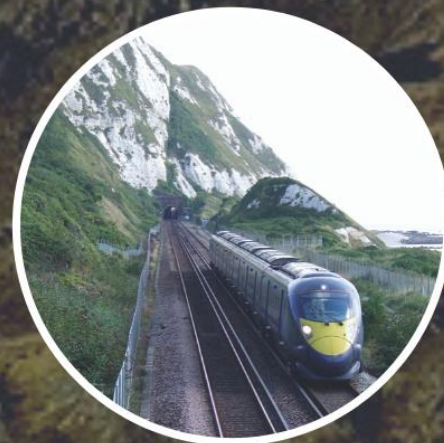




COUNTY GOVERNMENT OF NYERI

NYERI COUNTY SPATIAL PLAN (2019-2029) POPULAR VERSION



TWO EMS ASSOCIATES

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FOREWORD BY H.E. THE GOVERNOR



The Constitution of Kenya 2010 bestows the mandate of County Planning to County Governments. Further, section 110(1)(a) of the County Governments Act stipulates that the County Spatial Plans shall give effect to the principles and objects of County planning and development contained in section 102 and 103 of the same Act. The Nyeri County Spatial Plan (CSP) is a ten-year geographic information system (GIS)-based plan that will guide the Government of Nyeri County in the efficient, productive and sustainable use of land from 2019 to 2029. The vision of this CSP is ***“Transforming lives through advancement of infrastructure, economic prosperity, food security and environmental conservation.”***

Nyeri County is endowed with pristine natural and human capital resources. However, the County faces several development challenges. The CSP addresses land use, socio-economic and environmental issues by providing a planned and coordinated framework for guiding the sustainable and optimal utilization of these resources. It is therefore a step in the right direction in terms of achieving the goals of Vision 2030 and Big 4 agenda development programme and improving the livelihood of people across Nyeri.

The preparation of this CSP was based on vigorous and detailed stakeholder participation as per the constitutional requirements. Several activities were taken as part of the CSP preparation process. Some of these activities included stakeholder sensitization forums at ward level, carrying out detailed diagnostic analyses, assessment of the legal and institutional framework, 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. Technical meetings with departmental personell as well as the County Assembly members were also conducted.

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 Nyeri by promoting the sustainable management of scarce resources and spurring investments that facilitate socio-economic growth, enhance inter-County linkages, and improve the County’s competitiveness.

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

Signature: _____

HON. MUTAHI KAHIGA (H.E THE GOVERNOR)
NYERI COUNTY.

ACKNOWLEDGEMENTS



This CSP was prepared through a consultative, collaborative, and participatory process that involved the local community and various stakeholders. I take this opportunity to sincerely acknowledge the roles and contributions of all the actors individually and collectively in the initiative that is significant to the County.

Specifically, i want to gratefully acknowledge the sincere support from the County leadership- specifically H.E the Governor, Hon. Mutahi Kahiga, 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 goodwill and support during the plan formulation period. I would also like to recognize the efforts of Nyeri County planning department led by Plan. Hannah Maraga, the County Chief Officer in charge of Lands and Physical Planning, the County Director of Physical Planning, Plan. Beatrice Koech and her team that included, Hudson Chege, Grace Kirugumi, David Ndigirigi, Marcos Mururu and Joseph Njomo.

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 (Climate Change Expert), Joseph Maina (GIS Expert), Irene Mwaniki (Physical Planner), Peter Juma (Urban Designer), George Ogutu (Urban Designer), and the following planners; Lorna Mukiri, Samuel Ngari, Benjamin Ayoro, John Kimani and Shadrack Mbuta; for spearheading the process towards successful completion of the plan. Finally, I wish to thank the people of Nyeri County for their valuable contributions during the stakeholder forums to ensure that the plan meets its needs.

Signature: _____

DR. KWAI WANJARIA

County Executive Committee Member

Lands, Physical Planning, Housing and Urbanization

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 County. The CSP is a framework for organizing and distributing local populations and activities desired to achieve both national and County development objectives. The CSP also aims to coordinate the implementation of sectoral projects and programs, to reduce the wastage of scarce resources and the duplication of efforts.

The preparation process was guided by the among others; 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 (2018 - 2022). The preparation process was also informed by other various relevant Acts, including the County Government Act (2012), the Physical and Land Use Planning Act (2019), the Urban Areas and Cities Act (2011), the Environment Management and Coordination Act, the Water Act, the Land Act, the National Land Commission Act, the Forest Act.

Through this CSP, the County envisions *“Transforming lives through advancement of infrastructure, economic prosperity, food security and environmental conservation.”* This CSP is an output of a lengthy planning process involving a wide range of stakeholders and benchmarking of other global best spatial development initiatives that have demonstrated greatest transformation potential to a County/region into a competitive sustainable economy.

The County, measures approximately 3,337 km² in area, located in the central region. It is home to an estimated 838,711 people (2019 projection), at a density of approximately 342 people per km². The County is located approximately 150 km from Nairobi County and strategically borders five counties: Laikipia County to the North, Meru County to the North East, Kirinyaga to the east, Muranga to the south and Nyandarua County to the West. The County's strategic location provides opportunities for improving regional competitiveness through the formation of inter-County economic blocks with shared economic interests and immense potential for inter and intra connectivity, agribusiness, commerce, and tourism.

The CSP structure has been informed through County physical features, urban-rural interface, settlement structure, land use structure, and land tenure composition. The plan preparation process was informed through a multi-disciplinary approach and use of different types of data from primary and secondary sources that were collected and collated. This data that was studied in detail to identify the development issues and gaps within different urban and rural sectors.

Analysis of spatial data was mainly done through vector data analysis procedures and is "the heart" of GIS work in this report. Through analysis of data from different sources, new information was gained. GIS stores both attribute and spatial data, analysis was conducted on both types of 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.

The various challenges and opportunities that Nyeri County presents have informed the goals, objectives, and implementation of the spatial development vision. Nyeri County land use plan was informed through the analysis of; transportation and infrastructure gaps, human settlements, an environmental sensitivity, and a land capability, availability, and suitability. The framework sets out strategic planning policies in terms of space. The 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 County 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 anchored on the livestock, trade and industry sectors. The crop agriculture and livestock strategy revolve 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.

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. This CSP 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. There is also need to upgrade and maintain the existing rail and air transport 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/development 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 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 Nyeri 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 Development 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.

The CSPs allow for the alignment and 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. The 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 that enable the State 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.

In light of the above, the County Government of Nyeri contracted Two Ems Associates Limited, a planning and mapping firm, to prepare the Nyeri CSP to guide the county development for a period of ten years (2019-2029). This plan prepared thereof is an output of a lengthy planning process, that incorporated among others; 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.

The CSP is anchored 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 (2018-2022)).

The preparation process will also be informed by other various Acts, including the County Government Act (2012), the Physical and Land Use Planning Act (2019), the Urban Areas and Cities Act (2011), the Environment Management and Coordination Act (1999), the Water Act (2016), the Land Act (2012), the National Land Commission Act (2012), the Forest Conservation and Management Act (2016), among others.

1.2 Vision of the Plan

The Vision of the Nyeri County Spatial Plan was achieved through a synthesis of various stakeholder inputs received during the forums; former and current Governor's manifestos; and a review of various development policies and plans as shown below;

Source	Components
Governor Gakuru's Manifesto	The Late former Nyeri governor's aspirations for Nyeri County were as follows; • Preservation of the rich unappalled heritage • Land of best coffee and tea • Food secure County • County desirous of best health care services • County that cherishes education • Prosperity of the youth and children
Governor Kahiga's Manifesto	The current Nyeri governor's manifesto to build a more prosperous Nyeri is anchored on the following aspects; • Infrastructure maintenance • Attracting investment • Improved access to social services • Food security • Employment creation
CIDP 2018-2022	The Vision of the CIDP for Nyeri County is; • "A wealthy County with happy, healthy and secure people"
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.” By; - Development of regional stadia - Immigration offices - Development of cold storage and mini-fish processing facility - Universal Health Coverage - Improved infrastructure in slums
Mount Kenya Economic Bloc	Focused on agri-business, healthcare, tourism, water, ICT and infrastructure. The document envisions industrial parks & logistics Hub; expansion of transport corridors; SEZs in all counties; revival of railway to connect to LAPSET corridor.
Stakeholders’ aspirations	During the stakeholder forums, the residents from the different wards envisioned the following; - To have adequate water for farming and domestic use. - To be well equipped with education and health facilities - To be an environmentally sustainable - Food security - Efficient disaster management measures (fire fighters) - To be a well-connected ward with easy access

The resultant vision coined to guide the spatial development of Nyeri County is as follows;

VISION: *“Transforming lives through advancement of infrastructure, economic prosperity, food security and environmental conservation.”*

The Visions of the stakeholders is summarized in the following illustrations:

