kipkitur – Kisanana – Waseges – Mochongoi • Nguberet- Sagasagik • Kures- Rosoga- Matebei- • Maritim- Koitebes- Kabogor • Kipngrom- Kapterit- Kiptuno • Sirwa primary sch- Sirwa-Chemorgon • Sirwa- Kipsikiyo- Sore-Kaplaimon • Kipsikiyo- Chemurgon • Sirwa- Kapsok- Kokein-Kipkekei		
		Development of other road transport facilities	• Construction/rehabilitation of drainage system on all roads • Construction of modern parking lots all urban centres • Incorporation of Disabled friendly parking bays in all urban centres • Develop safe people-oriented public transport networks in whole County	Ministry of roads and infrastructure	Improved road infrastructure Reduced number of accidents Reduced traffic congestion
		Development of transport towns in: Timboroa Nginyang Kolowa Mogotio	• Preparation of a feasibility study and detailed physical development plan for the towns	Ministry of lands and physical planning Ministry of roads and infrastructure	Improved economic status of towns Orderly and coordinated development
	Develop multimodal connectivity among the various transport sectors	Improvement of air transport infrastructure	• Upgrading of airstrips to an all-weather standard with all necessary equipment's. such as: • Kimalel • Lake Baringo • Eldama Ravine • Loruk • Tinomoi- existing colonial airstrip • Chebirebei- Proposed • Nginyang airstrip, Churo, Tangulbei, Kollowa, Orus, Ngoron airstrip • Katibel- for tourism purposes • Bartabwa and Kaborion- for security purposes • Lake Bogoria airstrip • Kimose airstrip	Kenya Airports Authority Ministry of roads and infrastructure	transport in the county Enhanced multimodal connectivity Alternative means of transport

Map 57: Proposed Transportation Network



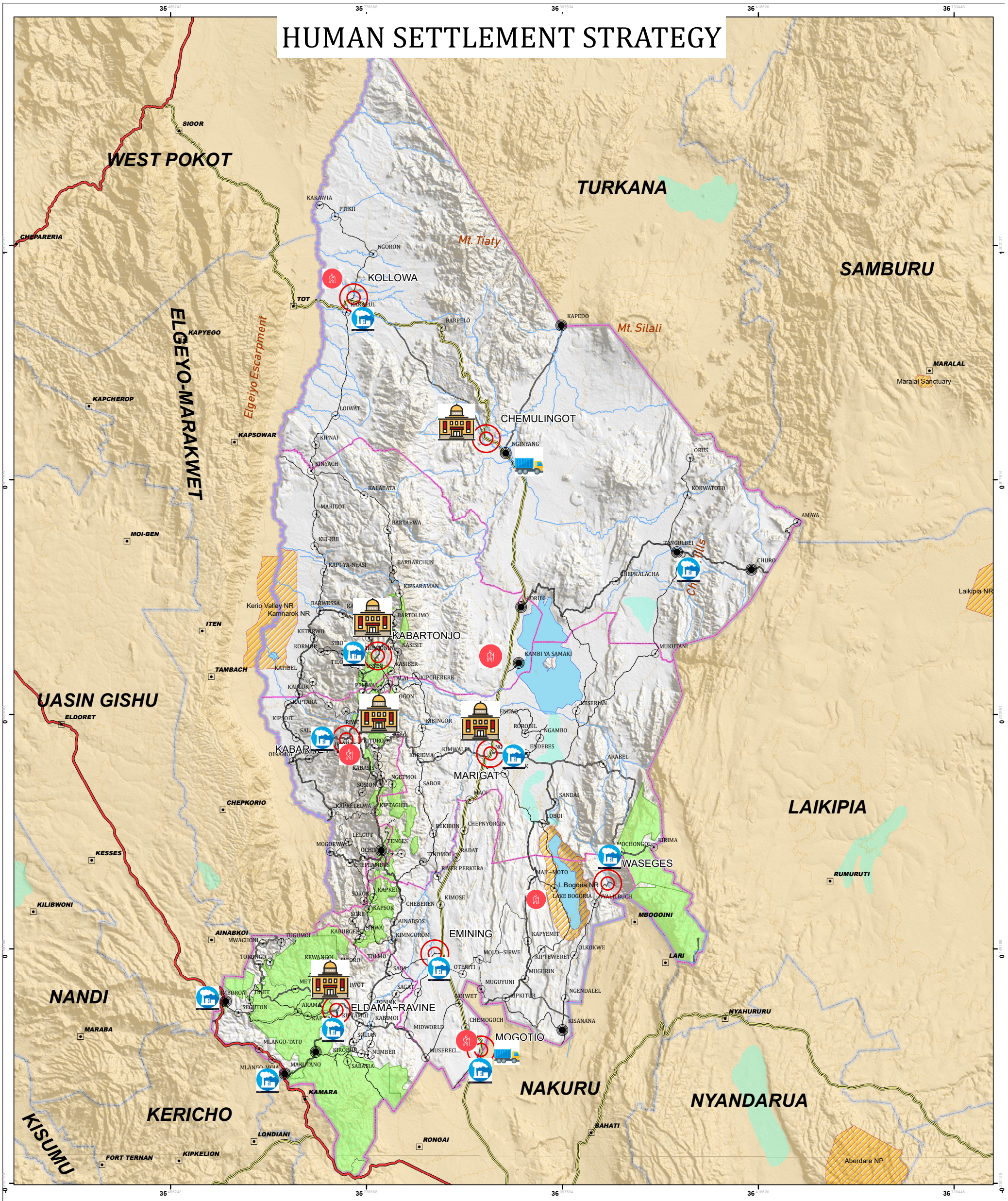
14.4 Human Settlement Strategy

The Human Settlement Strategy has sub-strategies for urbanization, rural development, and housing. The urbanization strategy proposes the improvement of existing urban areas through preparation of local physical development plans for all major towns and rapidly emerging 'special' towns/corridors. The rural development strategy proposes the servicing of rural areas and the conservation of prime farmlands.



Sustainable and Planned Settlements

HUMAN SETTLEMENT STRATEGY



BARINGO COUNTY SPATIAL PLAN (2018-2028)

Legend

- Agro-Processing Centres
- Logistics Centres
- Tourism Centres
- Administrative Centres
- Regional Towns
- Market Centre
- Rural Centre
- Principle Towns
- Contour 100m
- Rivers
- Class A Roads
- Class B Roads
- Class D & C Roads
- Other Roads
- Lakes
- Wetlands
- National Parks and Reserves
- Forested Areas
- Proposed Urban Edges
- Sub-County Boundaries
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SECTOR	STRATEGY	PROGRAM	PROJECTS	ACTORS	OUTCOME
Human Settlements	Planning of existing and emerging urban centres	Preparation of Local Urban Development Plans to zone land-use activities and promote control development.	• Preparation and updating of physical development plans to provide zoning regulations in major towns in county. (Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio)	Ministry of lands. Private sector. Department of lands.	Planned urban areas with urban infrastructure and amenities.
			• Preparation and implementation of physical development plans for rapidly emerging urban towns/ corridors in county. (Majimoto, ampi Samaki, Waseges, Arus, Timboroa, Tenges, Sirwa, Sabatia, Loboi, Emining, Salawa)	Ministry of lands. Department of lands.	Planned urban centers
			• Identification of informal settlements for upgrading and urban renewal sites in major towns. (Kabarnet, Marigat and E/Ravine.)	Ministry of lands. Department of lands.	Well planned urban centers
		Control urban sprawl	• Delineating urban areas to encourage vertical development/ more compact urban areas. (• Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio)	Ministry of lands. Department of lands.	Delineated urban areas
			• Delineate and zone land uses based on zoning regulations to curb rapidly upcoming towns to respect urban fringes and control urban sprawl. (Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio •)	Department of lands, housing and urban development	Delineated urban fringes

SECTOR	STRATEGY	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Essential service provision for urban center's	• Rehabilitation/ establishment of public utilities in major towns such as sewerage treatment systems/ plants, water treatment plants and landfills/ dumpsites in all major towns. (Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio)	Ministry of lands; Department of lands; Town Administratos, Sub-county admin	Serviced urban settlements.
			• Establishment of NMT infrastructure in all major center's. (Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio)	County department of roads	Existence of NMT infrastructure
			• Installation of CBD-wide street lighting systems for all major centers which. (Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio)	Kenya power.	Existence of streetlights in all principle towns
			• Rehabilitation of markets and bus-parks within all major centers. (Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio)	department of roads; Department of lands	Existence of modern busparks and market centers
			• Establishment of waste collection systems in market centers including public toilets.	County commissioner	Existence of waste collection systems and public toilets in markets
			• Ensuring reliable electricity supply to all urban centers to support business. (Majimoto, ampi Samaki, Waseges, Arus, Timboroa, Tenges, Sirwa, Sabatia, Loboi, Emining, Salawa)	County and Kenya power.	Electricity supply in all centers

SECTOR	STRATEGY	PROGRAM	PROJECTS	ACTORS	OUTCOME
		Beautification	• Preparation of town-wide beautification plans for the CBDs of major towns (greening along major arteries/ roundabouts, urban furniture and landmarks, repainting of old structures). (Kabarnet, Kabartonjo, Eldama Ravine, Chemolingot, Marigat, Mogotio)	NEMA, physical planning office.	Green and clean CBDs.
			• Having community town clean-up days monthly to raise awareness on behavioral change for cleaner urban centers	Department of health, planning office	Green and clean CBDs.
		Reclassification of urban centers.	• Identifying urban center's to be classified and application for conferment of appropriate status.	Physical planning dpt.	Hierarchized urban centres.
		Urban housing	• Encourage PPP initiatives to promote investment in housing sector and Provide services that induce development of urban housing.	Ministry of lands, housing and urban development.	Sufficient and affordable houses.
		Public land	• Clearly mark out and fence public land within urban centres to protect it from land grabbing, to provide space for future expansion or construction of public utilities/ facilities	Private sector.	Fenced public land in urban areas.
	Rural development planning	Improved service provision to rural settlements	• Construction and maintenance of feeder roads. (Majimoto, ampi Samaki, Waseges, Arus, Timboroa, Tenges, Sirwa, Sabatia, Loboi, Emining, Salawa.)	KURA, KERRA, ministry of lands,	Rehabilitated feeder roads

SECTOR	STRATEGY	PROGRAM	PROJECTS	ACTORS	OUTCOME
			• Provision of mobile social services (mobile maternity clinics, libraries and water bowsers) to cater for the dispersed settlements in the county.	health and water departments.	Highly serviced rural centers
		Restricted expansion of rural settlements into ecologically fragile areas.	• Identify and relocate settlements on ecologically fragile areas.	Ministry of lands, housing and	Conserved ecologically fragile settlements
			• Zoning and conservation of ecologically fragile areas to prevent encroachment.	urban development.	Resettlement and conservation plans.
			• Sensitization and involvement of public in protection and conservation of eco-fragile ecosystems.	Department of environment.	Existence of fragile ecosystems manned by communities.
		Rural housing	• Promotion of low-cost housing using local housing technology and materials to construct decent and affordable houses.	Department of land, housing and urban	Descent and serviced rural housing.
			• Encourage local research institutions to explore on appropriate building technology suited for the county's rural areas. • Promote Public Partnerships to encourage investment in the Housing sector	development. Private sector	Affordable and sustainable housing.

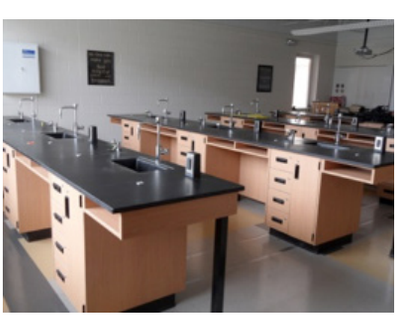
14.5 Appropriate infrastructure and services provision strategy

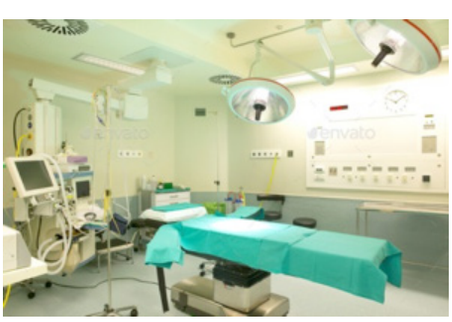
The main goal in this sector is to improve living standards of Baringo County through adequate and efficient provision of infrastructural services, such as water, sanitation, education, health, recreational and security facilities.

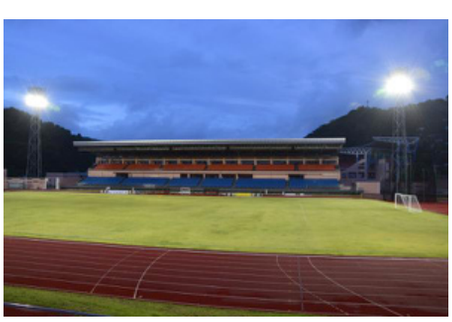
- WATER SUPPLY
- ELECTRICTY SUPPLY/ENERGY
- EDUCATION
- HEALTH
- RECREATION

Provision of Social Infrastructure

Electricity Supply (Green Energy)

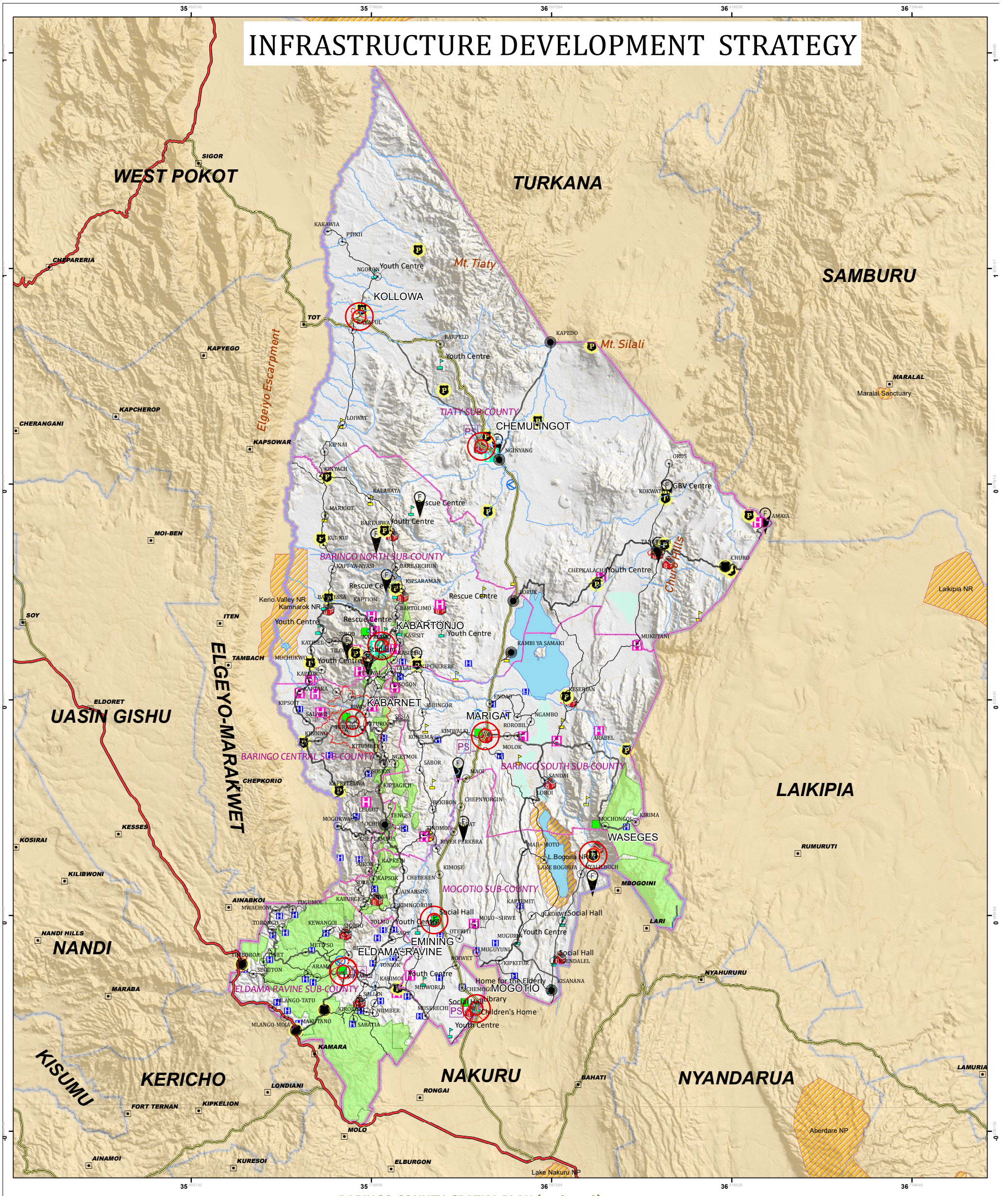






Provision of Social Infrastructure

INFRASTRUCTURE DEVELOPMENT STRATEGY



BARINGO COUNTY SPATIAL PLAN (2018-2028)

Legend

- Proposed Level 2 Hosp.
- Proposed Level 3 Hosp.
- Proposed Level 4 Hosp.
- Proposed GSM
- Proposed Seconadry Schools
- Proposed Sewerage Treatment Plant
- Proposed Community Facilities
- PS_ Proposed Recyling Plant
- Proposed Vocational Training Centre
- Proposed Upgrade to Stadium standard
- proposed Upgrade of security Facilities
- Regional Towns
- Market Centre
- Rural Centre
- Principle Towns
- Contour 100m
- Rivers
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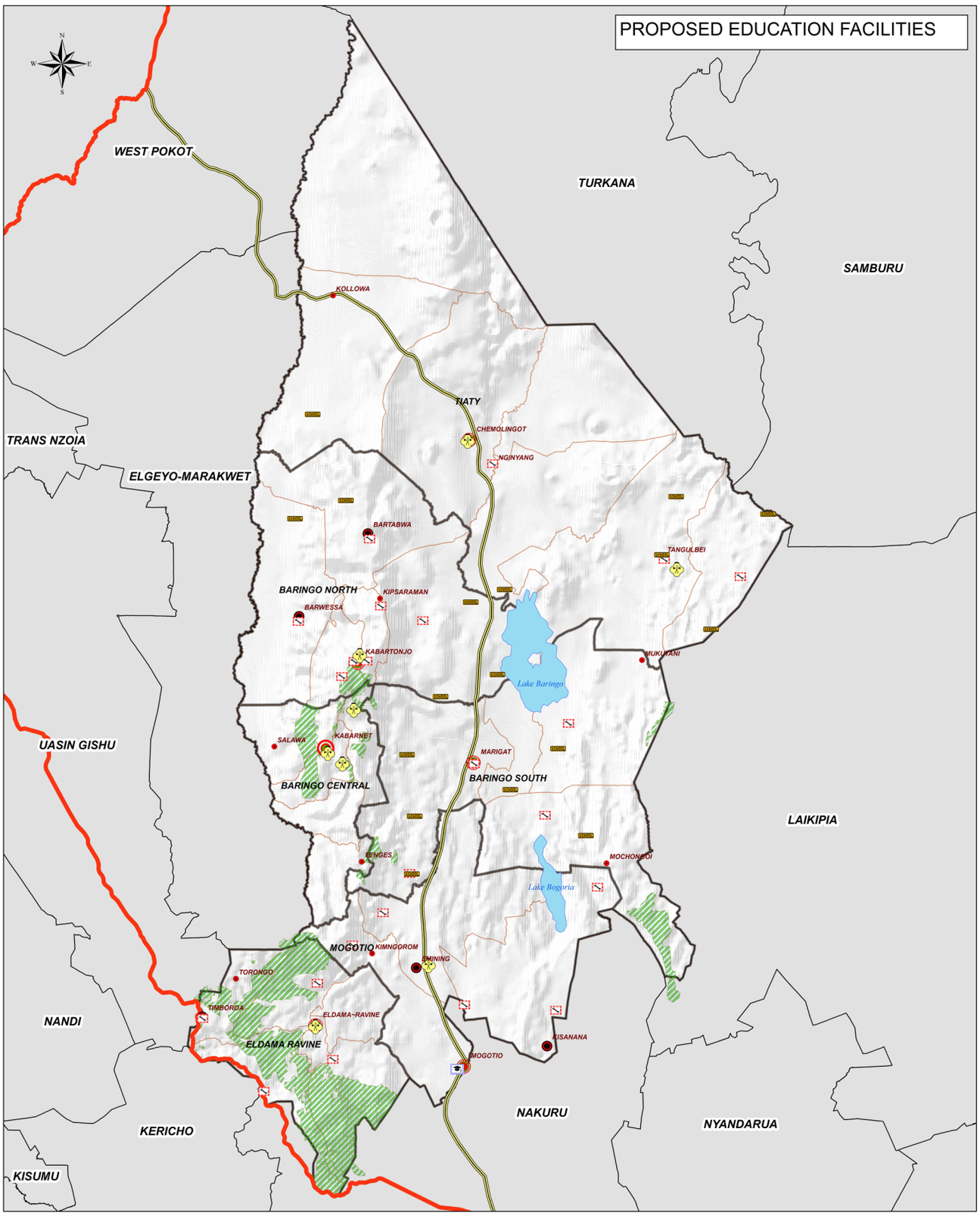
a) Education Strategies:

SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
Education	To provide quality education, training and research programmes to ensure competitive human resource base	ECD, Primary and Secondary education facilities	• Establishment of schools for children with special needs in every ward. ***(Flagship)*** • Construction of ECD, primary and secondary schools within recommend distance i.e. 0-5km in the lowlands ***(Flagship)*** • Processing of title deeds for schools in all sub-counties. • Provision of facilities such as books, furniture, libraries and resource centres to enhance quality education in all sub-counties. • Capacity building of parents on importance of education all sub-counties. • Connection to electricity and water supply to all schools in all sub-counties.	Ministry of Education County Government of Baringo Private sector/ NGOs Local community Universities' board	Increased accessibility to schools.
					Security of tenure for educational facilities. Facilities catering for children with special needs Well-equipped schools. Higher enrolment of students in schools Electricity and water. Installed in all schools.

SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
		Higher level learning institutions	• Establish one public university in every sub-county • ***(Flagship)***		Competent and skilled human resource base
			• Development of vocational training /tertiary institutions in every ward to train on technical skills • ***(Flagship)***		Higher enrolment rates
			• Scholarship programs for tertiary institutions All Sub counties • ***(Flagship).***		
			• Incorporate courses in: Animal Health, Farm Management, Soil analysis, Entrepreneurship, Construction, lumber & mining processing in selected tertiary institutions within the county all Sub counties		Appropriate courses incorporated in tertiary institutions
			• -Sensitization on the need for vocational training among the Youth in all sub-counties.		Improved enrolment rates to higher learning institutions.
		Education services	• Training, Recruitment and deployment of teaching personnel • In all sub-counties.		Balance in teacher/ pupil ratio to expected standards.
			• -Allocation of more funds for bursaries and feeding programmes in all sub-counties.		Improved enrolment and reduced student absenteeism from schools.

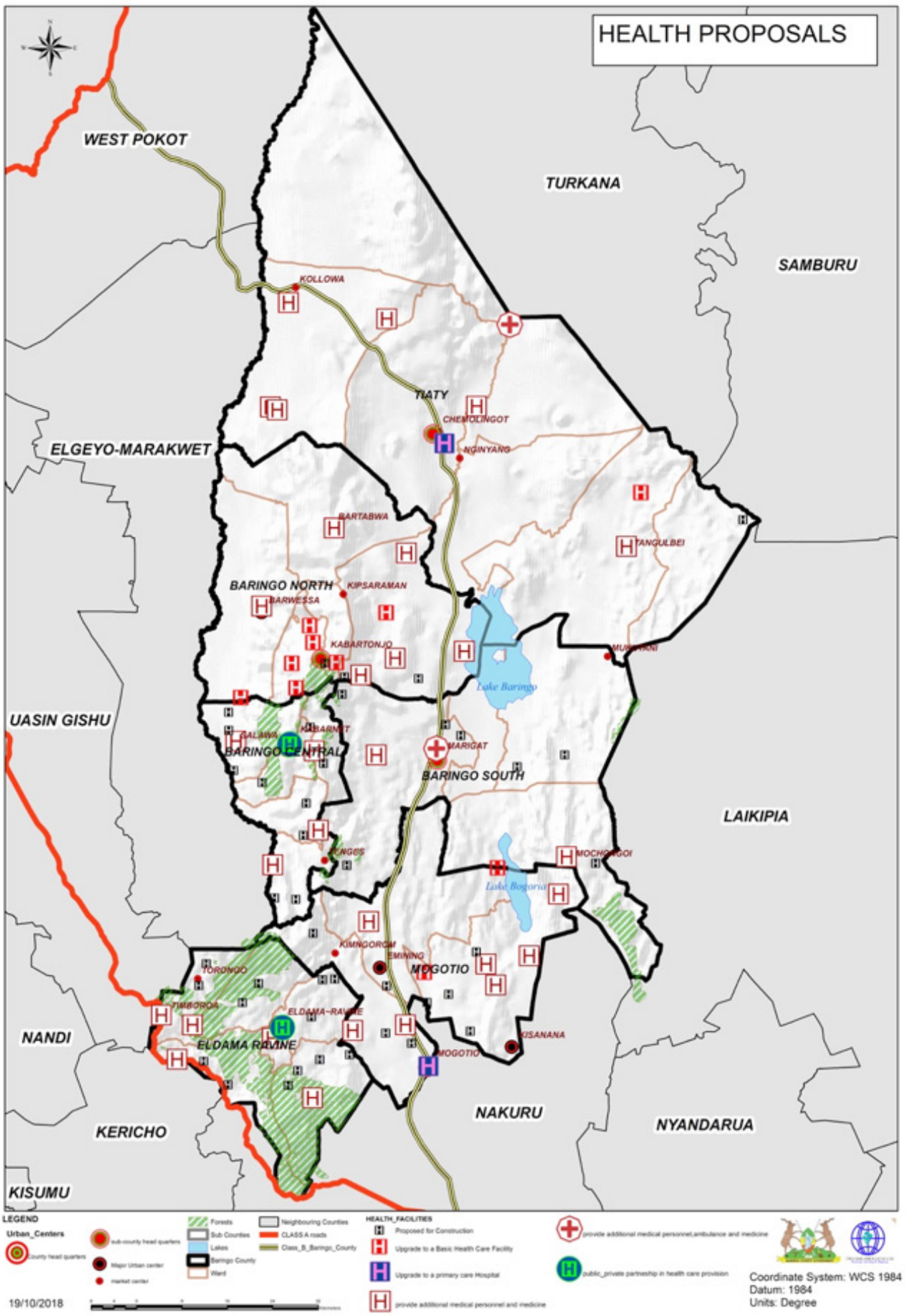
Map 54: Proposed Education facilities



b) Health Strategies:

SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
Health	Provision of quality healthcare and efficient service delivery.	Human resource	• Training, recruitment and deployment of more medical personnel in all county government owned medical facilities	County government NGOs Donors.	Adequate and skilled health personnel
		Upgrade of Facilities *(Check map)*	• Upgrading of existing health facilities		Equipped and operational health facilities.
			• Construction of more health facilities in rural areas in all sub-counties		Accessible health centres
			• Construction of modern maternity wards in hospitals in all county government owned medical facilities.		Accessible health centres
			• Upgrading physical infrastructure to enable access to health facilities, in all sub-counties.		Accessible health centres
			• Connecting all health facilities to water in all sub-counties.		Accessible health centres
		Drugs provision	• Provision of adequate drugs/ medicine and facilities to public health facilities in all sub counties.		Equipped and operational health facilities

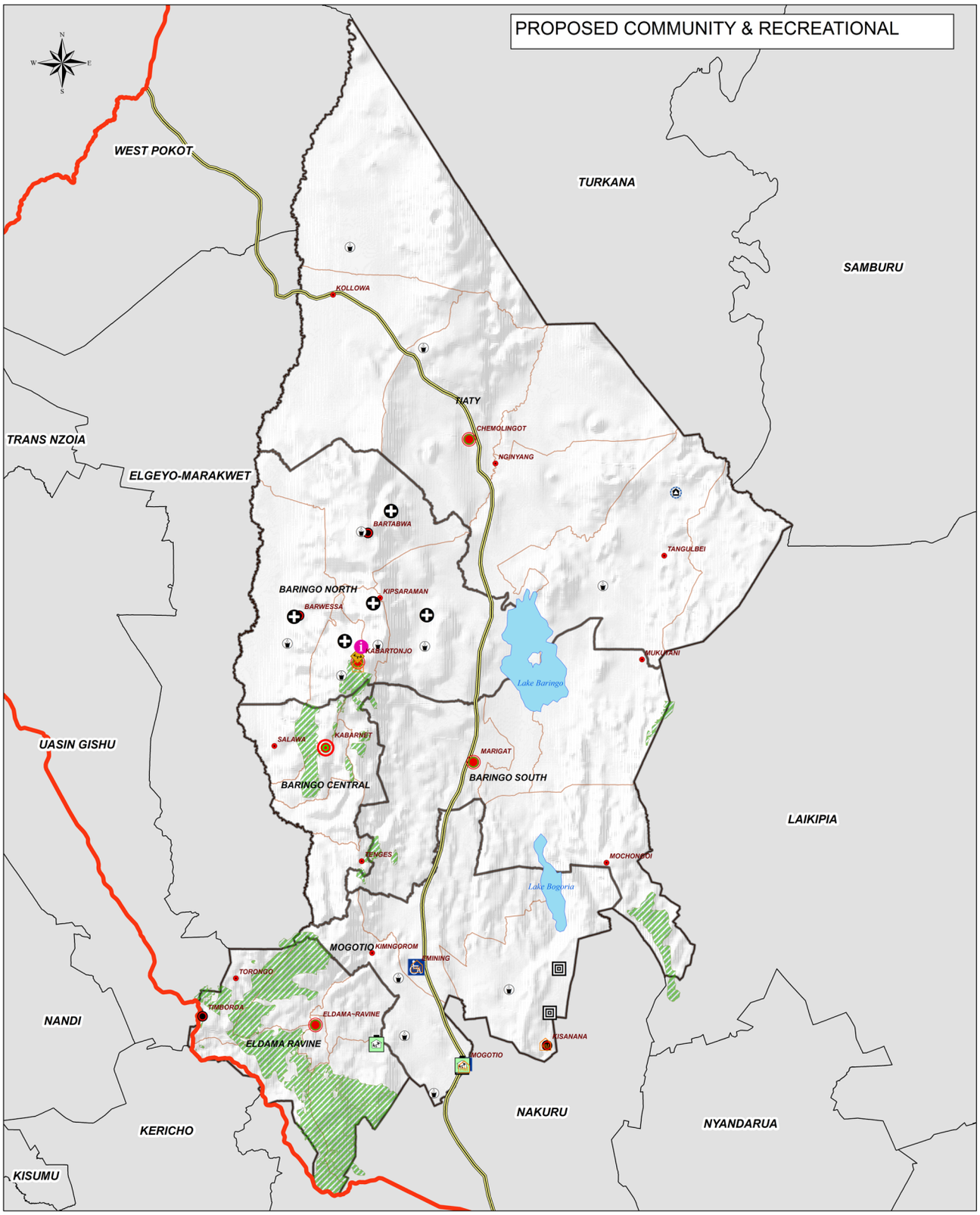
Map 55: Proposed Health facilties



c) Recreation, Public Purpose and Community Facilities Strategies:

SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
Recreational Facilities & Public Purpose Facilities	To provide quality open spaces to promote well-being of the community	Land allocation	• Repossession/ acquisition of land for green space in all town.	County government NLC, NGOs, such as UN-HABITAT.	Improved land sizes in terms of acreage those allocated green space.
			• Allocate 50 acres in all urban centres for public cemeteries. The cemetery land should be well landscaped.		Improved access to cemetery facilities.
			• Setting aside land for recreational purposes • Construction and Rehabilitation of stadiums, social halls and parks in all sub-counties.		Improved access to stadiums and social halls in centres in the county.
			• Establish recreational facilities close to the lakes to tap into the water resource L. Baringo, L.Bogoria, L.94 and L. Kamnarok.		
			• Development of community libraries in all sub-counties.		
		Construction of Youth empowerment centres ***(Check map)***	• Establishment of a youth empowerment centre to address issues of drug and substance abuse (Atleast One per sub-county)		Vibrant and motivated labour force.
		Improving sanitation in Markets.	• Construction of public toilets in markets in all sub-counties.		Improved sanitation conditions in the market.

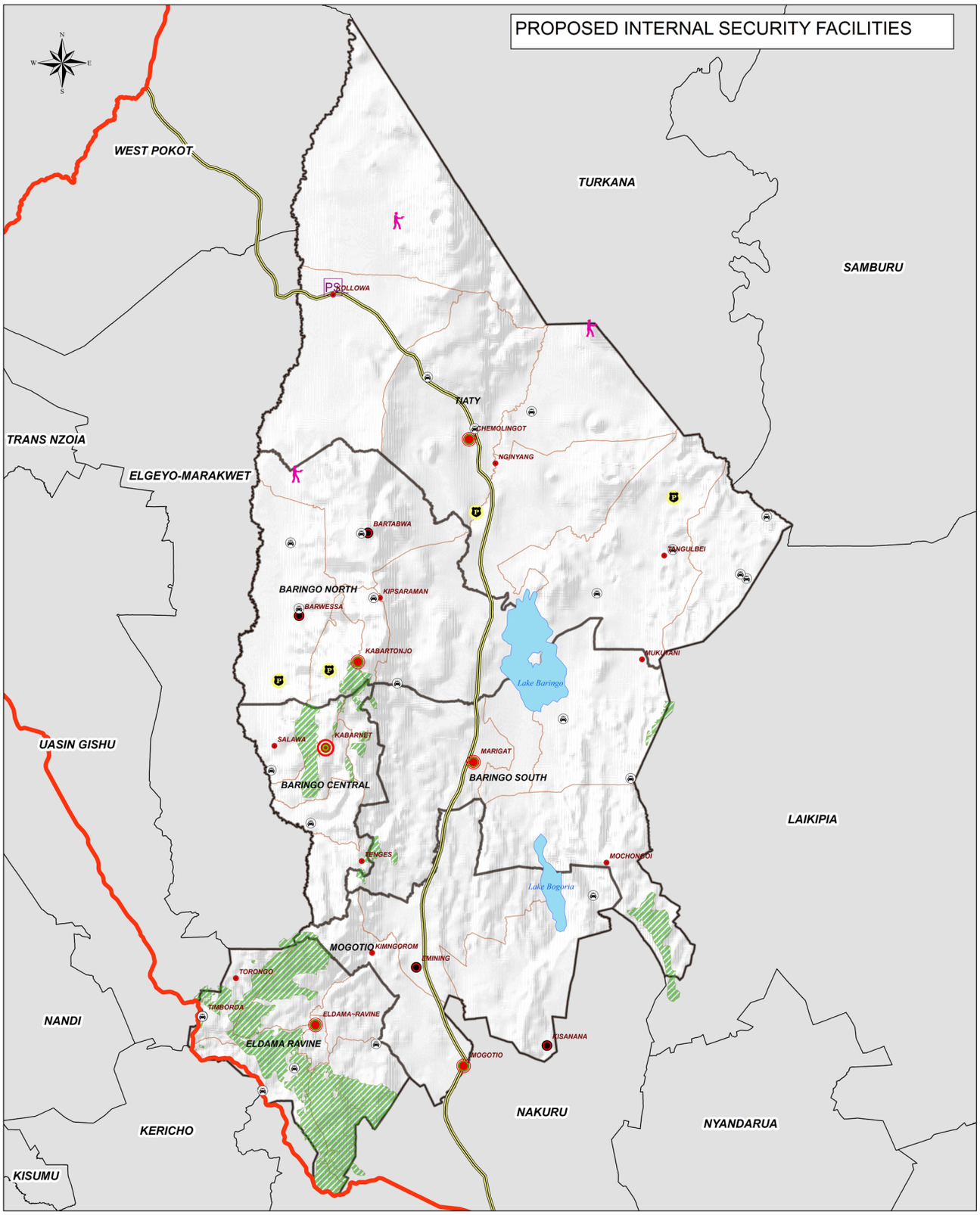
Map 56: Proposed Community and Recreational facilities



d) Security Strategies

SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
Security Facilities	Enhance security status to enable economic development	Filling the gap of security facilities. *(Check map)*	• Establishment of more police posts and camps in rural areas in all sub-counties.	National Government in Partnership with county government, and the local community	Improved security fast response in case of an emergency.
			• Deployment of more security personnel in all sub-counties.		
			• County wide Sensitization on peace mechanisms to reduce cattle rustling especially in Tiaty and Tiaty.		Peaceful co-existence amongst livestock herders and the community at large.
			• -Implementation of nyumba kumi initiative in all wards		Improved community policing and better relations with the police officers in the region.
			• Setting up a watch tower at Karau Hills		Improved security in the area.
			• Creation of more administrative locations for better provision of security services across all wards.		Improved response police time and better relations with the Baringo county residents.

Map 57: Proposed Security facilities

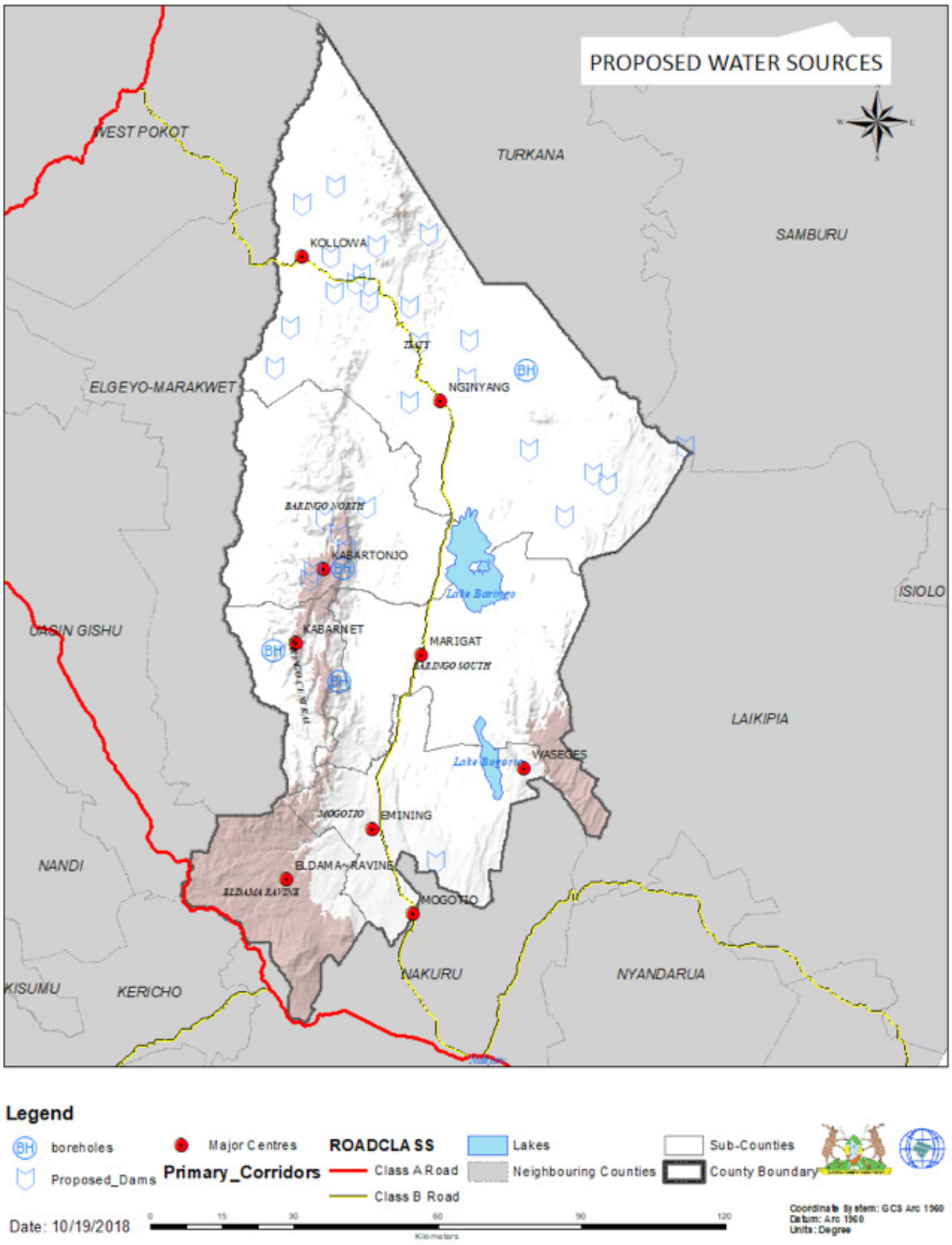


e) Water, Waste Management and Sanitation Strategies:

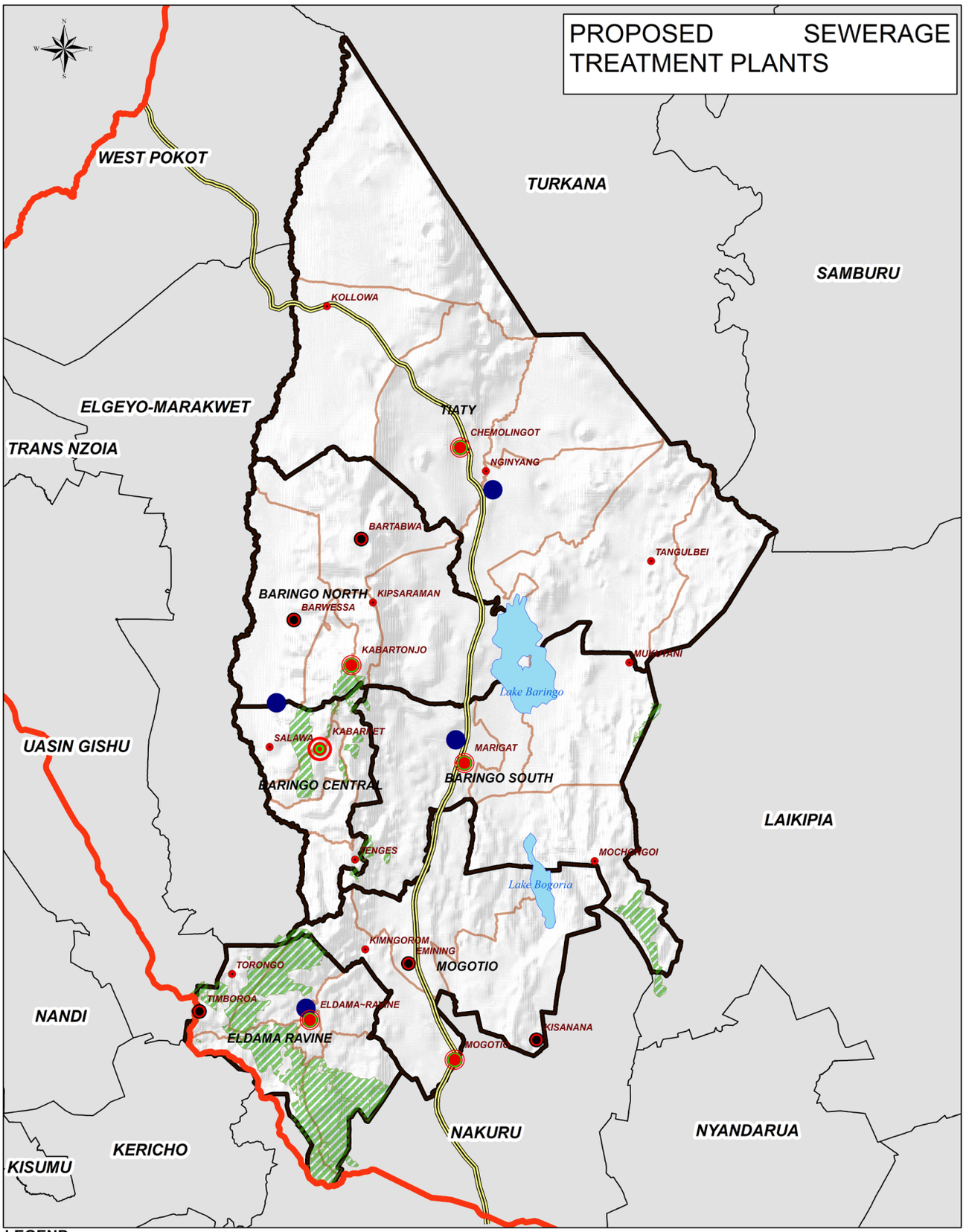
SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
Water Infrastructure	To ensure that the supply of water in the county is adequate and more sources of clean and safe water are exploited.	Exploration of water sources	• Rainwater harvesting • Through encouraging water harvesting at household level and institutional level across the county in al wards and villages. • • Provision of subsidies to the community to purchase water storage tanks across the county in al wards and villages.	CBOs. NGOs. County government National government (Ministry of water)	Improved water supply for residents.
			• Exploration of ground water, in Eldama ravine northwards to Kabartonjo areas.	County government in partnership with National government (Ministry of water and irrigation), NGOs, and Donors such as World bank, ADB.	Improved water supply for residents especially in dry areas of Marigat and Tiaty.
		Utilisation of existing sources	• Treatment and distribution of existing Chemasusu & • Kirandich dam water	Rift valley water services Board, ERAWASCO, County Government.	Improved water supply for Baringo county residents.
		Development of new water sources and distribution systems.	• Construction of dams along kerio valley • Kiridam Phase II piping n Kabartonjo. • Establishment of pan dams in Baringo North and Tiaty sub-counties. • Distribution of piped water from Chemasusu dam. • Construction and completion of Oke dam and Kibundir dam		Improved water supply for Baringo county residents.

SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
			• Construction of more water points every 0.5 km in informal settlements in Eldama Ravine and Marigat. • Establishment of a water testing laboratory in Eldama ravine and Kabarnet. • Construction of boreholes e.g. in Sowo, Katakom, Nabeikore etc		
Solid Waste Management	Provision of garbage dumpsites	Detail Feasibility studies and development of dumpsites.	• Provision of solid waste management site with modern waste management equipment's in all urban centres and market centres in Baringo County.	County Government in collaboration with National Government, Donors and NGOs.	Improved environmental aesthetics, Energy production from waste management sites.
Sewer Management	Provision of trunk sewer infrastructure.	Detail design, feasibility studies, and development of county wide sewerage network.	• Provision of 400mm-600mm UPVC trunk sewer line, and 200-300mm UPVC secondary lines, a sewerage treatment plant(STW) and Stabilisation Ponds of design capacity above 150,000M3/Day, in lowest grounds in the county where sewerage would flow naturally.	Rift valley water services board and ERAWASCO in collaboration with County government, National government ministry of transport and infrastructure, Donors, NGOs	Improved access to main sewer hence conservation of ground water, and reduced instances of water borne diseases.
ICT	Improve Network coverage	Installation of ICT infrastructure at strategic locations.	• Installation of communication boosters in the following areas: • Ossen, Kipcherere, Tiloi, Kapkiamo, Poi, Atiar, Chepkesin, Kinyach, Maregut, Yatia Waseges, Mugurin, Kabuswo, Maoi, Kaplelwa, Radat, Kipngoron, Kiptoim, Kipkweret, Kokwatoto , Amaya, Paka, Korosi	Telecommunication companies in collaboration with National government Ministry of ICT and the county government.	Improved access to information.

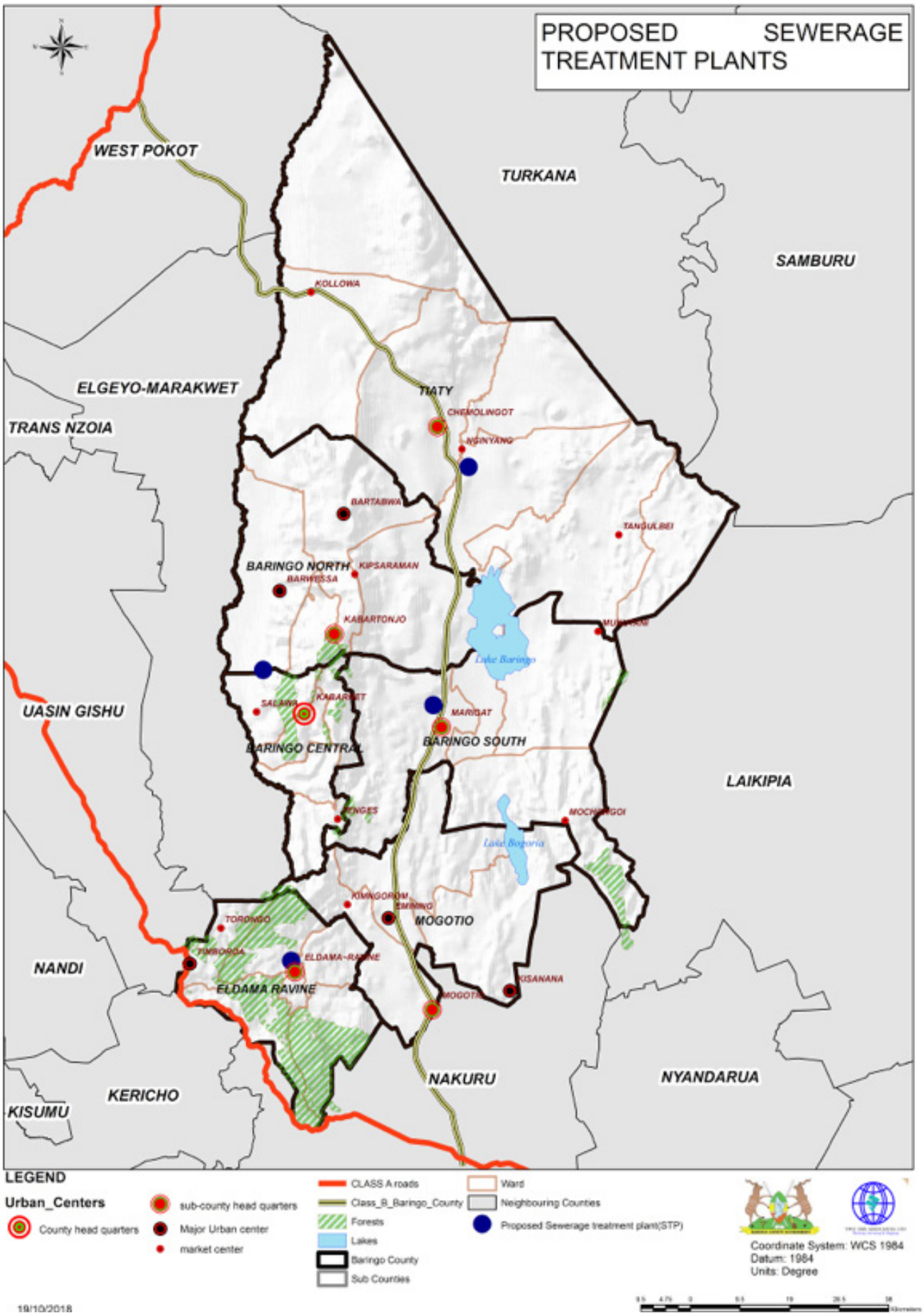
Map 59: Proposed Water Sources

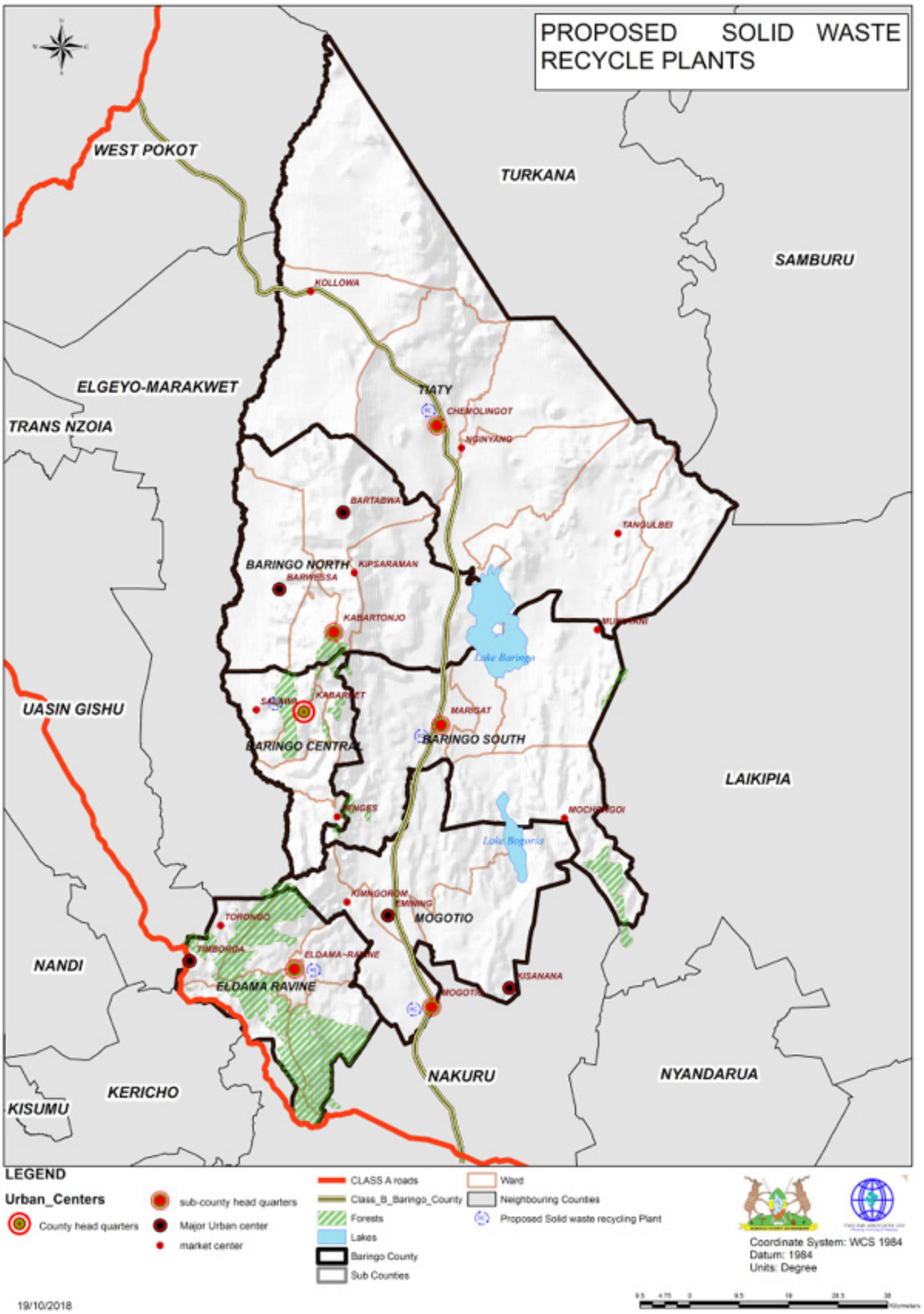


Map 62: Proposed GSM Towers



Map 60: Proposed Recycling Plant and Sewerage Treatment Plants




PROPOSED SOLID WASTE RECYCLE PLANTS
WEST POKOT
TURKANA
SAMBURU
KOLLOWA
ELGEYO-MARAKWET
TIATY
CHEMOLINGOT
TRANS NZOIA
NGINYANG
BARTABWA
TANGULBEI
BARINGO NORTH
KIPSARAMAN
BARWESSA
KABARTONJO
Lake Baringo
UASIN GISHU
KABARNET
MARIGAT
BARINGO CENTRAL
BARINGO SOUTH
LAIKIPIA
KINGES
Lake Bogoria
KIMNGORIOM
EMINING
MOGOTIO
TORONGO
NANDI
ELDAMA-RAVINE
ELDAMA RAVINE
KISANANA
MOGOTIO
NAKURU
NYANDARUA
KERICHO
KISUMU
LEGEND
Urban_Centers
County head quarters
sub-county head quarters
Major Urban center
market center
CLASS A roads
Class_B_Baringo_County
Forests
Lakes
Baringo County
Sub Counties
Ward
Neighbouring Counties
Proposed Solid waste recycling Plant
Coordinate System: WCS 1984
Datum: 1984
Units: Degree
19/10/2018

f) Energy Strategies

SECTOR	STRATEGIES	PROGRAMS	PROJECTS	ACTORS	OUTCOMES
Energy	Electricity supply	To ensure that all schools, markets and residential areas are connected to power.	• Complete rural electrification programmes in all wards.	REA KPLC County government. Donors	Improved access to clean and renewable and affordable energy source. Improved security in urban areas, and market centers. Improved business environment.
			• Resolve power outages issues by ensuring that transformers are of the right capacity especially in Kabarnet and Eldama ravine.	KPLC County government	
			• Invest in solar power generation, in Tiaty, Baringo South and Mogotio sub-counties.	KENGEN KETRACO County Government Donors NGOs	
			• Putting up street lights in all major market centers	County Government KPLC	

CHAPTER FIFTEEN

Spatial Development Framework

This chapter presents the county spatial structure that indicates the broad land uses, transportation connectivity proposals, existing and proposed infrastructure facilities and areas of economic activities, following an integration of the various scenarios envisioned. The county spatial structure has further been depicted at smaller scale using the sub-counties as planning units. Policies and standards have also been assigned to each proposed land use to ensure harmony and equity in the county upon implementation.

15.1 Land Management Policies:

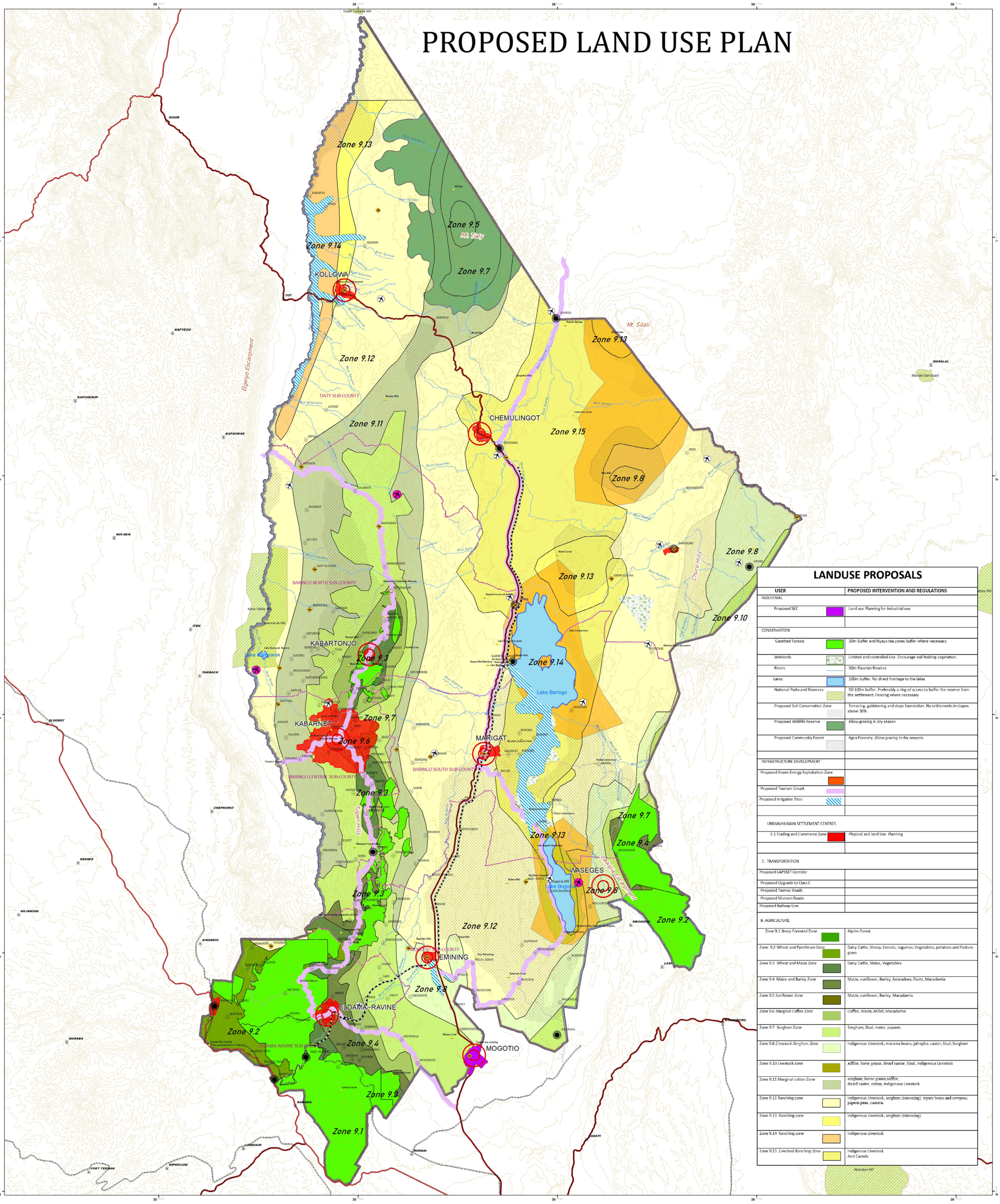
Land management policies form an important instrument that guides the general behaviour over the use of land. The overall land management policies will include:

Table 3: Overall land management policies.

ENVIRONMENT	• Non-approval of development around forests, rivers and wetlands/ swamps • Restriction of development to approved uses only along immediate boundaries of fragile site buffers
TRANSPORTATION	• Non-approval of encroachment/ encroaching use on transportation wayleaves.
INFRASTRUCTURE	• Non-approval of encroachment/ encroaching use on infrastructure wayleaves. • Restriction of development to approved uses within the vicinity of social infrastructure facilities
ECONOMY	
a). Agriculture	• The overall Agriculture policy: • Should put stringent restrictions on the uneconomical sub-division of agricultural land. • Non-approval of encroachment/encroaching urban settlements use of the highly capable agricultural land areas. • Restrict agriculture on slopes that are above 40%.
b). Trade	• The County Trade Policy should encourage compact market development so as to put order in the way markets are organized and contained in various urban centres.

c). Industry	• The County Industrial should put restrictions on the locations of industries near densely populated zones and near environmentally sensitive areas.
d). Tourism	• The Tourism Policy should seek to put restrictions on structural development around scenic sites to eco-tourism developments only.
URBANIZATION	• The overall urbanization policies should aim to: • Encourage the compacting of urban areas. • Enforce urban fringes/ edges so as to curb urban sprawl.
PUBLIC LAND	• The policy on public land should emphasize on: • Immediate inventorying and periodical review of the state of public land in the county. • Retention of all public lands under the respective government ownership unless their disposal will serve an overarching County/ National interest.

Map 50: Landuse plan



BARINGO COUNTY SPATIAL PLAN (2018-2028)

Legend

TRANSPORTATION
- Airstrips
- Proposed Airstrips
- Class A Roads
- Class B Roads
- Class D & C Roads
- Other Roads
- Railway Lines
- Proposed Railway Line

CONSERVATION
- Rivers
- Lakes
- Forests Baringo
- Proposed Agro forestry Zones
- Proposed Wildlife Reserve
- Proposed Floodable Zone
- National Parks and Reserves
- Strongly Eroded

HUMAN SETTLEMENTS
- Regional Towns
- Market Centre
- Rural Centre
- Principle Towns
- Proposed Urban Edges

ECONOMIC ZONES
- Tourist Attraction Site
- Proposed Auction Yards
- Commercial Centres
- Industrial Centres

AGRICULTURAL ZONES
- Zone 9.1
- Zone 9.10
- Zone 9.11
- Zone 9.12
- Zone 9.3
- Zone 9.13
- Zone 9.14
- Zone 9.15
- Zone 9.2
- Zone 9.4
- Zone 9.5
- Zone 9.6
- Zone 9.7
- Zone 9.8

Contour 100m
Sub-County Boundaries
Baringo County Boundary
Kenya County Boundaries

1:400,000

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

0 5 10 20 30
Kilometers

DATA SOURCES:IEBC,ILRI, SOK,BARINGO COUNTY ,KRB, FARM MANAGEMENT HANDBOOK.

Date: 9/24/2019

CLIENT

BARINGO COUNTY GOVERNMENT,
P.O. BOX 53-30400,
KABARNET.

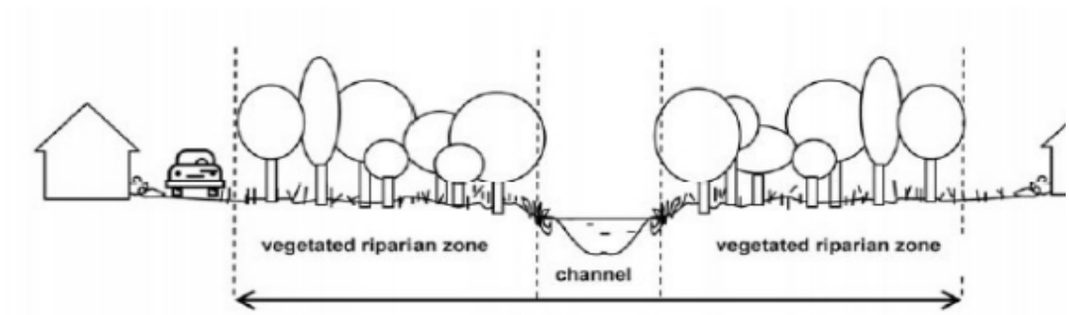
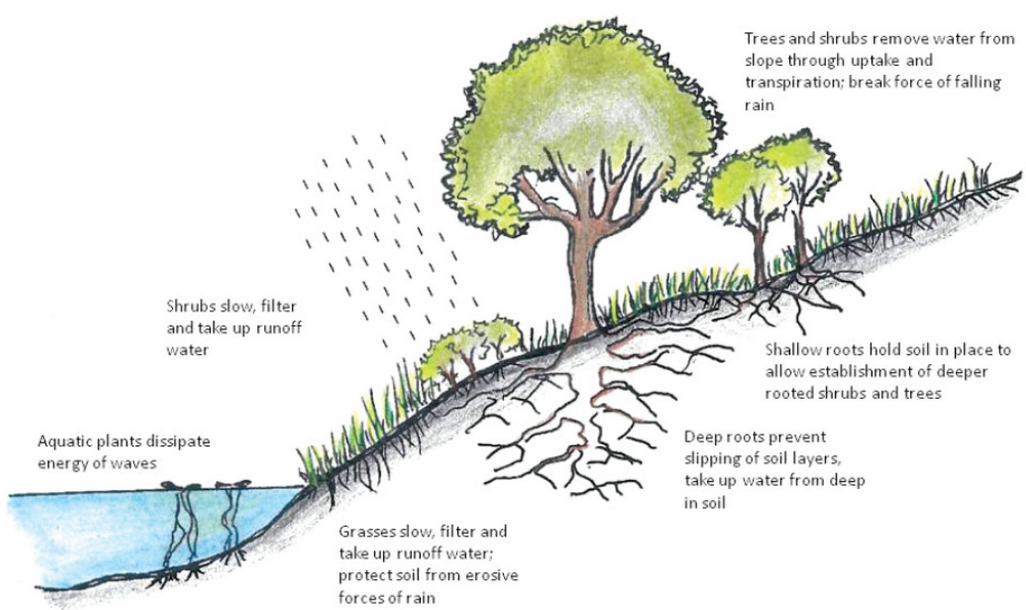
CONSULTANT:

TWO EMS ASSOCIATES LIMITED,
P.O. BOX 27513-00506,
NAIROBI.
TEL.0734254511
EMAIL. Admin@twoems.co.ke

15.2 Land Use Planning Standards

1. UNDEVELOPED LAND/NATURAL ENVIRONMENT:

Table 4: Land Use Planning Standards

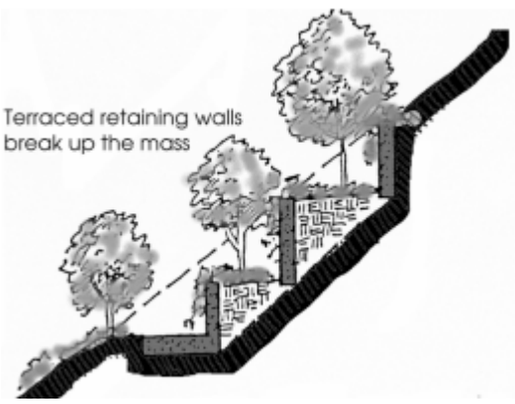
ZONES:	STANDARDS:
Riparian Reserves:	• Must be a minimum of 15-30 metres depending with depth of the river gorge. Deep river gorges will necessitate 15m reserve while shallow gorges will necessitate 30m reserve of land on each side of a watercourse (both seasonal and perennial rivers). • Natural flow of river and tributary shall be preserved and conserved through vegetation on each side excluding the channel.  • Conservation efforts should include planting of deep-rooted vegetation to help hold soil together, shallow rooted vegetation holds top and intermediate soil layers together, while shrubs will minimise the run-off speeds minimising sheet and splash erosion see the figure below.
	 • Riparian reserves in Urban areas such as Mogotio shall be used for recreational purposes. Necessary furniture shall be provided to facilitate the function. • Adjacent land uses to all riparian reserves shall be as stipulated in the county land use plan.

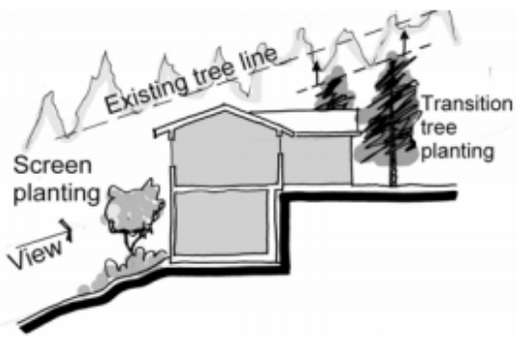
Forest Zones	• A buffer zone of 60 metres from the forest reserve edge (including indigenous and plantation forests) should be maintained. (Can have compatible land uses such as Nyayo Tea Zones).
Wetlands	• A buffer zone of 30 metres from the high-water mark edge should be maintained. • Development permission for wetland zones must be sought and sub-division of properties adjacent to wetlands should be clustered away from the wetland as shown below. This applies to swamps and lakes. • Prohibited activities include car washing, location of sanitary facilities and solid waste disposal as they can cause pollution.

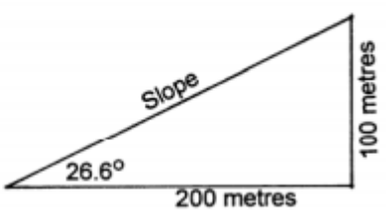
Steep Slope Zones

Zones with sharp terrain rise over short horizontal distances consider the following scenario of 100metres rapid rise over a horizontal distance of 200 metres considered a steep slope.

- Development on slopes of over 5 degrees can be allowed but with implementation of control measures.
- Very limited development should be allowed on areas with slopes exceeding 25 degrees expect in areas where geological survey indicates rock and soil formation can support development with additional measures. Such sites, terrace retaining walls or step-up foundations for building masses and planting of deep-rooted vegetation and shrubs shall be used to ensure minimal slope disturbance.



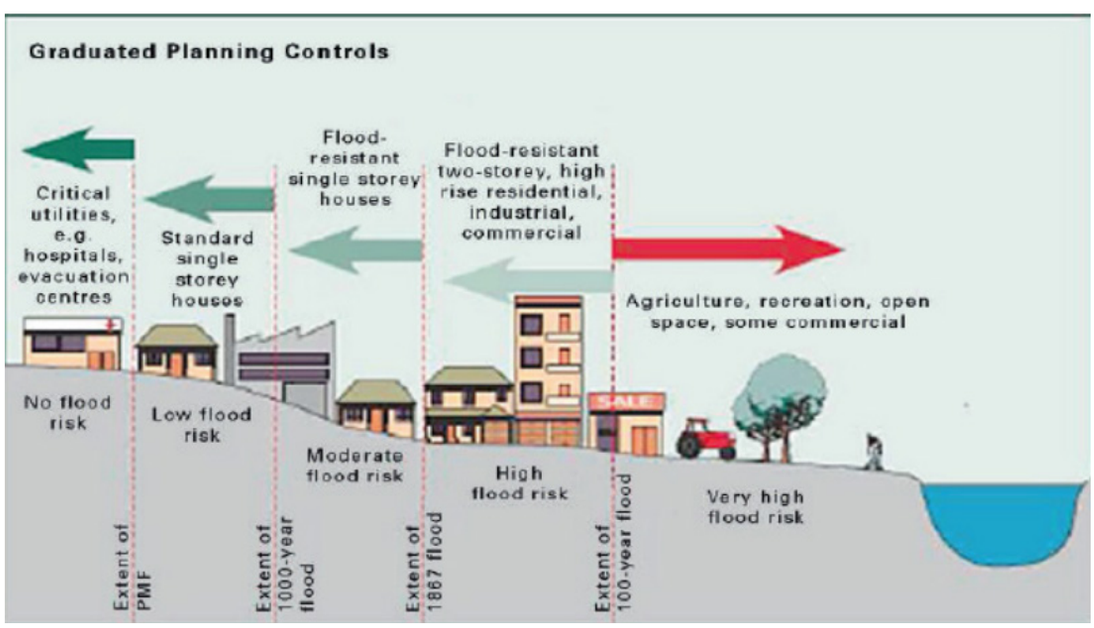




100m in elevation change over a horizontal distance of 200m can be expressed as:

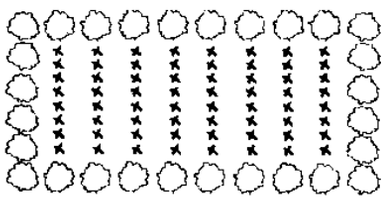
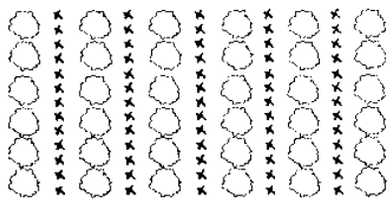
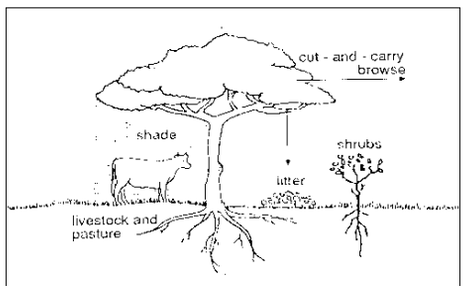
RATIO	horiz.:vert. = 200:100 = 2:1
PERCENT	vert./horz. = 100/200 = 50%
DEGREES	26.6° (n.b., tan 26.6° = 0.5)

- In agricultural zones with steep gradients terracing shall be enforced to minimise soil erosion

Tourism Zones	• Areas of scenic beauty and cultural villages • Provide a buffer zone of 50meters from the edge • The buffer zone can be used for provision of outdoor furniture, management of solid waste and sanitation • Provide a 12M-18M road access to these tourist sites • Provide land sizes between @ 2-5 acres for commercial developments of hotels and lodges. • Protected Areas/ National parks and game Reserves • All national parks and game reserves shall have an electric fence to minimise human wildlife conflicts. • A buffer zone of 50 meters is recommended around the park. Limited developments shall be allowed in this zone except a ring road around the park and tree planting. • Forest reserve should be buffered by 60-meter reserve use the reserve on compatible land use. • Wildlife corridor of 3 km. Is recommended
Flood Prone Zones	• A minimum buffer zone of 30 metres or more depending with the extent of area considered very high flood risk from the high-water mark edge should be maintained. (Uses such as damming and channelling for rice or fish farming, opens spaces are allowed), while other flood risk developments such as residential and public facilities shall follow a graduated order with critical utilities such as hospital located far from flood risk zones. Residentials within high flood risks are encouraged to be elevated. 
Mines and Quarries	• A buffer of 1 km from the settlement should be maintained. • Un-used open mining or quarry sites near an urban area shall be reclaimed for uses including industrial and open spaces. While those deep in rural areas shall be considered for forestry or redesigned to a water reservoir.

2. AGRICULTURE LAND USE

<table>
<tr><th>ZONES</th><th>DEVELOPMENT CONTROLS</th></tr>
<tr><td>Ranching and wheat production zone</td><td>
•
• Land size >2000ha for ranch
• Land size >1000ha for large scale wheat farms
• Lease owner shall ensure mechanization for success of the ranch /wheat farming.
• Ranches shall be divided into wet season and dry season grazing zone in ratio of 3:2 or (1200ha and 800ha for 2000ha lot size)
• Sub-division of group ranches necessitates for common uses shall be provided such as cattle dips, school, dispensaries etc.
• Each ranch shall be required to maintain the recommended livestock carrying capacity
</td></tr>
<tr><td>Pastoralism zones</td><td>
• Baringo County government in consultation with local communities shall establish grazing reserves and the allocation of grazing rights to various communities in effort to minimise conflicts especially in the dry season.
• Grazing reserves shall be in the major traditional wet and dry season grazing areas and along livestock migration routes.
• Baringo County government shall provide adequate water points, veterinary services and improved natural grassland coupled with strict control of stock numbers.
• Zone shall specialize in extensive dairy farming of livestock only for meat production with Zebu breed encouraged.
</td></tr>
<tr><td>Dairy farming and coffee production zones</td><td>
• Land sizes>0.4ha for both coffee and dairy farming areas.
• Dairy farming shall be intensive with exotic/crosses breeds encouraged.
• Coffee farming shall be intensive with Arabica, Batian variety.
• Residential development units ground coverage shall not exceed 20-30% of the total land size.
• The following dairy stocking shall be used depending on lot sizes.
<table>
<tr><th rowspan="2">TYPE OF ANIMAL</th><th colspan="2">FLOOR SPACE PER ANIMAL (M2)</th><th rowspan="2">TROUGH LENGTH PER ANIMAL(CM)</th></tr>
<tr><th>COVERED AREA</th><th>OPEN AREA</th></tr>
<tr><td>Cows</td><td>6-9</td><td>24-30</td><td>51-61</td></tr>
<tr><td>Young stock</td><td>4.5-6</td><td>15-18</td><td>38-51</td></tr>
<tr><td>Pregnant cows</td><td>30-36.5</td><td>55-61</td><td>61-76</td></tr>
<tr><td>Bulls</td><td>36.5-42.5</td><td>61-76</td><td>61-76</td></tr>
</table>
• Where dairy farming and coffee growing are practised within the same lot, use of natural manure and biogas production are encouraged.
</td></tr>
<tr><td>Sunflower and cotton production zone</td><td>
• Minimum land sizes under cotton/sunflowers crops shall 50ha> where necessary farmers are encouraged to form cooperatives for economics of scales production of 50,000-60,000 plants per ha (spacing needs of 80-20cm or 100-40cm).
• Residential developments with shall be clustered into nodes to allow room for large scale production of cotton and sunflower.
• Baringo County Government shall prepare a Local Physical and Land Use Development Plan for the residential nodes.
• County government shall facilitate development of ginneries and all activities across crops value chain in collaboration with farmers cooperatives.
• Cotton shall be grown in rotation after every three years with other crops including cereals or legumes. This is to prevent loss of soil fertility and pest build up.
</td></tr>
</table>

Agro-forestry zone	• The following types of Agro-forestry practices shall be applicable in this zone, Agro-silvicultural, silvopastrol and agro-silvopastrol systems.   Agro-silvicultural systems  silvopastrol • Can also be practised for commercial ventures where land shall be leased for 99years with minimum land sizes of 400ha. • For commercial Agro-forestry ventures (saw milling) a minimum of 1/4 or 100ha shall be under tree vegetation at any time.

3. URBAN LAND USE

Categorization of Settlements:

HIERARCHY OF CENTRE:	CATCHMENT POPULATION:	RESIDENT POPULATION:	FACILITIES:
LOCAL CENTRE	5,000	-	• Two ECDE (1@ 2500) • Full primary school • Several shops • A dispensary, • A public water supply system • An open-air market. • Police Post (0.2ha) • Solid Waste collection point
MARKET CENTRE	15,000	<2,000	• A public water supplies • Primary school (1 @ 4000) • A mixed day secondary school • Health center • Community playground • Telephone facilities • A police post (0.2ha) • A local bus services • Social hall • Administrative center • Solid Waste collection points

RURAL CENTRE	40,000	2,000 to 10,000	• Two Boarding secondary schools one for each gender. • A health centre with a maternity facility • Development of better shopping facilities • Markets and Banking facilities • A piped water supply and sewerage disposals systems • Electricity and telephone services postal • Police station(0.4ha) • Social hall • Two community playgrounds • (prepare a LPLUDP)
URBAN CENTRE	100,000-150,000	5000>	• A Level IV hospital • Stadium • Sewerage Treatment Plant and Water Treatment Plant • Solid waste management plant • Secondary schools • Commercial, industrial, administrative and recreational services • (prepare a LPLUDP)

Granting of Town or Municipality Status to an Urban Centre: according to Urban areas and cities 0f 2011 and amendment act of 2019

	ADDITIONAL CRITERIA:	ESSENTIAL SERVICES:	ADMINISTRATION:
MUNICIPAL STATUS **Resident Population: 50,000**	• Integrated Development Plan • Demonstrable revenue collection or revenue collection potential • Demonstrable capacity to generate enough revenue to sustain its operations. • Capacity to effectively and efficiently deliver essential services to its residents • Institutionalised active participation by its residents in the management of its affairs; • Enough space for expansion; • Infrastructural facilities, including but not limited to street lighting, markets and fire stations and have a capacity for functional and effective waste disposal.	Planning and Development Control, Traffic Control and Parking, Water and Sanitation, Street Lighting, Outdoor Advertising, Cemeteries and Crematoria, Public Transport, Libraries, Storm Drainage, Ambulance Services, Heath Facilities, Fire Fighting and Disaster Management, Control of Drugs, Sports and Cultural Activities, Electricity and Gas Reticulation, Abattoirs, Refuse Collection, Solid waste management, Air noise, Child Care Facilities, Pre-Primary Education, Local Distributor Roads, Conference Facilities, Community Centres, Hotel Homestays, Guest Houses, County Hospital, Constituent University Campuses, Polytechnic, Training Institution, National School, County School, Municipal Stadium, Stadium, Airport, Airstrip, National Theatre, Theatre, Library Service, Administrative Seat, Financial Hub, Museum, Historical Monument, Fire Station, Emergency Preparedness, Postal services, National TV station, National Radio Station, Regional Radio Station, Community Radio, Casinos, Funeral Parlour, Cemetery, Recreational Parks, Management of Markets, Marine Water front, Animal control and welfare, Religious Institution, Organized Public Transport.	• Administered on behalf of the County Government by a Board of a Municipality and a Manager • Board shall be a body corporate

TOWN STATUS **Resident Population: 10,000**	• Integrated Development Plan • Demonstrable economic, functional and financial viability. • Capacity to effectively and efficiently deliver essential services to its residents • Enough space for expansion.	Street Lighting, Cemeteries and Crematoria, Libraries, Heath Facilities, Sports and Cultural Activities, Abattoirs, Refuse Collection, Solid waste management, Air noise, Child Care Facilities, Pre-Primary Education, Community Centres, Guest Houses, Homestays, Polytechnic, Training Institution, County School, Airstrip, Unclassified roads, Museum, Historical Monuments, Postal services, Regional Radio Station, Community Radio, Funeral Parlour, Cemetery, Recreational Parks, Management of Markets, Marine Water front, Animal control and welfare, Religious Institution	• Administered on behalf of the County Government by a Town Committee and a Town Administrator • Town Committee shall be a body corporate

4. RESIDENTIAL LAND USE:

HOUSING DENSITIES:	PROPOSED MINIMUM LAND SIZES:	NECESSARY FACILITIES:
• Low Density Areas:	½ Acre (0.2 Ha) Plot coverage: 40-50% (depends with provision level of sewer infrastructure)	• Recreational facilities (neighbourhood parks) • Community facilities (social halls) • Roads and streets
• Medium Density Areas:	1/4 Acre (0.1 Ha) Plot coverage: 50-65% (depends with provision level of sewer infrastructure)	
• High Density Areas:	1/8 Acre (0.05 Ha) Plot coverage: 60-70% (depends with provision level of sewer infrastructure)	
• Slum Areas:	Below 1/8acre 0.025 Ha	• Commercial water points should be provided for informal settlements (At 500m from each other, preferably occupying an area of 3m x 3m. • 1 toilet block is required for every 100m.

Detailed LPLUDP should be formulated to determine appropriate plot ratios, building lines, street widths.

5. COMMERCIAL AREAS/ CBDS:

	STANDARDS:
Plot sizes	• Minimum lot sizes should be 0.045 Ha.
Construction standards	• Building setbacks should be provided to act as traffic islands. • The concept of corner shops at each corner plot should be discouraged. • Where roads range between 6-18 meters wide the building line shall be 6 m. • For any roads above 18m the building line shall be 18m.

Accessibility	• Remove through traffic by constructing a by-pass or relief road. • There shall be no direct access. • A provision of accelerated and deceleration lanes should be made at a 100m stretch. • Beautification of the main highway- green area network along the highway should be done. • Urban road reserves require more generous space provision because of additional street furniture and infrastructural facilities that have to be provided.
Parking	• Parking facilities should be related to the level of commercial activities created. • In central commercial and business zones, parking should be considered, particularly by encouraging storeyed parking in town centres (minimum lot size of 0.025 Ha). • For every 100m2 of land in the central Business District a minimum of 1½ parking space may be provided except where basement parking is provided. • However, for small centres, car park may be provided for every 500m2.
Major Shopping Malls	• Need to be located along major outlet corridors from the town. • Minimum lot size to be 4 acres (2 ha). • Allow 25% plot coverage • Minimum parking space of one and half meter's car park space per every 100m2 plinth.
Informal Economy	• Kiosks should only be confined to areas adjacent to markets, bus parks and certain institutions. Minimum size of a kiosk should be 3m x 3m. • Specific areas need to be designated for hawking (e.g. hawking grounds or hawking streets).
Pedestrian Separation	• Provide vertical separation of vehicles and pedestrians by constructing roads and pedestrian's ways at different levels. • Interrupt continuity of streets within the centre by bollards or other means. • Remove vehicles from street and provide vehicular access and parking at rear of buildings
Sanitation	• 1 toilet should be provided in all streets in all types of centres.

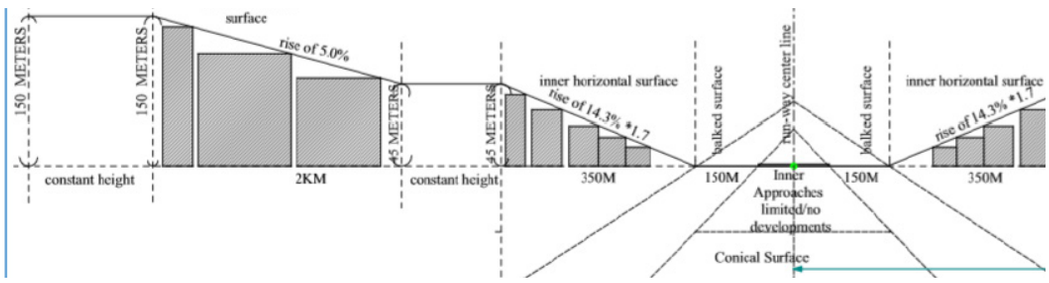
6. INDUSTRIAL LAND USE

Light Industrial (timber yards, automobile sales, garages etc)	**Medium industrial (warehouse and go-downs etc)**	**Heavy industrial (Manufacturing and processing)**
Minimum land size 4000-10,000sq m2 Plot coverage 60% Floor Area Ratio: 0.7 Access road of minimum width of 12M Site provision of sewer and water lines Site location shall be close to commercial and not far from residential to encourage walking.	Minimum land size 4000-10,000sq m2 Plot coverage 30% Floor Area Ratio: 0.35 Access road of minimum width of 18M Site provision of sewer and water lines Site location shall be away from residential units but close to commercial	Minimum land size 10,000sq m2 Plot coverage: 25%, Floor Area Ratio: 0.3 Access road of minimum width of 18M. Site provision of sewer and water lines Site location shall be away from residential units but close to commercial

7. TRANSPORT

SECTOR	PLANNING STANDARDS
Road network	**International trunk road (class A road)** • They are provided with a road reserve of 60-110 meters. • No direct access of a property to a Class A road • Buffer zones of 10 meters should be provided all along giving access abutting properties • Developments should come after the buffer zone and should be provided with acceleration and deceleration lanes • The junctions should be at minimum of 300meters • Petrol Service Station can be planned with acceleration and decelerations of 80-100meters after the 10metre buffer • NMT facilities shall be provided within urban nodes and its environs **National trunk road (class B roads)** • road reserve width of 60-110 meters. • No direct property accesses • Service lanes shall be provided for access to abutting properties. • NMT facilities shall be provided within urban nodes and its environs **Primary roads (Class C roads)** • All designated urban centres should be linked by means of primary roads as a minimum. They are provided with a road reserve of 40 meters. • NMT facilities shall be provided within urban nodes and its environs **Secondary roads (class D roads)** • All designated rural centres shall be linked by means of secondary roads with a road reserve width of 25 – 30 meters. **Minor roads (class E roads)** • Road reserve width of 20-25 meters. • NMT facilities shall be provided within urban nodes and its environs. **Urban roads** • Shall be bitumen surfaced • Shall have a provision for Storm and Utility ducts of 1000-2000mm within the shoulders. • Shall have NMT facilities at the shoulders. • Minimum roads within commercial zones shall be 12M but not greater than 18M, with 6m service lanes abutting the properties. • Main connectors in industrial and residential zones shall be 18M, while the filters range between 12m-9m.

Railway	• 60m way leave
	• A buffer of 30m to be reserved on either side of the railway line
	• Design gradient of maximum 50
	• Cargo and passenger stations locations shall be determined by: -
	
	  • Areas of high production
	  • Areas of high population concentration
	  • Mining areas.
	  • Industrial zones

Airport and airstrips	• Development heights around airports and airstrips shall observe Obstacle Limitation Surfaces (OLS) in accordance to ICAO and KCAA regulations. No developments shall be allowed in the approaches North and south of the runways up to 15KMs, while east and west the following heights shall be observed.  • Adjacent land uses around airports shall be limited to commercial and industrial, while around busy airstrips residential use buildings shall be fitted with noise absorbers. • Sanitation uses (Landfills and Sewerage Treatment Plants (STPs)) and ICT mast infrastructure shall not be allowed within 4km East or West, and 15km North or South of any airport or airstrip.