FOOD SECURITY



Irrigation



Improved Livestock breeds

ENVIRONMENTAL CONSERVATION



Riparian conservation



Soil conservation

ECONOMIC PROSPERITY



Food Processing



TourismMarketing

ADVANCED INFRASTRUCTURE



Water Supply



Improved Connectivity

1.3 Objectives of the Plan

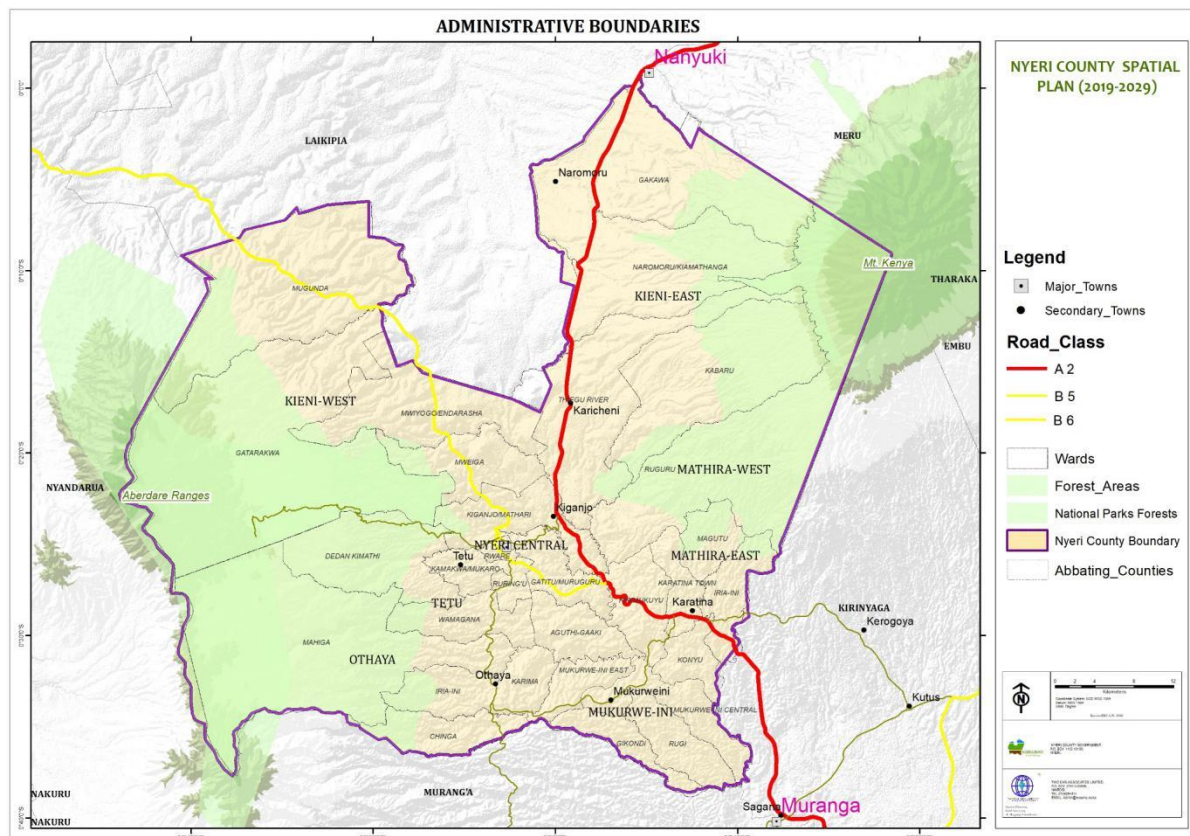
The main objective of the CSP is to provide a broad planning framework to guide spatial planning and growth within the County for a period of ten years from the year 2019 to 2029. The terms of reference for preparation of the CSP outlined the following specific objectives:

1. Assess the available resources, their level of utilization and potential;
2. Indicate infrastructure and services levels and distribution and enable the County government prioritize investments in infrastructure development;
3. Provide strategic guidance in respect of the location and nature of development within the County;
4. Set out basic guidelines for a land use management system in the County taking into account any guidelines, regulations or laws as provided for under article 67(2)(h) of the constitution;
5. Set out a capital investment framework for the County's development programs;
6. Undertake a strategic assessment of the environmental impact of the spatial development framework;
7. Identify programs and projects for the development of land within the County;
8. Provide a framework for coordinating County development programmers and strategies so as to avoid duplication of projects and wastage in use of both financial and human resources
9. Form a basis for preparing sectoral programmes and projects
10. Identify areas where strategic intervention is required.
11. Indicate areas where priority spending is required.
12. Form the basis for seeking donor funding and public/ private partnership in development of the County.

1.4 Scope of the Plan

The County Spatial Plan shall cover the entire area of the County measuring approximately 3,337 km² and projected to be home to 838,711 people in 2019. It is divided eight administrative (8) sub-counties; Kieni East, Kieni West, Mathira East, Mathira West, Nyeri Central, Mukurweini, Tetu and Nyeri South sub-counties. Additionally, the County is subdivided into 30 administrative wards.

Map 1: Administrative Boundaries



Source: Two EMS Associates, 2019

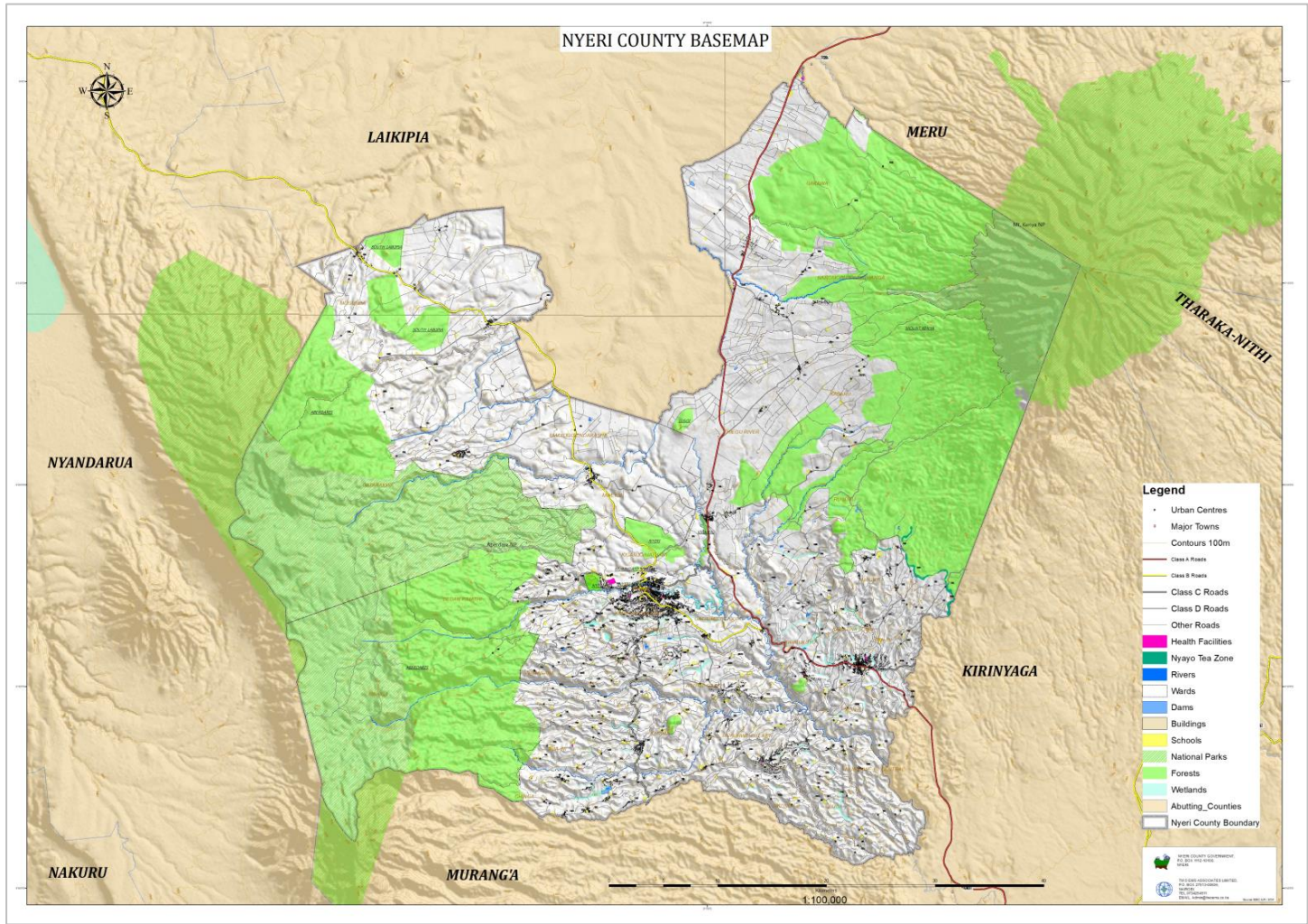
The County's strategic location provides opportunities for improving regional competitiveness through the formation of inter-County economic blocks that have shared economic interests and immense potential in agribusiness, commerce, and tourism. Plan preparation will consider the inter relation with the neighbouring areas whose activities directly influence the County and other Cross-County resources. Any matters touching on regional planning and existing ones will have to be considered and incorporated where appropriate.



PART II: SITUATIONAL ANALYSIS

2.1 EXISTING SPATIAL STRUCTURE

Map 2: Base Map



Source: Two EMS Associates, 2019

Summary of Base Map Features

Statistics of various base map features have been summarized in the table below:

Table 1: Fact sheet on base map features

Feature:	Remarks:
Administrative boundaries (Nyeri County, abutting counties, sub-counties and wards)	- County area: 3337 km² - Number of sub-counties: 8 - Number of wards: 30
Topographical features (mountains, hills, ranges, ridges, steep slopes, valleys and plains)	- Highest point: Mount Kenya (5199m above sea level) - Lowest point: Mukurweini Central ward (Sagana river)- (1192m above sea level) - Slope range: 2%-90%
Hydrological networks (such as rivers, wetlands and dams)	- Cover 0.05% of County total land area. - River Sagana: Highest average discharge: 13m³/s
Vegetation	- Forest cover: 38% of County total land area - Mount Kenya Forest: 64,470.62 Ha - Aberdare Forest: 50,964.22 Ha
National parks and game reserves	- Mount Kenya National Park: 107 km² - Aberdare National Park: 466 km²
Human settlements (building footprints and names of urban centers)	- Principle towns: 2 (Nyeri, Karatina) - Urban centers: 4 (Othaya, Mweiga, Mukurweini, Kiganjo/ Chaka) - Market and rural centers: 224
Transportation corridors (such roads, airstrips and railway lines)	- Road network: 3092 km - Rail network: 77.7 km - Number of airstrips: 4
Social infrastructural facilities (such as schools and health facilities)	- Number of schools: 440 public ECDs, 352 public primary schools, 195 public secondary schools, 14 colleges, 51 TVETS, vocational training institutes and polytechnics, and 2 universities. - Number of health facilities: 1 Level-6 (Mwai Kibaki Teaching and Referral Hospital), 2 Level-5 Hospitals, 10 Level-4, 26 Level-3, 88 Level-2 and 251 Level-1 facilities.