8. SERVICES

a). Education

INSTITUTION	DISTRIBUTION	LOCATION	LAND REQUIREMENTS
Nursery schools	They should be attached to primary schools They follow the pattern of distribution of primary school at 4000catchment population. A kindergarten independent of primary school should be provided for 2500 catchment population.	Nursery schools should be located within and integral to residential areas. The recommended walking distance is 300-500meters	The land requirement of 0.15-0.25hectares is required for every primary school. Similar amount of area land is required for every 2,500 people in low-income areas and 3500 people in high-income areas
Primary schools	The pattern of distribution should be for every 4000-catchment population in rural areas and 3500 population in urban areas	They should be within residential areas related to principle pedestrian networks. At gross densities of 50 persons per hectare and above, each primary school should be within easy walking distance of 250-300 m.	They should cover a minimum area of 3.9 Ha Schools are encouraged to build storied buildings for economy. Teaching staff accommodation if provided, it requires another 0.8 Ha
Secondary schools	The pattern of distribution should be for every 8000-catchment population	They should be within residential areas At gross densities of 50 persons per hectare and above, each secondary school should be within an easy walking distance i.e. relative to pupils' ages of 500 – 600 metre. At gross densities lower than 50 persons per hectare pupils will probably be taken to school by car or by public transport.	It should be considerate of no. of streams: One stream- 3.4 Ha Two streams- 3.5.Ha Three streams- 4.5.Ha

University	The land size for a University should be at least 50 hectares made up of the following: 20 hectares or more to support up to 500 students. • 10 hectares or more for the main campus. • 2 hectares or more for any University land. • 2 hectares or more for open spaces and car parking exclusively. • 2 hectares of land set aside for sewerage plant where there lacks Local Authority sewerage system. • 5 hectares or more for outdoor sports for 500 students. A University offering agriculture as a course should in addition provide 10 hectares of land for a farm.

b). Recreational Areas

The following standards shall apply

CATCHMENT LEVEL		MUNICIPALITY	TOWN	LOCAL	NEIGHBOURHOOD
facility		Municipal park (stadiums)	Town park	Local park	Neighbourhood park
Population served		50,000-100,000	30,000-50,000	3000 with catchment radius of< 400>m	1200 with catchment radius of< 250>m
Site area (ha)		5-15	2-5	0.4-2	0.1-0.25
Type Of use	Use purpose comprehensive Multi-purpose			Single purpose	Amenity purpose
	Public	Yes	yes	yes	yes
	Family only	Yes	yes	yes	Local use
	Women only	Segregated area (on need basis)	Segregated area (on need basis)	On need basis	no
	Children play area	Yes	Yes	Yes	yes
	Sport facilities	yes	Yes	yes	no
	landscaping	yes	yes	yes	yes
	parking	yes	yes	yes	no
	Street furniture provision	Yes (30,000-seater capacity)	yes	yes	yes
	Access road width	18M	12m	9m-12m	9m

9. PUBLIC PURPOSE

SECTOR	SERVICES	LAND ALLOCATIONS
Health services	They should be easily accessible by an ambulance and be provided with basic infrastructural services. Dependent on the level of health service, it is necessary to reserve adequate land for future expansion and for public cemeteries. The public cemeteries should be conveniently located relative to the health facility, major open spaces and other compatible public utilities.	• National referral hospital- 20Ha • Provincial hospital- 8Ha • District hospital- 8Ha • Sub-district hospital- 4Ha • Health center- 3Ha • Sub health center- 2Ha • Nursing homes- 0.4Ha • Veterinary clinics-0.1Ha
Community centre	Every center should have a community center which will provide the following facilities: - Library/Resource center Social hall VCT center Public telephone Amphitheatre (Cultural dances, cinema etc.)	The proposed minimum area should be 1Ha.
Police stations	They should be located within residential neighbourhoods	Proposed space requirements for the various levels of stations are: • Police stations- 2 ha. • Police post- 2.0 ha • Patrol base- 0.2 ha
Fire stations	The land requirement is a minimum of 1.0 hectares to include station, staff accommodation and drilling area and frontage of >18m road access. A small fire station would require 1 fire engine and at least 30 staff members to cover a population of between 50,000-100,000 people.	
libraries	The land requirements should be 0.4 hectares for this facility	
Administrative areas	They should be sited away from the administrative zones e.g. professional, manufacturing and utility undertakers' offices to allow close interaction with general public. Factors for their location: • Geographical centrality • Spatial compactness • Public parking • Accessibility	

10. PUBLIC UTILITIES

<table>
<tr><th>SECTOR</th><th>PLANNING PROVISIONS</th><th>LAND ALLOCATION</th></tr>
<tr><td>ELECTRICITY</td><td>Guidelines
• Source and supply of electricity shall be in accordance to demand in domestic, commerce and industry
• Main receiving sub-stations require a minimum of 5% of the exterior spaces that are reserved for landscape.
• Main receiving sub-stations 275KV are not suitable to be close to residential areas, open spaces and public facilities. Require buffer zones in between sub-stations and other land uses (about 50m)</td><td>Way leave Requirements<table><tr><td>Capacity of line</td><td>Way leave</td></tr><tr><td>11 KV</td><td>10m</td></tr><tr><td>33KV</td><td>20m</td></tr><tr><td>40KV</td><td>20m</td></tr><tr><td>66KV</td><td>30m</td></tr><tr><td>132KV Single circuit towers</td><td>50m</td></tr><tr><td>132KV Double Circuit towers</td><td>60m</td></tr></table>Electricity sub-stations
Electricity substation Land requirements Size and function<table><tr><td>Type</td><td>Requirement</td><td>Condition</td></tr><tr><td>Main receiving sub-station</td><td>1.6 ha</td><td>Buffer zones</td></tr><tr><td>Main distribution sub-stations</td><td>45mx45m</td><td>Building entry ways</td></tr><tr><td>Electricity sub-stations
Single chamber
Double chamber</td><td>
16.5mx13.5m
17mx13.5m</td><td></td></tr></table></td></tr>
<tr><td>ICT</td><td>• All Mast towers over 30 metres shall be painted & treated as stipulated by Kenya Civil Aviation Authority (KCAA).
• All mast towers near airports or located within 4kms in the OLS or 15km flight paths approaches shall require KCAA approval.
• Where possible service providers shall be required to share cell masts to minimise population of masts within a small limited area.</td><td>• a minimum of 225 square metres for self-support towers
• maximum height of 45m in urban areas</td></tr>
<tr><td>Water treatment plants and related infrastructure</td><td colspan="2">Provision of these facilities should consider catchments population to be served and the per capita consumption in the relation to the available water.
• Ground water reserves require buffer zones of 100 meter (bore holes).
• Springs protection require a buffer zone of 100meters.
• Tree planting is therefore encouraged in these areas.
Water reticulation systems
• Provide for water facilities such as water intake points, and pipeline way leave.
• Buffer zones should be provided in areas where these facilities are located.
• Intake points treatments work and communal water points require buffer zone of 10 meters (radius)
Commercial water points
• Provided for in informal settlements.
• They should be at 500m from one another.
• They should preferably occupy an area of 3 x 3 m.</td></tr>
</table>

Sewerage Treatment Plants and related infrastructure	• Sewage collection and sewage treatment plants shall be considered for all settlements with a population of 3,000 or more having an urban layout. A LPLUDP should be prepared to establish supply gaps and suitable sites. • Shall be located away from the airports or airstrips at-least 4km east-west of the runway and 15km in the approaches. • County government shall undertake and Environmental and social Impact analysis before establishing the appropriateness of the proposed site for STP • In settlements where an integrated sewage scheme is not provided provision should be made for septic tanks. • Land requirement for Buffer zones for sewered areas is 75 square meters whereas for un sewered areas are 110 square meters.
Solid waste collection points	• Collection points shall be located away from the airports or airstrips at-least 4km east-west of the runway and 15km in the approaches. • Roads linking the sites shall be well kept ensuring accessibility • County government shall undertake and Environmental and social Impact analysis before establishing the appropriateness of the proposed site for Solid waste collection.

15.3 Elements of a Structure Plan:

A structure plan is a framework that sets out strategic planning policies on space, broad zoning document, as well as a policy instrument. The structure plan comprises of a physical zoning plan map indicating the broad land uses, transportation connectivity proposals, existing and proposed infrastructure facilities and areas of economic and environmental activities, following an integration of various alternatives envisioned. Policies and standards are also assigned to each proposed land use to ensure harmony and equity upon implementation of the plan, through the next ten years.

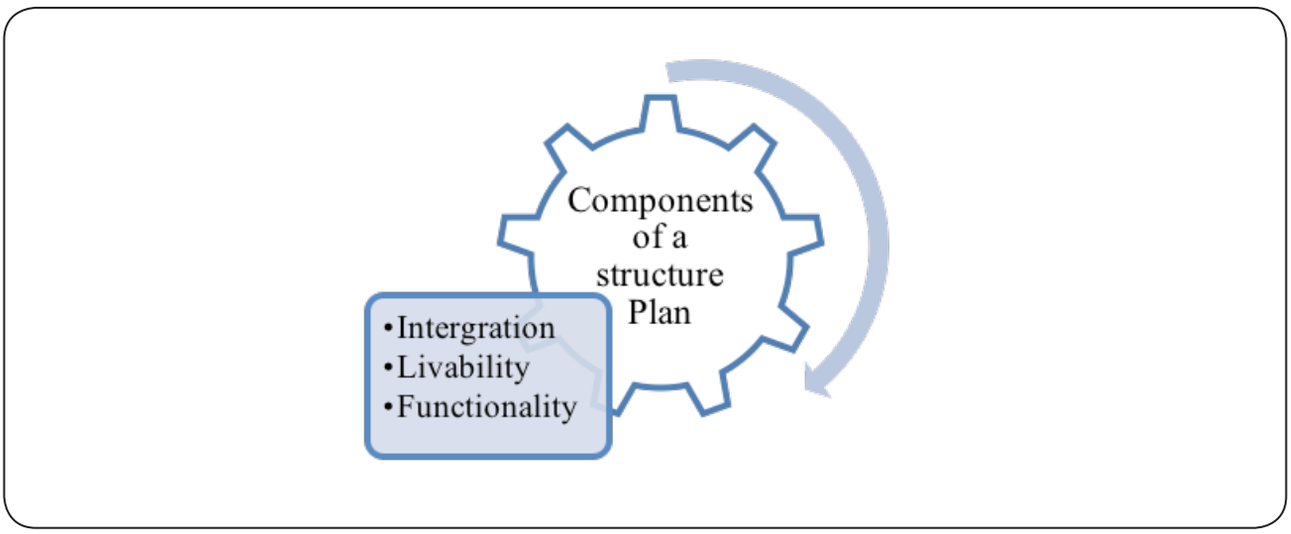
This structure plan is a result of comprehensive analysis of the county using various tools such as land capability analysis, land availability/ suitability analysis, transportation analysis, infrastructure gap analysis, human settlements analysis, and environmental sensitivity analysis. In particular, this section was deeply rooted in inputs collected from rich public participation through sub-county-specific forums for the general public, meetings with both the county executives and county MCAs, as well as technical validation meetings involving both national and county government planners.

15.4 Rationale for Preparation:

As illustrated by the analysis in the previous chapters, Baringo County is facing a myriad of challenges that if unchecked could have catastrophic consequences into the future. The consequences of business as usual would be increased forest degradation, uncontrolled soil erosion and degradation, environmental hazards, and unchecked urban sprawl all of which would have devastating impacts on incomes, food security and overall quality of health of county residents. A spatial structure plan is therefore is important because the various county problems all have an implication on land (are either land use problems or land related problems), and therefore require a land-based solution.

This structure plan therefore is being prepared with the aim of guiding integrated development of all sectors on space, which it desires to achieve through three key pillars:

Figure 29: Structure Plan Concept



Preparation of a structure plan is also crucial as there exists a need to provide a link to higher level plans, as well as providing an anchor for detailed planning within other lower-level plans. At the national level, this plan shares the national objectives of competitiveness (through selective concentration of activities), spurring economic development, conserving the environment and creating liveable human settlements. At the county-level, this plan aims to create sectoral integration across the economic, social and environmental sectors.

There are three main elements of a structure plan as depicted below

Figure 30: Elements of a structure Plan

LAND USE PLAN

Depicts the spatial layout of the proposed land uses

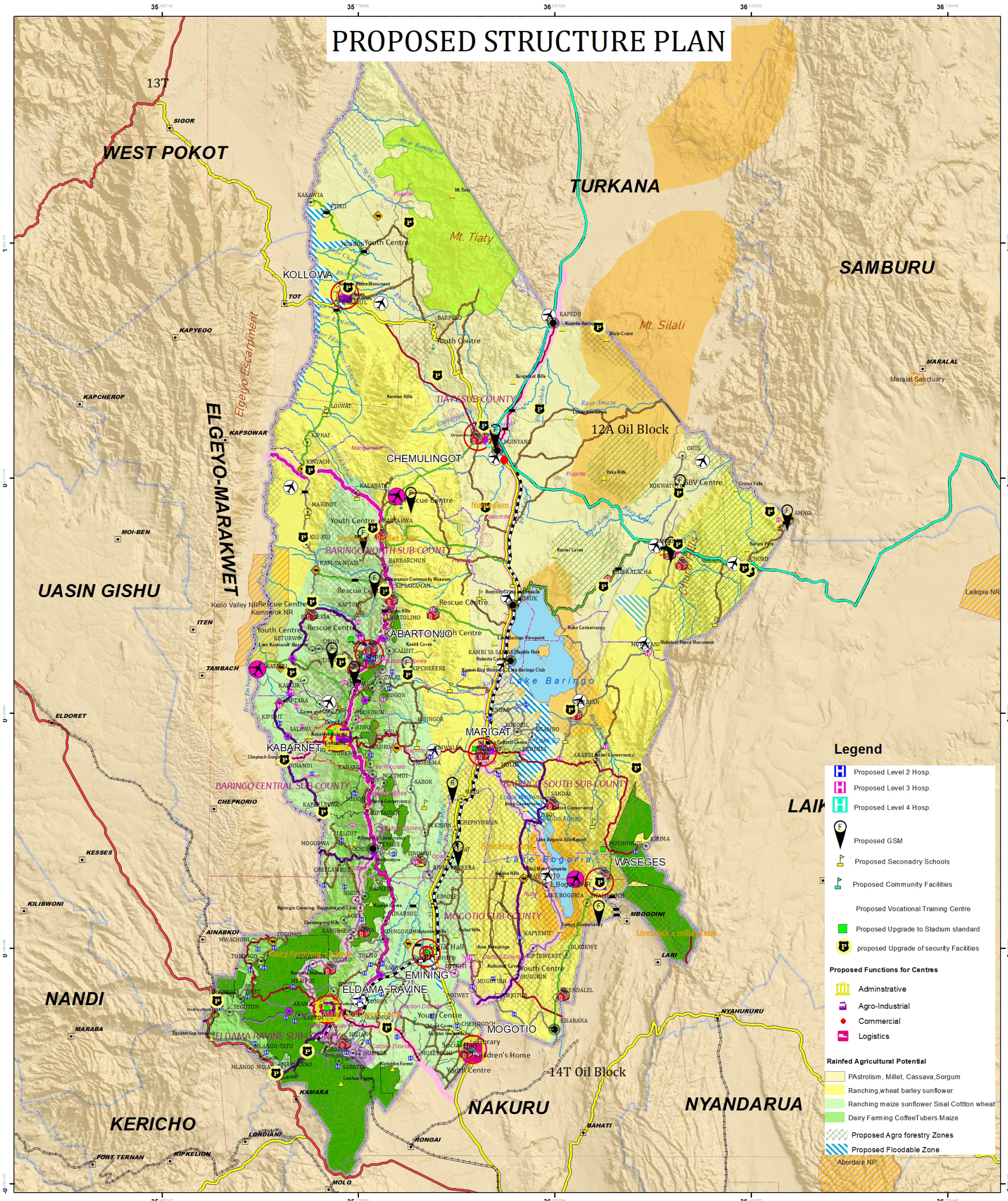
LAND MANAGEMENT POLICIES

Highlights the behaviour and practices to be promoted for land utilization

LAND USE POLICIES

Identify the standards guiding use of land within each proposed land use category

Map 51: Structure Plan



BARINGO COUNTY SPATIAL PLAN (2018-2028)

CLIENT

BARINGO COUNTY GOVERNMENT,
P.O. BOX 53-30400,
KABARNET.

CONSULTANT:

TWO EMS ASSOCIATES LIMITED,
P.O. BOX 27513-00506,
NAIROBI.
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CHAPTER SIXTEEN

Action Plans & Areas for Strategic Intervention.

These are critical transformative projects with high multiplier effects and with potential to kick-start the economy of Baringo County. These projects have been categorized into three:

TRANSFORMATIVE PROJECTS

Development projects which trigger a profound, ripple effect of positive, multi-dimensional change in ways that fundamentally remake the value and/ or function of one or more of the county's physical building blocks

PERCEPTIVE PROJECTS

Aim to improve the image and beauty of the County, have the potential to attract investors and give the County a unique identity.

FACILITATIVE PROJECTS

Enable the productive sector to operate effectively and efficiently.

FACILITATIVE PROJECTS

Produce goods and services directly and lead to generation of employment and income.

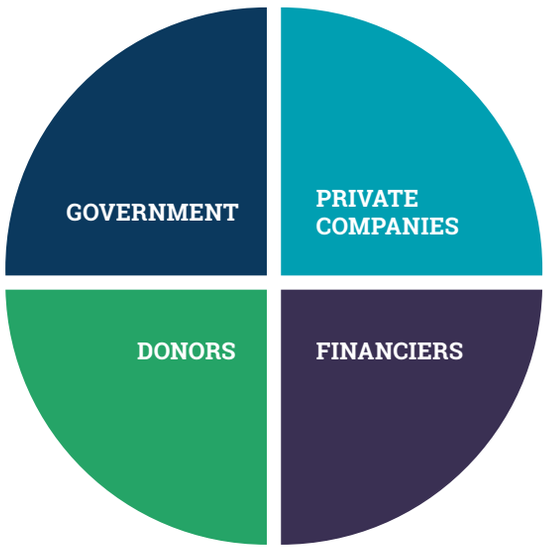
16.1 Perceptive Projects

These include:

16.1.1 Annual Investment Summit

The Annual Summit brings together the Baringo County Government officials, Baringo residents, National Government officials, Investors and Entrepreneurs to showcase the investment opportunities in the County. The County should take advantage of the summit by giving economic incentives for all investors to draw them to Baringo. The summit is expected to promote various connections as illustrated below:

- Showcasing investment opportunities in the county.



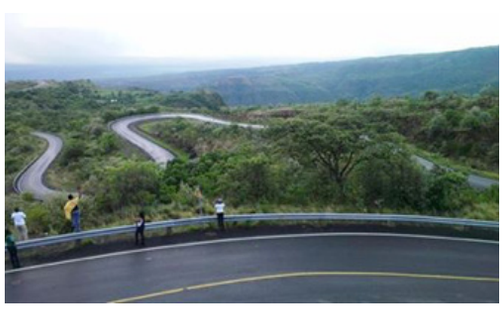
- Showcasing their products through exhibition stands.
- Infomation on relevant prospective investment opportunties.

- Identifying possible avenues for donor support

- Assisting potential investors by scrutinizing their proposals for viability

Investment Summit

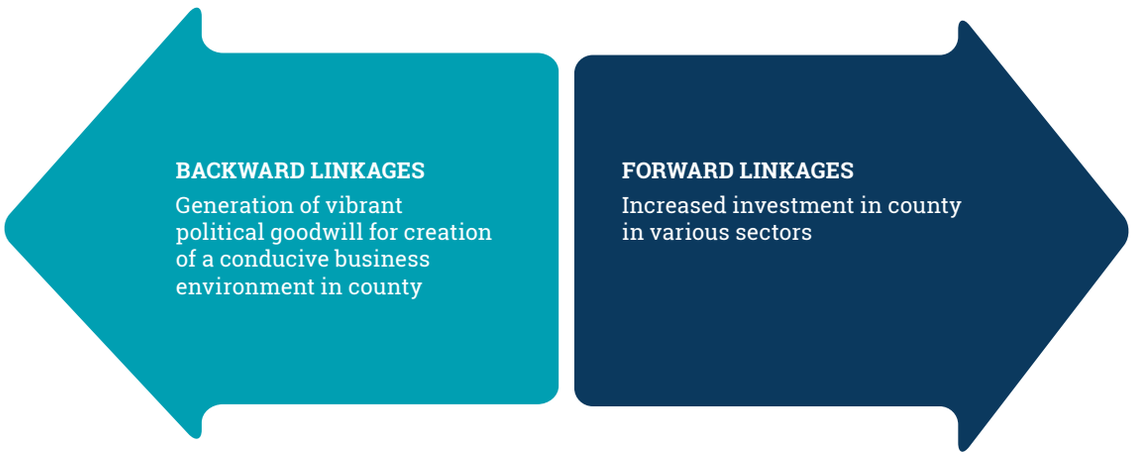
Baringo County has already established the Baringo Entrepreneurship Expo Summit which invites investors to the County to see what Baringo has to offer. The first summit will be held in November 12th and 13th 2015. The county niches to be promoted as the main focus sectors are proposed to include:



Agriculture (Agro-Industry, Food,Livestock and Agri-Business)	Tourism (Scenery and Wildlife)	Power (Green Energy)	Skills Development	Mega Projects (Avenues for Investment)	MSMEs

The investment summit should also be supported by an interactive online portal, with a one-stop mechanism for investors that want to invest in the County.

A forward linkage is created when the growth of a particular industry encourages investment/ leads to the growth in subsequent stages of production/ of industries that use its output as input. A backward linkage is created when a when the growth of an industry leads to the growth of the industries that supply it. This flagship project is expected to create the following forward and backward linkages:



Prerequisites for Success:

- Strong political goodwill
- Robust county economic and business environment policy and laws
- Vibrant branding and marketing campaigns by county
- Anchoring summit on a plan

16.2 Productive Projects

16.2.1 Investment in Industries: Lumber, Agriculture, Mining

The flagship project aims at promoting economic growth of the County through industrial development that will spearhead poverty reduction and inclusive growth.

Objectives:

1. To promote an attractive investment environment in order to develop the agricultural, lumbering and mining sector
2. To create direct and indirect employment opportunities
3. To encourage export competitiveness in the County

The different sectors aforementioned to steer industrial development in the County are:

AGRO-INDUSTRIAL	FOREST-BASED INDUSTRIES	MINING

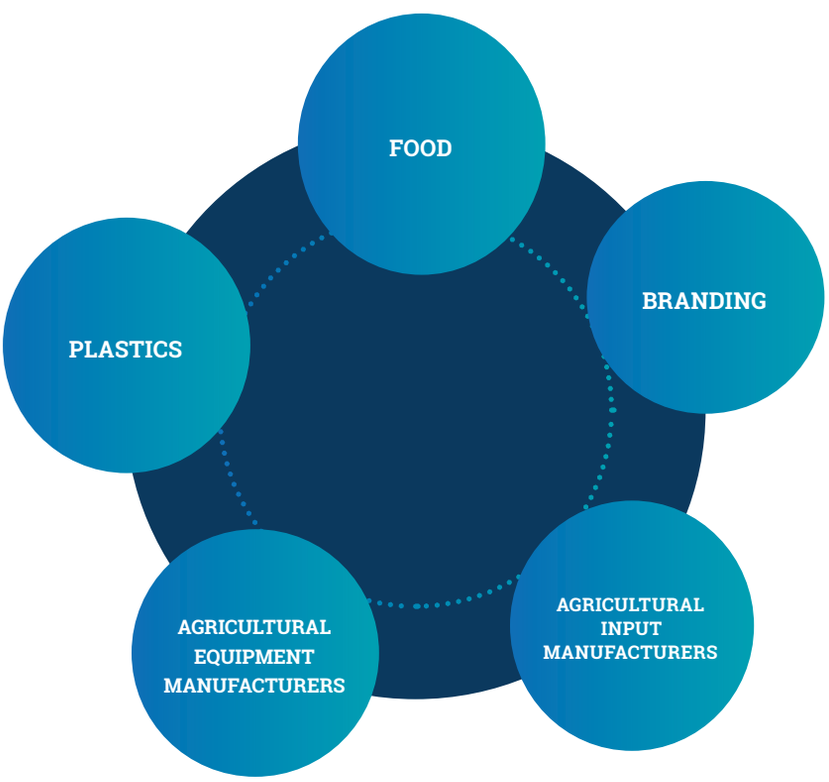
1. AGRO-INDUSTRIAL

a) Agro-industrial parks

Development of at least two agro-industrial parks. The agro-industrial parks should be located in major centres and its environs.

This flagship will be a 'sector-specific' industrial park focused on the development of the agro-industrial sector or industry, with a specific part of the park being designated as a Special Economic Zone. This Agro-Industrial SEZ section will be propelled through the facilitation of general or specific industrial infrastructure, incentives, technical and business services primarily for the export market.

One-stop shop (OSS) facility



- Agri-business incubation centers- Business incubation is a venture that seeks to grow upcoming business by providing mentorship, capital and technology where possible.
- Agriculture training and research center
- Demonstration farm- to teach farmers practices for improving value of their output for a wider market reach.

Prerequisites for Success

- Strong SEZ policy (at both national and county government level) providing attractive tax incentives.
- Feasibility study on an appropriate location and a site
- Agro-Industrial SEZ Master Plan
- Development of a strong transport system for export of produce.
- Anchoring on a spatial plan

Case Study: Kutno Agro-Industrial Park in Poland

Kutno Agro-Industrial Park (with an agro-industrial SEZ) was established in 1998. It has succeeded largely due to:

- Very good geographical location (proximity to a major highway, an intermodal container terminal and 60km from an international airport)
- The technical infrastructure provided, stable electricity supply, wastewater facilities have improved the park's attractiveness.
- A Local Spatial Management Plan governs the entire land within the industrial park.
- Attractive tax instruments have further propelled the park (such as exemption from property tax and income tax, and assistance in recruitment and training of new staff).
- Offering of land owned by town (without legal status issues).

As a result, the city of Kutno is today the most investment-attractive town in Poland. The investors in the agro-industrial SEZ are largely those involved in the following agro-industries: the food industry, packaging, plastics processing, manufacturing of agricultural equipment and pharmaceuticals are the dominant branches in the Kutno Agro-Industrial Park.

Results:

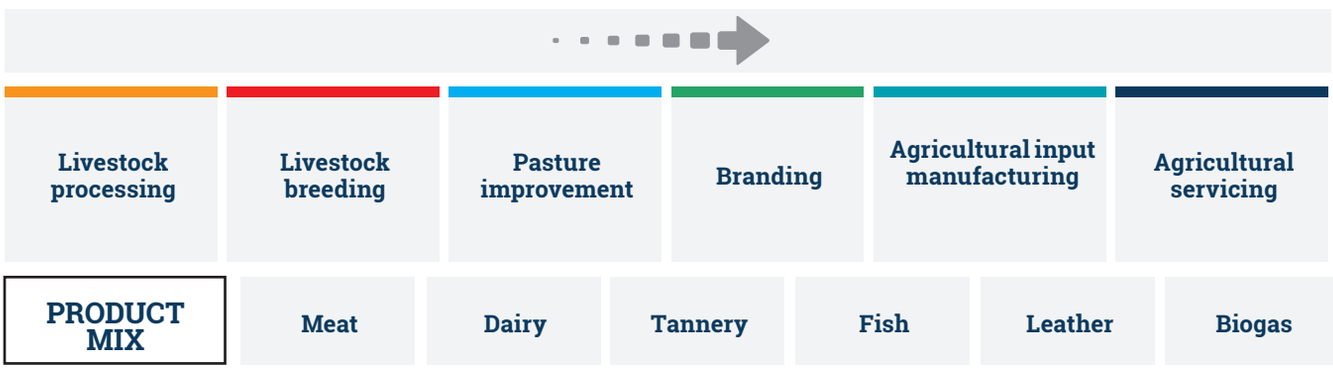
- Increase in capital investments by over 260 Million USD is the past 10 years.
- Job creation in both the industrial park and from support infrastructure construction. The number of tax exemption years is dependent on the number of new jobs created.

b) Livestock special economic zones

Special Economic Zone (SEZ) means a designated geographical area with liberal economic laws and with highly developed infrastructure selected by a government to promote development.

SEZ will be important in the livestock sector as it will promote good livestock practices, applied research, value addition and marketing support. This will therefore improve livelihoods of pastoral communities.

The SEZs will be specialized towards livestock development across the County. The SEZ will address processing of livestock products, livestock breeding and services as well research and technology.



The Special Economic Zone is proposed to have the following components:

- Central veterinary laboratory
- Farmer's welfare centres- A platform for the farmers, scientists and marketing partners to a bridge the gap among the framers and service providers
- One Business Incubation Center- For demonstrating livestock based entrepreneurs
- Model abattoirs

2. FOREST-BASED INDUSTRIES

a) Industrial clusters

Industrial clusters refers to a group of firms and institutions located in close proximity whose businesses are interlinked located in close proximity through value and supply chains, labour, and use of similar inputs, technology, and complementary products.

The forest business clusters will consist of both primary and secondary forest product manufacturers. They will be involved in providing both pre-processed and final products. The proposed forest industry subsectors include:

Solid wood products manufacturing → **Pulp and paper product manufacturing** → **Forestry and logging**

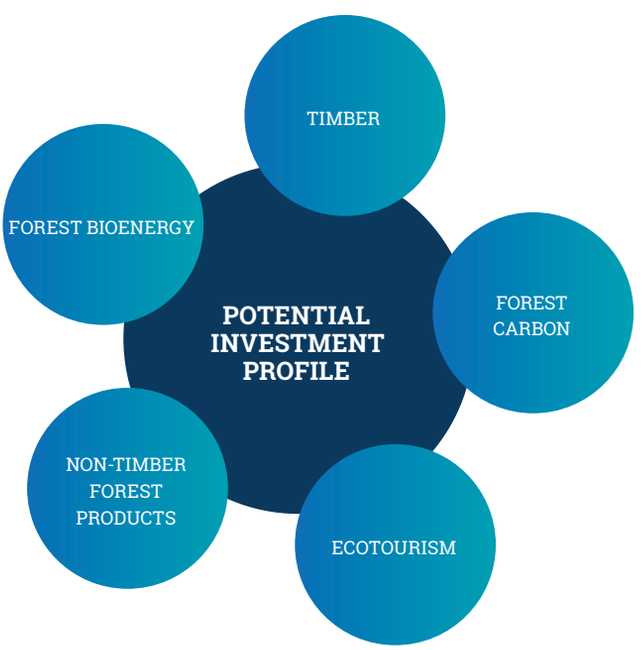
The proposed services to be offered include:

- Research and training centres
- Capacity building
- Extension services

b) Forest based enterprises promotion

This flagship project targets the small scale forest farmers and business people. It aims at providing enormous capacity and options for creating employment and additional income generation through forest based enterprises development, marketing, and value addition of different products.

The proposed forest-based sector investment profile is as follows:



Prerequisites for Success

- Feasibility study on an appropriate location and a site
- Establishment of a strong forest Policy framework (at both national and county government level)
- Development of the transport system for export of produce.
- Creation of incentives

Activities of the flagship project

- Rehabilitating degraded forest areas and promotion of farm forestry
- Development of Plantation programmes- The development of a 5-year felling plan for each forest conservancy and division, which includes annual replanting targets, would ensure harvesting levels are sustainable across the country.
- Forest conservation and management
- Development of an independent body to manage activities of the enterprises
- Involvement of community through community forest associations
- Market promotion

Case study: Forest industry in Nepal

The commercialization of the forest industry dates back to 1970 in Nepal. The industry has become the backbone of source of household income in the country. Community Forest Management Program in Nepal has become one of the world's successful programs in sustainable forest management.

The forest industry has succeeded due to:

- Involvement of the community in forest management. More than 19000 community based forest user groups are managing about 25% of the total national forest area
- Development of effective benefit sharing agreements
- Development of a master plan in the forest sector
- Attractive tax provisions that introduce incentives at the central and local government levels to encourage harvesting and trade. These enterprises can enjoy value-added tax exemption and a tax holiday for up to 10 years.
- Community-private partnership

Results

- The forestry sector alone contributes 15% to the GDP of the country.
- The private sector provides nearly 99,000 formal full time jobs per annum, whereas Community Based Organisations (CBO) including Community Forestry Users' Groups (CFUG) provide about 31,000 jobs making a total of 130,000 jobs.
- The total estimated investment by private entrepreneurs is about NRs 32 billion in 2013 (excluding direct foreign investment in eco-tourism)

3. MINING (ONSITE INVESTMENT)

The flagship project aims at development of the emerging mining sector to attract investment in the County.

Objectives

- To attract local and foreign investors to invest capital and expertise into the industry
- To promote local economic development for the county and communities.

The County has proven deposits of building stones, diatomite, ruby, manganese, fluorspar, carbon dioxide, opal, phonolites but the extent and viability of these reserves require more study. It is therefore necessary to attract investors to undertake exploration of the mentioned minerals. This can be done through:

Activities of the project

- Policy planning and development. This requires formulation of policies on taxation, government participation, industrial relations, safety and environment, and procurement and personnel that are in line with international mining industry standards
- Strengthening of technical industries
- Preparation of basic geological and project information
- Organization of investment conventions

Prerequisites for success

- Creation of an Enabling regulatory environment
- Development of a conducive macro-economic environment for mining investment
- Development of the infrastructure systems
- Effective Benefit sharing agreements.
- Community participation in multiple uses of mineral resources.

In the case of building materials which shows great potential. The development of the industry could be facilitated through:

- Creating of special processing mineral economic zones

The proposed components of the Special Economic Zone include:

- An internationally accredited Mineral Certification Laboratory
- A Regional Geological Survey and Research Center

16.3 Facilitative Projects

16.3.1 Land Tenure: Issuance of Title Deeds

Land is an important factor of production. Lack of security of land tenure is a major problem in the County and a contributing factor to extreme poverty, dependence, social instability including conflicts and civil unrest. The flagship project aims at land registration to bring about tenure security and promote investment in land.

Objectives

1. To establish a land tenure system that guarantees tenure security
2. To improve farmers' and pastoralists access to credit through creation of tangible collateral
3. To create incentives for long-term investment in land improvement and technology innovations.

1. Freehold land

The proposed approaches to strengthen access to land and tenure security include:

- Using geographic information systems to map land and natural resource rights, use and management.
- Allocation of more funds into surveying and land registration to fast track the acquisition of title deeds
- Recognizing and documenting one's land rights through surveying and registration

2. Community land

In community land, issuance of land rights is proposed to be done in the various ways:

- Issuance of individual title deeds to residential and farmland owners
- Issuance of customary land rights/group rights, instead of ownership in the rangelands

Reason behind this:

- If rangelands are to be subdivided into uneconomical land units, livestock productivity will deteriorate due to lack of sufficient pasture, resulting to increased poverty among the pastoralist communities.

The issuance of customary land rights/group rights will be beneficial in the same way that:

- It can act as a collateral instrument
- Guarantees the use of the land in perpetuity and the right to inherit land.

In order for the commonage/ community land to be of added value, it is advised that local management associations be encouraged such as conservancies, community forests among others.

The proposed framework of land registration:

CUSTOMARY LAND REGISTRATION

→ Providing legal rights and ownership of all land, the ownership being vested either in individuals or in groups (through local management institutions) according to what is best for the area of land in question

↓ Application procedureson registration of land rights

→ The community land board to determine the appropriate land sizes for each household.

↓ Mapping of the individual plots using the orthophotos and or GPS

↓ Notification of community for approval or rejection

↓ Issuance of certificate of registration

Activities of the project

- Development of a Community Land Registry
- Development of Land information management system- to store data on communal lands for the whole country in such a manner that will accommodate future integration with the commercial registration system (Deeds System).

Prerequisites for success

- Extensive training to village headmen and women, traditional authorities and CLB members on provisions of the law, land registration procedures, dispute resolution techniques, and management of communal resources.
- Investment in dissemination of information and awareness to communities of the customary land rights system

16.3.2 Erosion Control Flagship

a) Soil Erosion: Deep Gullies

Proper management of soil as a valuable resource is vital for sustainable agricultural productivity. Soil loss is not only an agricultural problem but also an environmental problem. Loose soil enters streams and destroys fish habitat as well as the quality of water and especially when contaminated with pesticides.

The flagship project aims at reducing soil erosion and hence reduce siltation levels in Lakes Baringo and Bogoria. The main actors in prevention of erosion control flaghip are illustrated below:

Environmental Department of the County Government	• Make policies and implement them in regards to soil conservation.
NGOs and Environmental Groups	• Create awareness on the importance of soil conservation and how to prevent soil erosion. • Provide materials like tree seedlings for planting to reduce soil erosion.
Baringo Residents	• Plant trees and ground cover to conserve the soil.

Gully erosion is a result of soil being carried away from the surface by wind or water.

Objectives of the Flagship:

1. To reduce the effects of soil erosion such as siltation.
2. To improve sustainable flows of rivers and streams.
3. To promote the use of better agricultural practices that reduce soil erosion.
4. To encourage the inhabitants and stakeholders within the region to participate in soil conservation measures.

The objectives will be achieved when trees and general groundcover is planted to ensure there is no loose soil that can be carried away by wind or water.

Construction of gabions and terraces with groundcover help to reduce soil erosion

Eliminating farming methods and practices like monoculture, constant application of fertilizer and burning farm lands after harvest will help reduce soil erosion.

b) Riparian conservation

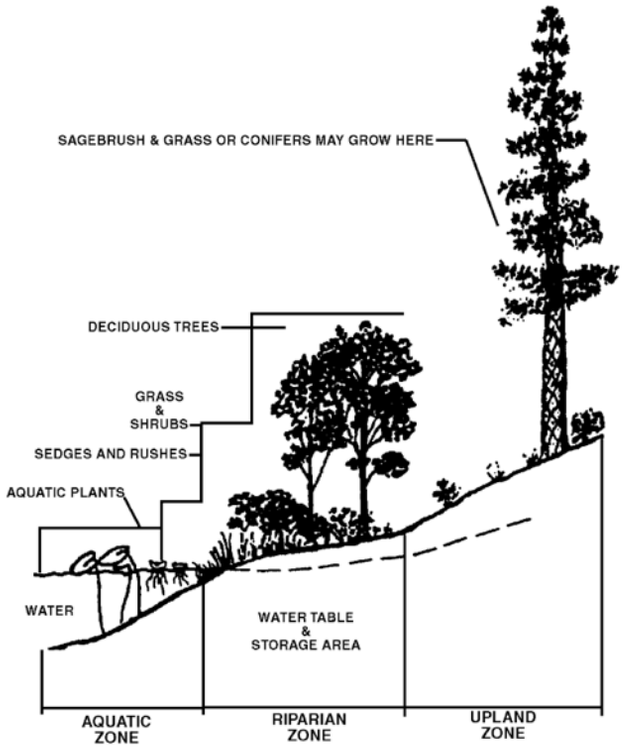
The riparian area is the zone of transition between land and water. A healthy riparian area is vegetated with appropriate native plants and is essential for stream health and water quality.

When riparian areas are disturbed, stream banks quickly become destabilized, streams become silted and warm, invasive plant species begin to colonize, and riparian-dependent wildlife disappears

Micro-turbine generators common along the Perkerra River to pump water for irrigation which should be removed as they reduce volume of water in the rivers causing drying up of the river

Objectives of Riparian Conservation:

1. To promote afforestation.
2. To improve sustainable flows of rivers, streams and other water bodies.
3. To preserve and improve biological diversity.



Gabions on riverbeds are important to prevent contamination of water. Riparian zone schematic shown is the most natural alternative for sustainable riparian zones.

c) Slope management:

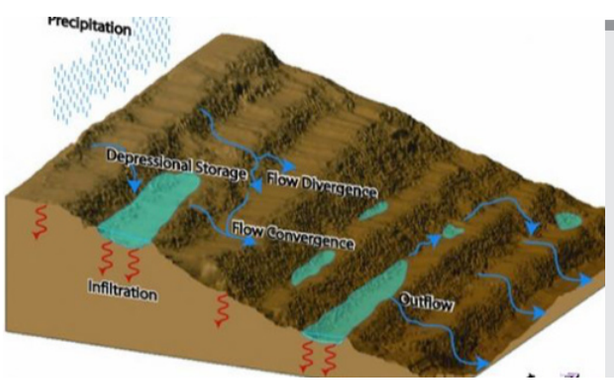
Slope management is important to prevent landslides.

There are water catchment opportunities from slopes that can be maximized on for better water management.

Objectives of Slope Management.

1. To reduce chances of landslides.
2. To reduce erosion on slopes.
3. To create better practices of water management on slopes.

How water moves on a slope.



Gabions on riverbeds are important to prevent contamination of water. Riparian zone schematic shown is the most natural alternative for sustainable riparian zones.

Importance of Hillside Ditches:

- Prevent the flow of water from accumulating as it moves downhill, eroding the land.
- Help redirect small amounts of rainwater into stable areas.
- Break long slopes into shorter segments to intercept surface runoff.

Planting trees and ground cover on slopes is important to prevent landslides.

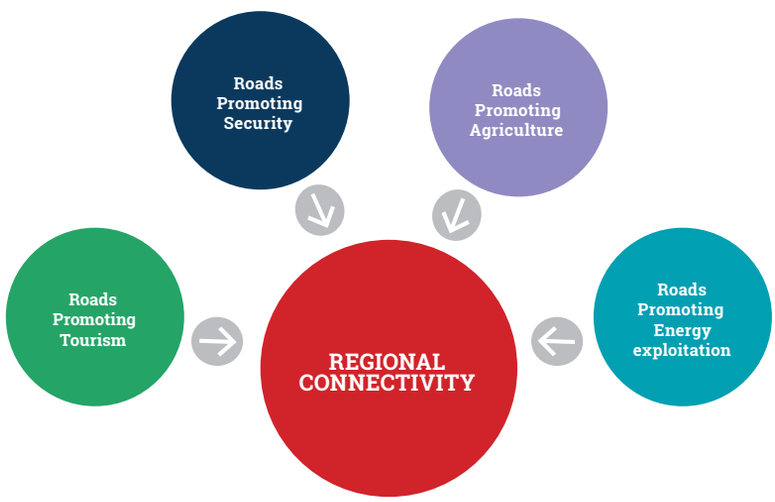
BACKWARD LINKAGES
Generation of a vibrant environmental department for creation of a sustainble environment in the County

FORWARD LINKAGES
Successful erosion control in the county and adoption of erosion control measures

Prerequisites for Success:

- Strong policy and implementation facilities from the environmental department of the County Government.
- Effective capacity building for the residents to know the importance of a sustainable environment.
- There must be technical support on implementation of erosion control measures.

16.3.3 Strategic Roads Flagship

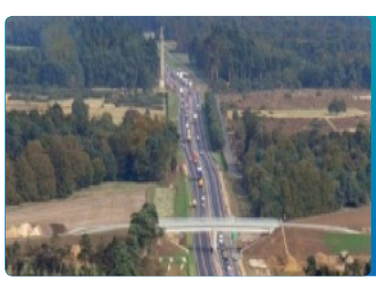


The County will boost economic growth by developing its transport infrastructure. The flagship project will focus on enhancing connectivity to promote competitiveness of the County with its neighbouring counties. This can be done through:

Promoting PPP to undertake infrastructure projects

The objectives of this flagship project are:

- To create an enabling business environment for trade of pillars of county economy
- To promote maximum exploitation of the rich natural resources
- To promote security.
- To establish an improved transport connectivity



Road promoting Agriculture:

- It aims at enabling connectivity between: Fertile farmlands of Mochongoi to Marigat through Arabal; Also Mochongoi to Marigat-Nakuru highway via Elkokwe
- Re-tarmac the road Saos-Tenges-Kabarnet-Kabartonjo road to promote easy transportation of agricultural produce from farms to

Roads promoting tourism:

- This includes construction, upgrading and maintainance of roads used to access tourism destinations:
- Road connecting Ravine and Arama, Kenyatta hide out
- Marigat-Loboi-Bogoria road
- Marigat-Kampi samaki road

Roads promoting Energy exploitation

- This include construction and upgrading of road going through geothermal potential zones:
- Upgrading of Chemogoch-Kipteweret-L.Bogoria-Sandai-Keserian-L.Baringo-Chepkalacha-Orus roads would ease access to geothermal sites

Roads promoting Security:

- Upgrading the existing roads to access areas with insecurity incidences in Baringo South. They include;
- Marigat-Arabal-Kaber-Waseges -Kirima
- Marigat-Mukutani-Tangulbei-Churo
- Marigat-Ng'ambo-Chepkalacha-Tangulbei

Prerequisites for success:

- Political good will
- Preliminary studies on appropriateness of the location
- Public private partnership protocols
- Developing a transport plan

16.3.4 Farmer Cooperatives Flagships

BACKWARD LINKAGES

- Increased bargaining powers to farmers
- Business friendly environment

FORWARD LINKAGES

- Improved trade relations
- Flexible markets

Impacts

- Improved economic growth of Agriculture, tourism and energy sectors
- Regional connectivity
- Ease in managing
- Improved infrastructure insecurity development

Agriculture is the backbone of Baringo's Economy. Most agricultural value chains are largely influenced by poor marketing of produce, problem of accessing farm inputs and limited capacity of farmers to intensify agricultural production. Cooperatives in general, should not be viewed as societies helping their members only, but should be considered as tools for social change and institutions for community development.

This flagship aims to:

1. Promote joint action in marketing of agricultural produce and accessing quality farm inputs through farmer owned cooperative movement.
2. Build the capacity of farmers in agricultural techniques that can intensify production

Activities of the flagship project

- Implement a flexible cooperative law,
- Impose a single taxation model for cooperatives,
- Clearly defined competition rules among organization
- policies and measures to support farming cooperatives and technical (extension) assistance, especially in for small scale farmers

Prerequisites for Success:

1. There must be technical support on implementation of cooperative societies development policies.
2. Facilitate easy registration and deregistration of Cooperative societies
3. An institutional framework that facilitates and enhance linkages among cooperative stakeholders, both locally and internationally;
4. There should exist a conducive environment for the cooperative movement networking in the areas of production, processing, marketing, financing and investment

16.3.5 Human Resource Development

Human resource development goes hand-in-hand with education and literacy. It is recognized as a right explicitly for both adults and children. The aim of developing the human resource of Baringo County is to facilitate in economic development, as well as individual and community well-being. It is proposed that the county government should invest heavily in empowering educational institutions within the county by:

- Increasing the number of primary schools in the lowlands (Baringo South)
- Establishing secondary schools for children with special needs (every ward)
- Establishing a vocational training center in every ward
- Establishing a university in every sub-county
- Starting up a scholarship program for form four leavers to improve the transition rate to tertiary institutions

Expectations

Expectations accruing from developing the human resource of Baringo conveniently facilitate aspects within the individual, political, cultural, social and economic sectors.

BACKWARD LINKAGES

1. Build farmer capacity on financial literacy
2. Promote farmer savings
3. Promote joint action in accessing inputs, negotiating prices
4. Promote ease of capacity building and information flow

FORWARD LINKAGES

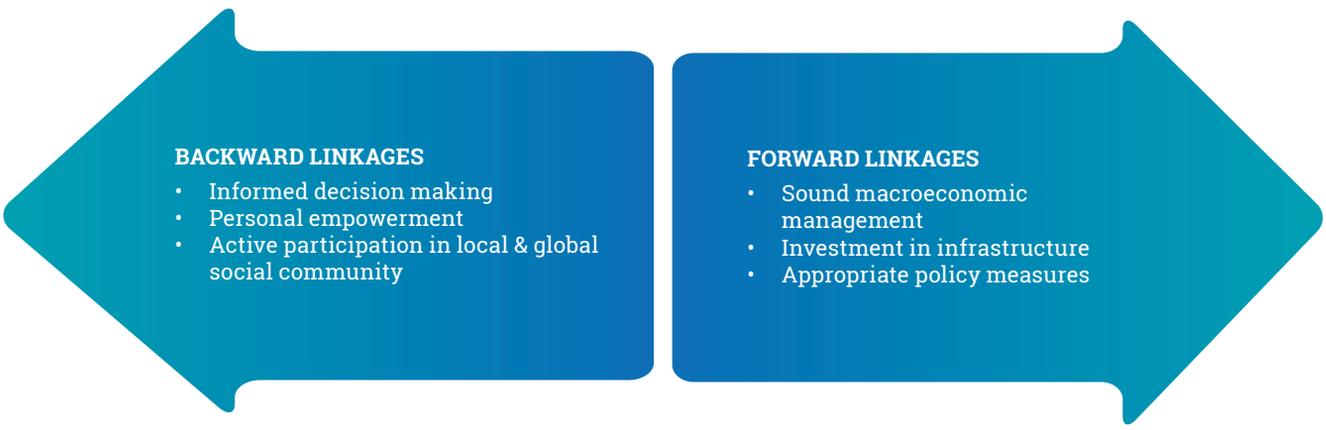
1. Easier for farmer based value addition
2. Easier to source regional markets from the econoies of scale

Human Resource development

Individual	Political	Cultural	Social	Economic
+ Self esteem + Empowerment	+ Political & community participation + Democracy + Ethnic equality + Avoidance of conflict	+ Cultural change + Preservation of cultural diversity	+ Health & morbidity + Reproductive behaviour + Gender equality	+ Economic growth + Returns to investment

Backward and forward linkages

A forward linkage is created when the growth of a particular sector leads to the growth in subsequent stages of production/ of industries that use its output as input. A backward linkage is created when a when the growth of a sector leads to the growth of the industries that supply it. This project is envisioned to have the following forward and backward linkages:



Case study: Mozambique Entrepreneurship Curriculum Programme

The Mozambique government wants to increase the practical relevance of the education system in cooperation with the Ministry of Education and Culture and UNIDO. The programme consists of three components that build on each other to stimulate human development and innovation leading to entrepreneurship:

Attitude: Simple methods within the economic environment e.g community work are used to promote a sense of dignity of work and thereby to change the attitudes of students towards work and self-employment.