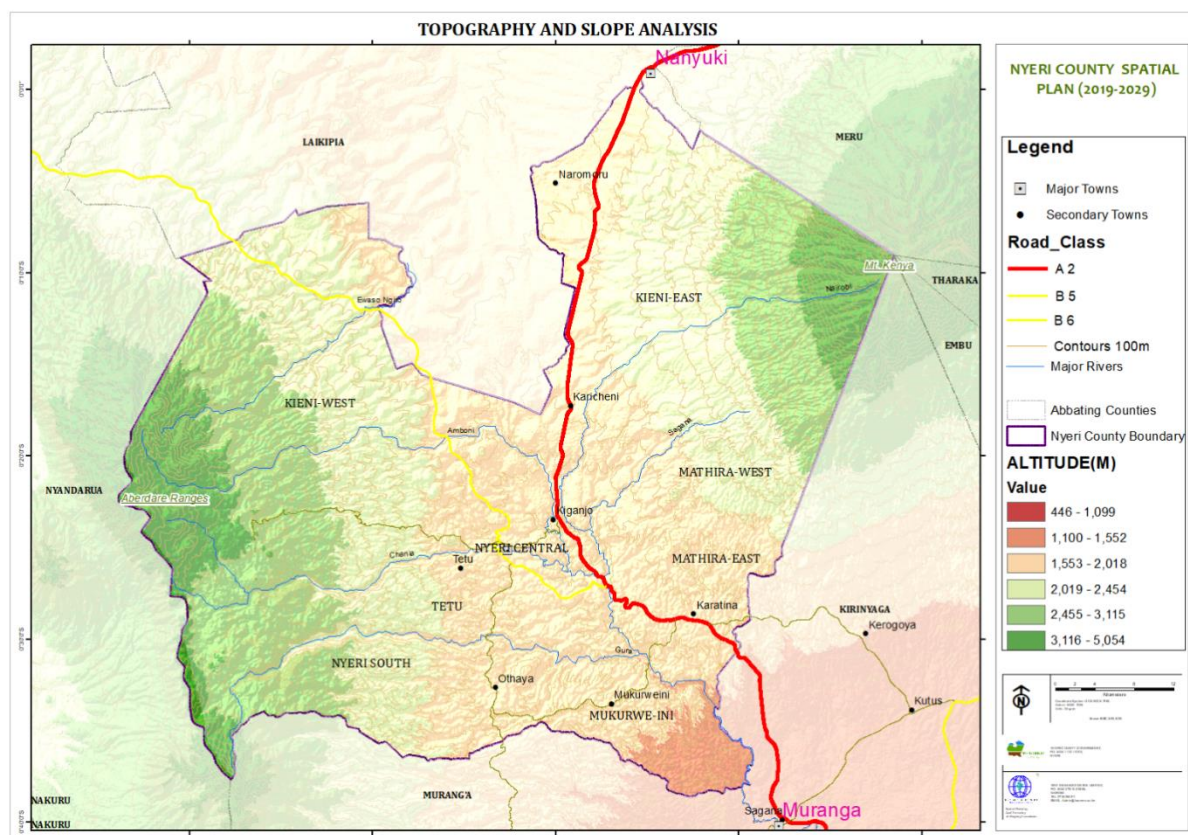
Source: Two EMS Associates, 2019

2.1.1 PHYSICAL ENVIRONMENT AND NATURAL REOSURCES

Topography and Slope Analysis

Nyeri County lies within the central highlands of Kenya and is divided into three topographic regions namely the plains, the mountain and the hills. The County, characterized by high altitudes, lies between 3,076 meters and 5,199 meters above sea level. The main physical features are Mount Kenya that lies 5,199m above sea level located to the East and the Aberdare Ranges (3,999m above sea level) on the west side of the County. The County has an average slope of 8.8%.

Map 3: Topography



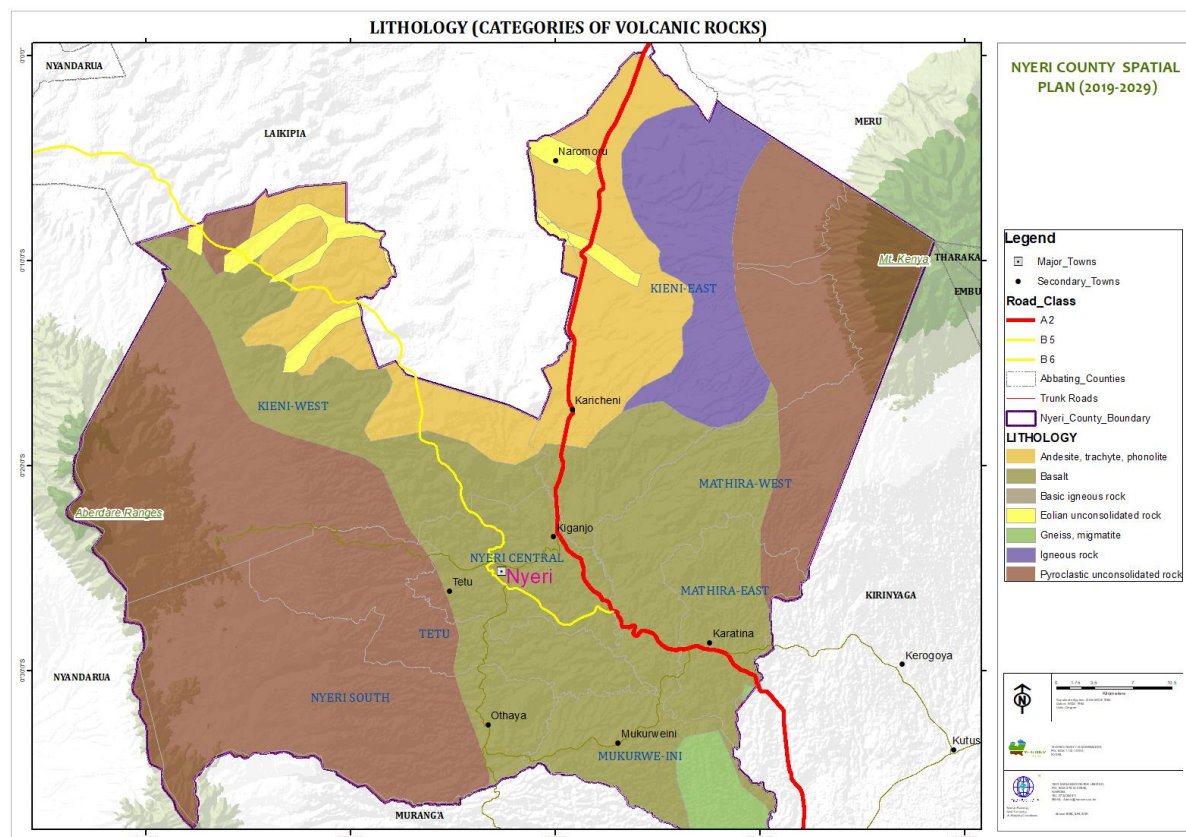
Source: Two EMS Associates, 2019

The topography in the County is characterized by steep ridges and valleys, as well as hills such as Karima, Nyeri and Tumutumu. These hills affect the climate especially the rainfall patterns thus influencing the mode of agricultural production and type of agricultural produce. Sections of Kieni East and Kieni West sub-counties are relatively flat.

Geology

The County is characterized by volcanic rocks formed from the extrusions of Mount Kenya and the Aberdare Ranges. The highlands of the Aberdares and Mount Kenya consist of pyroclastic rocks characterized by fertile volcanic soils rich in humus content. The midlands are made up of basalt rocks, high in silica content good for ceramics and building stone. The lowlands of Kieni lie on phonolite, andesite and trachytes which extrude to the surface hence easily accessed as building stones. The lower to upper midlands of Kieni East are characterized by igneous rocks good for interior and exterior decoration. The river valleys are characterized by the eolian rocks which erodes to form high quality construction sand. The gneiss rocks in lower Gikondi and Rugi are associated with thin soils and can be used for ornamental purposes.

Map 4: Geology



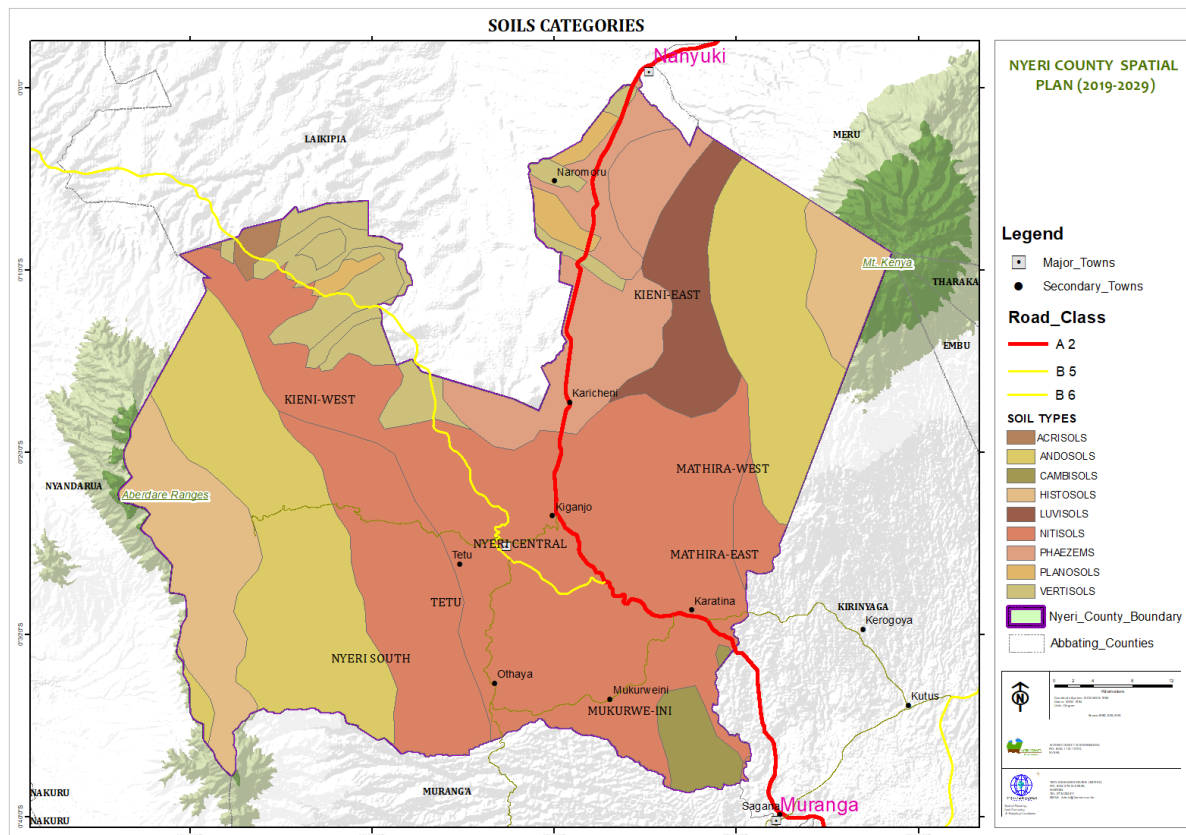
Source: Two EMS Associates, 2019

Soils

There are six main types of soils in Nyeri County namely greyzems, luvisols, phaeozems, podzols, regosols and vertisols. The soils are mainly black cotton soils in Kieni East and West, red volcanic soils in Othaya, Karatina, Mukurwe-ini and other areas within the County.

Some parts of Kieni are characterized by a bit of sandy soils. The soils in Nyeri County are generally well drained and can support agriculture.

Map 5: Soil Types

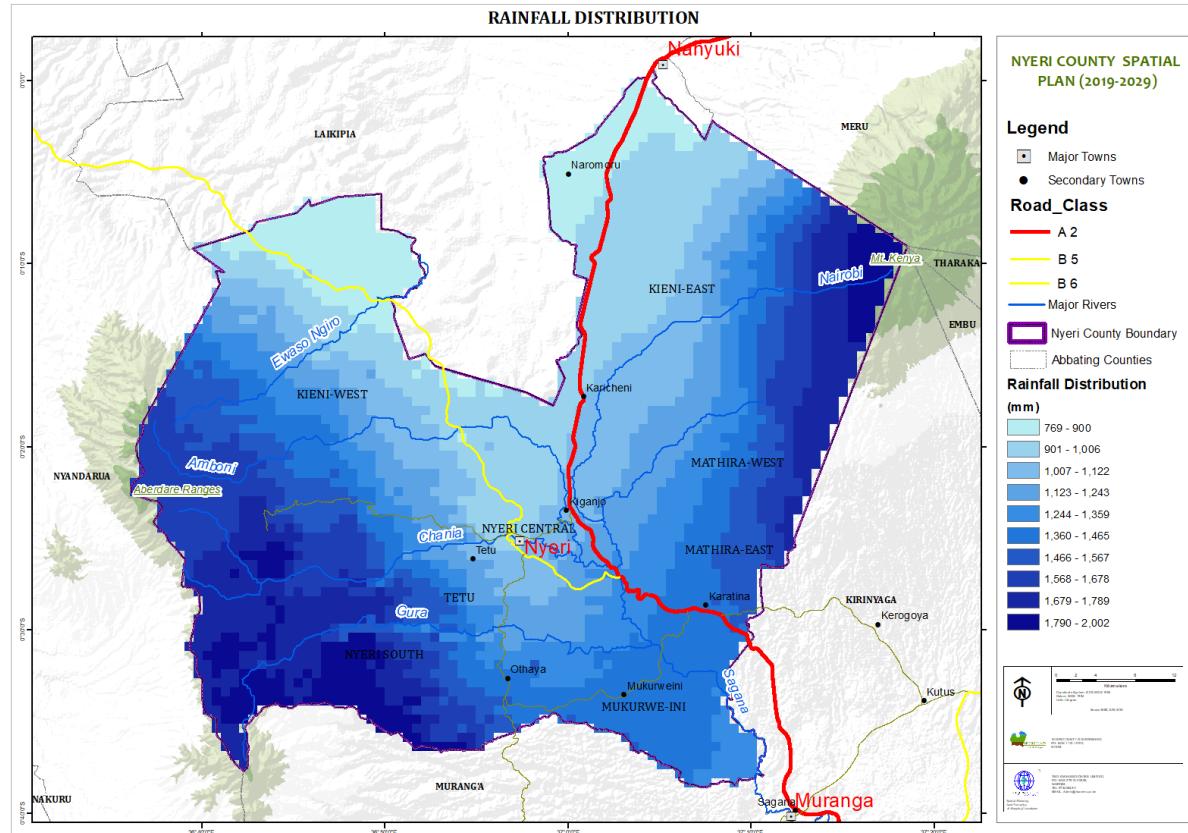


Source: Two EMS Associates, 2019

Climatic Conditions

The County experiences equatorial rainfall due to its location within the highland zone of Kenya. The annual rainfall ranges between 1,200mm-1,600mm during the long rains and 500mm-1,500mm during the short rains. The precipitation is highest in the month of April and lowest in the months from June and September. The rainfall patterns have also changed over the years as the effects of climate change take place within the County.

Map 6: Rainfall Distribution



Source: Two EMS Associates, 2019

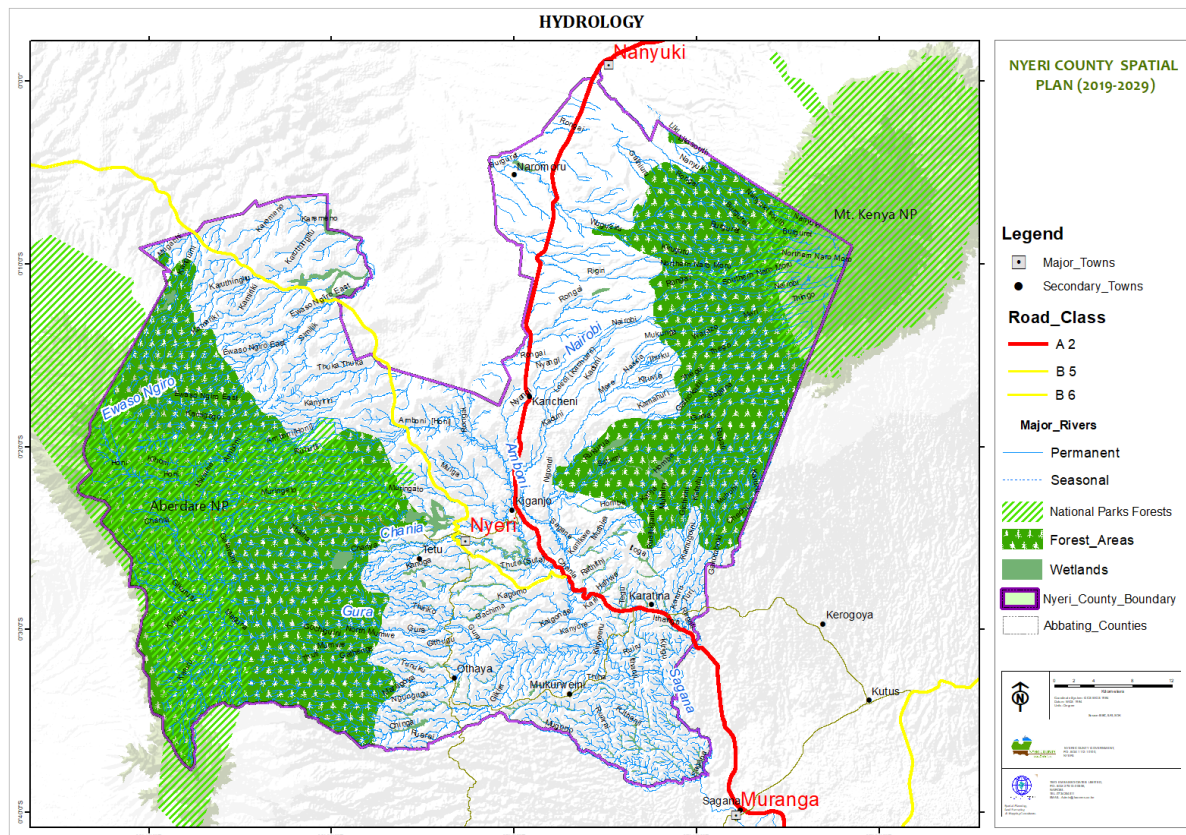
Temperature varies from 15 °C to 18.2 °C following the rainfall patterns. February and March are the hottest months while July is the coolest month of the year. However, areas around Mount Kenya experience low temperatures throughout the year.

Hydrology and Water Resources

The Aberdare Ranges and Mt. Kenya are part of Kenya's five water towers. The Aberdare Ranges are the source of Rivers Ewaso Ng'iro, Chania, Gura and Amboni. Mount Kenya water tower is the source of Nairobi River within the County. River Sagana is jointly fed by rivers from both Mt. Kenya and Aberdare Ranges. The Aberdare Ranges water tower faces challenges such as illegal logging, forest fires and encroachment from agricultural expansion. The Mount Kenya water tower, on the other hand, faces challenges such as overgrazing, forest fires and agricultural expansion. As a result, there has been drying of rivers and streams (compounded by climate change) in the highlands.

The major rivers found in the County are Sagana, Ewaso Ng'iro, Gura, Chania, Nairobi and Amboni, which have Mt. Kenya and Aberdare Ranges as their catchment areas. The permanent and seasonal rivers in the County are the main source of water for domestic and industrial use across the County.

Map 7: Hydrology



Source: Two EMS Associates, 2019

Ground water in Nyeri is abstracted through wells and boreholes. Ground water in the County is used for domestic, agricultural and industrial purposes. The County has potential to tap into underground water especially in areas of Kieni West, Kieni East and Mathira East sub-Counties. This will improve access to water for both domestic and industrial use.

The major wetlands in the County include Muringato wetland in Rware ward, Hombe wetland in Kiganjo/ Mathari ward and Karemeno wetland in Gakawa ward.