Opportunities: Students are encouraged to creatively identify business opportunities, especially with regard to their local environment. Students are also encouraged to create local capital.

Management: Students are provided with training in simple business management techniques e.g drafting a business plan and are familiarized with aspects of the regulatory business environment by visits of staff of the regional one-stop shop to empower them to start their own formal businesses.

Results

- A change of academic attitude towards education
- Empowerment of young women
- New business projects are coming up.

16.3.6 Leadership and Governance Flagship

VISION: Transperency And Accountability Towards Equitable Resource Allocation

Rationale

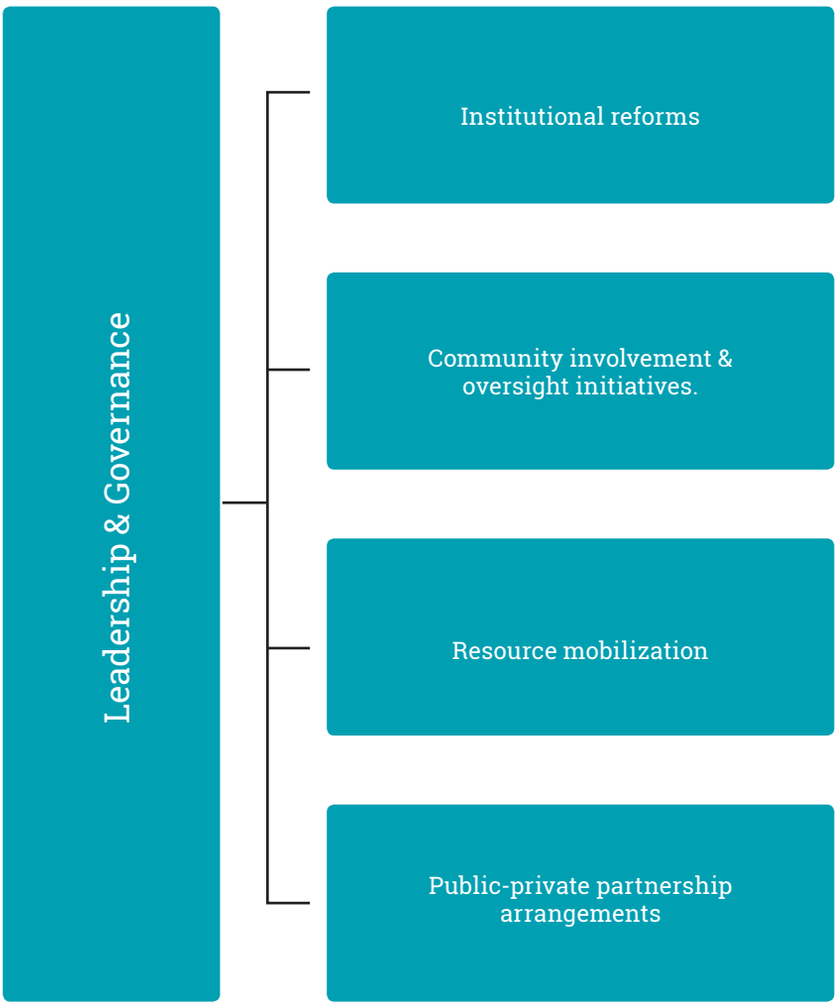
The main aim of this facilitative flagship is to create an enabling environment for the productive sector and all the other sectors of the economy to operate efficiently and to operate effectively and efficiently. Further, this flagship seeks to create institutions that are transparent, accountable, and ethical as well as result oriented.

The goal is to enact and operationalize the necessary policy, legal and institutional reforms required to strengthenpublic transparency and accountability. Kenya Vision 2030 stresses on the improvements in resource mobilization withfocus on the involvement of the private sectors.

Objectives

- Public Accountability per Ward through formation of Independent Public Monitoring and Evaluation Committee
- Civic Education and sensitization of community per ward on ongoing and planned development projects based on roles of leaders
- Integration of County Leaders per quarter of the year to take stock of development issues in region.

16.3.7 Private sector-driven resource mobilization



Pre-requisites for success

- Regular community and civic education and sensitization on devolution at ward level.
- Integration of County leadership efforts: scheduled meeting of Governor, Senator, MPs, MCA's, DC and chiefs to coordinate efforts of the County
- Establishment of an Independent Public Monitoring and Evaluation Committee at ward level for public scrutiny on a quarterly basis, of development projects
- Formation of Ward Development Committee per Ward to oversee how, where and when resources are allocated and spent
- Creation of awareness and sensitization of communities at ward level regarding intended development projects
- Implementation of village administrators and council of elders leadership as proposed in the Constitution
- Transparency of county, ward and village expenditure for clear understanding of budgetary allocation at grass root level

16.3.8 Private Sector Facilitation

The private sector is a basic organizing principle of economic activity in a market based economy where:

- Private ownership is an important factor
- Markets and competition drive production
- Where private initiative and risk-taking set activities in motion

This is a facilitative flagship project which aims at assisting Baringo County; Increase exports of goods such as animal and crop products and services regionally, benefit from increased market access and enhance growth prospects and reduce poverty.

It is proposed that the County government of Baringo partners and forms voluntary and collaborative relationships with the private sector. Private sector actors may include:

Reason for appropriateness:

The private sector is the main driver of economic growth as it represents the main source of employment creation. It also creates and delivers goods and services as well as new technology and innovation. Furthermore, the private sector will expand revenue channels for the county government of Baringo.

Employment creation

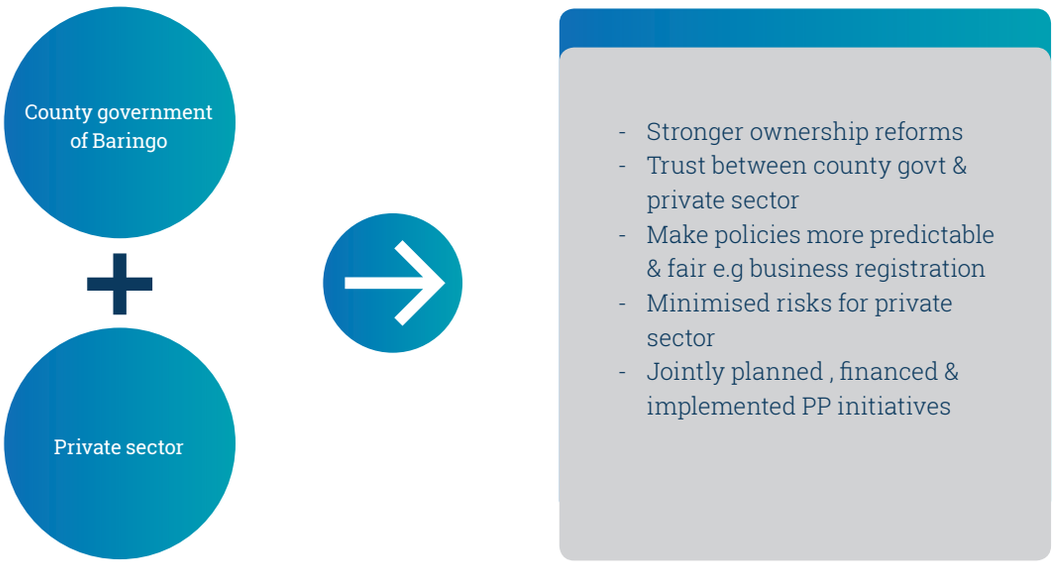
Innovation & technology

Main driver of economic growth

This flagship project is anticipated to bring in the following results:

Pre requisites for success

- Active county government support for private sector development
- Adequate and good quality infrastructure within Baringo county
- Effective measures designed to combat crime and insecurity in the lowlands
- Reduced legal, regulatory and administrative barriers to business registration
- Reformation of County government institutions for better service delivery to the private sector



16.4 Quickwins

A quick win is an improvement that is visible, has immediate benefit, and can be delivered quickly after the project begins.

16.4.1 County Livestock Feedlots

The County will establish feedlots where livestock from can be fattened. The feedlots will be established in Tangulbei, Chemolingot and Amara/Churo.The feedlots should have commercial pasture production.

From the feedlots, the county will be able to carry out value chains like setting up abattoirs for beef production, tannery and manure production for local consumption and export.

The County creates a marketing strategy for the surplus livestock to fetch higher prices than that a pastoralist would get.

16.4.2 Drilling Boreholes

Provision of water is important in the drier areas of Tiaty Sub-county. Feasibility studies need to be done to establish areas where boreholes can be drilled. Once the boreholes are drilled, the County can install water pumps that run on solar energy which is present in the area. The use of green energy reduces the cost of operation of the borehole.

16.4.3Mobile Schools for Nomadic Communities

Train select community members as teachers to work within the community especially in Tiaty sub-county. Materials used in the classes are highly portable. The lessons are offered to both children and adults. When the communities moved to new destinations, the school can be transported using animal drawn carts.

16.4.4 Baseline Research on Feasibility of Mineral Exploitation

Baringo County is endowed with numerous mineral resources. Some minerals require the County to set up feasibility studies on the commercial exploitation of these resources. A baseline research will be a guiding tool to getting mineral investors into the County. Some of the resources that require the feasibility study include:

- The 12A oil block shared by Baringo and Elgeyo-Marakwet counties.
- Carbon Dioxide around Eldama Ravine and Esageri.
- Copper, Garnet, Graphite near Kimwarer.
- Ruby at Sandai location near Lake Bogoria.
- Kyanite and Vermiculate near Ewaso Narok River
- Diatomite in the Chemeron beds in the North East
- Manganese in Southern Karisia Hills.
- Opal at Isanda near Perkerra.
- Fluorite deposits within the basement and volcanic rocks of Tiaty hills.

16.4.5 Annual Cultural Festival

The aim of the cultural festival is to promote tourism, conserve the culture of the Baringo people and create a forum to market the tourist sites in the county. Major stakeholders contributing to the success of this quick-win include; the community, County government, Tourism Regulatory Board, KVDA, Local media stations, Miss Tourism Kenya, the hospitality industry and Magical Kenya.

The cultural festival aims at showcasing:

- The Eunoto ceremony (ceremony to mark the change to a different age-set) of the Ilchamus
- The cuisine of different cultures of communities in Baringo County
- Traditional dressing of the County residents
- Beadworks from the local communities
- Local music

PART VI:
PLAN IMPLEMENTATION

CHAPTER SEVENTEEN:

Plan Implementation Strategy

17.0 Overview

The ability of the planning system to implement policies and proposals is perhaps the most important test of its effectiveness. To this effect, this chapter attempts to lay a roadmap for effective plan implementation, monitoring and evaluation. The chapter consists of the following components:

17.1 Institutional Framework for Plan Implementation

Proper plan implementation relies on a sound institutional set up. The successful implementation of this Plan will greatly depend on the level of detail and attention given to ensuring that the implementation schedule provided for this plan is followed.

Given the multiBdisciplinary nature of the County Spatial Plan, this plan proposes creation of an implementation and coordination committee to facilitate its implementation. The committee should consist of key executive officers from the thematic areas. The thematic areas will all be GIS based, attached to a GIS laboratory. Each of the key officers should be mandated with strategic projects to implement. They will also ensure that the thematic areas are regularly updated in the GIS database for the county. Furthermore, a Plan Implementation and Coordination Committee composed of County Government Representatives and the NLC shall be established to oversee effective implementation of the Plan projects and subsequently ensure proper management of the allocated funds. In addition, the committee members must not be more than twoBthirds from one gender, and a representative of disabled persons, the youth and marginalized communities must be incorporated into the committee.

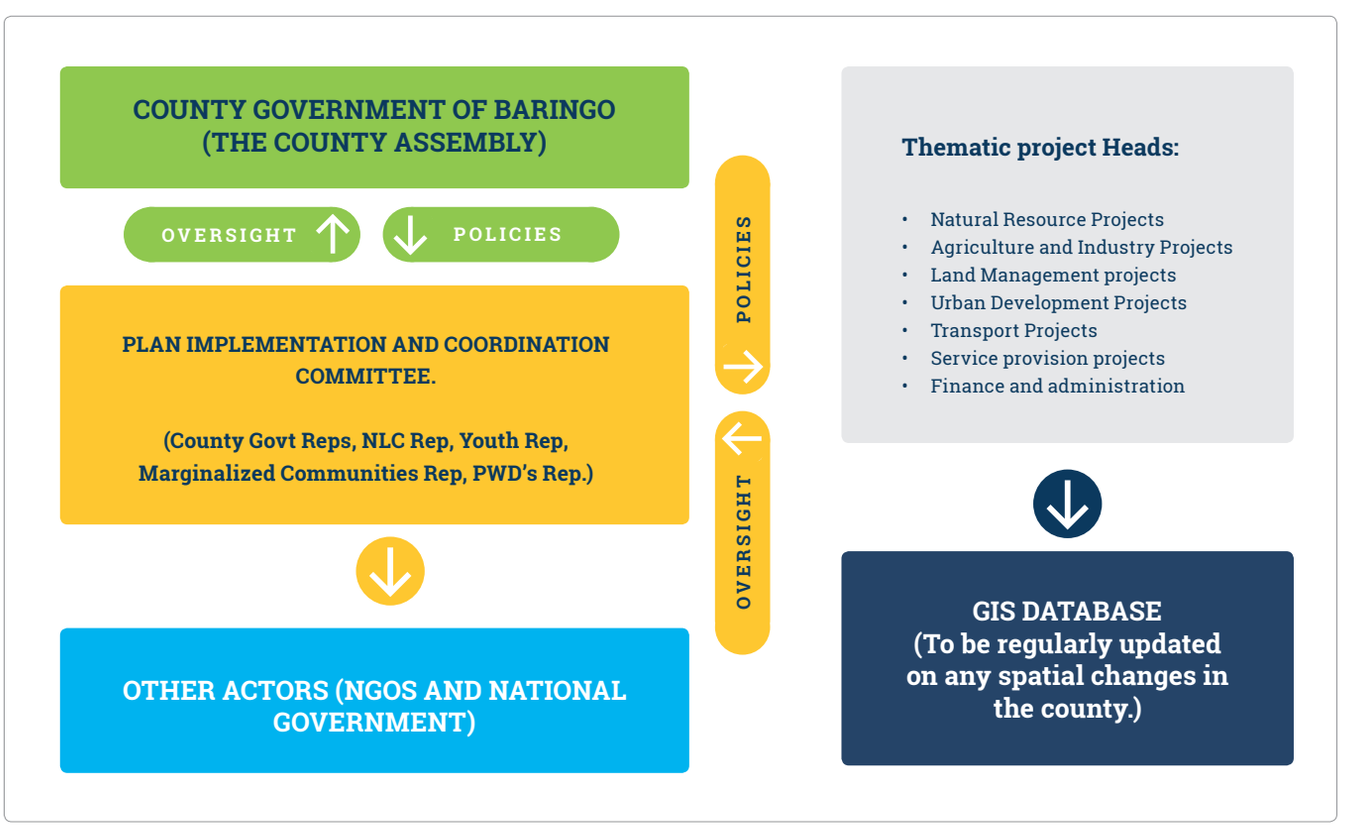
The appointment of the Committee Chairman is critical to ensure all activities and resources necessary for the implementation of the Plan projects are well coordinated and organized so as to add value to the development process. It is proposed that the Chairman be a member of the committee with full understanding of the Plan execution. A professional consultation team comprising of Physical Planners, Environmentalists, Water Engineers, Agriculturalists or any other relevant profession will be from time to time consulted on the development of certain projects for the Plan implementation.

The Plan implementation coordination framework desires to maximize the use of available resources, avoid duplication, ensure accountability, reduce implementation delays, conflict and improve the capacity of the members. The functions of the implementation committee will include:

- Understanding and implementing the strategies and projectsg
- Establishing an effective communication and dialogue between all parties involved in implementationg
- Facilitation of administrative proceduresg
- Availing implementation resourcesg
- Oversee the setting up of reliable baseline data to facilitate M&E functionsg and
- Revision of the plan every five years.

All involved stakeholders shall assume collective responsibility of the plan implementation to ensure proper use, management and conservation of the desired Spatial structure of the county.

The following schematic diagram best illustrates the coordination framework in the implementation of the Plan.



Members of the Plan Implementation & Coordination Committee

The coordination committee should constitute of:

- The Chief Officer (Lands and Urban/ Physical Planning), or any relevant person appointed by the Chief Officer, to manage the implementation process. He will oversee all functions of the coordination committee including the implementing heads of departmentsg
- Senior member from the Ministry of Trade, Lands, Urban/ Physical Planning, Energy and Industrializationg
- National Land Commission Representative at the County Level
- Head of Department (HOD)Agriculture, Livestock, Fisheries and Cooperative Developmentg
- HOD Environment, Natural Resources, Water and Tourismg
- HOD Public Administrationg
- HOD Education, Youth and Sportsg
- HOD Healthg
- HOD Gender and Cultureg and
- HOD Housing and Sanitation.
- One representative of disabled persons, marginalized communities and the youth. NB: Committee members must not be more than twoBthirds from one gender.

Each strategic project lead is assigned resources and manpower to achieve the strategic projects. This head is solely responsible for management of the projects and reports to the coordinating unit.

The schematic diagram best illustrates the cycle followed in strategic project implementation.

Throughout the process of implementation, the implementation committee:

1. Ensure Information exchange and dialogue
2. Plays oversight role to the process through the strategic head
3. Avail Resources for key activities.

17.2. Communication Strategy

An effective communication strategy between all concerned stakeholders helps to build a common consensus for the realization of the Baringo CSP.

PRODUCT OF THE PROCESS ABOVE SHOULD CULMINATE IN A COMMUNICATION ACTION PLAN

WHAT/ TASK	RESOURCES FOR TASK	WHEN	HOW	RESPONSIBLE	TARGET AUDIENCES		
					SPONOR	PROJECT TEAM	WHO?
Activity name	Based on existing and required resources	Timelines	Meeting	Project Manager	Approve	Receive	

Outcomes:

- Awareness, understanding and support by the communities.
- Creation of communication structures and channels to ensure free flow of information and proper feedback mechanisms.
- Participation and consensus of all stakeholders in the planning and implementation of upgrading.
- A common platform for all stakeholders to facilitate the coordination of the various stakeholder activities in the upgrading.

17.3 Community Participation Framework

The residents of Baringo County will form a key component for the implementation of this plan. They therefore must be actively engaged throughout the implementation process. This will ensure that effective citizenship is promoted through project ownership and implementation support. Principles of effective engagement should be observed to ensure proposals herein have community goodwill. Principally, the plan may only result to growth if the community owns the implementation.

Proposals for effective participation:

1. Conduct community participation forums in a language understood by all.
2. To counter inherent bias, participatory spaces be separated based on perceived bias e.g. political affiliation,gender,security.
3. Engagement must be transparent and not merely a rubberBstamping exercise.
4. It should be clear to all what the results from public engagement will be used for.

Engagement framework (How):

1. Individual engagement
2. Using popular mass media (Radio, Television and Posters)
3. Social Media
4. Bulk SMS services
5. Public hearings and Barazas
6. Sensitization workshops.

17.4 Capacity Building Framework

Capacity is the ability of individuals and organizations or organizational units to perform functions effectively, efficiently and sustainably. Capacity building is an evidenceBdriven process of strengthening the abilities of individuals, organizations, and systems to perform core functions sustainably, and to continue to improve and develop over time. Many of the proposals herein are solely dependent on the improved capacity of the residents of Baringo. This capacity building strategy is meant to help the County Government to enhance their approaches and plans and therefore becomes the prerequisite for successful implementation of the plan.

THEMATIC AREAS FOR CAPACITY BUILDING

- Community engagement
- Formation of SACCOs and CBOs for joint marketing
- Managment of SACCOs
- Intensive agricultural techniques among small holder farmers and crop varieties
- Relevance of agriculture extension service
- Soil health card shemes and soil testing
- Relevance and adherence to zoning regulations
- Climate change adaptation
- Soil erosion control, slope maintanace and Reperian reserve protection
- Governance and accountability
- Regional market opportunities
- Busineaa venture finanancing

Proposals

1. To ensure all stakeholders are aware of proposals herein, training for implementation unit and County assembly should be held. This training should extend to all officers in all technical offices.
2. All County Departments within the implementation coordination unit should have capacity building budget and accountability procedure.
3. Capacity building should be part and parcel of the communication plan and every engagement forum.
4. Capacity building forums should follow the principals of effective engagement.
5. Each thematic knowledge areas should hold capacity building workshops annually per sub County.

17.5 Capital Investment Plan

The County Government of Baringo is constitutionally required to plan, fund, design, construct and maintain infrastructural assets that enable the county and its people as well as the economy to flourish. However, the desired infrastructural investment for Baringo County requires capital that far exceeds available resources to the County Government making a case for the County to build capacity to appraise and prioritize its investment decisions. Hence there is an increasing need to establish and maintain a process of planning and funding capital investment as a regular activity integrated with the county together with its other activities and based on principles of good public management. For this to happen, the County Government of Baringo must identify and prioritize the most beneficial investments, those that will meet long term goals, inter alia, for conservation, mobility, sustainability, healthcare, revenue generation and broad-based prosperity.

In developing this CIP, all possible Baringo County Capital Investments were considered together, and funding programs were developed and size taking all capital need into account. The CIP is the first capital plan produced for the County of Baringo and all programs and projects were selected to Baringo County vision of ''To be the most attractive, competitive, and resilient county that affords the highest standards of living and security for all its residents''

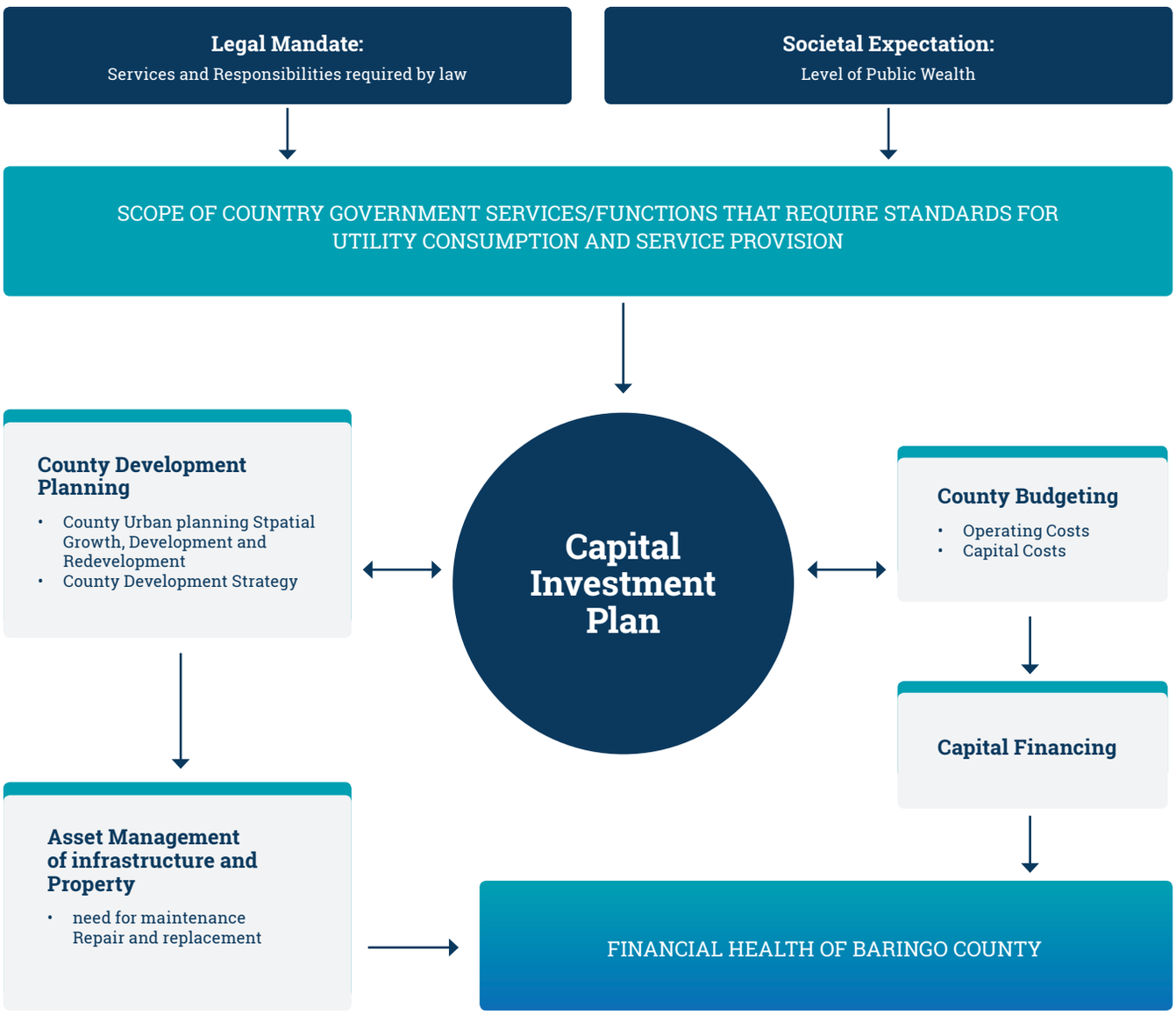
17.5.1 The Need For A Capital Investments Plan

The marginalized state and poor living conditions in Baringo County necessitate the need for the Baringo County to invest in infrastructure and the social improvement assets that should enhance the economic and social development of Baringo County communities.

Hence the county needs to create an investment framework that ensures sustainable development in the county that would enhance the welfare of the people of Baringo. Investment is understood as investment in the acquisition or building of new assets; or major repair and replacement of existing assets that have an economic life longer than one year and a value above a specified threshold.

The total capital investment for any period of time (that is, the entire Capital Investment Plan) and the individual projects included in it can be financed through a combination of sources. Usually, sources of financing are defined for separately each capital project (or for a group of similar projects, such as street repairs in different parts of the city). This will include capital investment by the County Government of Baringo, the National Government, National Agencies and institutions established for the provision of public services, enterprises set and owned by the County Government for the provision of public utility services. CIP also may include investment by the private sector through public-private partnerships (PPP) as well as by NGOs whose mission intend to improve the welfare of the communities in Baringo.

Figure 32: How Capital Investment Planning is Related to County Government Activities



Source: World Bank CIP Guidelines (2011)

The figure above depicts how Capital Investment Plan should ideally relate to other activities with Baringo County. The Blue boxes illustrate conceptual, legal, social, and economical factors that establish a fundamental context of the CIP. It highlights the first key principle of good public management as properties and infrastructure in which the County invests should be only those needed for the services and utilities that the County is requires to provide for its communities. The services to be provided are either mandatory services required by law or discretionary services recommended in National or County policies. For example, the constitution requires County Governments to provide healthcare services thus the County should invest in establishing adequate healthcare facilities. However, a County may decide to acquire/ build and operate a rehabilitation Centre for drug addicts. Providing this rehabilitation Centre is a discretionary service.

The challenge here is that laws very often are silent about the specific content, quantities and qualities of the services that Counties must provide. In such cases, societal norms and expectations come into play since all services come from public financial resources that belong to the people. In any event, service provision mandates, along with societal expectations and the wealth in the public sector, form the scope of the standards for public utilities and provision of services that the County must address in its Capital Investment Planning Process.

The grey boxes show three interrelated factors that provide input to the Capital Investment Planning process; sources of projects, funding and financing. Finally, the purple box depicts a very important aspect of CIP:-Decisions related to capital investment, city budgeting, and financing all directly impact the County's financial health and its future ability to fund services for its communities.

17.5.2 Approach for Developing The Baringo CSP Capital Investments Plan

The CIP is based upon strategic priorities that enhance conservation and improvement of the biodiversity and heritage in Baringo as well as boost economic development in Baringo, with emphasis on sustainability. The set priorities shall guide investments on maintenance and modernization of existing infrastructural assets that may have deteriorated or setting up new infrastructure to meet current stakeholder needs and requirements.

A Baringo County Spatial Plan Implementation Matrix, was generated after comparison of impacts of different development scenarios of investments across various sectors and county wars in order to provide a better understanding of the most efficient and strategic allocation of resources to achieve goals for the Baringo County Spatial Plan. Projects were selected from the Plan Implementation Matrix which, incorporated public input and detailed all known project ideas including strategy, relevant actors and expected outcome of implementing a project.

The plan has established approximately 165 different funding programs which incorporate the capital responsibilities of the County Government of Baringo. The programs are sector based highlighting funding allocations for each program based on stakeholder input, and technical staff recommendations. Program sizes were initially established to ensure that they were sufficient to cover projects already underway. A two-phase process was then used in allocation of the remaining funds. The first phase allocates restricted-use funds to projects within the first three years (2018-2021) and those that are legally or in some way mandated. Allocations were then continued in the following 5 years (2021-2027) based on the strategic priorities.

Particular investments were considered for funding after the programs were defined, phased and assigned a funding level based on the priority of the program , the types of funding available for it, and the ability of the program to achieve the Baringo CSP strategic goals. In addition, this CIP is informed by and will inform other planning efforts within Baringo County, including the Integrated Strategic Urban Development Plans (ISUDPs), the County Integrated Development Plan (CIDP) and Resource Area Management Plans

Finally, there will be a public review process of the Baringo CSP after one year, during which this CIP will incorporate input from elected leaders, county technical officials, business groups and other key stakeholders about other priority projects that best facilitate the sustainable development of Baringo County and require funding for planning, construction or both. This plan is a living document that will be regularly reviewed, with adjustments made as required. Annual updates will reflect the most current funding levels and status of the projects.

17.5.3 Principles in Preparation The CIP

In preparation of the Baringo County Capital Investment Plan the following assumptions were put into consideration;

- County Government will take care of assets if they are only provided to County Government services to constituents or perform mandatory obligations of the Local Government.
- Since financial resources available to the County Government for capital projects are limited, a process will established to evaluate the competing needs of various Government services to maximize the use of the financial resources in the areas of high priority.
- Local financial policy will formulated and enacted to define in which assets to invest, capital investment priorities and financial sources.
- The approach will be multiyear
- Capital Investments will be considered within the frameworks of life cycle costing and assessment of alternatives
- The process and results should be inclusive and transparent involving all departments, senior and junior staff, Local community and the public.

These principles will ensure that the local Government does not spend its limited resources on 'frivolous' investment in projects, all needs are compared objectively, prudent long-term fiscal policy is exercised, innovative solutions at the project level are considered and individuals have effective channels through which to express their preferences.

These Principles will ensure that the following activities take place;

1. Local Government does not spend its limited resources on 'frivolous' investment in projects that

are not Government business (For example, Investing speculative commercial real estate)
2. All needs are compared objectively
3. Prudent long-term fiscal policy is exercised
4. Innovative solutions at the project level are considered
5. Individuals have effective channels through which to express their preferences

This framework balances the conflicting interests and preferences of different stakeholders (Residents, Businesses, Utility companies etc.) are perhaps its strongest feature. In particular, such balancing make this CIP itself reasonably resilient after changes of ruling party or ideology. Nevertheless, the above principles need to be made compatible and with the complicated realities in which the Local Government operates.

17.5.4 Funding Strategy For CIP

The list of projects prioritized in this CIP is nothing more than an expression of the County needs and preferences. In order to achieve the objectives of the Baringo County Spatial Plan as well as the national objective of accelerating economic growth and poverty reduction, a proper funding strategy of this CIP is critical. Since financial resources available for capital investment define what can be implemented, the approval of this CSP containing the CIP has an impact on the county budgeting process. In addition, the Government needs to plan for and incorporate the after acquisition life cycle costs of new or renovated assets in budget forecasts during the plan implementation period. Baringo County has an established budgeting process that requires approval of the Baringo County Spatial Plan incorporating this CIP to be eligible for county development funding from the exchequer and to allow for capital investment spending as part of the county's budgetary cycle.

Funds mobilization is key to the implementation of the identified County priorities. To ensure that the funding of the projects have been effectively been done, the first fiscal year of the Capital Investment Plan, 2018/19 has been set aside to carry out a massive funds mobilization for the projects. This will ensure that projects will only commence once funds have been guaranteed.

Some capital investment needs in this CIP will be addressed through the use of non-financial or nontraditional solutions. On the demand side, the CIP considers reduced cost for new infrastructure through urban planning that promotes compact human settlement areas. On the financing, building, and operating side, engagement of the private sector in the process through various forms of public-private partnerships is encouraged. Land-based financing which entails the mobilization of the economic value of the Government-owned land and Government's power to impose fees and charges, in particular on developers, or to sell ''development rights'' to generate additional revenues to fund infrastructure is also promoted in this CIP to enhance Baringo county's financial capacity.

17.5.5 Proposed Capital Costs For The First 5 Years (2018 – 2021)

The various sectorial capital costs for the first 3 years have been identified based on the review of the proposed sectorial strategies as follows:

Housing and Social Infrastructure

Housing typologies are largely influenced by the level of services within the County and also by the indigenous culture of the people. Nomadic pastoralism as a way of life is predominant in the some section of the County. Majority of people use mud/wood for construction of their houses as this is easily available and affordable.

A smaller percentage of the population use brick and blocks. This can be attributed to the nomadic nature and lifestyle of the various communities in the region thus the need for temporary structures that can be easily demolished when need arises. However, it is important to note that the plot densities around major towns are beginning to increase and this will require development control in future.

Informal settlements in urban areas are settlements that have no legal ownership of land they occupy and the buildings do not comply with planning and building standards. Informal settlements in Baringo County include Bondeni in Eldama Ravine, Bondeni and Kaptimbor in Kabarnet, Kivumbini and Kampi Turkana in Marigat and Katorong'ot in Mogotio sub counties.

Informal housing and inadequate housing tenure is a major problem in Baringo County that is addressed in the Baringo CSP and constitute capital costs including housing typologies and conditions, spatial location of Housing, and improving housing delivery systems. Adequate healthcare provision generally within Baringo County is also a key issue reflected in the plan. Other aspects of social infrastructural services e.g. improving educational infrastructure, improving community facilities, also require capital funding and are considered in the same funding pool.

Environment and Biodiversity Conservation

Land degradation in Baringo County is manifested as soil erosion, vegetation degradation and sedimentation of open water sources which pose a threat to the livelihood of Baringo County residents. Overgrazing, overstocking, deforestation, uncontrolled charcoal burning and cultivation on steep slopes especially in the highlands in the County degrade the land. Proper measures need to be put in place to mitigate the impact of land degradation. Furthermore, productive land is necessary for crop production and good pasture. Increased human population coupled with climate change put pressure on land resource. Deforestation and land degradation upstream also results in flooding downstream. All these factors are linked to each other and also to climate change affects.

The main environmental threats/hazards affecting the county are; Droughts, floods, conflicts (Natural resource based including Wildlife), Land degradation and landslides, human diseases, animal diseases and crop diseases, invasive species.

Commercial & Industrial Development

The major regional infrastructure passing through Baringo which include the LAPPSET corridor, the National power grid from Lake Turkana wind power, and the Nakuru- Marigat-Loruk-Kapedo highway positions the county as a strategic location for industrialization and Investment.

Capital expenses proposed in this sector relate to the future development of Baringo as a county creating employment and wealth for the Kenya and the larger East Africa region. Funding the capital infrastructure and facilities to encourage development of value addition industries in different parts of the County, will catalyze the establishment of Baringo as a regional industrial, tourism and commercial hub. This sector shall rely upon National and County Government funding as well as significant input from the private sector.

County Financial Structures

Modest capital expenses have been proposed in relation to Computerization of county revenue operations, establishment of a Geographical Information System (GIS) and development of a modern Valuation roll.

County Planning and Management

Expenditures have been proposed for the establishment of a modern Planning Department in the County cascaded to include ward level planning units as well as a development of Integrated Urban Development Plans for selected urban areas within Baringo County.

Infrastructure & Services Strategy

Most of the capital expenses in this category can jointly be funded by the County Government and the National Government agencies responsible. Some of the projects included in this category include the establishment of an integrated solid and liquid waste management system in the County. Other capital expenditures in this category will include the improvement of roads infrastructure in the County, and fully exploitation of potential industries in the County that include;

- Honey Refinery
- Diatomite mining
- Meat processing
- Leather processing & manufacturing of leather products e.g. shoes, belts, handbags
- Coffee processing
- Timber
- Dairy processing
- Aloe processing and manufacturing.

17.5.6 Baringo County's Financial Capacity

Knowledge of the Baringo County's financial capacity to fund capital investment is another key input in the Capital Investment Planning. This capacity is analyzed to determine how the proposed expenditures summarized above, compare and relate to the County budget. A look at the County's County annual budgetary allocations to various departments would make it a bit hard to believe that the County alone can be able to fund all the projects under this CSP.

The following departmental allocations for the past 2-years in the County have been used as an example:-

Figure 32: County Departmental Monetary Allocations

DEPARTMENT	YEAR 2015/2016 M'	YEAR 2016/2017 M'
County Assembly	577.57	604.84
Governor/County Executive services	360.14	475.38
County Treasury Services	404.79	292.14
Transport and Infrastructure	593.32	691.53
Industrialization, Commerce and Tourism	207.77	172.87
Education, Sports, Culture & Art	534.77	525.82
Health	1879.83	2,354.6
Housing & Urban Development	220.11	186.56
Agriculture, Livestock, Fisheries & Marketing	413.0	424.34
Youth, Gender & Social Security Services	154.92	166.06
Water & Irrigation	489.84	536.32
Environment & Natural Resources	65.41	80.97
TOTAL	**5,901.77**	**6,511.43**

Source: Controller of Budget Report County Annual Review Report, 2016& 2017

From the above allocations, it is not easy to directly compare the County Budget with the CIP budget since the County budget is not detailed enough to apportion actual programmes or fund them. However, it is clear that elements of the County Budget allude to certain expenditures that would fall under sectorial items discussed in this plan. For example, Agriculture, Livestock and Fisheries, Trade and Commerce Sector, Urban Sector, Land, Forestry, Water and Natural Resources, Transport and Infrastructure Sector, Industrialization Sector, Health Sector, Education Sector, Institutional Capacity Building Sector, Gender, Youth and Social Services Sector are all county budgeted expenditures that would related to the detailed proposed expenditures presented in the CIP. If this was the consideration, the county budgetary allocation for capital expenditure would therefore imply of about 15 Billion annually to fully fund anticipated annual projects as peer the CIP.

17.5.7 Funding The Projects

The 2018/19 Capital Budget will represent the funding for the first year of the CIP. Projects in the first year of the plan generally represent the County's most immediate investment priorities and at about 7,586,104,074. Projects that are included in the plan are stated as priorities but are not guaranteed for funding as the plan is a reflection of the stated needs within the County. In this regard, the CIP is intended to be a fluid document that will be subject to change each year as priorities are re-assessed and as additional information on funding streams become more defines. The mobilization of these funds is critical if the County Government of Baringo will have to contribute to the overall goals of accelerating economic growth and poverty reduction in Baringo.

The following are some of the sources of funds for the Capital Investment Plan;

- National Government County transfers;
- County taxes and revenues from assets, valuation roll, among other forms of revenue generation;
- Development Partners (DP) funding e.g. WWF, ICRAF, DANIDA, WORLD BANK; and the African Development Bank (ADB) among others;
- Private and related collaborative sources (Public Private Partnerships - PPPs, etc.)
- The local community through CBOs, CSOs, SACCOs etc.

Government of Kenya (GoK) National Funding

The County's FY 2016/17 Approved Supplementary Budget was Kshs.6.51 billion, comprising of Kshs.3.90 billion (59.9 per cent) and Kshs.2.61 billion (40.1 per cent) allocation for recurrent and development expenditure respectively.

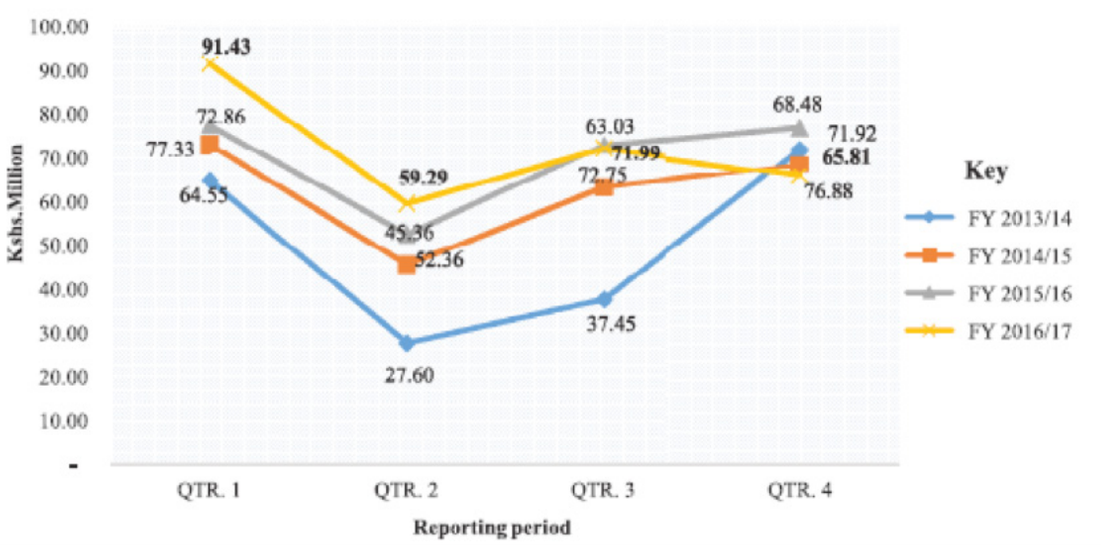
To finance the budget, the County expected to receive Kshs.4.79 billion (74.6 per cent) as equitable share of revenue raised nationally, Kshs.356.71 million (5.6 per cent) as total conditional grants, generate Kshs.330 million (5.1 per cent) from local sources, and Kshs.943.51 million (14.7 per cent) cash balance from FY 2015/16. The conditional grants comprised of Kshs.83.23 million (23.3 per cent) for Free Maternal Healthcare, Kshs.95.74 million (26.8 per cent) for Leasing of Medical Equipment, Kshs.73.62 million (21.8 per cent) from the Road Maintenance Fuel Levy Fund, Kshs.13.37 million (3.7 per cent) for User Fees Foregone, Kshs.12.99 million (3.6 per cent) as a grant from DANIDA, and Kshs.77.76 million (21.8 per cent) as World Bank support to Health Facilities. Further, the budget was financed by Kshs.65.12 million from the Ministry of Health for health workers salary, and Kshs.24.66 million as Capacity and Performance Grant which were not contained in CARA, 2016..

As eluded above, these amounts are still not enough to sustain the various capital projects advanced in this Plan considering the recurrent expenditure also takes quite a huge chunk of the monetary allocation from the National Government.

County Government of Baringo

During the year, the County received Kshs.4.79 billion as equitable share of the revenue raised nationally, Kshs.359.7 million as total conditional allocations, raised Kshs.288.52 million from local revenue sources, and had a cash balance of Kshs.943.51 million brought forward from FY 2015/16.
The figure below shows the quarterly trend in local revenue collection from the first quarter of FY 2013/14 to the fourth quarter FY 2016/17.

Figure 34: Baringo County, Trend in Local Revenue Collection by Quarter from FY 2013/14-FY 2016/17



Source: Baringo County Treasury, 2017

Baringo County Government also received in the FY 2016/2017 received conditional grants, Analysis of the conditional grants released during the period under review indicates that, DANIDA grant had the highest receipt at 200 per cent of annual allocation, which was as a result of receipt of a Kshs.12.99 million as depicted in the table below;

Table 55: Baringo County Analysis of Conditional Grants Released in FY 2016/17

NO.	CONDITIONAL GRANT	CARA, 2016 ANNUAL ALLOCATION IN KSHS)	ACTUAL RECEIPTS IN FY 2016/17 IN KSHS.	ACTUAL RECEIPTS AS PERCENTAGE OF ANNUAL
1	Leasing of Medical Equipment	95,744,681	-	-
2	Conditional Allocation Free Maternal Healthcare	83,230,118	61,751,000	74.2
3	World Bank Support to Health Facilities	77,761,278	77,761,278	100
4	Roads Maintenance Fuel Levy Fund	73,620,416	73,620,416	100
5	Health Workers Salary Remittance	-	107,229,000	-
6	Compensation for Use Fees Forgone	13,370,516	13,370,516	100
7	DANIDA (Health Facilities)	12,985,000	25,970,000	200
Total	356,712,009	359,702,210	100.8	

Source: Baringo County Treasury, 2017

The County Government has not been able to invest sufficiently in equipment and other capital assets. However, the County can budget to finance critical infrastructural investments in several ways which may contribute to capital sources. The County can dedicate local taxes and licence fees to capital projects. Such taxes and fees usually charged to developers should be used to fund necessary extensions of public infrastructure or impact fees attributed to the need for additional infrastructure caused by the new development. This will however need policy and legislation to support effective enforcement. Surplus from the annual operating budget either from own-source revenues or saving or from general transfers from National Government can also be a source for capital expenditures.

Service utility users' contribution mostly one-time input can be a substantial funding source, e.g. Water Connection charges. Furthermore, for infrastructure systems that provides user paid services like water and sewerage, some part of the user fee should constitute a dedicated source for capital investment, paying for capital components of maintenance costs for restoration and recapitalization. Contributing to the infrastructure implementation cost also builds citizens' sense of ownership and contributes to citizens' selecting priority projects and controlling implementation.

County revenue and funds dedicated to implementing this plan should be well managed in a special Reserve Funds established through a formal county resolution. This fund would accumulate specific earmarked resources identified for the development and maintenance of essential capital assets and cannot be used for other purposes. The special fund can either be dedicated to a particular infrastructure system or group of properties like roads and streets or water, sewerage, and rainwater harvesting. This reserve should be protected by local regulations from use from other purposes and supervised independently by a special board. The special fund can be either dedicated to a particular infrastructure system or group of properties like roads and streets or water, sewerage, and rainwater harvesting. This reserve should be protected by local regulations from use for other purposes and supervised independently by a special board that incorporated key stakeholders and managed by a professional authority. Moreover, these special funds

should be readily available only for capital investment projects as identified by this plan.

The Baringo County Spatial Plan has considered and planned for all land in the County and recommended public use land to be reserved for future development. The County can avail public land to pragmatic investors to ensure that they effectively develop required capital investments recommended for the respective zoning boundaries. The plan also makes recommendations that discourage unnecessary expropriation of land form sitting tenants when availing public land for development.

Development Partners (DPS)

The County Government of Baringo can obtain grant fund from specialized donor-funded entities as an important source of capital expenditure funding. Such programmes as the World Bank Funded- Kenya Informal Settlement Improvement Program that is designed to support specific types of projects in the counties. Baringo County hosts world respected biodiversity and heritage sites and consequently attracted world organisations willing to finance efforts that ensure biodiversity conservation, heritage, cultural livelihoods promotion as well as environmental protection. WWF, Nature Kenya, UNESCO among others alluded to above are such organisations that may be sources of grant funds to finance capital investments effect that their respective causes and mandates.

Private Public Partnerships

Public-Private Partnerships are based on a contractual relationship between the Government and the private partner (which can be a consortium of private entities). Private-sector developers can take certain risks that the County Government might not withstand when undertaking a project and yet the county might benefit from the innovations and efficiency of the private sector in implementing capital projects. Private partners in PPPs can play several roles in implementing capital investment projects, which include providing financing, expertise, and efficiency; and, if a PPP is well structured, then a sure implementation procedure is imminent.

Well-structured PPP contracts protect public budgets from the risks of budget overruns and funding drying up before project completion. This is so because project costs and funding for the entire project are stipulated in the PPP contract, before project implementation commences. Some PPP projects can be completely financially self-sufficient and do not require public funding like a fisherman's' wharf designed, financed, built, and operated by a private partner, with the with docking prices controlled by the county Government. In such cases, investors recapture their costs and obtain profit from the revenues generated by the property/facility they build, while the Government obtains the public-use facility built without significant public capital outlay.

Developer exactions are another form of PPP engagement which implies that developers build on-site infrastructure on their own, when developing their property with no public funding or finance. For example, a developer is required to build an access road to its development site, or complete off-site infrastructure that was supposed to have been built by the county Government but was not developed. This form can be a negotiated contribution of off-site infrastructure in addition to on-site infrastructure required of the private development. A relevant case would be to allow and have the proposed wildlife conservancies designed, financed, built, and operated by a private partner on a Government-owned land site and required to develop social infrastructure within the area. The County Government become shareholders in the conservancy and local community benefit from social infrastructural developments and also receiving a profit share.

There can also be PPP form of voluntary and negotiated contributions in which property owners in a specific area agree to pay a predefined amount for specific improvements of infrastructure and services in the area, before capital investment in these improvements is made. This can best apply in business and commercial development zones of the designated urban areas.

Baringo County is set to benefit from a Private Public Partnership through a green field generation project through Geothermal Development Co. (GDC) whose objective is to increase the installed national capacity by an additional 800MW.The Bogoria-Silali block will comprise of Bogoria, Baringo, Arus, Korosoi, Chepchuk Paka and Silali prospects.

17.5.8 Sectorial Development Projects

Strategies are courses of action geared towards the achievement of given objectives. The strategy formulation process for Baringo town was supported by the existing background documents, a synthesis of the potentials, opportunities, and constraints of data collected, and stakeholder inputs from the various forums held in the town.

Human Settlement Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
HS001	Preparation of physical development plans for major towns in the county (Kabarnet, Eldama Ravine, Mogotio, Marigat and Chemolingot).	20	No	50	50											40,000,000
HS002	Revision of all outdated town plans	15	No.	50	50											35,000,000
HS003	Part Development plans (PDPs) and fencing for county public utilities	20	No.	30	70											15,000,000
HS004	Digitized County Land Information System	1	No	30	70											20,000,000
HS005	Planning of urban areas/ centres- Ilngarua, Kiptuno, Akwichatis, Cheptunoiywo	6	No	20	80											100,000,000
HS007	Acquire land for industrial parks, recreational parks, public utilities, Identification, mapping, documentation and fencing of the public utilities	15	Acres	20	80											76,500,000
HS008	Establishment of a GIS	1	No	100												4,921,452
HS009	Establishment of county land information management system	1	No	100												15,000,000
HS010	County Urban Institutional Development Strategies (CUIDS)			100												20,000,000
HS011	Construct and equip a county legal metrology lab	1	No	100												25,000,000
	Procurement and Selection of Consultants; funds					Project Implementation							Project Evaluation and Monitoring			

Strategies are courses of action geared towards the achievement of given objectives. The strategy formulation process for Baringo town was supported by the existing background documents, a synthesis of the potentials, opportunities, and constraints of data collected, and stakeholder inputs from the various forums held in the town.

Human Settlement Projects
Transportation Infrastructure Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
TI001	Upgrading and tarmacking of Maili Kumi -Kisanana – Waseges - Mukutani – Tangulbei – Kokwototo – Akwichatis – Nasorot (87 km)	87	HA	40	60											3,045,000,000
TI002	Upgrading and tarmacking of Mugie – Churo – Loruk -B17 – Kipcherere – Kasisit – Talai junction (C660) – Kabartonjo – Kapkiamo – Kaptiony – Barwessa (135 Kms)	135	HA	30	70											4,725,000,000
TI003	Upgrading and tarmacking of Tumboiywo-Kituro-Kiptilit – Riwo Bokorin – Seretunin – Kaptumo – Talai – (37 km)Kabartonjo	37	KM	70	30											1,295,000,000
TI004	Construction of Lake Kapnarok – Rimoi Bridge			40	60											50,000,000
TI005	Development of administration block for Kabarnet town administration Cabro Works			100												20,000,000
TI006	Construction of Karbartonjo - (UP) Kipsaraman - Kinyach - Arror (Kipsaraman - Kinyach Section) RWC 182			50	50											2,000,000,000

TI007	Construction of Kasoiyo-Saos-Society tarmac road	168	KM	30	70											5,880,000,000
TI008	Maintenance of Lake Bogoria-Mugurin-Mogotio	34	KM	70	30											506,600,000
TI009	Construction of Oinamoi-Kapluk-Barwessa RWC 372			40	60											2,200,000,000
TI010	Construction of Loruk - Barpelo Road (B4): 62 km and Access road to Nginyang (2Km)	2	KM	20	80											2,170,000,000
TI011	Construction of Mogotio - Lake Bogoria - 65km	65	KM	70	30											2,200,000,000
TI012	Construction of Kabarnet-Kabarnet Road(Posta-Kabarnet H.Sch.-National Library-Mumol) (1.50 km)	1.5	KM	40	60											27,500,000,000
	Procurement and Selection of Consultants; funds						Project Implementation						Project Evaluation and Monitoring			

Health & Education Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
SI001	Upgrading Kabarnet level 5 Hospital	1	No	100												389,000,000
SI002	Upgrading Eldama Ravine Level 4 Hospital	1	No	100												270,000,000
SI003	Revitalizing Baringo South Technical Training Institute	1	No	80	20											53,100,000
SI004	Revitalizing Baringo North Technical Training Institute	1	No	80	20											49,700,000
SI005	Revitalizing Eldama Ravine Technical Training Institute	1	No	80	20											50,400,000
SI006	To upgrade Kabarnet referral hospital to level 5- Wider variety of specialized services, reduced referrals	1	No	100												389,000,000
SI006	Upgrading Marigat sub county hospital to Level 4	1	No	100												270,000,000
SI007	Upgrading Mogotio sub county hospital to Level 4	1	No	100												270,000,000
SI008	Upgrading Eldama Ravine sub county hospital to Level 5	1	No	100												389,000,000
SI009	Establishment of rehabilitation Centre in Baringo County- To mitigate against drug/alcohol abuse	1	No	100												15,000,000
SI010	Improving 30 Dispensaries to increase variety of services offered	30	No	50	50											285,000,000

SI011	Improving 7 health Centers to offer wider variety of services	7	No.	50	50											179,326,000
SI012	Building 4 sub county offices	4	No	80	20											32,000,000
SI013	Equipping of 80 dispensaries and 30 health Centre	110	No	50	50											33,000,000
SI014	construction of 10 new dispensaries	10	No.	50	50											60,000,000
	Procurement and Selection of Consultants; funds						Project Implementation						Project Evaluation and Monitoring			

Energy & ICT Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
EI001	Street Lighting- 600 street lights and standalone flood lights	600	No	80	20											210,000,000
EI002	Connection of 50,000 households to the National Electricity National Grid	50,000	No	30	70											1,500,000,000
EI003	Establishment of 2 ICT and incubation centres.	2	No	100												150,000,000
EI004	Internet connectivity and ICT research sharing in 32 Government offices through LAN establishment.			100												110,000,000

EI005	Purchase of County HQ server to Interlink all county entities(Wards, Sub Counties, Hospitals and Departments to county HQ)	1	No	100												180,000,000
EI006	Construction and equipping a reliable data management Centre.	1	No	100												100,000,000
EI007	Development of Health System and Revenue Management System.	2	No	100												190,000,000
EI008	Creation of a County Repository Centre, though digitization of Maps, Plans and other County Documents	1	No	100												50,000,000
EI009	Aloe Model Farm Infrastructure development	1	No	90	10											100,000,000
EI010	Development Industrial park/ Special Economic Zones in Mogotio Sub-County			80	20											200,000,000
	Procurement and Selection of Consultants; funds							Project Implementation						Project Evaluation and Monitoring		

Water, Sewer & Solid Waste Management Infrastructure

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
WSS001	Drilling of Water boreholes	39	No.	80	20											390,000,000
WSS002	Expansion of the National Irrigation Programme by Construction of irrigation structures	27	No.	30	70											9,000,000,000
WSS003	Establishment of water distribution lines Mogotio Town	9	KM	100												30,000,000
WSS004	Establishment of water distribution lines Marigat Town	15	KM	100												50,000,000
WSS005	Establishment of water distribution lines Chemolingot Town	7	KM	100												100,000,000
WSS006	Establishment of water distribution lines Eldama Ravine Town	13	KM	100												40,000,000
WSS007	Establishment of water distribution lines Kabarantojo Town	5	KM	100												20,000,000
WSS008	Establishment of water distribution lines Kabarnet Town	30	KM	90	10											120,000,000

WSS009	Improvement / Establishment of potential rural water supplies at Timboroa, Kipketum, Lama, Soke, Embosos, OlArabel, Tangulbei, Koloa, , Bosei , Ketiborok, SachoSoi, Kapkong	12	No.	50	50											393,000,000
WSS010	Establish Irrigation schemes at Kapkelelwa, Embossos, Nyalilbuch and Kaptuya	5	No.	50	50											600,000,000
WSS011	Construct sewerage treatment works and sewerage lines in 3 No towns, sewer land compensation	3	No.	20	80											1,300,000,000
WSS012	Review / Harmonize / Establishment of Water Policy and Water Master Plan in relation to devolution, Climate Change Adaptation, Disaster Risk Management, Capacity building			100												6,000,000

WSS013	Establishment of Strategic multi – purpose dams for improved water accessibility – Radat, Kaptiony, Amaya, Beregei, Kipsaa, Oke, Chebuskech, Kiboino, Ketiborok, Kimiren, Waseges, Kaptiony, Keringet, Loiwat, Chesawach, Sibilo, Sosion, Kiplombe, Lomulel, Lawina, Sereton, Kiptengwel in Lembus, Chebaran in Emining ward, Tabare and Kirobon dams	16	No.	80	20											48,000,000,000
WSS014	Excavator for water pans desilting- Purchase of 1 Excavator.	1	No.	100												20,000,000
WSS015	Construction of Kirandich Dam (Kabarnet Town) Sewerage Project Phase II	100,0000	No. population	30	70											700,000,000
WSS016	Construction of Kapindaram Water Supply Project	4,000	No. population	80	20											60,000,000

WSS017	Construction of Pusol Water Project Phase I	65,000	No. population	70	30											1,900,000,000
WSS018	Construction of Upper Chemususu Water Supply Projects - 9 water supply project	9	No	40	60											50,000,000
WSS019	Construction of Chemususu Dam Water Treatment and Distribution Project	35,000	M^3/Day	40	60											3,500,000,000
WSS020	Construction of Eldume Irrigation Project	1600	Acres	70	30											83,800,000
WSS021	Construction of Sandai Irrigation Project	500	Acres	70	30											29,000,000
WSS022	Construction of Kapkuikui Irrigation Project	800	Acres	40	60											22,000,000
WSS023	Construction of Kamoskoi Irrigation Project	1000	Acres	40	60											104,200,000,000
WSS024	Construction of Molo Sirwe Irrigation Project	5000	Acres	50	50											23,600,000,000
	Procurement and Selection of Consultants; funds							Project Implementation					Project Evaluation and Monitoring			

Recreational Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
RI001	Establish and Rehabilitate County Public Beaches (Lake Bogoria /Baringo Infrastructure development).			100												70,000,000
	Procurement and Selection of Consultants; funds					Project Implementation					Project Evaluation and Monitoring					

Industrial & Commercial Development Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
IC001	Establishment of a meat processing plant in Marigat Sub-County	1	No	100												200,000,000
IC002	Establishment of a Poultry Processing Plant in Mogotio Sub-County	1	No	100												20,000,000
IC003	Construction of 50,000L/Day milk processing plant in Eldama Ravine Sub-County	1	No	80	20											160,000,000
IC004	Construction of a Leather Development Centre in Mogotio Sub-County	1	No	80	20											100,000,000
IC005	Upgrading of Kimalel goat auction yard	1	No	100												10,000,000
IC006	Sub county veterinary investigation labs upgraded and constructed / equipped	2	No.	100												36,000,000

IC007	A county veterinary investigation lab upgraded & equipped(at Kimalel)	1	No	100												50,000,000
IC008	A livestock identification and traceability systems (LTS) programs	1	No.	100												20,000,000
IC009	Construction of mango value addition processing plant in Baringo North Sub-County			90	10											45,000,000
CI010	Construction of Coffee mill in Baringo North Sub-County			40	60											220,000,000
CI011	Establishment of Napeikore irrigation scheme in Tiaty Sub-County			100												30,000,000
CI012	Establishment of Napeleny Irrigation Scheme in Tiaty Sub-County			100												30,000,000
CI013	Establishment of Kangoria irrigation Scheme in Tiaty Sub-County			80	20											30,000,000
CI014	Establishment of a soil testing Centre in Kabarnet and Eldama Ravine			70	30											100,000,000
CI015	Establishment of Kariron & Kopo-Akalis irrigation Scheme in Tiaty Sub-County			90	10											30,000,000
CI016	Construction of Fish landing beaches - Baringo South – Lake Baringo			80	20											23,000,000
CI017	Construction of a honey refinery in Tiaty Sub-County			100												10,000,000
CI018	Suitability Site identification for Mining and Quarrying Development and Management	14	No.	100												14,000,000

CI019	Establish a water bottling company as an Income generating activity enable enhanced socio economic growth	1	No.	100												10,000,000
	Procurement and Selection of Consultants; funds					Project Implementation								Project Evaluation and Monitoring		

Tourism & Heritage Promotion Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
THS001	Wildlife Conservation and Management at Greater Kudu, Klipspringers Tarminalia ssp)			100												50,000,000
THS002	2 National reserves, 1.conservation area 22 conservancies ,9 forest reserves ,geological sites, viewpoints ,Caves ,cultural and heritage sites			50	50											1,230,000,000
THS003	Networking and Popularizing on Geo-sites and Geo-parks	30	No.	100												30,000,000
THS004	Sport tourism -Heritage festive (cultural Tourism). Tourism Information Centre Improve -existing Airstrips -County hospitality facilities (Block Hotel) -County Hostels and bandas -Courtesy Bus			70	30											120,000,000

THS004	increased tourism knowledge Increased community awareness Increased sense of Community ownership through Conservancies			100												20,000,000
	Procurement and Selection of Consultants; funds				Project Implementation						Project Evaluation and Monitoring					

Conservation Projects

PROJ ID	PROJECT	QTY	UNIT	PHASE		PHASE 1					PHASE 2					APPROXIMATE COST (IN KES.)
				PHASE 1 (%)	PHASE 2 (%)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2026 / 2027	2027 / 2028	2028 / 2029	
CS001	Participatory forest conservation projects such as honey harvesting, ecotourism and sustainable charcoal burning/ logging			100												50,000,000
CS002	Protection of River banks and 42 water springs	42	No	80	20											440,500,000
CS003	Establishment & Development Botanical Gardens & Recreation Parks (10)	10	No	70	30											100,000,000
CS004	Identifying, Surveying and Mapping of 44 wetlands for rehabilitation and restoration.	44	No	100												48,000,000
CS005	Planting protective shrubs and trees to protect riparian reserves			100												100,000,000
CS006	Restoration of gullies for Soil and Water Conservation	17	KM	90	10											57,000,000
CS007	Rehabilitation of Land for Soil and Water Conservation	16	HA	100												30,000,000

CS008	Solid Waste Management for 10 dumpsites			40	60											532,000,000
	Procurement and Selection of Consultants; funds					Project Implementation								Project Evaluation and Monitoring		

Summary of Capital Investment Costs

NO.	SECTOR	TOTAL APPROXIMATE COST PHASE 1 (KSHS)	TOTAL APPROXIMATE COST PHASE 2 (KSHS)
1	Human Settlement Plans	164500000	20000000
2	Transport Infrastructure	19726810000	31106290000
3	Social Infrastructure (Health and Education	1715823000	375763000
4	Energy and ICT Infrastructure	1648000000	1142000000
5	Water, Sewer, Solid Waste Management	99988760000	96644040000
6	Recreational Infrastructure	70,000,000	
7	Industrial and Commercial Infrastructure	905900000	232100000
8	Tourism and Heritage Strategy	799000000	651000000
9	Conservation Strategy	914500000	443000000

Summary of Capital Investment Costs Per Phase

NO.	PHASE	AMOUNT
1	Phase One (2018/2019-2022/2023)	125,933,293,000
2	Phase Two (2023/2024-2028/2029)	130,614,193,000

Impacts Of The CIP

The Capital Investment Plan has direct and multifaceted impact on local life;

Quality of life– the quality of life in Baringo Town and its attractiveness to people and business depend on the quality of public infrastructure and related services. This infrastructure is an outcome of local Capital Investment Planning. Given that public funding for capital projects usually is limited, hence making the right choices among competing investments becomes an important factor in the town's long-term vitality and competitiveness.

Long-lasting spatial effects- of capital investments projects impact local life after the projects have been implemented. Locating public capital investment wisely and according to sectorial demand can serve as a catalyst to attract private sector capital investment -on top of public investment- in particular location and thus create a node of urban renewal or growth. Errors in allocating public projects can dramatically reduce the town's utility and waste the limited public resources. Erroneous choices also have negative socioeconomic implication.

Fiscal legacy. Capital investment by the Local Government often requires some form of long-term borrowing. Moreover, even if new properties and infrastructure are acquired or built without borrowing, making wise choices is important because funding spent unwisely could be used better elsewhere. In addition, capital investment usually leads to ongoing annual operation and maintenance expenses.

Challenges of The CIP

There are at least three substantial challenges in dealing with CIP in Baringo County.

1. Demands and desires for capital investments are always higher than available funding hence the leaders will prioritize their projects that best facilitate the sustainable development of Baringo Town
2. Timing Challenge- There is an intrinsic timing challenge. On one hand, allocating funding for capital projects should be done annually within the Country's budgeting cycle. On the other hand, complex infrastructure projects may require several years' of preparation and 'packaging' before external financing (grants or loans) can be sought.
3. Contemporary approaches to evaluate options for complex infrastructure usually exceed the Government's technical capabilities.
4. Capital Investment Planning is an evolving area of public management thus all Local Governments across the world are continuously trying new approaches.

17.6 Implementation Log Frame

(See plan strategies presented in section 14.1 for implementation log frame).

17.6 Monitoring and Evaluation Log Frame

Monitoring and evaluation of the progress made in implementation of this plan will be the task of the coordination unit.

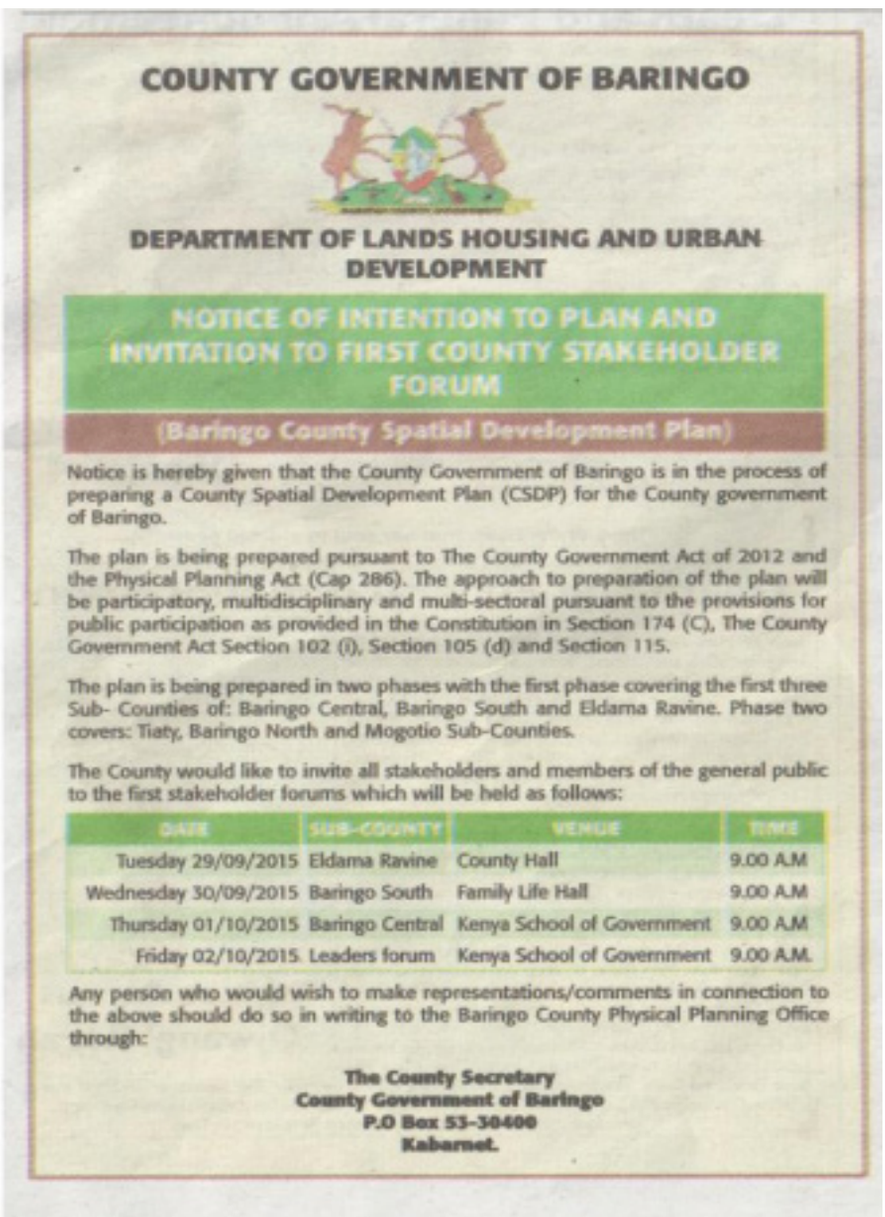
IMPACT	EXPECTED OUTCOME	INDICATORS
Spatial Impacts	Controlled Urban Development	Growth occurring within the delineated urban edges and not beyond. Hence control of urban sprawl.
	High land values across the county	Areas of highly controlled development.
	Highly controlled land use structure for the county.	Reduced degradation and depletion of natural resources.
Economic Impacts	Increased production capacity of the County	Increased Food Security in the county.
		Increased intra and intercounty trading opportunities.
	Increased County Revenue base	Improved basic service delivery for the residents by the County Government of Baringo
		Increased county revenue collection.
	Increased investment opportunities in Baringo County	Increased number of investors in the County
		Enhanced trading capacity of the County.
		Increased employment opportunities in the County.
		Diversified economic activities in Baringo County.
	Enhanced infrastructural capacity of Baringo County	Improved, efficient transport options & reduced travel time.
	More vibrant and formal economic spaces	Increased entrepreneurship & revenue circulation in the County.

Social impacts.	Improved access to health care facilities.	Reduced maternal death, disease prevalence and mortality rates.
	Preservation of heritage value and culture.	Reduced dilution of cultural heritage & Increased heritage tourism in the county.
	Improved access and the enrolment to education facilities.	Increased literacy levels in the County
	Improved access to water and sewer services	Increase in the number of household connections to potable water and sewer services.
	Improved access to affordable energy options	Increased number of household connections to the national grid and other renewable energy sources.
Environmental impacts	Conservation and management of all indigenous forest areas in the county.	Gazettement of delineated forests in the county.
		Community participation in conservation efforts.
		Increased forest cover in the County
		All rivers, wetlands and lake ecosystems to be gazetted and secured.
	Conserved and protected water catchment areas, wetlands and swamps	All rivers, wetlands and lake ecosystems to be gazetted and secured.
		Increased civil awareness on environmental issues.
		Increased and sustained water supply in the county.
	Improved wildlife conservation	Increase in the number of tourists visiting Baringo County.

APPENDICES

Appendices

APPENDIX ONE: NOTICE OF INTENTION TO PLAN



COUNTY GOVERNMENT OF BARINGO

DEPARTMENT OF LANDS HOUSING AND URBAN DEVELOPMENT

NOTICE OF INTENTION TO PLAN AND INVITATION TO FIRST COUNTY STAKEHOLDER FORUM

(Baringo County Spatial Development Plan)

Notice is hereby given that the County Government of Baringo is in the process of preparing a County Spatial Development Plan (CSDP) for the County government of Baringo.

The plan is being prepared pursuant to The County Government Act of 2012 and the Physical Planning Act (Cap 286). The approach to preparation of the plan will be participatory, multidisciplinary and multi-sectoral pursuant to the provisions for public participation as provided in the Constitution in Section 174 (C), The County Government Act Section 102 (i), Section 105 (d) and Section 115.

The plan is being prepared in two phases with the first phase covering the first three Sub- Counties of: Baringo Central, Baringo South and Eldama Ravine. Phase two covers: Tiaty, Baringo North and Mogotio Sub-Counties.

The County would like to invite all stakeholders and members of the general public to the first stakeholder forums which will be held as follows:

DATE	SUB-COUNTY	VENUE	TIME
Tuesday 29/09/2015	Eldama Ravine	County Hall	9.00 A.M
Wednesday 30/09/2015	Baringo South	Family Life Hall	9.00 A.M
Thursday 01/10/2015	Baringo Central	Kenya School of Government	9.00 A.M
Friday 02/10/2015	Leaders forum	Kenya School of Government	9.00 A.M.

Any person who would wish to make representations/comments in connection to the above should do so in writing to the Baringo County Physical Planning Office through:

The County Secretary
County Government of Baringo
P.O Box 53-30400
Kabarnet.

APPENDIX TWO: STAKEHOLDER FORUM FOR PRESENTATION OF SITUATIONAL ANALYSIS

a) Baringo Central:

Meeting venue: KENYA SCHOOL OF GOVERNMENT HALL
Meeting time: 1140HRS
Date: 1ST OCT, 2015
Wards represented

- Kabarnet
- Kapropita
- Ewalel Chap Chap
- Sacho
- Tenges

SUB-COUNTY ISSUES AND PROPOSED INTERVENTIONS

LAND AND AGRICULTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Land (ruralland, land tenure, public land)	• Lack of land ownership documentation • Price of land is too expensive • Outstanding issues in legal land succession through inheritance • High land fragmentation rate • Too many brokers in land transactions • Land capacity underutilized • Investor exploitation • Soil erosion problems	• Provision of title deeds to land owners • Title processing charges need to be reduced • Need for a land board management to oversee land transactions • Compensation for land owners who lost their land • Need for clear boundaries • Capacity building for people who live in sloppy areas • Encourage tree planting initiatives for the public • Protection of forested areas • Establishment of a dairy institute in Kabarnet	• Throughout Baringo Central
Urban land	• Lack of proper survey initiative • Inaccesible feeder roads • Lack of town plans • Idle land • Lack of stakeholder involvement in land taxation	• Re-planning of towns in order to accommodate growing population • Legal measures on land utilization • Consult stakeholders on taxation rates for land • Formation of an urban land management board	• Urban areas

Crop Agriculture **(Coffee, pyrethrum, macadamia nuts, fruits, cotton, groundnuts greengrams, millet, sorghum, sunflower, rice, bananas)**	• Crop diseases rampant • Lack of farmer capacity building programmes • Financial limitation among farmers • Inadequate farm inputs • Poor quality of seeds • Monopoly market • Water shortage issues • Lack of a crops market • Poor timing of planting periods	• Capacity building interventions for farmers • County govt to ensure quality seeds distributed to farmers • • Reviving of cotton industry • • Provision of water storage facilities to enhance farm output • • Construction of dams • • Introduction of new farming technology	• Throughout Baringo Central
Livestock **(Cattle, sheep, goats, pigs and rabbits)**	• Pests and diseases among livestock • Lack of livestock feeds • Inadequate number of cattle dips • Inadequate information on best livestock breed for the region • Lack of extension services • Lack of a livestock products market	• Establishment of livestock related products market • Issuing of soft loans to livestock farmers • Seeds for planting animal feeds • Disease prevention initiatives by county government • Information forum for livestock breeding practices	
PHYSICAL INFRASTRUCTURE			
PRIORITY AREA	**CHALLENGE**	**INTERVENTION**	**LOCATION**
Roads	• Inaccessible roads due to rugged terrain and floods	• Need to be murramed/ tarmacked • Construction of bridges	• Tenges ward • Tenges- Mogorwo • Tenges- Bekibon • Mogorwo-Kabimoi • Sigirwo- Koigei • Sacho – Kapkelewa • Kabarnet ward • Salawa-Kabarnet • Kabarnet - Tenges • Chesongo – Oinabmoi • Pemwai- Moi- Timowo-airstrip • Kapsigorian- Kisok • Lelian- Kapchepsir • Kapkut- Kapcheregen-Kisok • CBD roads & walkways • Ewalel Chapchap • Talai- TTC-Kiptilit • Kasore- Sesia • Kituro- Kitumbei-Ngetmoi • Talai- Kabartonjo • Sacho ward • Kabasis-Sosion

Water	• Delays and slow compensation rates for Kirdam phase 2 • Lack of sewerage system • Siltation in Kapkom dam • Lack of a dumping site • Encroachment on water catchment areas	• Pump water for residents near Kirdam • Put up sewer system in town • Fencing & desilting of dams • Allocate dumping site • Subsidization of exhauster services • Reclaim Kaberenge water catchment area	• Kabarnet
	• Inadequate water supply	• Sinking of boreholes	• Ng'etmoi, Sironoi, Kaboiwo, Koisomo
Electricity	• Insecurity due to lack of street lights in markets	• County government to put up street lights in every market to curb insecurity • Solar power installation	• Kaptimbor, Kasoiyo, Tenges, Sacho, Kituro, Pemwai, Salawa, Metimuso training farm
	• No power connection	• Connect power to both schools and residents	• Kasore, Turko, Kimoso, Kapkwony, Kasomo
Airstrips	• Short runway • No support officers • Potholes • Lack of weather instruments • Airstrip not fenced	• Ensure proper maintenance of airstrip • Employment of more staff in airstrip	• Kapchomuso, Kabarnet
SOCIAL INFRASTRUCTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
<u>Education</u> Primary & ECD	• Inadequate number of primary schools and ECD centers • Inadequate number of secondary schools • Lack of learning institutions for children with special needs • Shortage of teachers • Cultural practices hindering education process • Schools lack title deeds • • Lack of electricity in most schools	• Employment of more teachers from local population • County govt to establish more schools • Build more ECD schools to minimize distance covered by children • Ensure teachers are all trained • Ensure all schools have title deeds • A secondary school for every primary school • Establishment of schools for children with special needs	• Kapropita, Soi, Kabarnet, Sacho, Tenges, Patkawanin, Kituro. Ewalel chapchap, Salawa
	• Few number of polytechnics and vocational training centers • Lack of a public university	• Establishment of more tertiary institutions • Establish 1 public university within Baringo Central • Sensitisation on the need for vocational training among the • youth	• Throughout Baringo Central

Health	• Inadequate number of health facilities • Lack of drugs within health facilities • Lack of facilities in hospitals and dispensaries	• Construction of more health facilities • Upgrade existing health centers • Equip all dispensaries with adequate drugs • Need for modern maternity in Kipsacho • Purchase ambulance vehicles for every ward	• Throughout Baringo Central
Social amenities	• Lack of public social halls • Lack of car parking areas • No green space allocated for relaxation	• Reclaim grabbed land for green space (Kabarnet town) • Construction of social halls	• Every ward
Security	• Insecurity	• Implementation of nyumba kumi initiative • Police posts in rural areas	• Kapkelewa; Oinabmoi

LEADERSHIP AND GOVERNANCE VISION: PUBLIC AWARENESS FOR TRANSPARENCY AND ACCOUNTABILITY			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LEVEL**
Ward administration	• Lack of transparency • Confusion in functions between ward admins and town admins • Lack of monitoring and evaluation of projects to ascertain standards • Mis use of project funds	• Ward personnel to organise for civic education forums quarterly • Need to coordinate their roles • Need for training and capacity building among ward administrators • Monitoring and evaluation of projects	• Ward level
County administration	• Survival of the fittest policy in resource allocation • Nepotism in employment within county • Misallocation of resources – corruption involved • Abuse of office • Biased budgetary allocation depending on political influence • Confusion of roles between county govt and national govt • Development projects do not match the budget allocated for them • Tribalism and marginalization • Gender imbalance in tendering and resource allocation	• Political leaders to keep off maters of governance and leave it to administrators • Facilitation of civic education on governance and integrity and societal values • Transparency in tendering process • Civic education on roles of county and national govts • Punishment of corrupt public servants within county • Scale down on luxury and put more effort on development initiatives • Inclusion of women and youth in county affairs • Monitoring and evaluation of projects	• County & national level

County resources	• Inequitable sharing of public resources i.e some sub-counties favoured at the expense of others	• The County government should lay down tough regulations to promote balance	• County level
TRADE, COMMERCE & INDUSTRY **VISION:TO HAVE A VIBRANT INDUSTRIAL REVOLUTION WITHIN BARINGO CENTRAL SUB-COUNTY**			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LOCATION**
Trade & Commerce	• Licensing & taxation • High taxation rates which are unfair to rural traders • Taxation rates not stable (increase yearly) • Discriminative licensing • High garbage collection fee yet garbage is never collected	• Zoning of taxation for it to be fair to rural traders • Custom make taxation rates for businesses • Stabilise taxation rates • Collection of market garbage on time	• Rural and urban areas
	• Poor infrastructure affecting businesses • High rent rates- getting space is a challenge	• Improve infrastructure for business to thrive • Construction of more building for business within towns	• Rural and urban areas
	• Market issues • Poorly located market- it is too far from the main stage • Congestion within market • Only one market within the sub county • Poor sanitation in the market	• Relocate main stage to be within the market vicinity • Building more stalls for businesses • Building of public toilets around business premises • Open up more markets	• Kabarnet Town market • • Kaptimbor, Kasoiywo, Kapkut, Kabasis
	• Business loans • High interest rates • Long loan processing procedures • Accessing women enterprise fund is very difficult	• Lower interest rates for business people • Reduce loan processing procedures	• Throughout Baringo Central

Industry	• Lack of value addition industries	• Establishment of groundnut processing factory	• Kapkelelwa
		• Fruits processing factory for avocadoes and mangos	• Kabarnet town
		• Coffee processing factory within proposed land	• Kapropita Plot No. 22
		• Hides & skin tannery	• Kapsergon
		• Sawmill industry	• Pemwai, Kipng'ochoch forest near Kiptagich
	• Stalled industries	• Revive and expand Salawa cotton ginnery	• Salawa
	• Lack of an industrial park • Lack of space in towns for placement of industries	• County govt to purchase industrial park space • Expansion of K.I.E	• Opposite KVDA
	• Lack of machinery for juakali practitioners	• Provision of subsidized machinery for jua kali youth • Expansion of jua kali shades	• Kabarnet, Seretunin, Kituro, Tenges
	• Lack of extraction and crusher machines • Lack of union/ societies which gather interests if miners	• Provision of machinery for mining and quarrying • Formation of cooperative societies for miners	• All mining areas
	• Very slow oil exploration initiatives • Political inteferance in oil exploration	• Need for political goodwill in oil exploration	• Salawa
Industrial quick wins	• Revival of Salawa Cotton ginnery • Investment in ballast industry • Urgent exploration of oil within county to hence industrial development		

b) Eldama Ravine

Meeting venue: Eldama Ravine town hall
Meeting time: 1150hrs
Date: 29th Sept, 2015

Wards represented

- Ravine
- Lembus
- Eldama Ravine
- Maji mazuri
- Lembus Perkerra
- Lembus Kwen

SUB-COUNTY ISSUES AND PROPOSED INTERVENTIONS

LAND AND AGRICULTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Land	• Land & forest • Land grabbing of public land • High rate of land fragmentation • Political interference on land issues • Building of houses on fertile soils • Soil erosion • Lack of a sewerage plant • Encroachment along river banks • Many land owners lack title deeds • Illegal logging activities causing deforestation • Corrupt forest officers	• Land & forest • Provision of title deeds to land owners • County govt to reclaim grabbed public interest land • Implementation of protection of river banks 15 mtrs from the river esp. R. Perkerra • Planting of indigenous trees • Planting trees on open glades and introduce shamba system • Proceeds from forest should benefit the community (30%) • Punishment of corrupt forest officers • Encourage land owners to plant trees in their farms	• Eldama Ravine township, Maji mazuri, Timboroa • Entire Lembus Forest
Crop Agriculture **(maize, potatoes, fruits, hay)**	• Crop diseases rampant • Unreliable rainfall patterns • Drying up of orange trees	• Irrigation and dam construction • Runoff water and roof catchment • Value addition projects (maize, meat, hides & skin, honey, potatoes) with branding • Establishment of driers • Hay stores (strategic reserves) for animal feed • Storage facilities for farm produce • Soil testing by extension officers • County agri. Officers should test the disease that affected oranges and advice accordingly	• Rural areas
Livestock **(Cattle, sheep, goats, pigs and rabbits)**	• Low Livestock productivity • Poor livestock breeds • Scarcity of livestock feeds • Livestock diseases	• Capacity building of livestock farmers • Provision of A.I services by county govt • Regular vaccination, diping and disease control initiatives • County govt to provide seeds for pasture • Construction of a slaughterhouse	• Rural areas

PHYSICAL INFRASTRUCTURE			
PRIORITY AREA	**CHALLENGE**	**INTERVENTION**	**LOCATION**
Roads	• Inaccessible roads due to rugged terrain and floods • Poor road conditions	• Need to be murramed/ tarmacked • Installation of drainage facilities • Construction of bridges	• Timboroa • Arama-Seguton-Timboroa • Timboroa town-Highway • Ravine ward • Gogoruonin estate road • Hospital road • Makutano road • Ravine-Kabiyet-Solian • Reboros-Kabimoi • Kabiyet-Mochongoi-Society • • Lembus Kwen • Kiptuno-Sirwa • Kabenin-Kamgoech roadSeguton-Tinet-Kapsiget • Lembus Perkerra ward • Police-DC-Nubian road • Kamngorom-Sirwa • Benonin-KCC rd • Eldama Ravine ward • Isogari-Kiplombe • Midwall-Madina-Kiprombe
Water	• Insufficient water supply in the whole sub county	• Pump water from Chemsusu dam to curb shortages • New piping system	• Eldama Ravine, Kobatek, Timboroa
	• Lack of a sewerage system	• Need of a sewage sytem	• Eldama ravine
Electricity	• Lack of security lights • Addition of more street lights	• Installation of street lights and flood lights	• Eldama Ravine, Timboroa
	• No power connection	• Connect power to both schools and residents	• Timboroa town and its environs • Kilombe, Madina, Midwal

SOCIAL INFRASTRUCTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Education Primary & ECD	• Teachers strike affecting education • Teachers not being transferred • Teachers not delivering • Gender imbalance in employment of teachers • Curriculum is redundant • Indiscipline cases rising in schools • Imbalance in teacher-pupil ratio	• Gender balance in employment of teachers • Revision of schoolcurriculum • Bring back corporal punishment • Teachers should transfer every 3 years • Employ more teachers to reduce the gap in teacher-pupil ratio	• Whole sub-county
Tertiary education	• Few number of polytechnics and vocational training centers • Lack of a public university	• Establishment of more tertiary institutions • Establish 1 public university within Eldama Ravine	• Whole sub-county
Health	• Inadequate number of health facilities • Lack of drugs within health facilities • Lack of facilities in hospitals and dispensariesno • Lack of tribal diversity among hospital staff • Health services are too costly • Lack of an emergency health facility in Makutano • Lack of a dispensary in Ravine town	• Construction of more health facilities • Equip all dispensaries with adequate drugs and facilities • Build staff quarters near hospitals in remote areas • Transfer health practitioners	• Throughout Eldama Ravine
Social amenities	• Lack of public toilets • Cemetary space in Timboroa is full • Lack of a green space for relaxation	• Construct public toilets in markets • Allocate more land for cemeteries • Purchase land for green space	• Kabimoi, Esageri, Majimazuri, • Ravine
Security	• Insecurity • Dilapidated police post	• Employ more police • Police posts in rural areas	• Esageri

LEADERSHIP AND GOVERNANCE VISION:			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LEVEL**
Mismanagement of funds	• No access roads yet county govt has raised funds through many avenues e.g Kokorwonin/Nubian/Bondeni • Poor monitoring & evaluation e.g the streetlights project • Residents near Chemususu dam not benefiting • Poor disbursement of CDF funds	• • Monitoring and evaluation of projects • Transparency & accountability	• County & national level
County administration	• Confusion of roles between county govt and national govt • Poor communication channels regarding development matters • No initiatives to protect residents during elnino rains • Tendering process not clear	• Give prior information to the public before initiating any project • Clear and easy channels of communication through chiefs and village elders • Clear information about preparation for disaster management • Disbursement of CDF funds in public forums • Transparency in tendering process	• County level
TRADE, COMMERCE & INDUSTRY VISION: LIVELIHOOD SUSTENANCE			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LOCATION**
Trade & Commerce	• Licensing & taxation • Very expensive to get a trade license	• • Custom make taxation rates for businesses according to business size	• Rural and urban areas
	• Traders without premises • Hawkers are all over the place & create chaos for formal business owners • No designated stage for bodabodas within CBD	• Allocate space for hawkers • Allocate bodaboda operators a stage	• Stadium area (hawkers) • Strategic area within town (bodabodas)
	• Market issues • Lack of enough markets within sub county • Markets close very early limiting traders • Market in Timboroa is unfinished & unfenced	• Establish more markets • Extend working hours in the markets till 9:00pm • Finish construction of Timboroa market	• 1 market/ward • • • • Timboroa

Industry	• Lack of value addition industries	• Establishment of a dairy processing industry	• Eldama Ravine
		• Fruits processing factory for mangos	• Solian
		• Wool manufacturing industry	• Timboroa
		• Potatoe value addition industry	• Timboroa/Poror
		• Pyrethrum factory	• Mumberes/Torongo
		• Maize miller	• KCC area, Ravine town
	• Stalled industries	• Revive Ravine saw mill	• Maji mazuri
	• • Grabbed industrial space in town for placement of industries	• County govt to reclaim industrial park space	• KCC area
Cottage industry	• Inadequate number of shade for jua kali practitioners	• Construction of more shades for them	• Eldama ravine town

c) Baringo South

Meeting venue: Family Life hall
Meeting time: 1140hrs
Date: 30th Sept, 2015

Wards represented

- Mochongoi
- Makutani
- Ilchamus
- Marigat

BARINGO SOUTH

GROUP 1: LAND AND AGRICULTURE

PRIORITY AREA.	CHALLENGES	PROPOSED INTERVENTIONS	LOCATION
Agriculture	• Water Shortage • Crop Diseases • Crop destruction by wild and domestic animals • Underground salty water from streams • Finances • Prolonged droughts • No irrigation measures • No marketing of products • Brokers and middlemen short-change farmers • Poor seeds • Lack of drought resistant crops • Issues with land ownership • Generators along the rivers affects irrigation in the lower parts of the river • No insurance covers for crops • Shortage of extension officers (in Mochongoi, Mukutani, Kiserian, Kibonyos, Loboi, Kamoskoi) • Land Infertility • High production cost • High cost of transport to markets for sale of farm produce	• Construction of dams and waterpans to increase water reservoirs • Identification of crop diseases and offer required herbicides • Fencing to reduce animal destruction on farms and compensation in the case of wildlife destruction • Better drainage to reduce salts in the soil. • Researchers to help explain the cause of salty water in the farm fields • Loans from the County and Cooperatives at low interest rates • Planting drought resistant crops • County Government and farmers cooperatives to look for markets for crop produce • Value addition to crops for better market • More extension officers to help advice farmers • Get tittle deeds to properly own land and cultivate it • Environmental officers to make policies to reduce generators on rivers as they might dry up • Cooperative societies should offer insurance covers for crops • Research on soil fertility in the area to be done • Use of crop rotation • Kenya Seed to build a factory in the area to reduce transport cost or cater for transport cost to Kitale	• Whole Sub-county • (Chemeron, Perkerra, Mukutani, Sukutek, Arabal, Wasekes, Loromoni)
Land	• Encroachment of water catchment areas (in Wasekes) • Lack of tittle deeds • Soil erosion • Lack of recreational grounds	• WORMA, NEMA and Forest officials to take care of water catchment areas • Provision of tittle deeds • Plant ground cover in form of trees and grass • Set aside land for recreational grounds	

Livestock	• No insurance covers for livestock • Animal diseases • Inbreeding • Poor marketing of livestock products • Poor management • Lack of enough vet services	• Cooperative societies should offer insurance covers for livestock • Control spread of diseases and treat effectively • Use of A.I and exotic superior breeds to raise the standards of local livestock and reduce inbreeding • Value addition for livestock products to increase market • Build abattoirs in Loruk, Barwessa and Maoi • Set up cooperatives societies to help market produce • Proper management and policies to be set for livestock development • Employ more vets and extension officers	• The whole sub-county
Urban and Settlement Issues	• IDPS from Turkana are still in the town • No planning for commercial centres and their environs • No proper ownership of town land • Lack of proper demarcation of land • Lack of lack left for investors	• County Government to resettle all IDPS in the town • Proper planning and implementation of the plan especially with emphasize on roads and public utilities • Enhance land ownership in town • Demarcation of all community land in the sub-county • Reserve land for investors and protect it from land grabbers • Built quality houses in the town	• All urban centres in the sub-county