Vegetation

The County has a forest coverage of 38%, which is above the recommended minimum of 10%. However, the forest cover is decreasing due to increased deforestation and human encroachment. The two major forest eco-systems, namely Aberdare and Mt. Kenya. The County also has other isolated forested hills under the management of County Government such as Karima and Tumutumu.

Rangelands are found within sections of Kieni East and West sub-counties. The existing rangelands lie in semi-arid areas, characterized by minimal rainfall and dry weather conditions. However, the zones are suitable for ranching and wildlife conservation.

Rangelands in Nyeri County are facing challenges such as climate change, overgrazing and growing demand for land.

Table 2: National Gazetted Forests

Name of forest	Forest Sub Stations	Coverage (Ha)
Mt. Kenya Forest area	Nanyuki, Gathiuru, Naromoru, Kabaru, Hombe, Ragati, and Chehe	64,470.62 Ha
Aberdare Ranges	Muringato, Kabage, Zaina, Zuti, and Kiandongoro.	50, 964.22 Ha

Source: Field Survey, Nyeri County, 2019.

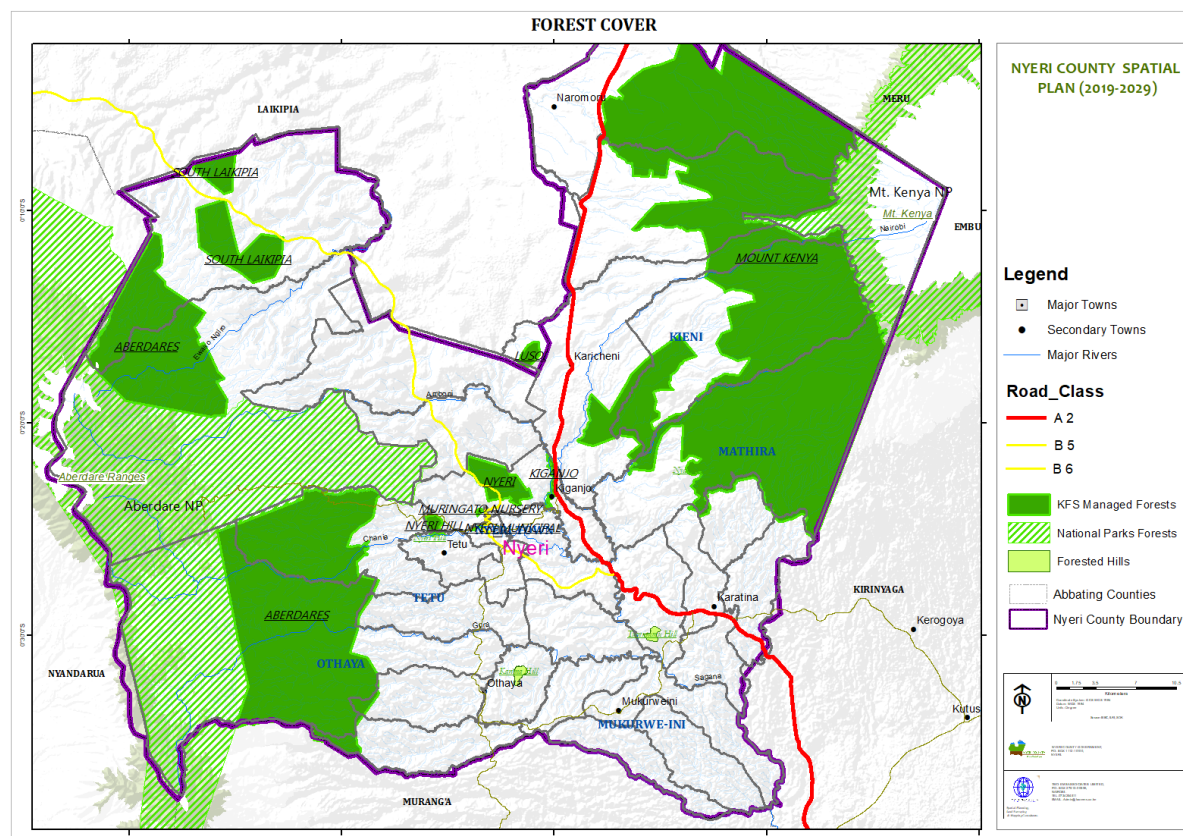
Table 3: List of County Forests in Nyeri County

NO.	NAME OF FOREST	CATEGORY	AREA (HA)
1	Karima Hill	Indeginious	108.50
2	Tumutumu Hill	Indeginious	110.0
3	Gachirichiri	Indeginious	7.3
4	Wagere	Indeginious	4.0

5	Karundu	Indeginious	6.0 Acres
6	Karindi	Indeginious	1.0 Acres
7	Thangathi	Indeginious	2.0 Acres
8	Ngamwa Hilltop	Indeginious	5.0 Acres
9	Gachuthe	Indeginious	1.0 Acres

Source: Field Survey, Nyeri County, 2019.

Map 8: Forest Cover



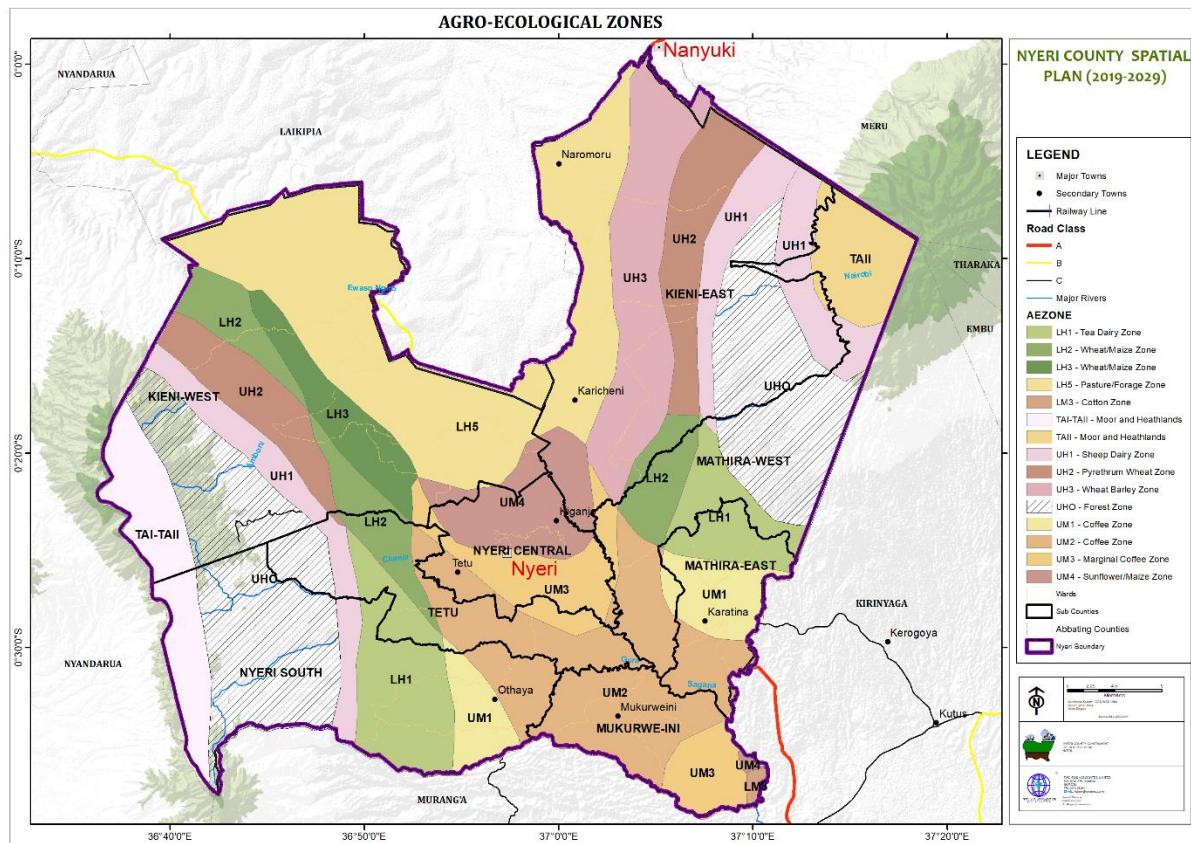
Source: Two Ems Associates, 2019

Agro-Ecological Zones

The main agro-ecological zones in the County are the Tropical Alpine zone, Upper highlands, lower highlands and upper midlands. The Tropical Alpine zones are characterized by the peak of Mt. Kenya and the Aberdare ranges which are National Parks. The Upper highlands are generally steep and occupied by forest cover and grazing land. The crops that flourish in this zone include

pyrethrum, wheat and barley. The lower highlands have fertile soils and high yield potential for crops such as tea and maize. This zone also promotes dairy farming and ranching. The upper midlands are in the central part of the County. Coffee and tea are the main crops produced in this zone as well as sunflower and maize.

Map 9: Agro Ecological Zone



Source: Two Ems Associates, 2019

Wildlife Resources

Nyeri County is endowed with wildlife species. Aberdare National Park and Mt. Kenya have the following animal species: African Elephant, rare black leopard, spotted hyena, olive baboon, black and white colombus monkey, Sykes monkey, the cape buffalos, warthogs, common zebra, bushbuck, reedback and lions among others.

In addition to Mt. Kenya National Park, Mt. Kenya also holds Mt. Kenya orphanage and Mt. Kenya game reserve. Dedan Kimathi University manages the only wildlife conservancy which has 9 species of grazing mammals that include: wildebeest, warthogs, Grant's Gazelles, Impalas, Burchell's Zebras, Andean llamas among other flora and fauna. Other conservancies include:

Sangare Ranch, Solio Ranch, Aberdare Park, Hombe Conservancy (Naromoru forest) and Mt. Kenya National Park conservancy.

Energy Resources

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. In the County, Sagana River has the potential for HEP according to studies done by Sogreah Engineering Firm in the 1980's.