QUICK WINS

1. LAND - Issuance of tittle deeds and allotment letters.
2. AGRICULTURE – Construction of irrigation dams
3. LIVESTOCK – Change livestock breeds
4. Creation of research centres for both agriculture and livestock in the sub-county

GROUP 2: PHYSICAL INFRASTRUCTURE

Vision: To be an accessible County

ROADS			
PRIORITY AREA: Flagship roads within wards	Challenges	Proposed interventions	Location
Karandi-Mochongoi-Marigat road	Inaccessible	Grading, Culverting, Bridging, Murraming and Tarmacking	Mochongoi Marigat Mukutani Ilchamus wards
Ngelecha-Mukutani road	Inaccessible	Opening up, Murraming and Tarmacking	Mukutani to Laikipia
Eldama Ravine-Sabor-Talai road (E331)	Inaccessible	Grading, Murraming and Tarmacking	Marigat Eldama Ravine Talai wards

Mukutani-Rugus road	Inaccessible	Opening up	Mukutani Rugus
Ponde- Tinamoi- Bekibon-Buiwon- Kapkon- Kimalel road	Inaccessible	Opening up, Grading and Murraming	Marigat ward
Kampi ya samaki-Salabani-Ngambo- Ilngarua-Longiwan road	Inaccessible	Opening up, Grading and Murraming	Ilchamus ward
Keon- Nyimboi- Mbechot-Sandai- Kaile- Lororo road	Inaccessible	Grading and Murraming, bridging at R. Waseges and R. Mbiririch	Mochongoi and Marigat ward
Barsemoi- Wasegam road	Inaccessible	Grading, Murraming and Tarmacking	Marigat ward
Tenges- Sirwe- Keting to Sabor road	Inaccessible	Opening up, Grading and Tarmacking	Marigat ward
Tulwongoi- Kapkatet-Lawina road	Inaccessible	Opening up, Grading and Tarmacking	Marigat ward
Ngolbelion- Sogon road	Inaccessible	Opening up, Grading and Tarmacking	Marigat ward
Waseges- Nyimbei-Mukutani road	Inaccessible	Opening up	Marigat ward
Tuiyobei-Ngenyiek- Kimalel-stage road	Inaccessible	Murraming and Tarmacking	Marigat ward
Kampi ya samaki-Chapkalache- Kiserian-Sirata- Losamburmbur-Mbechot- Siracho-Kapnoskei	Inaccessible	Opening up and Tarmacking	Marigat ward
Sandai- Sorionto- Sinduyi-Kapkechor- Keneroi-Mbogoine	Inaccessible	Opening up	Marigat ward
Bekibon- Koloson road	Inaccessible	Opening up	Marigat ward
Tinamoi- Karmatat		Opening up	Marigat ward
Ngambo- Marigat		Tarmacking	
Maralal- Churo- Tangulbei-Arabal- Chebinyin-Waseges- Mogotio road			
Embosos- Ngelecha road			
Kapindasum- Karina-Sokonin road			
Ramacha- Loromoru road			
Losekem- Ngenyin irrigation scheme			

Eldume- Longenan- Ilpunyaki road			Ilchamus ward
Elelepen osinya- Ng'ambo road			Ilchamus ward
Marigat- Samburu- Laikipia			
Churo- Samburu- Togobei- Logochoi- Nakuru- Embasos- Ngelecha road			
Embasos- Sogonin- Mukutani road			
Security roads • Kapindasum- Pastalo- Rigos • Kaptombes- Kamar- Mogotio • Embosos- Sokonin- Loromoru- Mukutani			
Airstrips • Kimalel • Kiserian • Kampi ya samaki • Loboi		Upgrading by improving runway, signage and offices	
		Construction of landing airstrip	L. Baringo
		Proposed airstrips: Loboi, Tinomoi, Mochongoi, Mukutani, Embosos	
WATER			
Phase 2 Kirindich dam		Provide piped water from Kiri dam to Marigat ward through gravity	Marigat & Ilchamus ward
Revive Olarabel Loboi water project	Water intake facility	Piping from Kiserian to Lorok, Sirata, Loitip, Kailer, Sandai, Chepkotogen, to Loboi	Mukutani ward
Embosos river/Arabal		Tap water from the river	Chebiwyng and Arabal
Check dam at R. Perkerra	Shortage of water in irrigation schemes		
JICA borehole		Pipe water to homesteads	Marigat ward
Endao/ Lobere water project	Small tank	Construction of bigger tank to supply water	Ngambo Salabani Kampi ya samaki
Rehabilitate all existing boreholes			Marigat ward
Lontrim water project (springs)	Not used	Build a reservoir to tap the springs	Mochongoi ward

Sitotwe- Muthengera dam		Piped through gravity to Kimoriot, Tendenbei, Karanda	Mochongoi ward
Chemeron dam		Piping water to serve Marigat ward	Marigat ward
Kapkututya dam		Piped to serve Endao, Salabani, Mesori	
Radat dam		Tap water	
Chepkobomo dam		Tap water	
Kimao dam		Tap water	
		R. Waseges to be used for irrigation around Logumgum	Mukutani ward
		Loitip water springs to be extracted from the ground for irrigation around Loosamburmbur area	
ELECTRICITY/ENERGY			
Kiserian, Nosukuro, Rugus, Mukutani	Not connected	Connect electricity to schools and houses	Mukutani ward
Sandai, Mbechot, Noiwe, Kirim	Not connected	Connect electricity to schools and houses	Mochongoi ward
Kibingor, Samburi	Not connected	Connect electricity to schools and houses	Marigat ward
Salabani, Eldebesinya, Meisori, Lemayama, Ilkarkar	Not connected	Connect electricity to schools and houses	Marigat ward
Tuiyobei, Kibangei	Not connected	Connect electricity to schools and houses	Mochongoi ward
Ngenyilel, Kimalel, Mututo	Not connected	Connect electricity to schools and houses	Mochongoi ward
Ngelecha	Not connected	Connect electricity to schools and houses	
Solar connectivity • Chebinyi-Arabal- Kapkoi-Mpyot • Rugus- Lmeut- Mukutani		Solar farms in Kimalel Street lights phase 1: Marigat, Mochongoi, Chemorongyon, Maoi, Koriema	Mochongoi/Mukutani ward Marigat ward
SEWERAGE/ DUMPING SITES			
SEWERAGE	Shortage of dumping sites	Designation of dumping sites	Marigat, Kabel, Kampi ya samaki Mochongoi, Loboi, Koriema, Sirata

	No sewage or exhauster services	Create a sewerage site/ exhauster services	Marigat town, Kiserian, Maoi
		Construct sewerage system	Kampi ya samaki, Kaboen

Additional notes

1. Oil block in Lake 94
2. Oil exploration and minerals around Eldume and Koriema
3. Geo-thermal potential areas- Conduct prospecting on oil and geothermal
    - Loboi, Lake bogoria
    - Ilpirisat, Mukutani
    - Ruko conservancy
    - Kokwa
4. High water potential in Meritip springs
5. Roads
    - Tarmac roads within Marigat town
    - Fly over in Rabai
    - Foot bridges to curb elnino challenges
        - Perkera irrigation
        - Arabal
        - Kapkoen-Maoi
        - Ngolbelon- Kabirmal
6. Schools without electricity
    - Ngelecha primary
    - Eldume sec school
    - Iti primary school
    - Lamalok primary school
    - Mbaricho primary school
    - Loresho primary school
    - Kimodis
    - Kibingor
    - Karbelech
    - Kapkoital
    - Barsemoi
    - Segutei
    - Kaberuswa
    - Sereton
    - Kaptich
    - Koibukul
    - Koitilon
7. Mobile network coverage and TV/radio coverage
    - Sambata
    - Kiserian
    - Sindoni
    - Sigonin
    - Maji moto

GROUP 3: SOCIAL INFRASTRUCTURE.

VISION: Quality Standards and Equity Distribution of Development in Social Services

PRIORITY AREA.	CHALLENGES	PROPOSED INTERVENTIONS	LOCATION
Education	• Preference of private schools over public ones • Inadequate education facilities • Sparsely populated education centres eg ECD centres • Low staffing • School feeding programmes is not sustainable throughout the year • Poor payment for teachers especially in ECD centres • Less boarding schools • Insecurity which disrupts education • Little value for vocational training schools • Little funds for bursaries and sponsorships for education • Students stay idle at home during teacher's strike	• Capacity building of parents on how to utilise public schools • Increase vocational/polytechnic institutions in the sub-county • Increase allocations in the county budget for creation of more ECD centres • Increase wages for teachers • Provide facilities like libraries and resources centres to raise performance in the area • Build more boarding schools • Allocate more funds for bursaries and have more sponsorship agents • Set aside capacity building fund to equip youths in all wards with technical skills • Establishment of a university in Baringo South	• All wards in the Sub-county
Health	• No referral hospital in the sub-county • Many dispensaries are not upgraded • Low staffing especially in dispensaries • Low supply of drugs in health facilities • The health institutions are not adequate • Inaccessibility to health facilities especially in rural areas	• Upgrading hospital services • Upgrading dispensaries to offer all basic services • Increase number of medical personnel • Constant supply of drugs • Build more health institutions to increase accessibility to the people	• All wards in the county
Security	• High rates of insecurity • Insecurity cases causes inaccessibility to basic services • Cattle rustling • Low response to emerging insecurity cases	• Establishment of more police posts and police camps • Creation of more administrative locations • Open up more feeder roads • Subdivide Marigat ward and other vast wards to make them smaller for better provision of security • Sensitization on peace mechanisms to reduce cattle rustling • Enrol cattle rustlers to join NYS, KDF and other service forums • Setting up a watch tower at Karau Hills as there is a view of the area.	• Mukutani ward centres eg karau, ngelecha, Mukutani, Noosukuro, Ramacha, Lomoiwe and Kewer

Social Ammenities	• Lack of social amenities like stadiums, rescue centres, social halls etc	• Creation of social halls, community library, rescue centres • Creation and completion of more market stalls in the market places • Establishment of a youth empowerment centre to address issues of drug and substance abuse especially in Marisar	• All wards in the sub-county

GROUP 4: BARINGO SOUTH: TRADE AND INSUTRY

Vision: To be a leading industrial and tourism hub for sustainable poverty reduction in Baringo South
Quick win: Meat processing and Honey processing factory

PRIORITY AREA	CHALLENGES	PROPOSED INTERVENTIONS	LOCATION
TRADE	High taxation rates	Construction of big market	Marigat
	Poor roads for transportation	Reduce licence cost	
	Middlemen buying crops at low price		
	Lack of market space for crops	Construction of market for livestock	Arabal, Mukutani
	Stalled abattoir	Reviving of abattoir	Maoi-Marigat
	Insecurity affecting business	-Employ watchmen -Nyumba kumi initiative	Marigat
	Long distance covered by farmers to sell their livestock	Construction of open air market for livestock	Loboi-Mochongoi, Salabani, Eldepe (Ilchamus)
	Accessing loan facilities is very difficult	-Reduce loan processing duration -Educate traders on credit facilities (seminars)	All around sub-county centres
	Lack of stalls for honey trade	Construction of stalls for honey	All wards (Kapkuikui, Maoi, Laboi, Koriema, Lororo, Marigat town and Kampi ya moto)
	Stalled livestock market	Reviving the market	Chebinying, Kiserian & Loutie
INDUSTRY	Lack of hide and skins stalls	Construction of stalls	Every location in Baringo South
	Lack of hide and skins factory	Establishment of a tannery	Marigat location
	Stalled honey factory	-Reviving honey factory -Expansion of Mogoswok beekeepers	Ramacha, Embosos, Chemorongion Kimondis
	Stalled Kenya Wine Agencies	Reviving the industry	Marigat
	Stalled Aloe vera industry	Reviving the industry	Kimalel

	High cost of transportation to kitale	Seed processing industry	Marigat
	Cummins industry not benefiting the community	County government to intervene and ensure farmers are well paid to cut mathenge	Marigat
	Lack of tomato processing factory	Construction of tomato factory	Marigat
TOURISM		Wildlife conservancies for tourist attraction	Loromoru Karau/Ramacha-Mukutani/Arabal
JUA KALI INDUSTRY	Lack of Jua kali zone	Establish Jua kali zone	Tomolokwo- Ewalelsoo Marigat/ Mochongoi

Tourism

Additional notes

1. Potential tourism sites include:
    - Bird species- bird watching in Lake 94
    - Fish species
    - Meisoni cultural and ostrich farm
    - Eldume tourist and camping site
2. Proposed conservancies include:
    - Kiborgoch conservancy
    - Irong conservancy
    - Chuine conservancy
    - Tomolokwo conservancy
    - Salabani conservancy-Ileltamus ward
3. Land demarcation for land owners to own mathenge trees and sell them so as to benefit from it
4. Establishment of industries along proposed highways

GROUP 5: LEADERSHIP AND GOVERNANCE

VISION: TRANSPERENCY AND ACCOUNTABILITY TOWARDS EQUITABLE RESOURCE ALLOCATION

QUICK WINS:

- Public Accountability per Ward through formation of Independent Public Monitoring and Evaluation Committee
- Civic Education and sensitization of community per ward on ongoing and planned development projects based on roles of leaders
- Integration of County Leaders per quarter of the year to take stock of development issues in region

PRIORITY AREA	CHALLENGES	LOCATION
MOCHONGOI WARD 1. RESOURCE ALLOCATION 2. WARD ADMINISTRATION	Bias in resource allocation as most of resources are allocated in Mochogoi Ward at expense of other wards	MOCHONGOI
	Poor representation and leadership by MCA. Does not actively participate in development discussions, only signs and goes	
MARIGAT WARD 1. GOVERNANCE 2. INFORMATION SHARING & UPTAKE 3. RESOURCE ALLOCATION	Poor urban management as there are no open spaces (green spaces like parks) in Marigat Town	MARIGAT
	Poor implementation of development projects as per priority of the people	
	Poor follow-up of tenders and contracts awarded hence wastage of resources	
	Lack of information sharing regarding development matters	
	Leaders do not take advice particularly from professionals	
	Lack of a physical presence MCA (No Office to turn to)	
	Large/expansive Wards i.e: Mochongoi and Marigat (14-Sublocations, 84-locations) which makes resource allocation and distribution of development difficult	MOCHONGOI AND MARIGAT
ILCHAMUS WARD 1. RESOURCE ALLOCATION 2. WARD ADMINISTRATION	Poor investment in development projects in rural areas (Mainly depend on Red Cross)	ILCHAMUS
	Bias resource allocation	
	Poor representation by Youth Rep and MCA	
MUKUTANI WARD 1. RESOURCE ALLOCATION	Poor job distribution Bias in resource allocation from the County as ward is least developed Poor management of CDF funds	MUKUTANI
ADDITIONAL ISSUES		
POOR MONTIRING AND EVALUATION OF DEVELOPMENT PROJECTS	Substandard/poor quality development projects that are sub-contracted or tendered out	ALL WARDS
OVERLAPPING OF ROLES & DUTIES AMONG LOCAL LEADERS	Count governor, Senator, Area MPs and MCA perform overlapping roles as they are not clear of their duties. Local communities are also unaware of development roles all the above leaders play thus are unable to hold accountable	ALL WARDS
NO GENDER BALANCE IN ALL SECTORS (ELDERS, BARAZAS)	Women secluded from key decision making bodies Lack of sensitization on empowerment opportunities for both women and youth	ALL WARDS
POOR STATISTICS OF UNEMPLOYMENT AT WARD LEVEL	Poor follow-up on employment statistics per ward	ALL WARDS

PROPOSED INTERVENTIONS

- Integration of County leaders: Meeting of Governor, Senator, MPs, MCA's, DC and chiefs to coordinate efforts of the County
- Establishment of an Independent Public Monitoring and Evaluation Committee at ward level for public scrutiny on a quarterly basis, of development projects
- Formation of Ward Development Committee per Ward to oversee how, where and when resources are allocated and spent
- Creation of new wards in expansive wards (Marigat and Mochongoi) based on population size and demographics
- Creation of awareness and sensitization of communities at ward level regarding intended development projects
- Clear description of roles of all leaders and sensitization and education of communities on the same
- Advertisement boards of development projects implemented clearly showing, done by who, funded by who and what for. This will encourage transparency by leaders and accountability for area locals
- Reduction of bureaucratic red-tape in accessing youth empowerment projects
- Department of civic education to do more sensitization in easier forms of communication such as Use of a whistle at the ward and village level, for ease of understanding of the message or mobile Public Address systems to announce issues
- Inclusion of marginalized regions in equalization fund
- Implementation of village administrators and council of elders leadership as proposed in the Constitution
- Equal distribution of jobs based on equity
- Establishment of a work programme for MCAs per quarter
- Ward administrator to be given a physical office and some allocation of funds to strengthen his role
- Allocation and disbursement of funds for women and Youth at the ward Level
- Transparency of county, ward and village expenditure for clear understanding of budgetary allocation at grass root level

APPENDIX THREE: STAKEHOLDER MEETINGS FROM 28TH – 30TH NOVEMBER 2016

Tiaty Sub-County:

Meeting venue: DC Guest House
Meeting time: 11:30 a.m. – 4:00 p.m.
Date: 28th Nov, 2016

Wards represented

- Tirioko
- Churo/ Amaya
- Silale
- Kolowa
- Ribkwo
- Loiyamorok
- Tangulbei

SUB-COUNTY ISSUES AND PROPOSED INTERVENTIONS

ENVIRONMENT			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Soils	• Soil erosion • Persistent overgrazing • Poor farming techniques • Deforestation • Poor soil conservation • The nature of the soil • No skilled personnel/resource persons	• Management of grazing areas • Control of human activities • Banning of charcoal burning activities • Encouraging afforestation • Construction of gabions and trenches • Planting of top cover crops • Control and management of stokes • Creation of awareness on how to conserve the soil • Deployment of skilled personnel	• As indicated in the map
Forests	• Practice of charcoal burning • Deforestation • Lack of advocacy on importance of forests • Lack of forest officers to guard the forest • Poor governance & leadership • Poor network coverage- 3G network needed	• Afforestation • Deployment of forestry personnel	• As indicated in the map
Swamps/Springs	• Siltation • Climate change • Increase in human population	• Identify and preserve the swamps/springs • Integration of both modern and ancient skills in conservation measures	• As indicated in the map
Hills	• Deforestation • Occurrence of landslides • Overstocking/ overgrazing • Poor ploughing skills • Quarry activities	• Protection of the hill regions	• As indicated in the map

Conservancies	• Poaching activities • Poor security • Poor/impassable roads • No government support • Marginalization • Drought/famine	• Consultative forums with the locals • Create awareness on hill protection	• As indicated in the map
LAND AND AGRICULTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Land	• Lack of land ownership documentation	• Provision of title deeds to land owners	• Tirioko ward • Ngoron centre, Kapunyany, Kipnyan, Ptikii, Ngaina, Dira, Rotu, Chesawach, Chesakamurio, Kolowa • Churo centre, Amaya centre, Tangulbei, Chepkalacha, Kokwatoto, Loruk, Chebilat, Chesiririnyon, Chesakach, Chesitat, Kamusuk, Katikit, Chemusuk, Nyakwala, Barpello, Kapunyany, Tilingwo, Loiwat
Crop Agriculture	• Limited water supply	• Damming of gorges to harness water for irrigation in:	• Ribkwo ward • Lochokee, Mukur, Nakiriwo, Nyakwala, Apakiso, Reper • Tirioko ward • Kudungdung, Embositit, Lelkmong, Cheponto, • Kolowa ward • Kamakrich, Kapkopo, Adich, Kokoroy
		• Development of irrigation schemes in:	• Ribkwo ward • Chesakan, Seretion, Kasakarah, Molok, Kasono • • Tirioko ward • Kipnyan, Korelach, Chewara, Chemayes, Kudungdung • • Silale ward • Naudo, Kitelamuk • • Amaya ward • Amaya, Nyalilbuch

Livestock	• Pests and diseases • Persistent drought • Low livestock production	• Promotion of bee keeping by construction of honey refinery factory in:	• Chemolingot, Kollowa, Tangulbei, Churo/Amaya, Ngoron,
		• Construction of abattoirs/slaughter houses specifically for camels in :	• Chemolingot
		• Encourage use of animal husbandry techniques such as artificial insemination and cross breeding • Conduction of vaccination both regularly and on emergency cases • Planting of grass in all wards • Animal husbandry in all wards • Construction of cattle dips in every sub-location • Put up animal vet lab to help identify diseases and aid in vaccination • Upgrading livestock seeds	• All wards

PHYSICAL INFRASTRUCTURE			
VISION: TO ASPIRE TO GET QUALITY SERVICES AND INFRASTRUCTURE MISSION: TO ENHANCE GOOD GOVERNANCE, LEADERSHIP AND UPHOLD THE RULE OF LAW			
PRIORITY AREA	**CHALLENGE**	**INTERVENTION**	**LOCATION**
Roads	• Poor/ impassable roads	• Need for tarmacking of the following roads (Flagship project):	• Loruk-Tangulbei-Churo • Kinyach-Kollowa-Ngoron- Takawia
		• Need for Murraming of the following roads: • Put up road signs where necessary	• Ngoron-Sukut-Rotu-Kapedo • Nginyang-Riong'o- Akwichatis • Churo-Amaya • Tangulbei-Kokwototo-Orus- Akwichatis • Barpello- Kapunyany • Chemolingot- Barwessa • Tangulbei- Mukutani
	• Lack of drainage systems in all centres	• Provision of drainage systems in all business premises	• Chemalingot, Kollowa, Tangulbei, Churo
	• Lack of bridges across all impassable rivers	• Construction of bridges to ease transport connection	• R. Kakapul, R. Amaya, R. Kadukoi, Tangulbei school, R. Akinamet, R. Cheptobokwo, R. Churtuten, Kollowa bridge, R. Ngoron, R. Ngeleyo, R. Kapaw, R. Akaret
Airstrips	• No functional airstrips	• Construction/ rehabilitation of the following airstrips with necessary facilities	• Nginyang airstrip, Churo, Tangulbei, Kollowa, Ngoron airstrip

Water & Sanitation	• Lack of piped water	• Provide piped water to all households	• Kollowa, Amaya, Ngoron, Chro, Chemolingot, Nginyang, Tangulbei, Barpello, Loruk, Loimat, Chepkalacha
	• Lack of sewerage system in all growing centres and institutions	• Purchasing of water bursar in all wards	• All wards
		• Put up sewer system in all centres	• All centres
	• Inadequate water supply	• Drilling of boreholes in all institutions and centres equipped with solar panels	• Whole sub-county
		• Construction of dams	• Chematai , Chepng'atip, Cheptaran, Chepelion, Korio, Korostin in Ribkwo, Kasisit, Napeikore, Kongor, Alem, Napetot, Meuto, Lokis, Korelach, Mngal, Kakales, Chesanayan, Kimnyan, Molok, Maron, Semet, Natan, Kositei, Kwialeput, Ayelelion, Chepanda, Kasitet Dams
Electricity	• Insecurity due to lack of street lights	• Installation of street lights in all centres to curb insecurity	• All centres
	• Lack of power connection in households	• Solar power connection in all households and institutions • Power connection to all households and institutions	• Whole sub-county

SOCIAL INFRASTRUCTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Education Primary & ECD	• Inadequate number of ECD centers	• Construction of more ECD schools	• Tirioko ward • Adomeyon, Ngeleyo, Lorwaza, Kongor, Sukut, Kapunyany, Chepkirial, Lowonoo, Akarapet, Ngainah, Kapaw, Ptikii • Kolowa ward • Tilingwo, Lumuke, Togomoi, Mosolion • Ribkwo ward • Kasakaram, Donge, Cheptopokwo, Katukurnwok • Tangulbei ward • Serionie, Kadokoi, Cheparer, Orus, Komolion, Takariakales, Tangulbei • Silale ward • Nadome, Katele, Narang'ole, Toplen
Secondary schools	• Inadequate number of primary schools	• Construction of more Primary schools	• Tirioko ward • Kongor, Napur, Chepondo, Akoret, Lokis, Domon, Chepkirial, Embositit, Kamakol, Rotu • Kolowa ward • Lumuke, Keptumo, Kimnai • Ribkwo ward • Alem, Kadeli • Tangulbei ward • Orus, Mokongwo, Komolion, Aiyan, Kalabata, Sosion, Ngaruwa • Silale ward • Kaipat, Narang'ole, Katele, Natan
	• Limited secondary schools	• Construction of more secondary schools	• Tirioko ward • Kapunyany, Ptikii, Kamrio • Kolowa ward • Loyuat • Ribkwo ward • Kositei, Lorwatum, Maron • Tangulbei ward • Chepkalacha, Orus, Mukutani
Tertiary institutions	• Few number of polytechnics and vocational training centers	• Establishment of more tertiary institutions	• Ngoron, Kolowa, Barpelo, Chemolingot, Tangulbei, Mukutani, Naudo

Health	• Inadequate number of health facilities • Inadequate facilities, medicine and staff within health facilities	• Construction of more health facilities • Equip all dispensaries with adequate drugs, facilities • Deployment of more health personnel	• Tirioko ward • Chesawach, Korelach, Kamsunon, Kamrio, Ruton, Kapunyany, Ngoron, Ptikii, Chewaran, Sukut • Kolowa ward • Kolowa, Chebelion, Kasakat, Tukomoi, Tilingo • Ribkwo ward • Kamario, Chesitot, Chemolingot, Chemsuk, Nyakwala, Katikit, Donge • Tangulbei ward • Mukutani, Chepkalalacha, Loyeya, lomuge • Amaya ward • Kaptuya, Kamar • • Silale ward • Nadome, Natan, Merkalei, Nasorot
Social amenities	• Lack of public social halls • Lack of car parking areas • No green space allocated for relaxation • Lack of a stadium • Lack of a library	• Put up library and dumpsites	• Ngoron, Kapunyany, Ptikii, Chemalingot, Kolowa, Loiwat, Chepkalacha, Loyeya, Tangulbei, Mukutani, Churo, Plesian, Kachilitwa, Naudo
		• Construction of stadium • Upgrade existing stadium	• Ngoron, Korelach, Ptikii, Tangulbei, Chebel, Nangarua • Naturtur, Michuki
Security	• No police post • No AP line	• Police posts in rural areas	• Tirioko ward • Dira, Ngoron, Kamsino, Ngainah, Kulol, Kapaw • Kolowa ward • Kolowa, Loiwat, Barpelo • Ribkwo ward • Chesitot, Kositei • Tangulbei ward • Tangulbei, Kwokwototo • Amaya ward • Amaya, Kaptuya, Kamar • Silale ward • Kaipat, Nasorot, Akwichatis, Naudo, Riongo

TRADE, COMMERCE & INDUSTRY VISION: TO MAKE TIATY AN INDUSTRIALIZED SUB-COUNTY RUNNING ON A 24 HOUR ECONOMY THROUGH MARKETING, EXPLOITATION OF UNTAPPED RESOURCES, CREATION OF EMPLOYMENT, IMPROVED ECONOMY AND TITLE DEED ALLOCATION			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LOCATION**
Trade & Commerce	• Poor infrastructure resulting to difficulties in accessing markets • Inadequate coordination of business due to poor communication networks • Lack of street lights in markets e,g. in chemolingot, Kolowa, Tangulbei, Churo • Lack of stalls in markets, boda boda shades, bus stage • Lack of a storage facility for agricultural products • Lack of marketing knowledge for locaaly produced products i.e. honey • Oppression by middlemen • Lack of waste disposal facilities in towns • Lack of title deeds thus no access to loans	• Opening up of roads to promote trade networks and markets such as:	• Nginyang-Tangulbei • Kapedo-Akoret-Rotu-Ngoron-Kolowa • Akwichatis- Orus-Nasur-Amaya • Chemolingot-Chepanda-Loiwat • Chemolingot-Katigit-Kinyech • Alem-Nyakwala-Kamurio-Chesawach • Chepkalacha-Mukutani • Rotu-Kapunyan-Barpello • Kapunyan-Kollowa • Kokwatoto-Amaya market • Ngoron-Korelach-Ng'aina-Lokis • Korelach-Akirapet-Lowanoo-Rotu
		• Construction of stalls and shades	• Kolowa, Amaya, Chemolingot, Churo
		• Construction of more boosters in:	• Amaya, Rotu
		• Put up police posts in hotspot areas such as:	• Chepkalacha, Akoret, Akwichatis, Katikit
		• Planning of towns and issuance of title deeds to access loans in:	• Chemolingot, Kolowa, Barpelo, Chepkalacha, Ngorong, Nginyang, Tangulbei, Churo, Amaya, Akwichatis
		• Market planning • Regulate middlemen prices • Expose traders to markets through licensing and market education • Provision of water sources in markets • Improvement of sanitation in markets	• All wards

Industry **Raw products available:** **Honey - whole sub county** **Hides & skins - whole sub county** **Beef - whole sub county** **Diatomite in Katikit to chepanda, Kositei, Chepochowom, Chepkirial** **Fluorspar in Chepkirial (Akoret area)** **Green and red garnet in Tirioko ward** **Iron ore in Ribkwo ward (Kapeng'at/ Nginyang)** **Sand in chemolingot.** **Kokwatoto and chepturo in kolowa** **Quarry products- whole sub county**	• Lack of industrial ventures • Insecurity cases • Poor road networks • Inadequate water supply • High illiteracy levels	• Promote education to locals on value addition of raw products • Expand water supply networks • Opening up of roads to attract industry development	• All wards
		• Establishment of honey refinery industries	• Chemolingot
		• Establishment of hides & skins factory	• Chepkalacha, nginyang, kolowa
		• Establishment of beef meat factory	• Amaya
		• Establishment of tannery factory	• Chemolingot
Tourism	• Poor infrastructure • Lack of marketing initiatives • Lack of identification of tourism sites • Inadequate education on tourism	• Improvement of roads • Promotion of tourism sites such as: • Tiaty hills • Silale crater • Korosi crater • Pokot culture • Lomechan caves • Korosi caves • Paka hills	• All tourist sites

LEADERSHIP AND GOVERNANCE			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LEVEL**
Sub County administration	• Lack of oversight on implementation of development projects (Incomplete projects) in roads, health, ECD, market and jua kali sectors • Political interference • Tribalism • Lack of information sharing concerning development matters • Delay of funds by county government	• Creation of awareness and sensitization of communities regarding intended development projects • Political leaders to keep off maters of governance and development • Creation of trade & industry oversight authority • Introduction of policies that protect communities on resource sharing e.g. diatomite wrangles between tugen & pokot, GDC vs community	• Sub County

a). Baringo North Sub - County

Meeting venue: Mosop shopping centre
Meeting time: 12:00 p.m. – 4:00 p.m.
Date: 29th Nov, 2016

Wards represented

- Barwessa
- Kabartonjo
- Saimo Kipsaraman
- Saimo Soi
- Bartabwa

ENVIRONMENT			
VISION:			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Forests **Katimok** **Kabarbet**	• Deforestation • Illegal logging/charcoal burning • Unsustainable use of forest • Forest fires affecting neighboring lands	• Increase in forest cover through programmes such as school green programmes/ women empowerment • Reduction on overdependence on forest resources through use of alternative fuel use e.g. energy saving jikos, solar and biogas	• As indicated on the map

Rivers	• Clearing of river banks • Encroachment due to population growth	• Avoid cultivation along river banks	• As indicated on the map
Hilly areas	• Cultivation on hilly areas	• Avoid cultivation on hilly places	• As indicated on the map
Others	• Climatic/ harsh conditions • Overstocking leading to overgrazing • Lack of conservation methods/management • Lack of public awareness among community members • Lack of adherence to land use policy • Topography of the land • Conflicting policies • Lack of adequate law enforcement	• Reduction of livestock and practicing semi zero-grazing • Building of gabions on hill/ planting trees, grass • Formation of community forest management associations • Availability of explicit land use policies • Ensuring strict law enforcement • Encouraging planting of trees along river banks to preserve the water table by the KFS	• As indicated on the map
LAND AND AGRICULTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Flagships 1. Land adjudication/arbitration/ demarcation 2. Food security through: • Increased production and storage facilities • Distribution of seeds and fertilizers • Development of irrigation schemes 3. Construction of dams for irrigation			
Rural Land	• Lack of land ownership documentation • Insecurity • Large tracks of unutilized land • Limited water supply	• Need for demarcation to be done in:	• Kelyo, Ossen
		• Provision of title deeds to land owners • Lack of land registration • Set aside land for settlement by evictees • Need for agriculture extension services • Provision of security	• Whole sub-county
Urban land **(Kabartonjo, Barwesa, Kipsaraman, Bartabwa)**	• Lack of infrastructure facilities i.e. water, sewerage • Lack of use of non-arable land • Lack of physical planning and surveying services	• Need for use of non-arable lands • Need for physical planning and surveying in consultation with communities	

Crop Agriculture Mangoes, pawpaw, Avocados Coffees, Cotton, Green grams, Groundnuts	• No cold storage facilities • Lack of market for honey and animal products • Lack of agricultural extension services	• Establishment of a coffee factory in:	• Bartabwa, Kipsaraman
		• Establishment of cotton ginnery in:	• Barwessa
		• Establishment of honey processing factory in:	• Bartabwa, Kipcherere
		• Construction of cereal storage facility in:	• Kabartonjo, Bartolimo
		• Put up auction market	• Barsaoi, Chebarsait
		• Construction of dams	• Kimiren dam, Yeptos, Miech, Pereka, Sibilo, Kosile, Chebarsiat
		• Development of irrigation schemes	• Yatya
Livestock (Milk)	• Livestock diseases • Lack of abattoirs • Evictees from forest i.e. Katimoi, Saimo, Talai • Food insecurity •	• Construction of abattoirs in :	• Kabartonjo
		• Establishment of milk cooling plant in:	• Aiyebo
		• Development of animal laboratory in Kipsaraman	• Kipsaraman
		• Establishment of juice factory in:	• Kabartonjo
		• Establishment of fish factory in Kampi samaki	• Chemolingot

PHYSICAL INFRASTRUCTURE			
PRIORITY AREA	**CHALLENGE**	**INTERVENTION**	**LOCATION**
Roads	• Poor roads conditions • Impassable roads • Poor maintenance of roads •	• Tarmacking/re-carpeting/ murraming of the following roads: •	• Tourism/Commerce road • Lake Baringo- Kasisit- Tiriminion- Kapkiamo- Barwessa road •
			• Security road • Bartabwa- Chemalingot road • Others • Moinonin- Sibilo- Rondinin- Kipsaraman- Poi- Kampi Nyasi •
			• Lemuyek- Yatia- Chemoe- Kaboyon- Chepkesin- Bartabwa road •
			• Kalabata- Bartabwa- Chemoikut- Marigut- Arror road •
			• Katibei- Lake Kamnarok road •
			• Ossen- Tiloi- Barwessa •
			• Siboo- Tiloi •
			• Pemwai- Kamnarok- Katibel
		• Provision of footpath bridges in:	• Kabartal- Borowoon • Kiminten • Cherial footbridge • Perekei-Borowoon • Lelabei- Barwessa • Kurumbonin • Atiar bridge • Bebokoi • Rurut (Kerio)
	• Lack of proper drainage systems in the towns • Poor drainage in lake Baringo- Loruk area and Poi swamp	• Provision of enough funding to provide proper drainage systems	• All wards
Airstrips	• Lack of airstrips	• Construction of airstrips with necessary facilities in:	• Katibel- for tourism purposes • Bartabwa and Kaborion- for security purposes

Water & Sanitation	• Lack of piped water • Unsafe water for drinking • Seasonal streams • Less boreholes • Siltation in streams and pan dams • Encroachment of water sources • Lack of waste disposal facilities in centres • • Lack of sewerage network in all centres	• Provide piped water to all households • Construction of more boreholes	• All wards
		• KiriDam phase II to be piped to Kabartonjo town	• Kabartonjo
		• Construction of more pan dams in:	• Kabartonjo ward • Kabarbet • Chepterwa • Kaptere • Kipkokei • Saimo kipsaraman • Saimo soi ward • Kapkineroi • Kamotiony/ Birigweny • Barwessa ward • Kapkukui • Kapsakas • Bartabwa ward • Kaborion (Flagship- Major/ large dam) • Kimiren
		• Provision of garbage dumpsites	• All wards
		• Put up sewer system in all centres	• All wards
Electricity	• Insufficient electricity network supply in households, institutions, water projects and health centres	• Installation of street lights in major centres • Efficient distribution of electricity power cables • Availability of more transformers	• All Wards
	• Less transformers		
Communication networks	• Poor communication networks	• Need for installation of Safaricom/Airtel boosters	• Ossen, Kipcherere, Tiloi, Kapkiamo, Poi, Atiar, Chepkesin, Kinyach, Maregut, Yatia

SOCIAL INFRASTRUCTURE VISION: TO BE AN INDUSTRIOUS, SELF-RELIANT TOURIST ATTRACTION SUB-COUNTY			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Education Primary & ECD Secondary schools	• Shortage of teachers in ECD centres • Insecurity • Understaffed primary school teachers in the lowland areas • Poor education facilities structures- 80% are semi-permanent structures • • • • • • Lack of laboratories • Inadequate number of secondary schools • Inadequate number of teachers • Low enrolment due to lack of school fees	• Employment of more teachers • Provision of facilities such as desks, tables, play areas to all ECD institutions • Construction of permanent structures in all schools majorly: • Balancing of deployment of teaching personnel in all regions • Put up a police station to improve security • • • Upgrading of existing secondary schools with facilities • Put up more schools especially in the lowland areas like:	• All wards • Bartabwa, Saimo soi, Barwessa wards • • Kinyach, Chepkesin, Kaptilomwo, Saimo soi, Saimo kipsaraman, Meregut
Tertiary	• Few number of tertiary institution- only polytechnic present • Lack of a public university	• Establishment of more tertiary institutions • Establish 1 public university within BN sub-county	• Throughout BN subcounty
Health	• Inadequate number of mortuaries and maternity wings • Lack of laboratories and ambulances • Inadequate health personnel • Few number of level 4 hospitals • Few dispensaries	• Every health centre to have a laboratory	• All wards
		• Construction of new level 4 hospitals	• Barwessa, Bartabwa
		• Need for modern maternity and mortuary in every dispensary	• KBO health centre, Bartabwa
		• Purchase ambulance vehicles for every ward	• Saimo soi, Saimo kipsaraman wards
		• Construction of more dispensaries	• Senebwa, Kapkwang, Kaphlomo

Social amenities	• Lack of public social halls- Only found in Barwessa, Muchukwo • Lack of library and stadiums • No green space allocated for relaxation	• Construction of social halls and libraries	• Every ward
		• Development of a stadium	• Kabartonjo ward (Ossen)
		• Create space for green parks in all towns	• Kabartonjo, Kipsaraman, Kampi samaki, Bartabwa, Barwessa
Security	• Insecurity e.g. Kinyach, Yatya, Maregut, Cheminday, Tilingwo, Bartabwa, Kalabata, Barbachun, Kui kui, Kampi nyasi, Loruk, Yatya, Sibilo	• Build Police posts/station in:	• Bartabwa, Kipsaraman, Barwesssa, Bartolimo, Kipcherere, Tiloi
		• Deploy anti-stock theft unit	• Barwessa, Loruk
		• Addition of Kenya Police Reservist • Purchase of patrol vehicles • Improvement of security roads	• All wards

TRADE, COMMERCE & INDUSTRY VISION: -TO BE A TOURIST DESTINATION TO BE A LEADING TRADE BLOC A LEADING EXPORTER OF VALUE ADDED PRODUCTS			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LOCATION**
Trade & Commerce	• Substandard roads connecting markets • High taxation on farm produce brought to the market • Infrastructure around the market are not up to expectations of the traders • Lack of jua kali shades • Water shortage at market centres • Licensing is an issue • Lack of designated dumping site • Lack of cold rooms to sustain perishable products • Oppression by middlemen • Lack of market for products such as avocados	• Tarmacking of roads to enhance easy access to markets	• Barwessa- Kapkiamo-Kabartonjo road • (More to be found on the map)
		• Reduction of tax rates e.g. livestock trade (butcher) to be reduced from 300 to 200, charges on stalls from 500 to 200. • Installation of cold rooms to take care of perishable products • Licensing should be dependent on location and should be reduced • Elimination of middlemen by constructing a factory e.g. coffee, fruit factory	
		• Street lights to be erected around all market centres • Distribution of boreholes and dams to all market centres • Provision of piped and storage tanks in all market centres • Put up dumping site around all market centres. Land issues on the location of the site to be settled as soon as possible • Cabral works to be constructed around markets, streets and around all centres	• All market centres
		• Construction of auctioneering sites and stalls to enhance further trade (Existing ones in Kalabata, Kinyach, Kampi nyasi) • Poultry auction (Existing at k.b.o-Ossen)	• All wards • Barwesa, Kinyach
		• Jua kali shades to be constructed around all wards	• KBO, Barwessa, Kipsaraman, Kinyach

Industry **Raw products available:** Coffee Limestone Minerals (Oil, Diatomite) Sand Fruits Grains Milk Honey Hides and skins	• Limited industries • Poor road infrastructure • Inadequate water supply • Lack of market • Land problem to put up industries • No Exploitation of the minerals	• Establishment of coffee factory	• Ossen •
		• Put up limestone factory	• Barwessa, Loruk, Kipsaraman
		• Establishment of milk factory	• Ossen (already constructed)
		• Establishment of honey factory	• Kipcherere
		• Establishment of diatomite factory	• Kaboryon
		• Exploration of oil deposits	• Along the Kerio Valley
		• Quarry products (both blocks and ballast)	• Kabartonjo, Kipsaraman, Kinyach
		• Red ruby	• Kipsaraman
PROPOSED TOURISM CIRCUIT L. Baringo- Rontinin- Kipsaraman- Kinyach- Kapnarok- Ossen- Nuregoi- Kapkiamo- Bartolimo- Saimo- Kipcherere			
Tourism Sites: Lake Kapnarok and Baringo Kipsaraman, Poi, Senebo, Sumoti, Bartolimo, Relengi and Bossei **Scenic sites:** Sumot, Chebayaya caves, Nuregoi hills, Kapchebor hills, Saimo hills and Kinyach **Wildlife-** around L. Baringo and Kapnarok	• Poor road infrastructure connecting to the sites • Land disputes around the tourist sites • Political interference • Lack of awareness by citizens • Deteriorating tugen culture • Boundary disputes • Insecurity in some parts	• Improvement of roads connecting to the tourist sites • Land demarcation and compensation to be enhanced • Civic education to be provided along tourism zones • Promotion of cultural activities	• All Tourist sites •
		• Increase security surveillance in the affected areas	• Kinyach, Bartabwa, Kalabata/ Saimo soi ward

LEADERSHIP AND GOVERNANCE			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LEVEL**
Sub County administration	• Lack of proper prioritization of projects • Illiteracy among some of the leaders hence poor decision making • Nepotism • Lack of co-operation between the leaders and citizens • Corruption • Dictatorship among some leaders • Lack of transparency and accountability • No civic education • Discrimination in service delivery • Inefficiency in service delivery • Poor gender representation	• Equitable distribution of services • Ensure gender representation in all aspects of sub-county matters • Need for accountability from leaders • Capacity building for community elders • Spatial plan should address the plight of physically challenged • Inclusivity of citizens in projects • Creation of awareness on some specific programmes within specific areas • Need for accountability/ transparency on projects • Working together of NGOs and the county government for betterment of the society	• Sub County

c) Mogotio Sub-County:

Meeting venue: Mogotio polytechnic training centre
Meeting time: 12:00 p.m. – 4:00 p.m.
Date: 3oth Nov, 2016

Wards represented

- Mogotio
- Emining
- Kisanana

ENVIRONMENT			
VISION: TO ACHIEVE CONDUCIVE ENVIRONMENT IN OUR SOCIETY			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Forests Mogotio Mogotio LLC Olmarai Arus- Molo sirwet Emsos Sinende Emining Kobat Cheberen/ Chebilat Lelen Tian Sirwa Kaptimon Ngingun Kitiarbatai Obui	• No security • Illegal logging/ charcoal burning • Uncontrolled cutting of trees • Inadequate forest enforcers • Lack of awareness on forest conservation	• Employing of security personnel • Formation of community forest associations in the society • Practicing afforestation	• As indicated on the map
Soils	• Soil erosion • Road destruction • Washing away of top soils	• Building of gabions • Planting of grass	• Radat, Leleni, Lengnane, Sitet, Lukuiso, Mogotio, Kisanana, Olduga, Cheberen
Swamps Embogon Maji moto Mogotio/ Emining Kapchelungy Timoi Emsos	• Encroachment on swampy areas • Lack of awareness on swamp conservation • Outbreak of diseases	• Protection of swampy areas • Planting of suitable crops around the swampy areas	• As indicated on the map
Springs Kibotany Arus Inatai	• Encroachment on springs • Lack of protection of springs	• Proper harvesting of water • Planting of special trees that can conserve the springs • Awareness on springs protection	• As indicated on the map

Hills Koitegan Matebei Kapkirie Kobat Olmarai Arus Emsos Ngingin			• As indicated on the map
LAND AND AGRICULTURE			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Land	• Lack of land ownership documentation e.g. in Koitumet area, Kabogor • Poor town planning • Over capping allotment of plots • Lack of provision of sewerage, dumping sites, recreational facilities and cemeteries • Grabbing of public utilities land e.g. proposed mogotio nursing home • Steep, hilly, swampy terrain nature of land • Lack of awareness of land board activities • Frequent Soil erosion	• • Provision of title deeds to land owners uniformly • Demarcation of land in (Kaplaimoi) Sirwa which is under community land • Re-planning of towns in order to accommodate growing population • Establishment of sub-county surveyors' office in Mogotio	• Whole sub-county

Crop Agriculture	• Lack of extension officers • Pollution of water sources • Pest and diseases • Occurrence of drought • Lack of soil tension • Irrigation done along the river	• Provision of water • Construction of dams • Provide markets for animals • Deployment of extension officers • Development of irrigation schemes	• As indicated on the map
Livestock	• Lack of extension officers • Livestock theft • Pest and diseases e.g. foot and mouth/ ECF • Occurrence of drought • Lack of water • No vaccination programs • • Bee keeping • Occurrence of drought • Environmental degradation due to use of charcoal to draw out bees • Some tree flowers kill bees e.g. Alphega • • Poultry • Fluctuating market prices • Poultry theft • Pest and diseases • Fish farming • Lack of extension officers • Project did not take off due to lack of knowledge, market and capital		