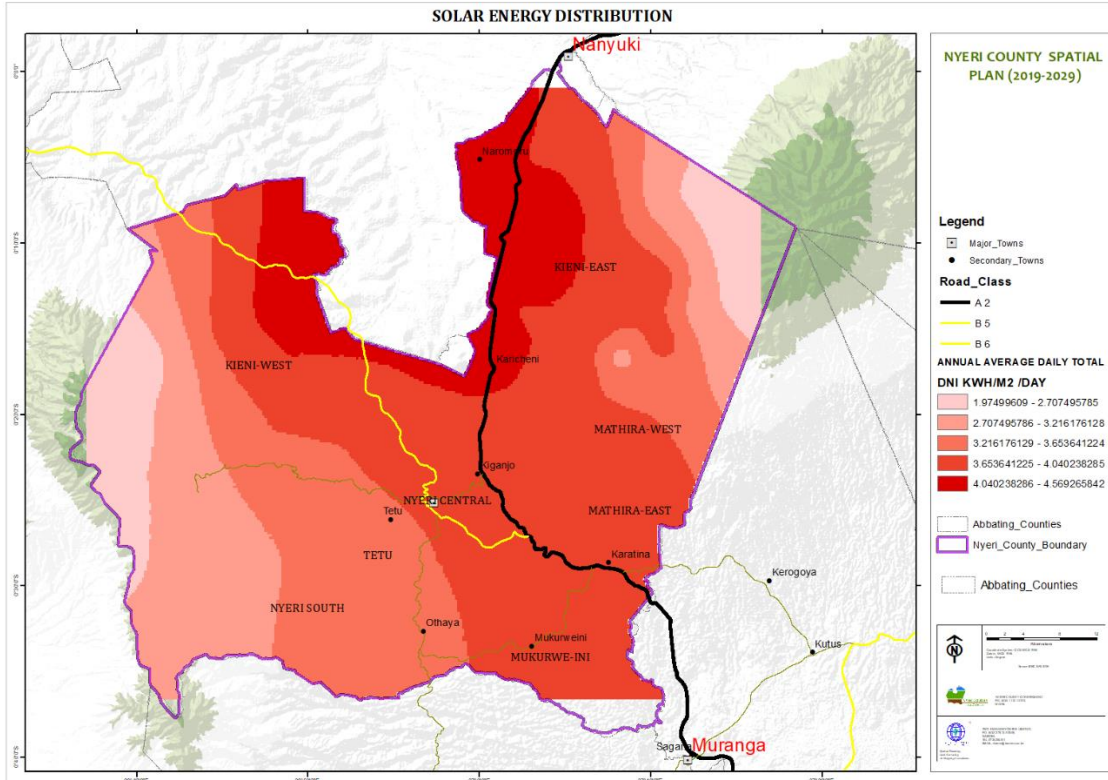
The wind speed in the County is low as it is on the windward side of Mt. Kenya. There is moderate potential in wards within Kieni East with the capacity to generate power at small scale despite the low wind speed in the County.

The country is generally cold due to the influence of its positioning within the Aberdare Ranges and Mt. Kenya. The potential for solar energy in the County is in the drier and hotter areas of Kieni East and West sub-counties due to the high insolation, especially during dry seasons.

Mineral Resources

The County is rich in various minerals. Gravel mining in the County is the highest with 2.3 million tons mined per year and employing about 1,431 persons. Clay mining is the lowest at 2,555 tons employing 756 people. Building stones mining in the County has increased with areas around Mukurwe-ini, Nyeri Town, Kieni East, Kieni West, and Mathira West Sub Counties having several quarries. Increased urbanization and demand for building material has led to increased quarrying within the County and is also a source of revenue for development.

Map 10: Solar Energy Distribution



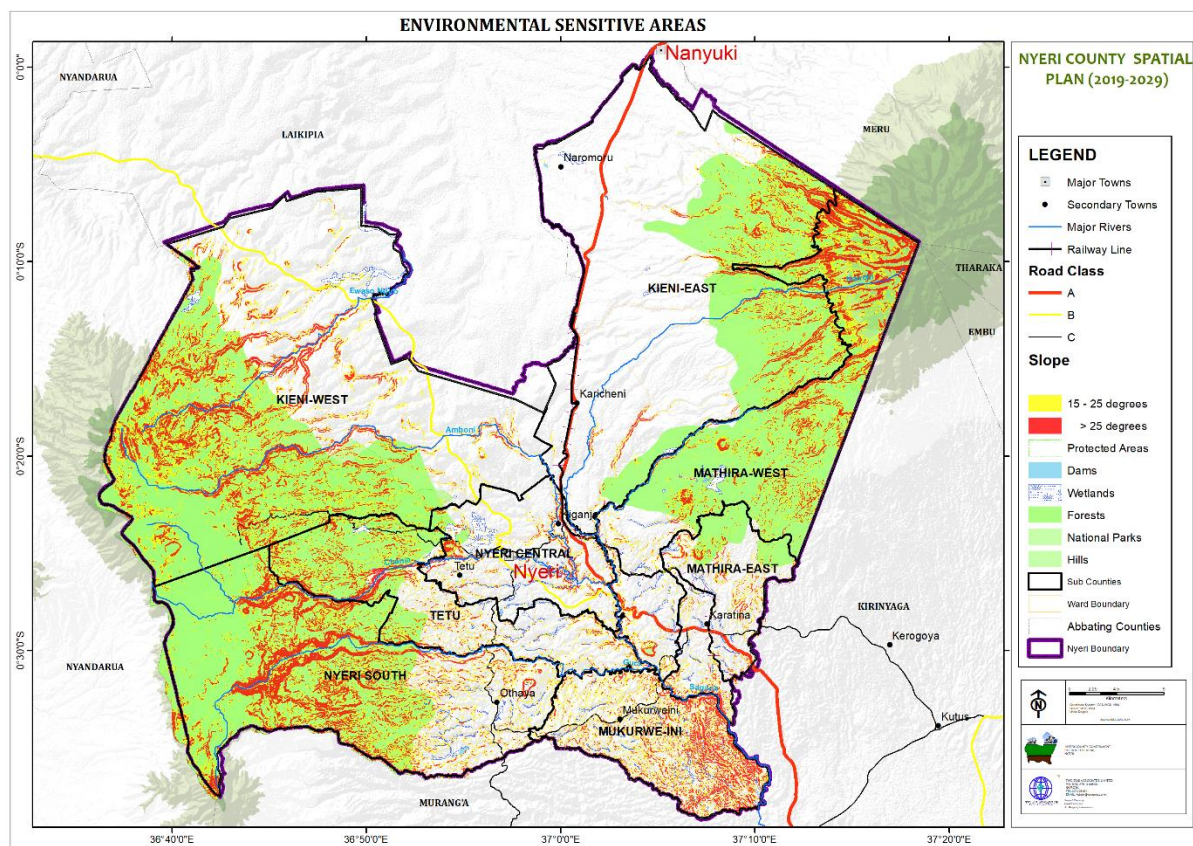
Source: Two Ems Associates, 2019

2.1.2: ENVIRONMENT AND NATURAL RESOURCES

Environment

The environmentally sensitive areas in the County that are susceptible to degradation include forests, water towers, riparian reserves, areas prone to floods and landslides. The Aberdare ranges and Mt. Kenya are two of the major water towers in Kenya. The forests belt along the Aberdare ranges comprise major water catchment areas for Tana River, as well as Athi, Ewaso Ngiro (North) and Malewa rivers. They are also the main catchments for the Sasumua and Ndakaini dams. These forests need to be protected from encroachment and deforestation. The riparian reserves should also be preserved from farming and settlements along the reserves.

Map 11: Environmentally Fragile Areas

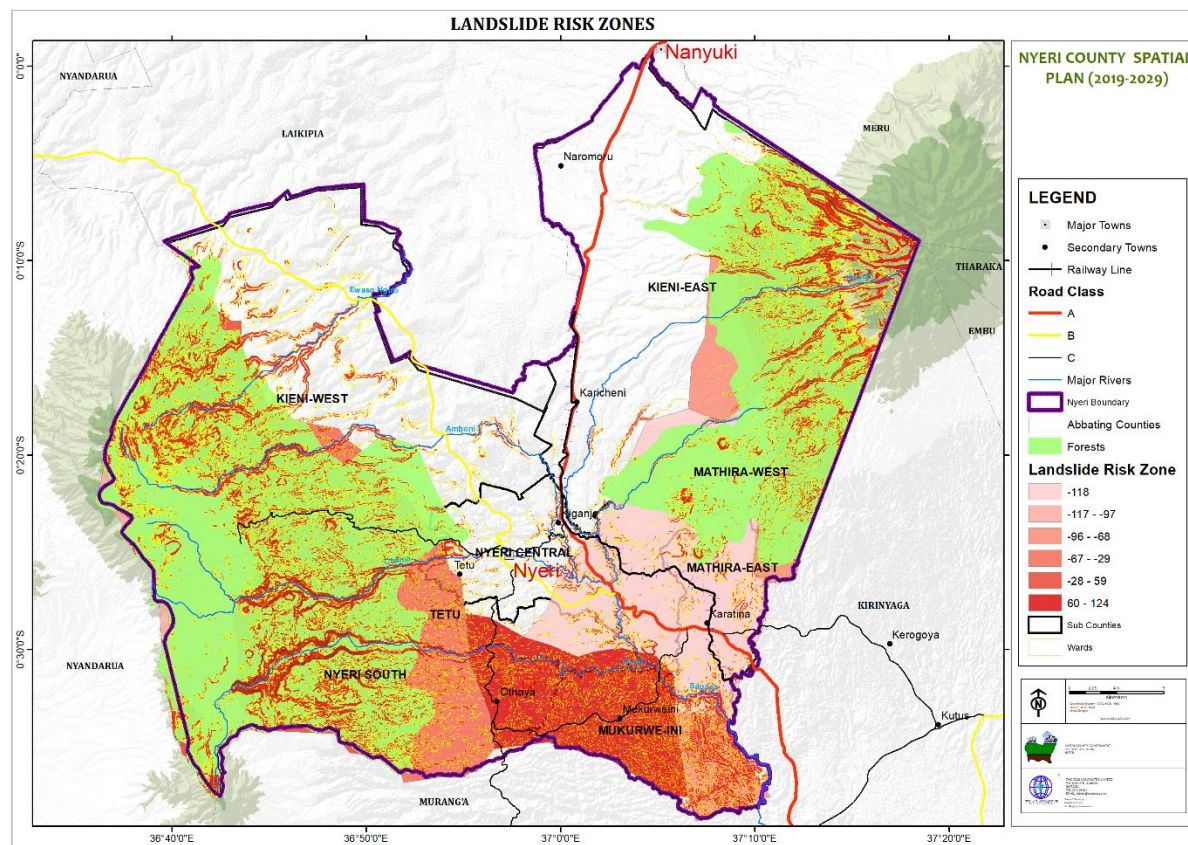


Source: Two Ems Associates, 2019

The County is prone to landslides especially in hilly areas of Mukurwe-ini, Othaya and Tetu Sub Counties. This can be associated to poor farming methods characterized by encroachment of riparian areas and steep slopes and deforestation; activities that have left the soil bare and loose

hence prone to soil erosion. There is urgent need to reclaim all the environmentally fragile areas and plant indigenous trees to protect further soil erosion.

Map 12: Landslide Risk Zones



Source: Two EMS Associates, 2019

Climate Change and Disaster Management

Climate change and its impacts are evident in the County. The agricultural sector has greatly been affected due to drought and unreliable erratic rain patterns. In the past, Nyeri County was among the counties that received food aid, despite its agricultural potential, however climate change has been on the rise. (MoALF, 2016)

The field survey revealed that 75% of the respondents recognized that there is climate change in the County, while 25% reported that no climate change had occurred. The impacts of climate change were evident on agriculture through low crop yield, stunted growth of crops, disruption of planting seasons and death of livestock.

2.1.3 POPULATION AND DEMOGRAPHIC CHARACTERISTICS

Population size

Nyeri has a population of 759,164 people according to 2009 Population Census which has increased from a population of 679,236 people in 2009. This consists of 426,590 male and 447,863 female residents. The population density of the County is approximately 342 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.

Population Distribution

Nyeri Sub-County has the highest population and the lowest population density. This is because it is the largest sub-County in Nyeri. Nyeri Town Sub-County has the highest population density in the County as it is the smallest in size. The average population density for Nyeri County is approximately 204 people per km².

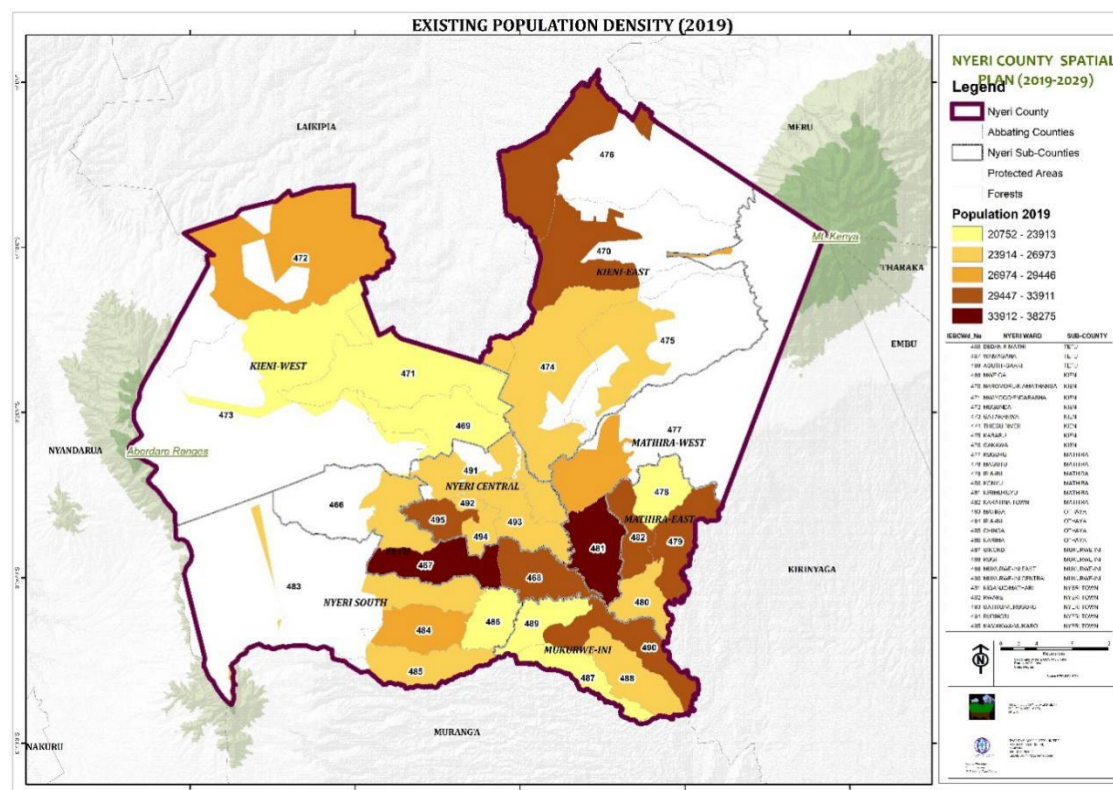
Table 4: Population Distribution

SUB-COUNTY	Area in km ²	2019 POPULATION		2020 POPULATION PROJECTION		2025 POPULATION PROJECTION		2029 POPULATION PROJECTION		2030 POPULATION PROJECTION	
		Total 2019	Population Density/km ²	Total 2020	Population Density/km ²	Total 2025	Population Density/km ²	Total 2029	Population Density/km ²	Total 2030	Population Density/km ²
<i>Kieni East</i>	924.6	110,376	119	111,940	121	119,759	130	128,597	139	130,419	141
<i>Kieni West</i>	816.9	88,631	108	89,668	110	94,854	116	100,376	123	101,551	124
<i>Mathira East</i>	148.4	99,065	668	99,384	670	100,977	680	102,358	690	102,687	692
<i>Mathira West</i>	397.1	60,083	151	60,952	153	65,299	164	70,248	177	71,264	179
<i>Mukurweini</i>	178.6	89,137	499	89,687	502	92,435	518	94,995	532	95,581	535

<i>Nyeri Central</i>	16 7.7	140, 338	837	143, 206	854	157, 547	939	176, 388	1,052	179, 993	1,073
<i>Nyeri South</i>	48 6.1	91,0 81	187	91,6 24	188	94,3 38	194	96,8 53	199	97,4 30	200
<i>Tetu</i>	21 7.6	80,4 53	370	80,6 96	371	81,9 11	376	82,9 59	381	83,2 09	382
TOTAL		759, 164		767, 157		807, 121		852, 774		862, 134	

Source: KNBS and Two Ems Associates, 2019

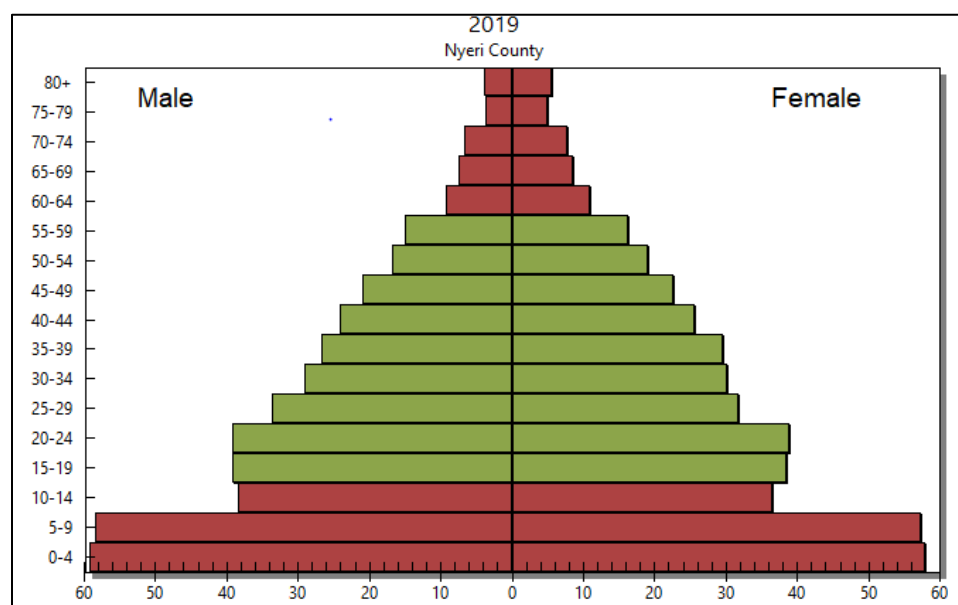
Map 13: Population Distribution



Source: Two Ems Associates, 2019

Over 60% of the population is below 30 years, portraying a youthful population which is more productive and thus the need to involve them in development activities.

Figure 1: Nyeri County Population Pyramid 2019 (In Thousands)



Source: Spectrum Projection, 2019

Urban and Rural Population

There is only one municipality in the County and five major urban centres. Nyeri Municipality has the highest population while Endarasha has the lowest. Karatina urban has a higher number of people during the day because it has the largest open-air market in the region and is expected to have a projected population of 10,035 persons by the year 2019.