PHYSICAL INFRASTRUCTURE			
PRIORITY AREA	**CHALLENGE**	**INTERVENTION**	**LOCATION**
Roads	• Poor soil types (i.e. dark clay soils) resulting to destruction of roads during floods • Harsh/steep terrain and rock gulley making it difficult to construct roads	• Need for Environmental Impact Assessment before road construction	• Whole sub-county
		• Need for tarmacking of the following roads (Flagship project):	• **Mogotio ward** • ***Agriculture roads*** • Mogotio- Bebekol- Olbat- Kiptoim • Mogotio- Kelewa- Ngoswet • Midworld- Olbat- Lolbugo- Sagasagik • Muserechi- Noiwet • Kipngrom- Sirwa • • **Emining ward** • ***Commerce road*** • Maoi- Kaplewa- Lelen- Molok- Chepmutuny- Molo sirwet • **Kisanana ward** • ***Tourism roads*** • Mogotio- Kipkitur- Emsos- L. Bogoria • Tourism/ Agriculture road • Mogotio- Kisanana- Waseges- Mochongoi • Commerce road • Mogotio- Mukuyuni- Molo sirwet- Chebuan- Kamar
		• Need for Murraming of the following roads:	• • Mogotio ward • Nguberet- Sagasagik • Kures- Rosoga- Matebei- • Maritim- Koitebes- Kabogor • Kipngrom- Kapterit- Kiptuno • Sirwa primary sch- Sirwa- Chemorgon • Sirwa- Kipsikiyo- Sore- Kaplaimon • Kipsikiyo- Chemurgon • Sirwa- Kapsok- Kokein- Kipkekei • Emining ward • Maoi- Kaplewa- Letoi primary • Cheberen- KapKures • Kaplogos- Kapngemui • Emining centre- Kapmalanget- Kabogor • Kisima- Koborbesi- Barakwo-Kimose- Kipchebet • Kisanana ward • Molo sirwet- Magoi- Kormoson- Mogorin • Chesuan- Sukunwe- Magoi • Mogurin- Kipswerer- Oltebes • Oltebes- Chemukek- Kapkecher • Nyalilibuch- Cheprebei- Sandai- Loboi (***Tourism/security road***)

		• Construction of bridges in:	• Kipchebet primary- Kimose • Kabogor • Kapmalanget
Airstrips	• No functional airstrips	• Construction/ rehabilitation of airstrips with necessary facilities in:	• Tinomoi- existing colonial airstrip • Chebirebei- Proposed
Water & Sanitation	• Lack of clean water for drinking • Pollution of existing permanent rivers • The boreholes have salty water unsuitable for human consumption • Widespread of diseases due to use of same dams by humans and animals for water • Expensive to construct water tanks • Lack of rehabilitation of existing pipes and boreholes • Very low toilet coverage in households • • Lack of sewerage network in all centres	• Provide piped water to all households • Sensitization about importance of river conservation • • Construction of more boreholes in the remote areas • • • The government to help households put up toilets • • • • Put up sewer system in all centres	• Whole sub-county
Energy	• Insufficient electricity network supply in households, schools and health centres • High connection fees • Expensive to purchase solar equipment • Lack of skills to generate biogas from cow dung • Deforestation due to use of firewood	• Subsidize the electricity connection fees • Reduction of solar equipment prices • Capacity building of people to use alternative energy sources such as biogas	• Whole sub-county

Communication networks	• Lack of information channels due to Poor communication networks • Lack of facilities in information centres • Lack of boosters • Geographical hindrances	• Need for installation of Safaricom/Airtel boosters	• Waseges, Mugurin, Kabuswo, Maoi, Kaplelwa, Radat, Kipngoron, Kiptoim, Kipkweret
SOCIAL INFRASTRUCTURE VISON: TO BE A 24HR-ECONOMY, WITH SECURITY, IMPROVED INFRASTRUCTURE HUB, WELL PLANNED AND INTEGRATION OF ALL TYPES OF ECONOMIC ACTIVITIES			
PRIORITY AREA	**CHALLENGE**	**PROPOSED INTERVENTION**	**LOCATION**
Education Primary & ECD	• Inadequate number of ECD centers and teachers • Inadequate number of primary schools • Few facilities in schools • Shortage of teachers • Lack of water & electricity in most schools	• Employment of more teachers • Construction of more ECD & Primary schools • Provision of facilities in schools • Rural electrification	• As indicated in the map
Health	• Inadequate number of health facilities and personnel • Lack of dispensaries in some areas • Lack of facilities in hospitals and dispensaries	• Construction of more health facilities and dispensaries • Upgrade existing health centers • Equip all health facilities d with necessary facilities	• As indicated on the map
Security	• Insecurity	• Construction of Police posts	• Waseges

TRADE, COMMERCE & INDUSTRY VISION: TO MAKE MOGOTIO SUB-COUNTY AN ECONOMIC POWERHOUSE FUELED BY A 2-HOUR ECONOMY AND GOOD INFRASTRUCTURE DEVELOPMENT			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LOCATION**
Trade & Commerce	• Poor road infrastructure • Congestion in the markets- the existing markets are small • Lack of water • Lack of drainage and sewer systems • High interests rates on loans • Lack of security on loans because of lack of title deeds • Lack of electricity hindering long business hours • Poor waste collection methods and lack of dumpsites • Lack of security resulting to harassment • High licensing fees	• Need for tarmacking of • **Infrastructure** • Piping and distribution of water from the Chemususu dam • Excavating of water pans • Buy land for sewage disposal and regular collection of waste in major towns/centres • Development of a sewer system	• Majimoto- Mogotio road • Majomoto- Molo sirwet- Oterit • Waseges- Kisanana- Mogotio • Emining- Midworld • Kaplaimoi- Sore- Sirwa- Kipngorom • Muguyuni- Molo sirwet- Chemoinoi- Chemutung- Molok- Radat • Noiwet- Museretchi • Kimose- Chemutung • Mogotio- Molo river • Maoi-Molok- Chemutung- Chemoinoi • Kabarnet- Kapsok- Kiptuno • Kamar- Chepyuan- Molo sirwet- Muguyuni • All wards
		• **Licensing** • Scrap off conservancy fee • Fees should be regulated depending on areas • Reviewing of cess collection fees	• All wards
		• Markets • Opening and enclosure of markets in:	• Sirwa/ Kapsigiroi • Radat • Kisanana • Nyalilbuch
		• Opening of stalls in:	• Mogotio market and Emining market
		• Revival of mugurin market	• Mugurin
		• Completion of Kapsigiroi ESP market	• Kapsigiroi ESP market
		• Opening of a market in Nyalilbuch	• Nyalilbuch
		• Provision of sanitation facilities in all markets	• All markets

Industry Raw products available: Aloe vera Ballast Building blocks-Mugurin Ground nuts-Cheberen Macadamia-Sirwa Sisal Poultry keeping Milk Honey Hides and skins	• Lack of industries •	• Establishment of tannery factory	• Mogotio, Maoi •
		• Put up macadamia and groundnut factory	• Cheberen
		• Establishment of milk cooling plant	• Mogotio
		• Establishment of honey factory	• Radat, Majimoto
		• Establishment of aloe vera refining factory	• Kimose
		• Quarry products (ballast)	• Chemogoch
		• Poultry	• Molo sirwet • Mogotio
PROPOSED TOURISM CIRCUIT MOGOTIO- KIPKITUR- MUGURIN- L. BOGORIA- KAMAR- MOLO SIRWET- GOBAT HILLS- EMINING- KAPSOK-KABURGEI- SAGAGAGIK- MOGOTIO			
Tourism Sites: Lake Bogoria **Hills:** Koibos (Kamar), Chemorgong (Sirwa)**,** Kobat (Kabarbesi), Matebei (Emining) **Scenic:** Arus, Olduga, Kapicha, Emsos, Ngirngin, Koitoimet, Daraja mungu, Tererebkororom **Campsites:** Emsos, Majimoto **Sirwa caves**	• Poor road network • Poor communication network reception • Lack of awareness of the sites • Lack of electricity • Land ownership issues • Lack of protection of sites	• Provision of accessible roads to various sites • Provision of communication networks • Creation of awareness • Protection of all sites • Development of a circuit road • Government possession of all sites and compensation of land owners	• All Tourist sites
		• Increase security surveillance in the affected areas	• Kinyach, Bartabwa, Kalabata/ Saimo soi ward

LEADERSHIP AND GOVERNANCE			
PRIORITY AREA	**CHALLENGES**	**PROPOSED INTERVENTION**	**LEVEL**
Sub County administration and management	• Lack of co-operation between the leaders and citizens • Corruption • Dictatorship among some leaders • Poor communication from the governance • Poor representation in public participation forums • Unequitable resource allocation • Underrepresentation- Only 3 wards in Mogotio sub-county • No transparency /accountability among leaders	• Increase number of wards • Equitable allocation of resources • Carry out extensive publicity on public forums e.g. use of radios or public notice boards • Increase budget allocation • Upgrade of Mogotio to be a town • Improve on timing on dissemination of information • Inclusivity of citizens in projects • Need for accountability / transparency on projects	• Sub County

A.O.B

- Update the existing maps to reflect existing situation
- Identify how the squatters issue will be addressed. The turkanas are the major squatters in Mogotio sub-county
- Clarify on the issues of forestry

APPENDIX FOUR: MINUTES FOR TECHNICAL MEETING ON 1ST DECEMBER 2016

AGENDA: TECHNICAL MEETING FORUM ON COUNTY SPATIAL PLAN (SITUATION ANALYSIS DRAFT)

Venue: GOVERNOR'S BOARDROOM
Date: 1ST DECEMBER 2016
Time: 11:00AM -1:30PM.

General Presentation Comments.

- Conflict Slide – Endao is listed twice
- The rail coverage is not 5km but 45 km as it starts from Rongai to Timboroa in the Baringo County.
- Editing issues on page 56 of the document
- Lake Kamnarok National Reserve (It's full name)

Sector Comments:

Land.

- Include measures to mitigate land degradation.
- No security of tenure on community land.

Social Infrastructure.

- Need for higher institutes of learning.
- State exactly number of dispensary, health Centre etc.
- Sirwa Stadium for athletics should be indicated.
- State types of livestock and its numbers.
- Introduce computer learning to schools

Sanitation.

- There are two legal and established dumpsites in Emining and Kabarnet
-

Physical Infrastructure

- Slow internet and some areas have no internet which limits global community with the rest of the world.
- State exactly where the airstrips are at.
- Confirm percentage of electricity supply

Environment

- State potential catchment areas for water and forests.
- Mention cultural resources, hazard areas and flooded areas of Marigat and Kimochoch
- All developments should have environment considerations

Trade and Industries.

- Get NGOs to fund agriculture, livestock and tourism
- Value addition on agricultural products for export e.g. leather products, cheese and dried beef
- Maximize on coffee for export
- Cactus can be used for cosmetics but high requirements for country to establish industry.
- KWAL industries for pawpaw wine not indicated.
- Proposals to revive the aloe Vera processing plant in Marigat
- Cummins company is in Marigat

Governance and Leadership.

- Poor governance, leadership and lack of money prevents advancement on projects
- High income tax prevents foreign trade
- Create good background for foreign investors

Natural Resources.

- State the potential for dams and irrigation.
- Water harvesting downhill to cover water challenges in the county.
- Good soils in the valley is under-utilized
- Stakeholder involvement
- Makes stakeholder forums in smaller regions like wards

Tourism.

- Engagement with UNESCO to promote global geo-parks.
- Chebloch diving to be eliminated as it is dangerous

Transport.

- Emphasize on the role of LAPSSET on settlements.
- Make zoning plans for the LAPSSET corridor to avoid linear settlements

Urbanization.

- Provision for a framework to end urbanization and sub-division of land especially along road reserves.

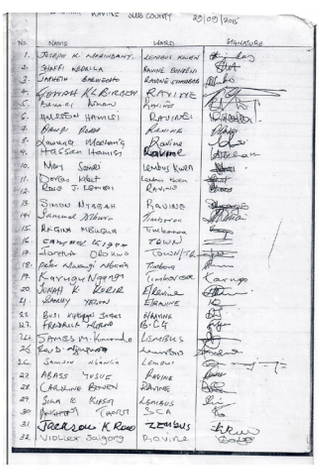
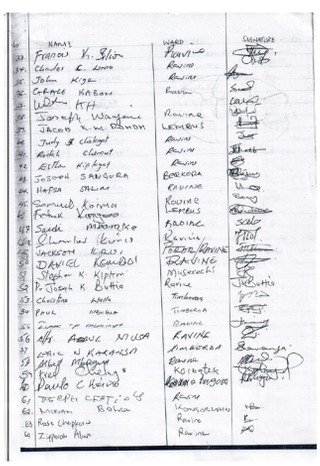
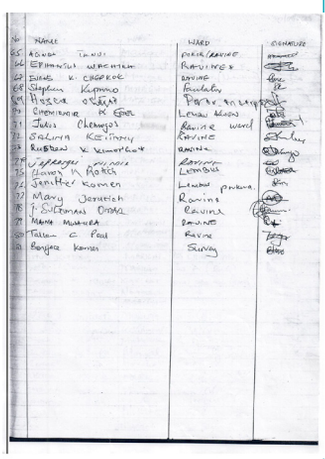
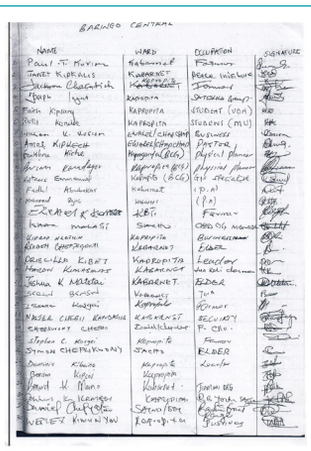
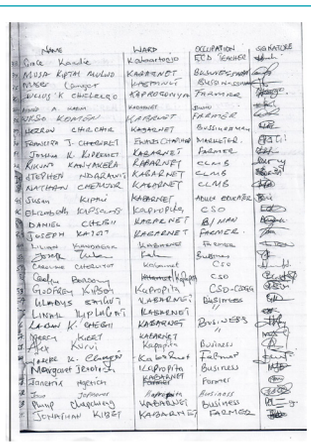
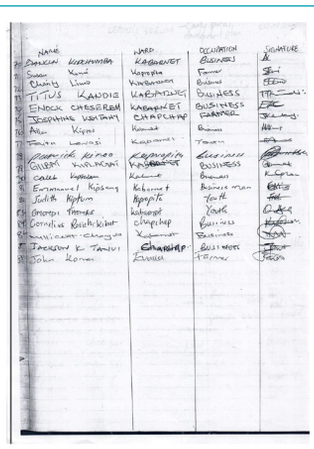
Security.

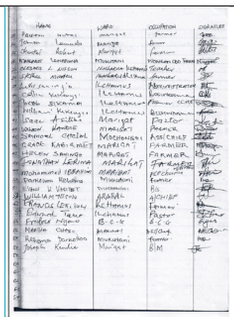
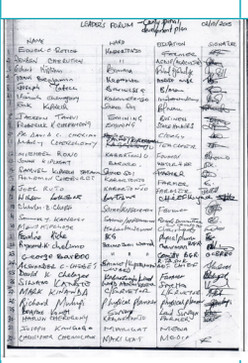
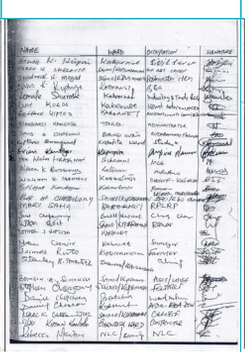
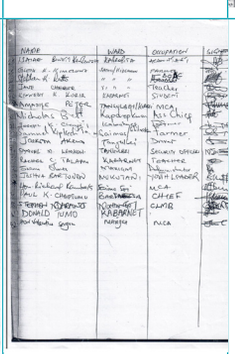
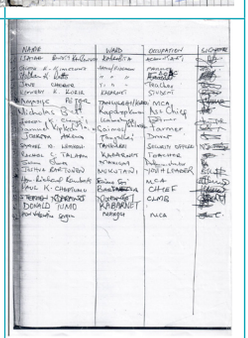
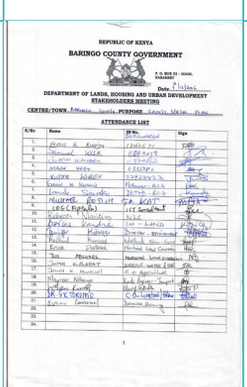
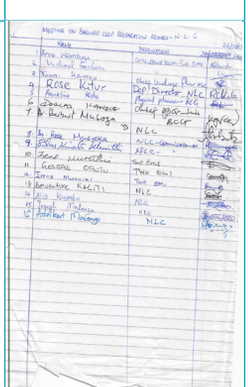
- Areas with insecurity should be provided with good communication to reduce conflict.

AOB

- Indicate the success of the CIDP projects
- Change community mindset to deal with development and not politics

Attendance Sheet

ELDAMA RAVINE SUB-COUNTY SITUATIONAL ANALYSIS FORUM			
BARINGO CENTRAL SUB-COUNTY SITUATIONAL ANALYSIS FORUM			

BARINGO SOUTH SUB-COUNTY SITUATIONAL ANALYSIS FORUM			TIATY SUBCOUNTY SITUATIONAL ANALYSIS FORUM		
BARINGO NORTH SUBCOUNTY SITUATIONAL ANALYSIS FORUM			MOGOTIO SUB-COUNTY SITUATIONAL ANALYSIS FORUM		
BARINGO COUNTY LEADERSHIP FORUM (Situation Analysis)				BARINGO COUNTY LEADERS VALIDATION FORUM/ GIS TRAINING	
BARINGO COUNTY TECHNICAL REVIEW WORKSHOP (Consultant, Baringo County Departments & NLC county representatives)		BARINGO COUNTY WORKSHOP MEETING (Combined spatial plan)		BARINGO COUNTY TECHNICAL REVIEW MEETING (Consultant, Baringo County Planning Department and National Land Commission)	

APPENDIX FIVE: MINUTES FOR TECHNICAL VALIDATION MEETING

MINUTES FOR THE BARINGO TECHNICAL VALIDATION MEETING AT THE GOVERNOR'S BOARDROOM

Date: 1st Feb, 2017
Time: 10:20 a.m. - 4:00 p.m.

Representatives

- Head of Departments- Transport, Agriculture, Education, Environment, Procurement
- National Land Commission
- Members of County Assembly- Land Committee
- Town administrator- Kabarnet

SITUATIONAL ANALYSIS

Remarks

Physical and social infrastructure

- Update on the number of ECD facilities. There are currently 1,000
- There are currently 75 doctors and 520 nurses so the doctor population ratio should change
- Add on the number of cultural centres. There are more than six.
- Include youth empowerment centres and social halls in the report. There is one youth empowerment centre operational in Emining, and one in every sub-county under construction. The social halls are also under construction
- Misspelling- It is Meisori not Merisori cultural centre
- Appropriate use of sentences- Write 'inadequate medicine' and not 'lack of medicine'
- The lakes are diminishing- There is need to create dams to curb water shortage

Agriculture & Industry

- Mining should be mentioned in the section of existing industries as it already takes place in Tenges and Tiaty
- Add fruit processing in salawa, diatomite, ruby mining industry as potential industries
- Under agri-based sector potential industry, be specific on the industries i.e. coffee industry in Katimok
- There is also potential for cotton revival and seedlings industry
- Update the number of livestock populations

Land

- There should be provision for acquiring land from the community to enable development
- Include in the legal framework, the New Community Land Act 2016

Environment

- Check on the Kobi mining company report on the research of key minerals in Baringo
- In soil erositivity map, put the names of centres and roads
- Mention in the document Kerio, Emining and Nginyang river as they are major rivers
- There is no river Endao, it is a seasonal stream
- There is potential for wind energy in Ravine and Tugen hills
- There is potential for solar energy in Kerio valley and lower regions of Baringo South
- State the months with high solar power

- Confirm on the amount of power generated at Cummings industry. It is more than 10MW.
- Indicate in details the causes of the temporal changes of the lakes in Baringo
- Lake baringo is underutilized as a water resource

PLAN FORMULATION

Strategies to curb cattle rustling/insecurity

- Change of livelihoods to include business setups
- Ensure sustainable development i.e. irrigation schemes
- Provision of infrastructure such as roads and communication networks
- Community involvement for ownership of projects
- Presence of government in the marginalized areas through service provision
- Reduction of illiteracy to curb cattle rustling
- Nurturing of life skills to young people between 13-24 years e.g. on carpentry and masonry

Urbanization

Strategies

- The other local urban areas need to ensure full implementation of the LUDP as one of the strategy
- Provision of utilities and services in all principle towns
- In Eldama Ravine, there is need for promotion of education institutions
- In selective dispersal show link with other towns e.g. Eldoret and Nakuru
- Include light industries in towns
- There should be LUDPs to enable land registration in the rural centres
- Leasing and titling as a method of growth of centres
- Clearly put the parameters used to give a town a certain function e.g. transport towns
- Some of the centres can grow out of their livestock products only
- Rubies in Sandai and Loboi to be harnessed to enable growth of the centres
- Add LAPSSET corridor on the transport towns
- Explain zoning for the towns

Kabarnet town

- Kabarnet town should extend to Kapsoo, Kituro, Kapsogorian
- The potential industries in Kabarnet town include fruits processing plants, value addition and service sector (hotel industry)
- Need for environmental conservation in planning of towns
- Kiplewel dam in Kabarnet should be upgraded to be the second biggest water reservoir

Chemalingot town

- Create parking spaces in chemalingot in preparation for LAPSSET
- Proposal for economic hubs such as Nginyang
- Put up a dam for water provision. The town connects Marakwet, Samburu, Laikipia
- Put up an airport as it is a gateway to the county

Agriculture & Industry

- Proposal for abbaitoirs in Kisanana to take advantage of the livestock population
- Promotion of tourist activities in Waseges (overlooking L. Bogoria) and Nyalilbuch (Halton view)
- The mining area should go to Ochii and not Tulwong as indicated
- The proposed industrial zone for Kabarnet town should be located at Kapchomus, near the airstrip
- Add Geo parks (palaentological sites) as proposed tourist attraction
- Include mining industry as a potential industry

Physical & Social infrastructure

- Distribution of piped water to all outskirts of towns is what is required from Chemususu dam
- Indicate on the map the potential areas for borehole drilling
- Indicate in detail which particular water sources need to be tapped into according to a specific area
- Attract the growth of towns close to the water bodies to take advantage of water supply
- Put up recreational facilities or industries close to the lakes to tap into the water resource
- There is a national government earmacked water project in Kapropita called Oke dam
- There is a proposed dam to be constructed in the lower side of Kerio Valley called Kibundir dam
- Priority on education and alternative livelihood should be addressed to curb cattle rustling
- Policy coverage is very important to also curb insecurity

Land use

- There are hilly areas that are hazardous and should be avoided. Have specific plans for these areas
- Make policy recommendations on land use
- Community and gazetted forests should have different strategies

A.O.B

- Misspelling- it is Arabal not Arabel
- Remove the Kalenjin picture of initiates
- The Tugen , Ilchamus and Pokots are three different tribes
- Relook on the issue of enrolment of cattle rustlers to KDF.
- Include a summary of the CIDP projects in the PowerPoint
- Ensure the CSP projects are in line with the.

APPENDIX SIX: MINUTES FOR BARINGO COUNTY STAKEHOLDER SENSITIZATION FORUM BETWEEN COUNTY EXECTIVE AND THE CONSULTANT

MINUTES FOR THE BARINGO COUNTY STAKEHOLDER SENSITIZATION MEETING BETWEEN BARINGO COUNTY EXECUTIVE AND TWO EMS CONSULTANTS HELD ON THE 14TH AUGUST 2018 AT KENYA SCHOOL OF GOVERNMENT, BARINGO FROM 10.27AM-12.43PM

Agenda

- Introduction
- Sensitization on County Spatial Plan
- Discussions/Way forward
- Question and Answer session

MINUTES NO.	DISCUSSIONS	ACTOR(S)
Min. 1/8/2018	**INTRODUCTION** • The meeting started at 1027hrs with a word of prayer followed by self-introductions. • The physical planner (Kiche) took the team through the background of the project. He informed the team that due to limited resources, the CSP was done in two phases. However, at later stages it was combined to be one document. He noted that the draft plan is at validation stage which was supposed to be conducted for the three sub counties. The process stalled because of the election period. It is therefore necessary to get back to finishing the CSP. • The Chief Executive Committee Member greeted and welcomed everyone to the meeting. He emphasized that the County Spatial Plan is a constitutional requirement. He informed the team that Baringo aims at being top 5 in implementation of the CSP. He appreciated the attendance of representatives from all departments. • He emphasized that the CSP affects all sectors meaning all sectors will have to rely on the CSP to implement their projects. He said that the donors were interested in the projects proposed in the CSP. He also recognized the role of Council of Governors and the handbook for planning and validation of the CSP. • The principal consultant appreciated the attendance across all departments and political leaders. He pointed out the input of the NLC and Department of Physical Planning and recently the Council of Governor in identifying the contents that should be in a CSP. • The consultant reiterated that the project contract started out as planning of towns and its suburbs, then it moved to phase 1. However, it did not make sense to plan in that manner so it was merged into one.	All

MINUTES NO.	DISCUSSIONS	ACTOR(S)
Min. 2/8/2018	• SENSITIZATION ON COUNTY SPATIAL PLAN • The facilitator briefly explained that it was important to sensitize the new regime of the county government into what the CSP is. • The facilitator took the team through the presentation. The presentation covered; what is a County Spatial Plan, the legal framework, Mainstreaming of cross cutting issues, Expected outputs and the Methodology. • The consultant reiterated that the way forward is to agree how we can make the plan complete. The validation of the plan needs to be done to promote sense of ownership. A work plan with timelines needs to be discussed in order to complete the plan. • The CEC thanked the consultant for simplifying the process. He noted that there is a dilemma on the CSP being a 10 year plan and 5 years have already passed. He acknowledged the importance of stakeholder sensitization and appreciated the presence of sub-county administrator to help on that. • Baringo has been rated as one of the best counties involved in stakeholder participation. He informed the team that the Kabarnet town Integrated Urban Development Plan is almost through. • The Vice Chair Member of Lands Committee appreciated the milestones covered and sensitization done since they didn't know what the CSP was. He identified that there are expectations on the CSP to be a bearing for the county. He assured the team that when the plan is complete, they are ready to approve it. • He informed the team that the level of security is stable and co-operation is assured. He said that in Tiaty, it's no longer about insecurity, but other levels of wellbeing are being discussed. • He proposed the Nanyuki-Mochongoi-Kabarnet-Eldoret road as the new frontier for tourism and transportation of goods.	The Consultant CEC Vice Chair Member of Lands Committee

MINUTES NO.	DISCUSSIONS	ACTOR(S)
Min. 3/8/2018	• DISCUSSIONS/ WAY FORWARD • The deputy governor appreciated the CEC for organizing the meeting to sensitize people on the CSP. He acknowledged the CSP as being a very important document in prioritizing our development agenda. The document will support their manifesto. He raised two issues; • Situations have changed- Baringo north and central are not the way they used to be 5 years ago • The plan was fragmented. What was the scope of the work? Did it really meet the required standards to be executed as a CSP • He emphasized that the team needs to give a resourced, clear timelines on the way forward in order to have value for money and better services given to the people. Consultations and team work need to take place in order to get the right results and people get value for investment • The Governor thanked the team for coming. He appreciated the sensitization session and that the CSP preparation process is taking place, since as counties we need to get it right in planning. • He notified the team that Baringo County is more agricultural based and dependant on livestock. The county also has mineral. However, resources in the county are limited. He also informed that division of revenue and transition of functions are not done which they demand for resources and a plan. He added that mapping and surveying is a function of the county government and that the county will utilize all the functions given to them to plan the county. • He pointed out that the CSP timelines are conflicting so the final CSP should read 2018-2028. He also emphasized that there is adequate security in the county. • The governor emphasized that Baringo should be one of the five tourist destination areas in the country. There are fossils in Baringo and a museum in Kipsereman will be constructed. • He informed the team that Baringo will be one of the counties presenting on devolution in Kenya. However, the county has no single flagship project. • He identified the goats, the mogotio tannery, Aloe vera in Maoi and honey as assets in the county. However, he noted that the value of goat in Baringo is low especially in Maoi, loruk, barwessa due to exploitation by middlemen. He said that the youth need to be empowered to purchase means of transport to transport the livestock and get value for their production. • The governor identified that climate change might catch up with Baringo. Therefore there is need to plan in advance to prepare for any effects. • He informed the team that seeds only found in kerio valley, have been supplied by a donor in Lake Baringo. 279 households affected by floods will be built for homes by red cross in Mukutani	The Consultant Deputy governor Governor Chief Officer

MINUTES NO.	DISCUSSIONS	ACTOR(S)
Min. 4/8/2018	• QUESTION AND ANSWER SESSION • The team was given the opportunity for the Question and Answer session: • ***Question 1:*** What happens with the timing issues; the CIDP has been completed, while the CSP is in process? • ***Question 2:*** What is the phasing supposed to do? Are there similarities between the two phases? • ***Consultant:*** Initially the project scope was Kabarnet town and its fringes as per the contract; it was not upon the consultant for phasing to take place. The Kabarnet town plan has been done without informing us to synergize and anchor it to the CSP. The CIDP projects will be anchored into our final CSP as we develop and see if it has captured the previous proposals we had and any additions. • ***Question 3:*** What are the timelines and progression in times of sign off? • ***CEC:*** The issues on disconnect will be discussed in the meeting tomorrow. The roadmap for the finalization of the CSP will be made tomorrow. He invited the CEC (devolution) to give a vote of thanks.	The Consultant CEC

The meeting ended with a word of prayer at 12:43pm.

Chief Officer (Department of Lands, Housing and Urban development)

Name: .....

Signature: .....

Date: .....

Principal Consultant (Two Ems Associates)

Name: .....

Signature: .....

Date: .....

APPENDIX SEVEN: MINUTES FOR COUNTY TECHNICAL MEETING BETWEEN BARINGO COUNTY GOVERNMENT, NLC REPRESENTATIVE AND TWO EMS CONSULTANTS

MINUTES FOR THE BARINGO COUNTY TECHNICAL MEETING BETWEEN BARINGO COUNTY GOVERNMENT, NLC REPRESENTATIVE AND TWO EMS CONSULTANTS HELD ON THE 15TH AUGUST 2018 AT KENYA SCHOOL OF GOVERNMENT, BARINGO FROM 10.45AM-13.07PM

Agenda

- Introduction
- Presentation of draft County Spatial Plan report/sectoral data gaps
- GIS session
- Debrief on Stakeholder Forums dates
- Any Other Business

MINUTES NO.	DISCUSSIONS	ACTOR(S)
Min. 1/8/2018	• INTRODUCTION • The meeting started at 1045hrs with a word of prayer followed by self-introductions. • The director introduced the agenda of the meeting and invited the CEC to talk. • The CEC welcomed the consultant and noted that they hoped to see the roadmap towards the completion of the plan. • The consultant thanked the CEC for being committed to the CSP completion. He notified the team that the CSP is being revised to be in tandem with the COG guidelines. He explained that the maps have changed drastically; the statistics need to be updated to 2018, so there is need to meet with the departmental teams for information.	All
Min. 2/8/2018	• PRESENTATION OF DRAFT COUNTY SPATIAL PLAN REPORT • The facilitator presented the draft plan and explained what has been done so far. She noted that the GIS output/database in form of shapefiles will be provided to the county for any manipulation necessary. • The director highlighted that many other plans had been developed e.g. the current CIDP. By virtue of the time span, the CIDP and IUDP should have borrowed from the CSP. • The CEC stated that the GIS lab set up is ongoing and it is being funded by FAO. So far, training has been offered to four officers. He noted that if the CSP had come earlier it would have helped in preparing the current CIDP. • He also informed the team that there was an emergency meeting to approve the CIDP in the morning. The CIDP can be interlinked with the CSP to reflect the vision of the people. • The CEC suggested that the consultant to review the Kabarnet town Integrated Urban Development Plan and if it fits into the CSP before it can be approved. • The NLC representative congratulated the CEC for jumpstarting the completion of the CSP. • The county physical planner (Ezekiel) requested for illustration on how the GIS tool works	All

MINUTES NO.	DISCUSSIONS	ACTOR(S)
Min. 3/8/2018	• **GIS SESSION** • ***NLC representative:*** Can we add attributes for town whether it is planned or unplanned? • ***Consultant:*** Yes, you can • ***NLC representative:*** Is there oil in the county? • ***Consultant:*** There is a map showing the oil blocks in the county (12A and 14T) • ***CEC:*** The geothermal map is conflicting. It shows that geothermal in silale is in Turkana which is incorrect. Review the map • ***Surveyor:*** The digital cadastral maps are not there? • ***Consultant:*** The TORs need to be revised since there cannot be cadastral maps for the county	All
Min. 4/8/2018	• STAKEHOLDER FORUMS DATES • The tentative date for the stakeholder forums will be between 28th -30th August, 2018 • 28th August, 2018- Mogotio sub county • 29th August, 2018- Chemolingot/ Tangulbei • 30th August, 2018- Kabartonjo • 31st August, 2018- Sectoral team meeting	All
Min. 5/8/2018	• A.O.B • The consultant was asked to identify the gaps and will be assisted where necessary • Information on the Kabarnet town Integrated Urban Development Plan and current CIDP will be availed	All

The meeting ended with a word of prayer at 13:07pm.

Attendance sheet

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Plot 47, Rhapta Road Westlands.
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twoemsassociates@gmail.com

County Government of Baringo
P. O. Box 53 -30400 Kabarnet Kenya

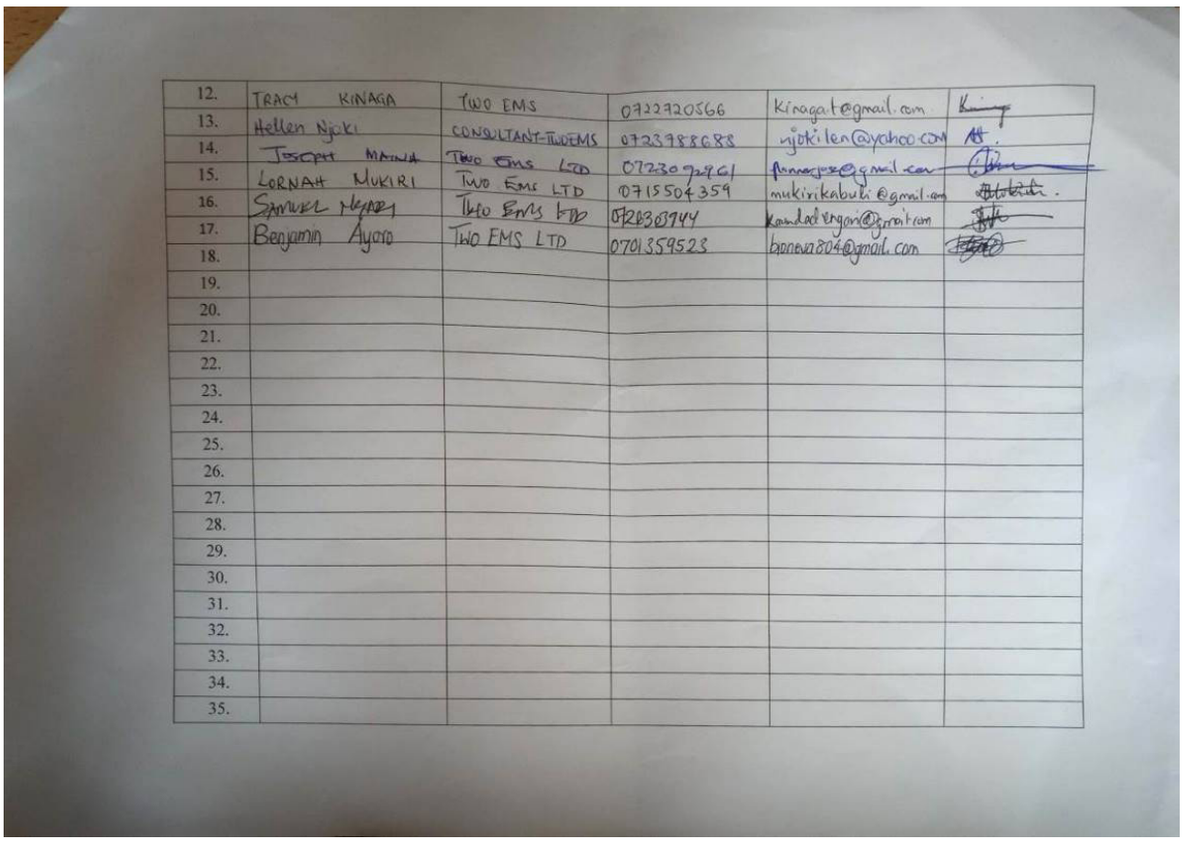
COUNTY TECHNICAL MEETING

VENUE KENYA SCHOOL OF GOVERNMENT - BARINGO

DATE 15th AUGUST, 2018

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1.	ELIJAH K. KIPKOROS	CEM LHUD	0722601331	KIPKOROSELIJAH@GMAIL	
2.	Rebecca Mantus	NLC C. Coord. Nth	0721121089		
3.	KIPKORIR YEGON	Phy. & Plan.	0721117722		
4.	Titus Kiplagat	GIS analyst	0713211850		
5.	Mark Odhiambo	Land Surveyor	0724903667		
6.	Jonah K. Korir	Land Surveyor	0722905301		
7.	Ezekiel Kipkorir	Physical Planner	0711341425		
8.	GIDEON SAWNI	NUM. MANAGER	0722823170		
9.	Franklin Kiche	Physical Planner	0729456859		
10.	SAMMY K. KIRUI	Dir. LHUD	0722956111		
11.	IRENE MWANIKI	TWO EMS			



12.	TRACY KINAGA	TWO EMS	0722720566	kinagat@gmail.com	
13.	Hellen Njoki	CONSULTANT-TWOEMS	0723988688	njokilen@yahoo.com	
14.	JOSEPH MAINA	TWO EMS LTD	0723092961		
15.	LORNAH MUKIRI	TWO EMS LTD	0715504359	mukirikabuki@gmail.com	
16.	SAMUEL KEYORO	TWO EMS LTD	0728307447		
17.	Benjamin Ayoro	TWO EMS LTD	0701359523		
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Chief Officer (Department of Lands, Housing and Urban development)

Name: .....

Signature: .....

Date: .....

Principal Consultant (Two Ems Associates)

Name: .....

Signature: .....

Date: .....

APPENDIX EIGHT: MINUTES FOR VALIDATION FORUMS AT SUB-COUNTY LEVEL

a) Mogotio Sub- County

Meeting venue: Sub county offices
Meeting time: 11:30 a.m. – 4:00 p.m.
Date: 4th Sep, 2018

SUB-COUNTY PROPOSED INTERVENTIONS

PRIORITY AREA	PROPOSED INTERVENTION	REMARKS
HEALTH PROPOSALS	• Upgrading of dispensary to health centre: • Molo sirwe dispensary • Majimoto dispensary • Kiptoim dispensary • Upgrading of health center to hospital: • Emining health centre • Kisanana health centre • Mugurin health centre • Upgrading of Mogotio hospital • Construction of: • Kapyemit dispensary • Chemogoch dispensary • Legetetwet dispensary • Kibotany dispensary • Ndanai dispensary • Kibulwe dispensary • Kapchelugui dispensary • Muguyuni dispensary • Kiprota dispensary • Bartulgel dispensary • Kipkigei dispensary	
COMMUNITY FACILITIES	• Construction of: • Street children's home in Mogotio • Kaptulinga (Kipkitur) rescue centre • Mogotio home for elderly centre • Emining home for the elderly centre • Kisanana home for the elderly centre • Mugurin youth empowerment centre • Lolbugo youth empowerment centre • Matebei youth empowerment centre • Kipsogon youth empowerment centre • Muguyuni youth empowerment centre • Kipgoron youth empowerment centre • Emining people with disability centre • Orphanage home in Esageri	

RECREATIONAL FACILITIES	• Construction of: • Mogotio stadium • Emining playfield (20acres) • Sirwa Athletic Camp • Equator Cultural Centre (5acres)	
INDUSTRIES	• Investment in: • Mogotio (LIC) milk processing plant • Kabogor groundnut industry • Kabiemit ballast industry • Mogotio mango industry • Chepchuse ballast industry • Midworld livestock market • Kimose cotton ginnery • Sirwa (Kaburgei) coffee processing industry • Carbon dioxide processing in Kipnoron • Maoi slaughter house • Kisanana (LIC) milk processing plant • Cereals storage facility at Mogotio • Hay storage facility at Mogotio	• Maoi tannery is under construction- Remove from proposals
	• Auction yards • Midworld auction yard • Olkokwe auction yard	
TOURISM	• Tourism sites • Koitumet caves • Kobat hills • Kapsok caves • Kures (Kiprota) rare birds • Tortoise in Kures (Kapchelui) • Tourism circuit • Kappichs view point-Sinene Campsite-Lake bogoria-Emsos • Daraja mungu- Equator- Olduga caves • Kapsok/Nginngin • Majimoto-Molos-Radat-Tenges-Salawa nature trail • Matebei hills-Kipting bridge (picnic area) • Nginngin-Kapkei forest-Talunyon hot springs • Cheprogon hills-Kapkei- Chemose caves	• Kapkei forest has rare birds • Talunyon has gemstones, gold • Kapting bridge is in Sosion • Chemose caves are in Kaburgei •
	• Local drivers and tour guides to be employed to guide nature trails • Revival of Equator information Centre	
PUBLIC UTILITIES	• Construction of a sewerage system in Mogotio, Emining, Kisanana • Provision of a dumpsite area	

ROADS	• Tarmacking of: • Emining- Esageri road • Maoi- Muserechi road • Mugurin- Kabiemit- Majimoto road • Mogotio- Molo river- Kipsogon- Moswe road • Kipsigirion- Kaburgei- Migirib road • Emining- Kabogor- Saos road • Radat- Kapsiroi- Bwike-Orakwo-Otet road • Radat- Mutaran- Chepinoi road • Radat- Molok- Molos- Majomoto road • Kimose-Kiptobet-Cheberen road • Mogotio-Kapng'asio-Kiptoim road • Kiptuno- Kapterit-Kipngorom road	
	• Murraming of: • Radat-Kwiridoje-Mutaran-Chemomoi road • Radat-Molok-Molos-Maji moto road • Kures-Koriswe-Oterit-Kabarbesi-Radat road • Sosiot- Kipting road	
	• Chepyuan-Molosirwe-Muguyuni-Kipkitur road • Chemutung-Kipkamur-Kamaina-Arus-Chepyuan road • Chepyuan-Kabogong-Magon-Kipkitur road • Rosoga- Maritim-Koitebes-Kipngoron road • Kures- Ebenezer road • Maritim-Koitebes-Kabogon road • Mogotio posta-Bebogoi-Kapkengele-Sagasagik road • Sagasagik-Rosoga-Cheraik road • Lolbugo-Chepchusei-Ainabkor road • Kornise-Sagasagik road • Kapyemit- Chepyuan road	• Kisanana ward
AIRSTRIPS	• **Development of:** • Chebireibei • Lake Bogoria • Kimose	
BRIDGES	• Construction of: • Migingo bridge • Kapsirgei- Kuresie (Molo river) • Muserechi- Nabumki (Kapngasio bridge) • Equator-Molo river (Christ the king road) • Kelelwa- Onugu (Chepkesem) • Mogotio- Chesingei- Kiptoim (Esageri river)	• Mogotio ward

EDUCATION	• **Construction of:** • Olduga ECD • Ereyon ECD • Kiptulwe ECD • Manerer ECD • Kapsiloi ECD • Sarakwa ECD • Bulyoke primary • Rimai primary • Ararai primary • Bartulgel primary • Kaplegich primary • Kaptabarar primary • Equator primary • Kornisei primary • Saga sagik primary • Sugunwe primary • Kabiren public primary • Koboguyong primary • Olbat primary • Kaptweweret primary	• Correct spelling for Kisima Oterit ECD
	• Kabogor secondary school • Kapyemit secondary school • Matebei secondary school • Lombala secondary school • Kiprota secondary school • Emining day secondary school • Kipkitur secondary school • Oldunga boys secondary school • Kabarbasi day secondary school	
	• Ng'enyintni polytechnic • Ngendalel polytechnic • Mogotio University College • LIC Egerton university • Chemogoch Moi University • Kaburgei polytechnic • Kiptoim polytechnic • Chepyuan polytechnic • Kimose polytechnic • Molosirwe polytechnic	
DAMS	• Molo river dam to be used for irrigation • Construction of dams at Kipkitur and Olmarai	• Irrigation in Baringo has not reached 40% implementation

Attendance List

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BARINGO COUNTY GOVERNMENT

P. O. Box 53-30400 Kabarnet, Kenya

BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE..... MOGOTIO SUB-COUNTY.....

DATE..... 4/09/2018.....

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
01	ANTHONY TONUI	KISANANA	0725304932		
02	PIUS MAPKIAI	KISANANA	0721769862		
03	SILVANO KAMOSE	WARD ADMINISTRATOR	0722601185		
04	JOHN BELECO	REVENUE OFFICER	0723955396		
05	Francis Cheruiyot	Mogotio	0725269417	cheruiyot.frank@	
06	MARK K. SUTIO	Mogotio	0722552366	mkiiriving@gmail.com	
07	Isaac Kipkazi	Emining	0724401894	Box 73 marigat	
08	JOB K CHOI	KISANANA	0722444884	Box 63 mogotio	
09	EVANS KIPTOO	KISANANA	0729-150250		
10	Helen Wanjiru	Mogotio	0715764511		
11	BARWAK ISSAK	Mogotio	0722375871		
12	NELSON KAMOSE	MOGOTIO	0724411355		
13	BEN LAGAT		0710 456 144		
14	Samuel Kiplagat	Kisanana	0722440926		
15	James Ndeti	MOGVIO	0723900177		
16	SARAH J. LIMETO	MOGOTIO	0725971612		
17	ANNE WANGO	MOGOTIO	0720257465		
18	ERASTUS SIRMA	MOGOTIO	0721540361		
19	Joseph Tunuya	Kisanana	0723666267		
20	SAMSON SAWE	KIPTOIM	0728710475		

Baringo North Subcounty

Meeting venue: Sub county offices
Meeting time: 12:33 p.m. – 4:00 p.m.
Date: 6th Sep, 2018

PRIORITY AREA	PROPOSED INTERVENTION	REMARKS
EDUCATION	• Chekwor polytechnic- ongoing construction • Kabartonjo university	
SECURITY	• Construction of: • Barwessa police post • Kabartonjo police station/division • Kaptum AP camp • Muchukwo AP post	• Barwessa to be police station not police post
INDUSTRY	• Investment in: • Loruk tannery • Keturwo cotton ginnery • Sumeon ballast industry • Muchukwo ballast industry • Kampi ya samaki beading centre • Kampi ya samaki fishing industry • Kamnarok fish industry • Bartabwa beading centre • Barwessa beading centre • Barwessa fruit industry	
AUCTION YARDS	• Construction of: • Kipcherere auction yard • Kasisit livestock market • Ossen (Kiling'ot) chicken auction yard	
TOURISM	• Sumot water falls in Ossen • Releng hot springs in Bartolimo • Senebo caves in Barwessa • Nuregoi caves	• Correct spelling to be Kopot conservancy

ROADS	• Tarmacking of: • Bartabwa- Kalabat- Kinyach road • Kasisit- Triminion road • Ossen- Tiloi- Siboo- Keturwo road • Loruk-Yatya-Kipsaraman road • Murraming of: • Ossen- Sagat- Kormor- Barwessa road • Pemwai- Kapkirwak- Ngewan road • Kabartonjo- Tiriondonin- Nuregoi-Senebo road • Kinooi- Kisowis-Sumot falls road • Kaptere-Kapchekwor- Triminionin road • Kasisit- Triminionin- Kamwotony • Kabartonjo-Ayeba- Bartolimo road • Kapkiamo-Kasaka-Kapi nyasi road • Kampi ya samaki-Kipcherere road • Koroto-Sibilo-Rundunin-Kipsaraman road Yatya-Chemoi-Batrabwa road • Koroto-Tibingare-Tiritionin-Sibilo road • Kabartonjo-Root road • Kabartonjo-Tuiowon-Kaptere road	• Kabartonjo- Barwessa was upgraded to Class C road by Kerra • Correct spelling from Marigut to Marigot • Correct spelling from Maratuko to Ngaratuko
HEALTH	• Upgrading of Kabartonjo sub county hospital • Construction of: • Barwessa sub county hospital • Kaptum health centre • Bosei health centre • Bartolimo health centre • Sumeon health centre • Kasisit health centre • Kapkiamo health centre • Kapchekwor health centre • Sibilo health centre • Kapluk health centre • Koroto dispensary • Kaptere dispensary • Kamwotony dispensary	• Yatya, Kipcherere, Saimo Soi dispensaries have no ambulances
COMMUNITY FACILITIES	• Kabartonjo rehabilitation centre	
PAN DAMS		• Correct spellings of the following pan dams to be: Kipkogon, Nyoker, Kasaka

Attendance Lists

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BARINGO COUNTY GOVERNMENT

P. O. Box 53-30400 Kabarnet, Kenya

BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE..... MOGOTIO SUB-COUNTY.....

DATE..... 4/09/2018.....

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
01	ANTHONY TONUI	KISANANA	0725344932		
02	Pius MAPKIAI	Kisanana	0721769862		
03	SILVANO LOMORE	WARD ADMINISTRATOR	0722601185		
04	JOHN BELEGE	REVENUE OFFICER	0723955396		
05	Francis Cheruiyot	Mogotio	0728469417	cheruiyot.frank@	
06	MARK K. SUTIO	Mogotio	0722552366	mutimiring@gmail.com	
07	Isaac Kipkabi	Emining	0724401894	Box 73 mogot	
08	JOB K CHOI	Kisanana	0722444834	Box 63 mogoti	
09	EVANS KIPTOO	KISANANA	0729-150200		
10	Helen Waguthu	Mogotio	0715764511		
11	Barwak ISSACK	Mogotio	0722375871		
12	Nelson KABIRIRA	Mogotio	0724411355		
13	BEN LAIGAT		0710 456 144		
14	Samuel Kiplagat	Kisanana	0722440925		
15	James Ndubi	MOSVIO	0723900177		
16	SARAH J. LIMETO	MOGOTIO	0725971612		
17	ANNE WANGUO	MOGOTIO	0720257465		
18	ERASTUS SISINA	MOGOTIO	0721540361		
19					
20	Joseph Tunuya, Samson SAWE	Kisanana KIPTOIM	0723666267 0726710475		

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BARINGO COUNTY GOVERNMENT

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BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE MOGOTIO SUB-COUNTY.

DATE 4/09/2018.

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1	Salima Kimeto	—	0707252743		
2	FATIA ABDALLA	MARKET	0707248625		
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9	Nathan Chemjor	GISO	0724687159	nchemjor@gmail.com	
10	Hamisi Masoro	Mogotio Sub County	0724809002	[illegible]	
11	Eda Samson Cheruyot	F.C.K. Mogotio	0727351507		
12	JOSPHAT CHEPKWONY	Chairman - Chemwogoch	0724420131		
13	JOHN K. CHERUIYOT	Secretary - Lembus Sub County	0723718863	John.mukecheru@gmail.com	
14	ALEX K. MUTAI	MOGOTIO SUBCOUNTY	0728542339	AL-CX Mutai@gmail.com	
15	GEOFFREY TUIYEK	Water Trust - Mogotio	0715295814	tuiyekgeoffrey@yahoo.com	
19	SAMUEL K CHEBOIBOR	MOGOTIO TOWN	0721-277448	S.K.Cheboi@gmail.com	

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BARINGO COUNTY GOVERNMENT

P. O. Box 53-30400 Kabarnet, Kenya

BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE: KIBOTIO SUB COUNTY

DATE: 4/09/2018.

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1.	DANIEL CHERUIYOT	Farmer	0725 155795	Samuelcheruiyot@yahoo.com	
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3.	James K. Bwobi	Security personal	0718025305	Jamesbwobi7@gmail.com	
4.	MARGARET MAKUIRA	Security Officer	0708218110	Maggiemaggy@gmail	
5.	ROSE GIKURI	Security officer	0714201297	Wanjirugikuri@gmail.com	
6.	JOSHUA KIPNGETICH	Clerical Officer	0721384384	Joshuakip@yahoo.com	
7.	MOSES K CHERUIYOT	Farmer	0724647946		
8.	Stanley K. Chepkong	Clerical Officer	0711 340 660	Stanleyng@gmail.com	
9.	Musa K. Kiprop	Farmer	0720802214	Box 11 Kibor.ms	
10.	Livingstone Kuto	Farmer	0710849766		
11.	ESAU TESOT	FARMER	0722268747	esautesot@gmail.com	
12.	Josphat Ngetich	FARMER	0722884209	egtechcomm.	
13.	YUSUF MUTEI	HUSTLER	0725277460	N/A	
14.	WALTER NJUGUNA	BUSSINESSMAN	0792445323	walternjugunah@gmail	

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BARINGO COUNTY GOVERNMENT

P. O. Box 53-30400 Kabarnet, Kenya

BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE: MOGOTIO SUB-COUNTY

DATE: 4/09/2018

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1	Kipkemoi Kiplagat	project committee	0706505360		
2	SAMUEL K KIPTINU	project Comitee	0729638618		
3	JOSPHINE LANGAT	CHAIRPERSON PROJEC	0710 934 938	Josphinelangat@gmail	
4	DAVID K. KOFUT	Project committe	0722249938	kofutdavid@gmail.com	
5	SAMUEL K. KIPONY	Project Committee	0720984469	— —	
6	Solomon Lodoke	Project committee	0704451096		
7	Abednego Changwony	Farming	0702240608	—	
8	Samuel T Cheki	P committee	0723851067		
9	BENSON K. KIPKOP	project Committee	0725403564	—	
10	CHELCY J. KIPKAI	project Committee	0705490481	—	
11	WINNIE J. KIPOO	Farming	0727517820	—	
12	CATHERINE CHEPKEMOI	CO WARDS	0722271986	jephm2008@yahoo.com	
13	KANAR RICHARD	EDE COORDINATOR	0726656298	richardkanar@gmail.com	
14	TUMEMO RICHARD	WARD ADMN. KISANANA	0715855296	tumemo82@gmail.com	
15	PIUS K. CHEBEN	Ag SUB-COUNTY ADMN	0724745440		

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VALIDATION FORUM

VENUE MOGOTIO SUB-COUNTY.

DATE 4/09/2018

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1	PHILEMON KARSABIT	AG CHIEF KOIBOS	0720988699	pkapsabit@yahoo.com	
2	Shadrack Kipiose		0724387273		
3	PETER K. TITONIET	ASST. CHIEF MUGURUNI	0720 174 161	kbmpeter@yahoo.com	
4	JEBET KIMULE	KURES	0729575196		
5	LINAH J. KIPRONOH	Rosoga	0726259030		
6	PRISCAH KETTANY	Molo-Sirwe	0713817 832		
7	JOSEPH KIBET KOECH	CU CHAIRMAN	0727890738	Josephkibet@yahoo.com	
8	JOHN K KIPROP	KEMOSC	0722574491		
9	Dennis K. Kibet	Mogotio	0727094236	dennisKibet97@gmail.com	
10	BENSON KIPRONO	Molo-Sirwe	0728840817	Ben Kiprono 86@Gmail.com	
11	KONEN JUSTIN	Ag Chairman	0717920901		
12	KANDIE FESTUS	Environmental consultant	0718455904	kandiefestus@yahoo	
13	KIBET KIPYOOKI	KABARNET	0728892956	-	KIBET
14	NGESON KIMARU	EMINING	0705598434	-	

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VALIDATION FORUM

VENUE MOGOTIO SUB-COUNTY

DATE 4/09/2018

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1.	DANIEL ROWOH	BUSINESSMAN	0725-532126		
2	BENSON LAGAT	BUSINESSMAN	0710 456144		
3	DAVID C. YATOR	TEACHER	0720 857327		
4	Julius K. KANGOLO - SRL - CHIEF		0722644875		
5	Beatrice C Victor	BUSINESSMAN	0720 692829		
6	BERNARD KIPROTICH	COMMUNITY LEADER	0718830314		
7.	HARUN A. KIPTOO	Businessman	0717 905018		
8	JOSEPH K. CHEBII	FARMER	0725525258		
9	JUITOREK CHESEREM	FARMER	0725978733		
10	JUNE J. BIGII	BUSINESSLADY	0720327387		
11	ANGELINE NGETICH	FARMER	0716304208		
12	CAROLINE KIMAIYO	BUSINESS LADY	0701235026		
13	Pennah Kibichoh	Bussines Lady	0720845589		
14	Rosebella RUTO	Busines Lady	0727396897	0727396897	
15	Kiptanus Limo	Business Man	0721911881		
16	NICHOLAS NYAOMA	Business Man	0720879148	nmnyaoma@yahoo.com	

Tiaty Sub - County

Meeting venue: Tangulbei church
Meeting time: 12:44 p.m. – 4:00 p.m.
Date: 5th Sep, 2018

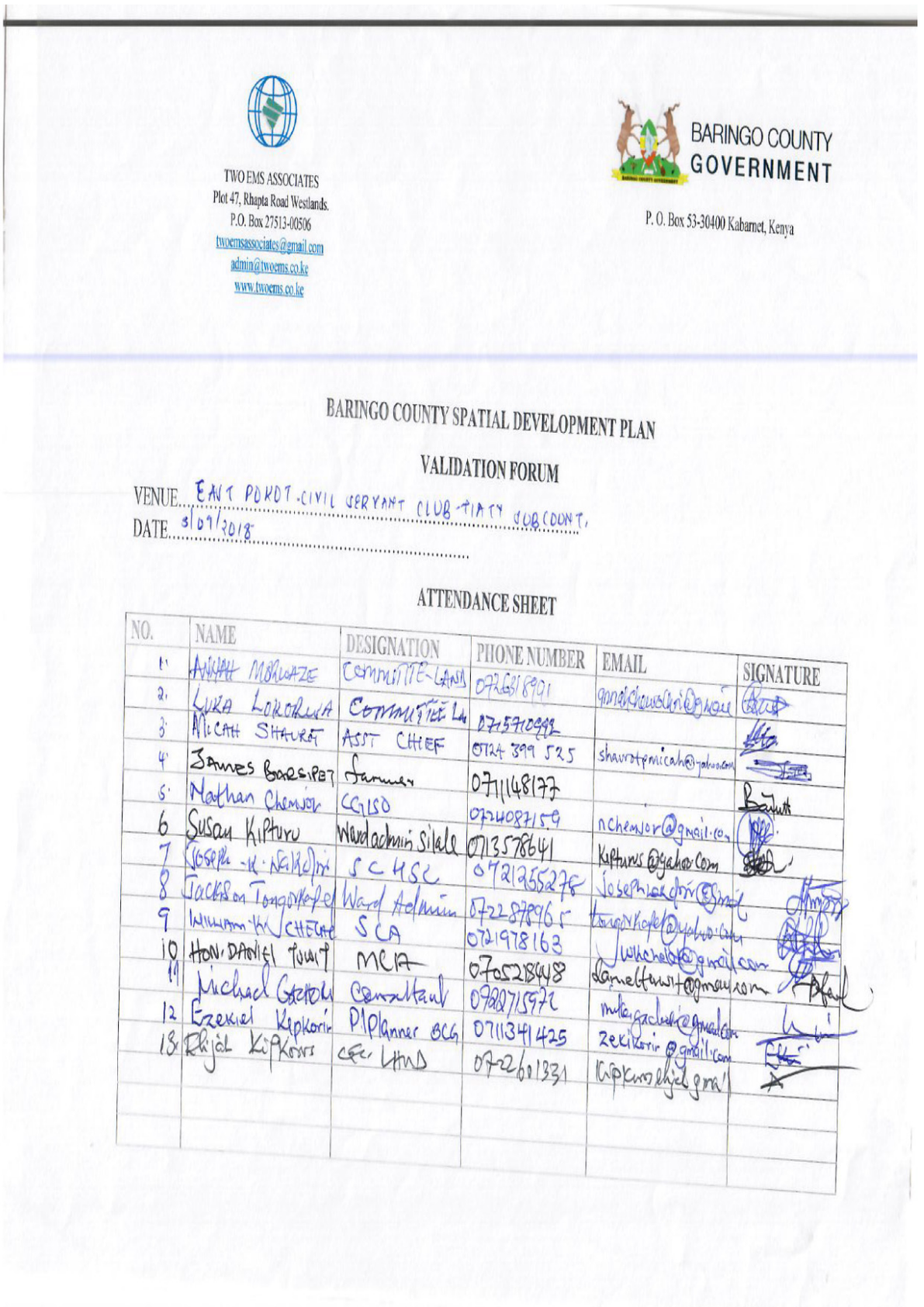
PRIORITY AREA	PROPOSED INTERVENTION	REMARKS
SOIL CONSERVATION	Soil conservation in: • Seroni river banks • Chemoikut road • Kachilitwa road • Kaptuya (gulleys) • Amaya • Chepkalacha • -Planting of trees on Paka hills, Stoo hills (Churo), Kaptoya • -Building of dams in chepkalacha to help in conservation	Seroni river banks broke leading to road destruction
GENDER BASED VIOLENCE CENTRES	• Upgrading of Tangulbei rescue center • Upgrading of Churo rescue center • Construction of Kokwatoto GBV center • Construction of Tirioko GBV center • Construction of Riongo GBV center	
YOUTH CENTRES	• Ngoron Youth Empowerment Centre • Chepkalacha Youth Empowerment Centre • Akwichatis Youth Empowerment Centre (To have sports facilities) • Maron youth centre • Naudal youth centre	
IRRIGATION SCHEME	• Upgrading of Chemoigot irrigation scheme • Development of irrigation schemes: • Along Churo river • Along Kamatak river • Naudo irrigation scheme • Kudungdung (Tirioko) irrigation scheme • Kositei (Nginyang) irrigation scheme • Revival of Amaya river irrigation scheme • Tilam irrigation scheme- Undertake feasibility study • **Development of irrigation schemes along these gorges:** Kositei, Kiriwo, Mukuru, Salawa, Churur, Towut, Tulunguru in Kollowa, Korelaet on Tirikowa	
INDUSTRY	• Investment in: • Tangulbei beef industry • Amaya beef collection centre • Churo beef collection centre • Kokwatoto beef collection centre • Chepkalacha beef collection centre • Chepkalacha tannery • Chesirimion honey industry • Diatomite industry in Lelkgrong (above Kapedo)	
	• Auction Yards • Upgrading and marketing of the existing auction yards • Cattle yard in Ameyan (Ribkwo)	

TOURISM SITES	• Nachururu (Amaya) waterfalls • Sosion caves (Chemoigut) • Nasokot hills- Have rare birds • Kebenop maasai caves (Tangulbei) • Kaptuya conservancy (churo) • Ruko conservancy • Tourism circuit to include: • Chewach hills • Maron hills	
TRANSPORT	• Murraming of: • Akwichatis- Makai- Amaya- Maralal road • Tangulbei-Paka-Nginyang road • Kapedo-Koret-Ngoron road • Chepkalacha-Chemoigut road • Tangulbei-Chemkoko-Nasanduko-Amaya road • Kapunyang-Ngiriman road • Kamrion-Chesawat road	
BRIDGES	• Construction of: • Tangulbei bridge • Kokwatoto-Tangulbei bridge • Tangulbei-Kadogoi bridge • Tangulbei- Kasitet bridge • Amaya- Nasurut bridge • Akwichatis- Makai bridge • Kokwatoto- Orus bridge • Barpelo-Kapunyang bridge	
AIRSTRIP	• Upgrading of: • Tangulbei airstrip • Orus airstrip • Churo airstrip • Nginyang airstrip • Kollowa airstrip	

ECD	• Construction of: • Chelelekat ECD • Koibakwen ECD • Kokwattiken ECD • Chemugan ECD attached to Tangulbei primary • Chaya ECD attached to Tangulbei primary • Nabeikore ECD attached to Tangulbei primary • Nakwalem ECD • Narwa ECD • Kokobwana ECD • Chemukoko ECD • Maamo ECD • Chesao ECD attached to Chepkalacha Primary • Tapong ECD • Aruru ECD	
	• Kokwatoto primary to be a boarding school • Siria primary school • Mokongwo primary school • Sowo primary school • Karolwo primary school • Chepukat primary school • Chemoikut primary school • Kasitet primary school • Topogh primary school	
	• Construction of: • Orus secondary • Tangulbei girls secondary school • Chemoikut high school • Kaptuya high school • Chepilat secondary school • Tangulbei day secondary school • Plesian high school	
	• Tangulbei KMTC	
ENERGY	• Tilam has wind potential • Chemosion solar farm (it is the hottest area) • Solar farm in North west Kapedo	
HEALTH	• Tangulbei level 4 hospital • **Upgrading dispensary to a health center:** • Kokwatoto dispensary • Chemoigut dispensary • Amaya dispensary • Kaptuiya dispensary • Lomuge dispensary • Komolion dispensary	All the health facilities to be allocated health personnel Supply of medicine
RECREATIONAL/SOCIAL FACILITIES	• Construction of: • Stadiums in; Tangulbei, Kolowa, Chemolingot • Churo Training Athletic Camps • Tangulbei cultural centre • Social halls and libraries in; Tangulbei, Chemolingot, Kollowa, Churo • Allocation of playgrounds in; Chepkalacha, Amaya, Kokwatoto	
	• Demarcation of Tangulbei cemetery • Lomadang'ole dumpsite (Tangulbei)	

ICT/ TELECOMMUNICATION	• Development of: • Tangulbei ICT centre • Fibre optics along the roads • Upgrading of the boosters from 2G to 3G • Kokwatoto GSM • Amaya GSM • Paka GSM • Korosi GSM	
SECURITY FACILITIES	• Construction of: • Tangulbei police station • Akwichatis police station and Anti-stock theft unit • Amaya police station • Tangulbei prison • Loiyamorok prison • Tangulbei magistrate court • Kongor police station • Loiwat police station • Kulel anti-stock theft unit • Kollowa police station • Kokwatoto AP • Kadogoi AP • Chemoigot AP • Lokis anti-stock theft unit • Kositei AP • Churo AP	
WATER	• Construction of: • Sowo borehole • Katakom borehole • Nabeikore borehole • Kamatak dam for water supply • **Spring protection of**; Chemunyan, Kamatak, Lerai, Sitit, Kaptuya, Nangarua, Orus and Makany springs • **Water bottling from the following springs;** Lerai, Chemunyan and Nangarua	
ELECTRICITY	• Provision of transformers: • Tangulbei-Chemoigot • Tangulbei-Akwichatis • Tangulbei- Komolon	Only one transformer in Tangulbei
CATTLE DIPS	• Encourage utilization of the cattle dips	

Attendance Lists – Chemolingot



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BARINGO COUNTY GOVERNMENT
P. O. Box 53-30400 Kabarnet, Kenya

BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE... EAST POKOT CIVIL SERVANT CLUB - TIATY SUBCOUNTY.
DATE... 3/09/2018

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1.	[illegible] MOHAMED	COMMITTEE-LANDS	0726818901		
2.	LUKA LOKORUA	COMMITTEE LA	0715710998		
3.	ALICAH SHAURA	ASST CHIEF	0724 399 525	shaurajalicah@yahoo.com	
4.	James Barsipet	farmer	0711148177		
5.	Nathan Chemjor	CGISO	0724087159	nchemjor@gmail.co	
6	Susan Kipturu	Ward admin Silale	0713578641	Kipturus@yahoo.com	
7	Joseph K. Ngetich	SCHSC	0721255276	josephngetich@gmail	
8	Jackson Tongokpel	Ward Admin	0722878965	tongokpel@yahoo.com	
9	William K. Cheche	SCA	0721978163	Jwacheche@gmail.com	
10	HON. DANIEL TOWET	MCA	0705218648	Danieltowet@gmail.com	
11	Michael Gazeth	Consultant	0788715972	michaelgacheh@gmail.com	
12	Ezekiel Kipkorir	PlPlanner BCG	0711341425	zeckikorir@gmail.com	
13	Rhijal Kipkoros	CEC LANDS	0726021331	kipkorosrhijal@gmail	

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VALIDATION FORUM

VENUE: TIATY SUB-COUNTY.

DATE: 5/09/2018

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1	CHARLES KAMON	CHEMOLINGOT	0710-220609		
2	KOTUDO PAUL	CHEMOLINGOT	0727540454		
3	Bett Julius	PRINCIPAL-CHEMOLINGOT	0722655102	juliusbett309@gmail.com	
4	Rose J kibet	chemolingot	0721225502		
5	LOMENTA DAVID	EKOSITEI	0720911741		
6	Rebecca Muyekule	Chemolingot	0723160208		
7	Joseph Chepkong	Chemolingot			
8	Joshua Nalekat	Headteacher	0715545892	Jnalekat@gmail.com	
9	Julius Kamartum	Village elder	0700537441		
10	Stephen K. Ngelejo	Public Health offr	0729-297693	Stevengelejo@gmail.com	
11	Francis Lokinei	Prison officer	0717720167		
12	Kakuko Kimaiyo	former	0743616131		
13	Charles Toiyoi	Mukimoi	0705197026		
14					
15					
16					

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BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE... TIATY SUB-COUNTY.

DATE... 5/09/2018.

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1	RIKUNO KANYAKERA	Chair Town planning	0722230071	rikuno625@yahoo.com	
2.	COSTANDINA CHEPTAI	ASST. CHIEF	0724522935	cchepta177@gmail.com	
3.	KUNONO EDISON	Secretary Town planning	0726661728	-	
4.	REV. DR. YUSUF K. LOSUKE	ASST. BISHOP	0723688573	yosutaf@yahoo.com	
5	JOTHU L. KAMAMA	CHIEF CHEMOLINGOT	0726008836	JohnKamamaeabg.mail	
6	REV. David K. Siangole	ACK'S	0726253254		
7	KORETE K. HARRISON	Committee town planning	0729966520	harrisonkorete	
8	LOVEN CHEBOI	PROJECT OFFICIAL	0714968700	lovencheboi@yahoo.com	
9	Sen. Sugutt	PRESIDENT	0722000000	-	
10	SAMMY LOKAJA	KNCHR MEMBER Gen	0723823450	Sammylokaja@gmail.com	
11	JACOB TAMONJE	elder	0710660087	Jacobo....	
12	EMMANUEL BOYEL	Committee	0705582608		
13	Francis Lokorio	KAKORI C/MAN	0710767856		
14	PAUL KIILII	ASSIST ADM INTER	0726513019		
15.	MUSA TODOK	ELDER	0711836119		
16.	ZIPPORAH KAMUNYU		0712930434		

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VALIDATION FORUM

VENUE: TIATY SUB-COUNTY.

DATE: 5/09/2018

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1	JOSEPH CHESANG	SCSDO	0721323418	Joseph.chesang@yah.	
2	ISAAC K. AKARAT	Member	0725 418992	Isaac.kiharak56	
3	Naumpo Lawrence	CRO	0710397703		
4	SLESSOR AKAT	BUSINESS WOMAN	0721 801733		
5	MUSIA KIPSANG	PASTOR	0701483438	Musiakipsang@gmail	
6	KERIAKO PKUR	ACC	0720272929	pkeriako@gmail.com	
7	JACKSON Y. LIMAKOK	CHAIRMAN, KAKORI CDT	0701708168	jacksonlimakok80@gmail	
8	LOTOLIA KOIGEI	Farming Systems Kenya	0727373268	koigeilotolia@gmail.com	
9	JOSEPH N. KANGOLO	CHIEF KIBKWO	0721 708 977		
10	CHARLES KOECH	SCEO-TIATY	0722412776	ckkoech03@gmail.com	
11	Tomeka Wilberforce	member	0729018278		
12	LODIOMUK PETER	Land committee member	0723330074	Petericlodiomuk@gmail.com	
13	FATUMA C KASTOT	Treasurer T. Planning	0702490850		
14.	Charles Pundo	Ward Administrator	0726949851	Kipkopus@gmail.com	
15	GIDEON ASIL	PASTOR	0719667968	P.O NGINYANG	
16	Beverlyne Nasia	Revenue Clerk	0724222520	P.O Nginyang	

Attendance Lists - Tangulbei

Baringo North SubCounty:

EXISTING FACILITIES NOT CAPTURED	
BARINGO NORTH SUB COUNTY	
SECTOR	**FACILITY**
HEALTH	• Kabartonjo sub county hospital is not fully to the standards required. Has limited beds, no mortuary, less labs • Bartabwa health centre- upgraded from Bartabwa dispensary • Kaptum health centre upgraded from Kaptum dispensary • Sibilo dispensary • Osei dispensary • Mormoria dispensary • Poi dispensary • Kalabata dispensary • Saimo soi dispensary • Sibilo dispensary • Koroto dispensary • Nuregoi dispensary • Root dispensary • Tiloi dispensary • Kapkiamo dispensary • Ngewan dispensary- ongoing construction • Kasaka health centre • Chepersasiat dispensary • Yatya dispensary • Kipcherere dispensary
EDUCATION	• Rabachin polytechnic • Moin polytechnic • Lelian (Dicese) polytechnic in pemwai
COMMUNITY FACILITIES/ SECURITY FACILITIES	• Lelian social hall- Stalled • Lelian home for the elderly • Kasisit police post
INDUSTRY	• Loruk slaughter house
AUCTION YARDS	• Barwessa auction yard • Kampi ya nyasi auction yard- not operational • Turuturu auction yard • Kinyach auction yard • Loruk auction yard
KABARTONJO TOWN	• No dumpsite • Poor water supply

MOGOTIO SUB COUNTY	
HEALTH	• Health centres • Mugurin health centre • Ngubereti health centre • Molosirwe health centre • Olkokwe health centre
	• Dispensaries • Radat dispensary • Kimose dispensary • Kabogor dispensary • Molos dispensary • Chemoinoi dispensary • Kamar dispensary • Chemutum dispensary
	• Emsos dispensary • Waseges dispensary • Ng'endalel (Pombo) dispensary • Kipkitur dispensary
	• Kiptoim dispensary • Saga sagik dispensary • Rosoga dispensary • Sirwa dispensary • Sore dispensary • Kipsogon dispensary • Kapyemit dispensary • Chemogoch dispensary • Legetetwet dispensary • Kibotany dispensary • Ndanai dispensary • Kibulwe dispensary • Kapchelugui dispensary • Muguyuni dispensary • Kiprota dispensary • Bartulgel dispensary • Kipkigei dispensary
EDUCATION	• Muguyuni polytechnic • Cheberen polytechnic • Emining Technical Training Institute
INDUSTRY	• Kibotan auction yard
	• Existing Koitebes building stones quarry in need of equipment and machinery • The Mogotio fresh market is dormant

TIATY SUB COUNTY	
HEALTH FACILITIES	• Utalii Dispensary. • Kollowa Health Centre. • Loiwat Health Centre. In Kollowa • Lodeng'o Health Centre. In Silale • Nakoko Health Centre. • Akuichatis Health Centre. • Tangulbei Health Centre. • Mukutany Health Centre. • Churo Tok Health Centre. • Ptikin Dispensary. In Tirioko • Kreze Dispensary. • Chewara Dispensary. • Kapunyai Dispensary. • Muhoron Dispensary. • Chepturu Dispensary. In Kollowa • Cheptaran Dispensary. • Mnai Dispensary. • Barpelo Dispensary FBO. • Nyakwala Dispensary • Dong'e Dispensary • Chemsik Dispensary • Katikit Dispensary • Golgol Dispensary (ongoing) • Rotu Dispensary FBO. (Ongoing) • Toplane Dispensary in Silale • Tiwo Dispensary • Rion'go Health Centre • Nyaunyau Dispensary • Chemoriny Dispensary • Adomiyony Dispensary • Chesirimion Dispensary • Keriwon Dispensary • Chomolion Dispensary • Loyeia Dispensary • Loabuke Dispensary • Chepkalacha Dispensary • TDMP Faith based Dispensary • Kalabata Dispensary • Butere Dispensary (construction ongoing) • Kaptuya Dispensary • Churo AIC Dispensary • Nasuru Dispensary • Amaya GOK Dispensary

EDUCATION	• Ngoron Mixed Secondary in Tirioko. • Loywat Secondary School in Kollowa. • Nginyang' Girls High School. • Chemolingot Day Mixed School. • Churo Polytechnic. • Nginyang' Polytechnic. • Maoron Secondary School • Kositei Secondary School • Chemolingot Training Technical (Construction has however stalled)
MINERALS	• Presence of Magadi salt in Patipat. • Presence of Red Ore in Rikwo, Chemolingot and Black Ore in Dong'e.
ENERGY	• Potential for wind energy in Paka and Korossi. • Presence of hot springs in Kapedo and Chebarwas.
CONSERVANCIES	• Churo conservancy • Kaptuya conservancy
COMMUNITY/RECREATIONAL FACILITIES	• Tangulbei rescue centre currently hosts 35 girls from early marriages and FGM • Churo rescue center currently hosts 60 girls
	• Tangulbei cemetery near the dispensary
	• Michuki Grounds (Chemolingot) • Kipturtur Stadium • Nginyang – Baraza Park • Churo – Rena Baraza Park • Ameyan Auction Centre (which is active every Sunday, is located 10km from Kapedo)
	• Youth Empowerment Centres • Kapedo • Nauda – Silale • Chemolingot • Lorwatun • Maron • Kositei
SECURITY FACILITIES	• Chesirimiryon anti stock theft.
WATER SUPPLY	• Seroni borehole- Provides piped water to the centre, primary and secondary school nearby
IRRIGATION SCHEMES (Small scale)	• Ngeleron Irrigation Scheme • Kimnyan Irrigation Scheme • Kamusuk Irrigation Scheme • Nyalibuch Irrigation Scheme
CATTLE DIPS	• Amaya, Churo, Tangulbei, Cherema
GORGES	• River Kositei (Chemolingot) • River Cheptopwa (Mukur-Chemolingot) • River Loruwatum (Nakirwo-Chemolingot) • River Cheptopwa (Chemsik- Chemolingot) • River Naudal (Tout-Silale)

A.O.B

1. *Population growth census: 3.6% (not 3.3%)
2. Plots in the town have allotment letters. Other areas are all community land.
3. Spelling corrections:
    - ''Ribkwo'' instead of Ribikwo,
    - ''Loyamorok'' instead of ''Loiyamorok''
    - ''Lomechan'' not ''Lomochang''
    - ''Churo'' instead ''Churwa''
    - ''Skatkat Hills'' instead of ''Skarat Hills.''
4. Avoid proposals of institutions along the road especially the lappset corridor
5. Remove the insecurity as one of the main problem in Tiaty.
6. Encroachment of public institutions is a serious problem in Tiaty that needs planning intervention.
7. Existence of silale development trust
8. The stakeholders requested for circulation of the approved CSP pamphlets for public consumption

Attendance Lists

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BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE..... BARINGO NORTH SUB-COUNTY.
DATE..... 6/09/2018.

ATTENDANCE SHEET

NO.	NAME	DESIGNATION	PHONE NUMBER	EMAIL	SIGNATURE
1	ZACHARIAH E. CHEPKONGA	County member	0721928230		
2.	ELIUD K. CHEMTOO	Committee member	0711340777		
3.	Joshua Lemo	Town Water Chairman	0723203378		
4.	Joseph K. Kipkemei	Town Roads Secretary	0727726639		
5	JOSEPH KIMECHWA	Member	0710262349		
6	JAMES YATICH	Member	0723973150		
7	RUTO KIBETSANG	Member	0723400900		
8	DESON CHEPGOR	MCBA	0724 8922		
9	Barongit Bethlow	Businessman	0722-980792		
10	Luke Cheboi	Member	0725-2048 44		
11.	DASI KETICHEM	MEMBER (Business comm	0723375445		
12	CATHERINE ANDANY	MEMBER Business comm	0720593068		
13	FAITH CHEPKWONY	MEMBER	0710779240		
14	Kiplagat CHEPKILI	Businessman	0724796423		
15	BRIAN LIMO	NRB	0724066791		
16	GLADYS CHEBII	NRB	0[illegible]0711918[illegible]		

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BARINGO COUNTY GOVERNMENT

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BARINGO COUNTY SPATIAL DEVELOPMENT PLAN

VALIDATION FORUM

VENUE... BARINGO NORTH SUB-COUNTY.

DATE... 6/09/2018.

ATTENDANCE SHEET

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4	Lydia mengich		0791235339		
5	Dinah Cessive		0729322828		
6	Kimuge James		0710479557		
7	Meshack Biwot		0707067760		
8	Kiprop Kenneth		0721482280		
9	Lean Kibogong		0729212704		
10	Linda Cheliamo		0728946367		
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12	Gladys Mengich		0711789371		
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14	WILSON KANGELO		0726084986		
15	ELIJAH CHEPCHIENG		0722156958		
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~~VALIDATION~~ FORUM

VENUE: BARINGO NORTH SUB-COUNTY.

DATE: 6/09/2018

ATTENDANCE SHEET
~~PAYMENT VOUCHER~~

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2.	JOEL CHEMWOR		0724542451	
3.	STEPHEN KOTICH		0728723338	
4.	JANET LIMO		0710-616-555	
5.	KERRY KOMEN		0726408660	
6.	Baach Budalel		0725819103	
7	Evelyne Kaita		0720896126	
8.	DOUGLAS CHELIMO		0790417530	
9.	Jimmy Ruto Kiplimo		0713581820	
10	Kiprito Reuben		0726040136	
11	John Kipyegu		0723585860	
12	~~Mohamed Ali~~		0721575888	
13	Floral chebai		:	
14	Leah Kangogo		0727654653	
15	Sarah Chebet		0726433239	
16	Emily Chebet		0720067429	
17	Irine Barsite		0726982156	
18	Angeline Ruto		0714656652	
19	EVANS KIGALE		0729761300	

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VALIDATION FORUM

VENUE BARINGO NORTH SUB-COUNTY
DATE 6/09/2018

ATTENDANCE SHEET

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03	SAMUEL WANJIGI	ACC - KADAKITONO	0723478976		
04	PURITY POTICH	W. ADMIN KABARNET	0725968422		
05	Bonface Konu	Surveyor	0726576695		
06	Franklin Kiche	C.P. planner	0729456859		
07.	Ezekiel Kiplagat	Physical Planner	0711341425		
08	Jonah K. Koni	S.C. Surveyor.	0722908301		
09	Abigael Kamuren	SC - Baringo North	0724581538		
10	GIDEON S. BETT	Farmer	0725733210		
11	IRENE AMOTE	member market kiosk	0716297862		
12	EVANS YAITCH		0727846132		
13	JANET KANDIE	FARMER	0710221326		
14	Kipsono Kimoking	S.C. ENV. OFFICER	0723148118		
15	JUSTUS KANDIE	CHIEF OFFICER LOCATION	0729760860		
16	David K. Rotich	SCEC	0728563134		

APPENDIX NINE: MINUTES FOR TECHNICAL SECTORAL FORUM

TECHNICAL SECTORAL MEETING FOR REVIEW OF BARINGO COUNTY SPATIAL PLAN

Meeting Venue: Kenya School of Government (Elgon Hall)
Meeting Time: 12noon
Date: 24th October 2018

PRIORITY AREA	PROPOSED INTERVENTION	REMARKS
NATURAL RESOURCES	**Wetlands:** • Labeling Tilam wetland next to Churo and the Lake 94 wetland • Energy: • Bio-energy potential areas should be mapped (Mathenge areas and other sources of biomass) • Oil block mapping. Make the boundary and map clearer without roads etc for people to see the centres covered in the oil block • Gorges: • Kibor Gorge between Lake Baringo and Lake Bogoria is not captured in the mapping **Forests:** • Arabal-Mukutani forest(near Arabal), is not mapped and is gazetted by National Government (KFS) but the County claims it is a county forest • Marigat forest (past KEFRI, towards Marigat Inn), is not shown and it has a KFS post in the forest • Tiaty forest around Mount Tiaty is not captured. It is a county forest but not gazetted • Koitegan forest in Kisanana (at a corner towards Kisanana) is a County gazetted forest but not mapped. • Encroachment on forests, there is a college in Marmanet forest **Minerals:** • There are rubies near L. Bogoria and at Kibingor in Baringo South	
TOURISM	• Fossil sites in Tiaty and Baringo North are historical sites for geological and tourism purposes. The County has plans to make geological parks around the fossil sites areas • Waseges-Mochongoi-Emsos trail should be connected with the Oterit-Emining-Radat/Maoi trail • Connect he minor and major county inter-trails for the tourism circuits	
EDUCATION	• Categorize ECD centres as operational and non-operational as some have closed down and others in Mochongoi forest are coming up	
HUMAN SETTLEMENTS	• Human settlements in the forests have not been accounted for especially around Mochongoi-Arabal forest • Water tower mapping has not been done (are there settlements within the water tower?)	

TRANSPORTATION	**Roads:** • No road passes through Tonuruk (Eldama Ravine). It is Kaptana/Kipkorir • Roads to be mapped at ward level to show much more roads. Show roads as murram, tarmac etc (show classes and condition of roads) **Railway:** • There is an existing railway passing through Marigat that is not mapped. The railway connects Saos (Eldama Ravine) to Marigat then Loruk and finally extend to Nginyang to connect to the proposed LAPSSET **Bridges:** • Map existing bridges. **Airstrip:** • Existing Kimose airstrip is not shown on the map	
ICT	• Fibre connectivity mapping is lacking. The Communication Authority of Kenya report has network coverage • Tiaty needs more GSM towers	
PHYSICAL INFRASTRUCTURE	**Water:** • Water providers are not indicated • Water reticulation is not shown	• Water reticulation is not shown at CountySpatial level, maybe at Local Urban Plan level
WASTE MANAGEMENT	• Waste dumpsite should be in Emining and Kabartonjo. Confirm with the Mogotio validation minutes as the locals had a debate between the dumpsite being in Emining or Mogotio • Confirm the data on using bush as a toilet facility especially for Ravine, Tenges and SaimoSoi	
PROPOSED INDUSTRY	• Mango processing plant at Bartabwa and at Salawa(already proposed) • Watermelon collection/processing plant at Marigat • Abbatoir at Barwessa • Beef processing plant at Loruk • Maize milling at Mochongoi • Honey processing at Kapkuikui • Reconsider Tiaty (Chemolingot) stakeholder minutes to add economy proposals	
COMMUNITY FACILITIES	• Existing Facilities that are not mapped (technological sites): • Rift Valley Innovation Centre at Mwachon/Tugumoi • Salawa Learning Resource Centre • On-Going Projects: • Kabartonjo Youth Empowerment Centre • Kabarnet Youth Empowerment Centre • Kabarnet ICT centre • Marigat Youth Empowerment Centre • Chemolingot Youth Empowerment Centre • Mogotio Youth Empowerment Centre • Tenges ICT centre • Eldama Ravine Youth Empowerment Centre	

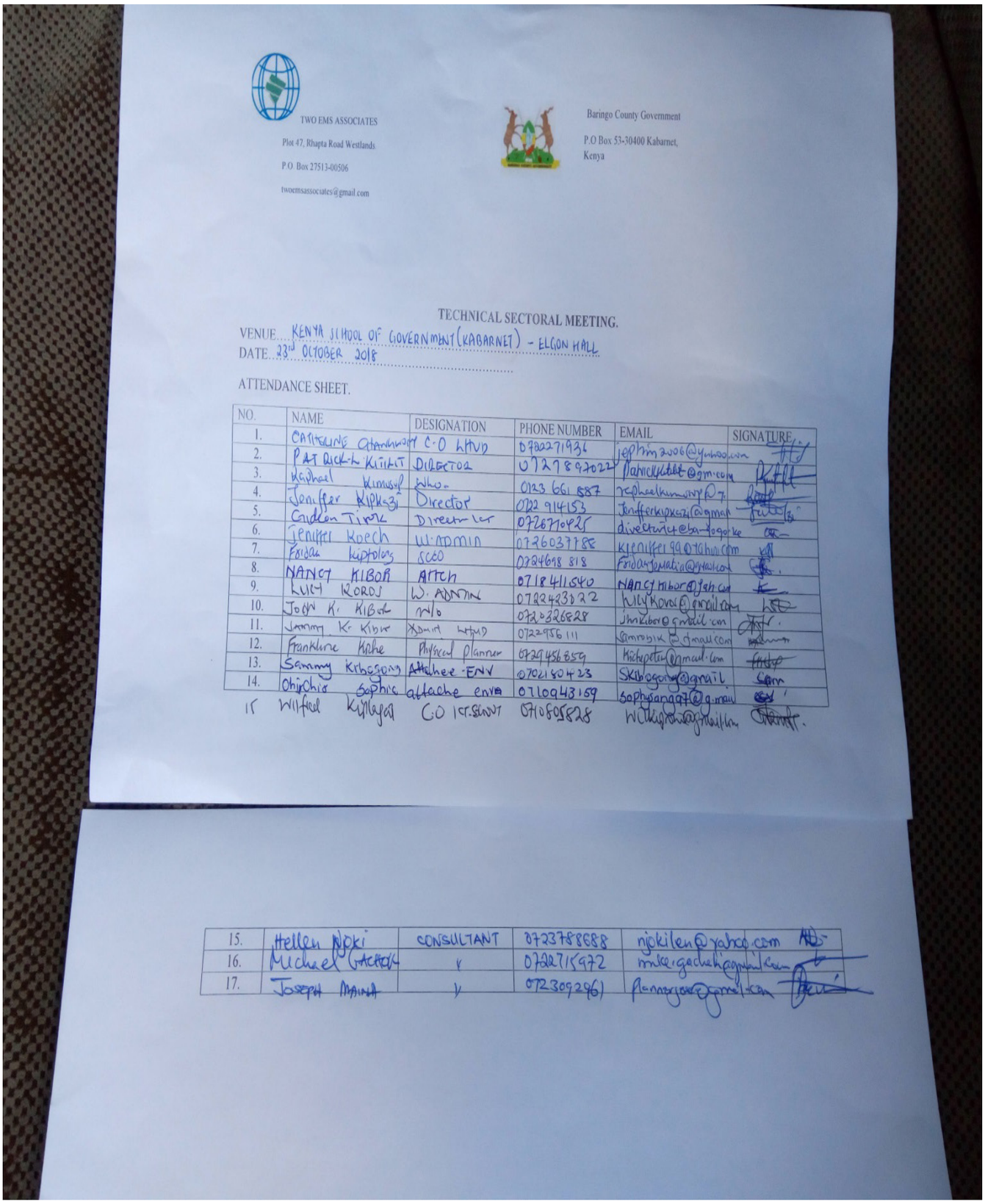
WAYFORWARD:

- It was agreed that the Consultant will share the GIS files with the CO to circulate to other departments for review.
- The County Government will be given one week to give feedback so that a CIP can be made for the plan
- The CO will also make plans for a sensitization meeting with the County Assembly/Lands Committee, and communicate the plans to the consultant for a sensitization forum.
- The CO encouraged different departments to share any information they have with the consultant to enrich the CSP

The meeting ended at 2: 40pm.

Photo Gallery:

Attendance List:



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TECHNICAL SECTORAL MEETING.

VENUE... KENYA SCHOOL OF GOVERNMENT (KABARNET) - ELGON HALL
DATE... 23rd OCTOBER 2018

ATTENDANCE SHEET.

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REFERENCES

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Tayyebi, A. ***et al.*** (2010) 'Advances in earth observation of global change', in ***Advances in Earth Observation of Global Change***, pp. 1–283. doi: 10.1007/978-90-481-9085-0.

Yirsaw, E. ***et al.*** (2017) 'Land Use/Land Cover change modeling and the prediction of subsequent changes in ecosystem service values in a coastal area of China, the Su-Xi-Chang region', ***Sustainability (Switzerland)***, 9(7), pp. 1–17. doi: 10.3390/su9071204.

DATA SOURCES

NO	DATA	FORMAT	DESCRIPTION	SOURCE
1	Administrative boundaries	Vector	This data represents official administrative boundaries of the county from ward level to county boundaries	KNBS/IEBC
2	Roads & Towns	Vector	The roads dataset represents all roads in the count and beyond. It has road classes, status and surface types. The data is in line vector format. Towns data is point form and shows all towns and market centers. The attributes include, names, status and population sizes.	Kenya Roads Board
3	Demographics data	Vector & Tables	These are from Kenya population census 2009. The vector polygons are at ward levels. The variables of interest from these datasets were, population numbers, density, number of schools, health, sanitations, water sources, poverty among other demographic variables.	KNBS
4	Agriculture & Weather data	Vector & Raster	These include AEZ, Rainfall, temperature, geology, soils, industries	ILRI/WRI
5	Protected areas and Tourism data	Vector	Protected areas such as forests, parks, wetlands and reserves	WRI
6	DEM and derivatives	Raster	This is elevation model showing altitude in meters. Used to derive slope data, hill shade and for other analysis. It is 90m resolution SRTM data.	CGIAR
7	Land cover	Raster	Data was obtained from online source providing free Landsat imagery.	USGS/Earth Explorer
8	Vegetation data	Raster	This data shows a general classification of major vegetation types in the county.	FAO

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