Table 5: Projected Urban Population in Nyeri

URBAN CENTRE	2019 PROJECTED URBAN POPULATION			2020 PROJECTED TOWN POPULATION			2025 PROJECTED TOWN POPULATION			2029 PROJECTED TOWN POPULATION			2030 PROJECTED TOWN POPULATION		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Nyeri Town	41,047	40,861	81,908	41,843	41,653	83,496	42,639	42,446	85,085	49,006	48,785	97,791	57,761	57,501	115,262
Karatina	4,627	5,966	10,592	4,717	6,082	10,798	4,806	6,197	11,004	5,524	7,122	12,646	6,511	8,394	14,904
Naromoru	3,817	3,656	7,473	3,891	3,727	7,618	3,965	3,798	7,763	4,557	4,365	8,922	5,371	5,145	10,516

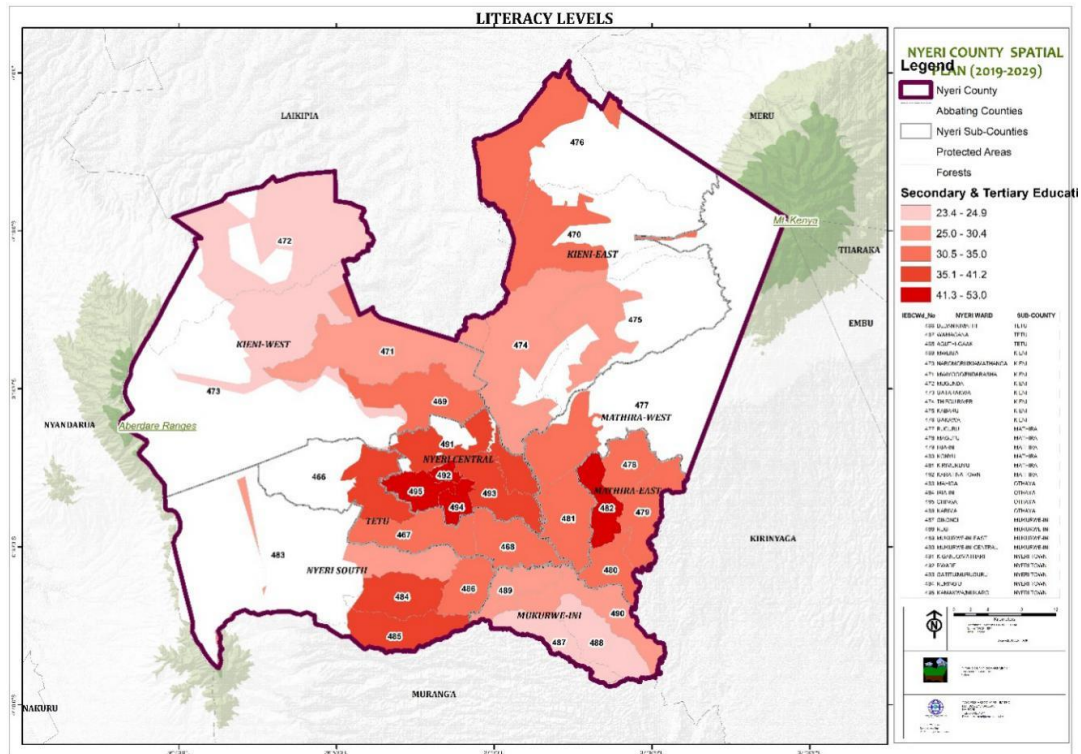
Endarasha	1,840	2,085	3,925	1,876	2,126	4,001	1,911	2,166	4,077	2,196	2,490	4,686	2,588	2,936	5,523
Mweiga	2,186	2,427	4,613	2,228	2,474	4,702	2,271	2,521	4,792	2,610	2,897	5,507	3,076	3,414	6,490
Othaya	3,070	3,543	6,613	3,130	3,612	6,741	3,189	3,680	6,870	3,666	4,230	7,895	4,322	4,986	9,307
TOTAL	56,587	58,538	115,124	57,684	59,673	117,357	58,781	60,808	119,590	67,559	69,889	137,447	79,628	82,375	162,003

Source: CIDP, 2018-2022

Demographic Characteristics

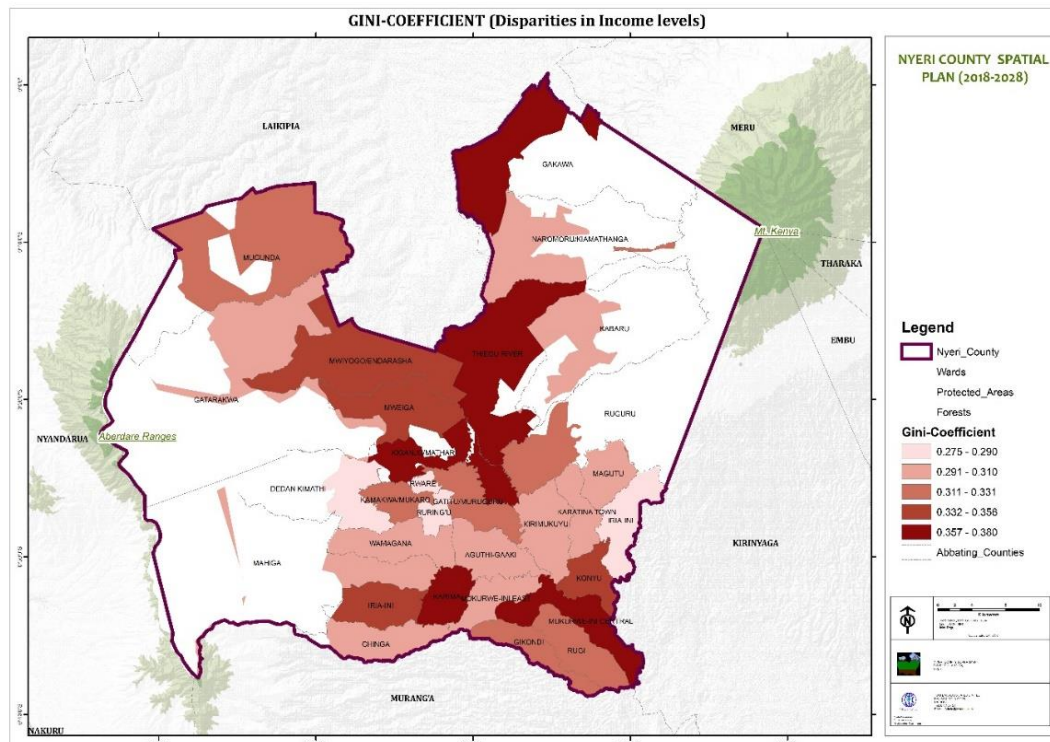
- The five most common diseases include; diseases of Respiratory System, diseases of the skin, Diarrhea Arthritis and Road traffic injuries.
- The County HIV and AIDS prevalence rates stands at 4.3% (KAIS 2012) with 21,391 persons living with HIV and > 1300 new HIV infections being reported annually.
- The average lifespan in Nyeri County is 68 years. Men live an average of 66 years and women live an average of 71 years.
- The in-migration to Nyeri stands at 15.7% per annum. Hence making migration into the County a big contributor to the population growth of Nyeri County.
- The unemployment level in the County stands at 17.5%
- Nyeri currently has a poverty level of 32.7%. This is attributed to low levels of health, education, poor access to clean water and sanitation, insecurity, insufficient capacity and opportunities among other factors (*World Bank, 2011*).
- The main sources of conflict in Nyeri County is Human-wildlife conflict, boundary conflict, insecurity and conflict over limited resources.
- The highest literacy levels in Nyeri County were recorded from Rware, Ruringu and Kamakwa Wards, while Gikondi and Rugi had the lowest literacy levels.

Map 14: Literacy Levels



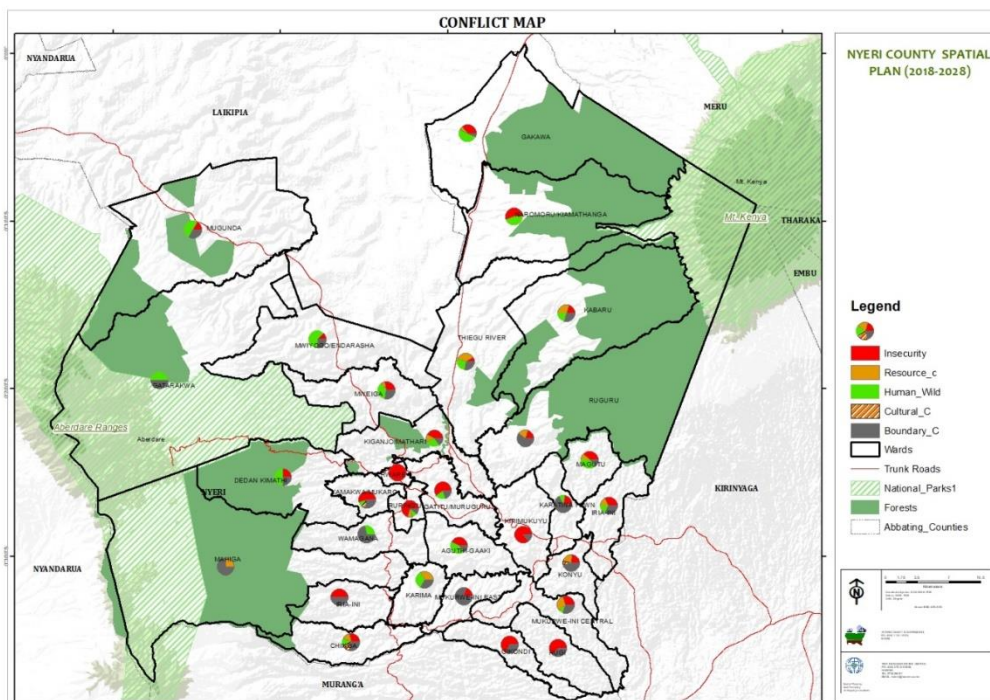
Source: Two Ems Associates, 2019

Map 15: Gini-Coefficient



Source: Two Ems Associates, 2019

Map 16: Conflict Hotspots



Source: Two Ems Associates, 2019

2.1.4 LAND

Land Tenure

The land in Nyeri County is under leasehold in the urban areas and freehold in the rural areas. The residents of Nyeri County have acquired their private lands mainly through inheritance (77%) and purchase (19%). Only 2% have acquired land through allocation by the government. Public land refers to land governed either by the national government or County government (other than community land). In Nyeri County, it includes the Aberdare and Mt. Kenya forest and other forested lands (managed by the County Government); Aberdare and Mt. Kenya National Reserve and public land within centres comprising of schools, hospitals, stadiums and other public purpose infrastructure. The main challenge facing public land is encroachment and grabbing in various parts of the County. This has resulted to difficulty in provision of services such as utilities and social amenities as it requires the government to purchase land for aforementioned purposes.

Land Use

The total size of land in the County is 3,337.2 km². The land is mainly comprised of highlands and midlands. Of the total area, 987.5 Km² is arable land and 758.5 Km² is non-arable land

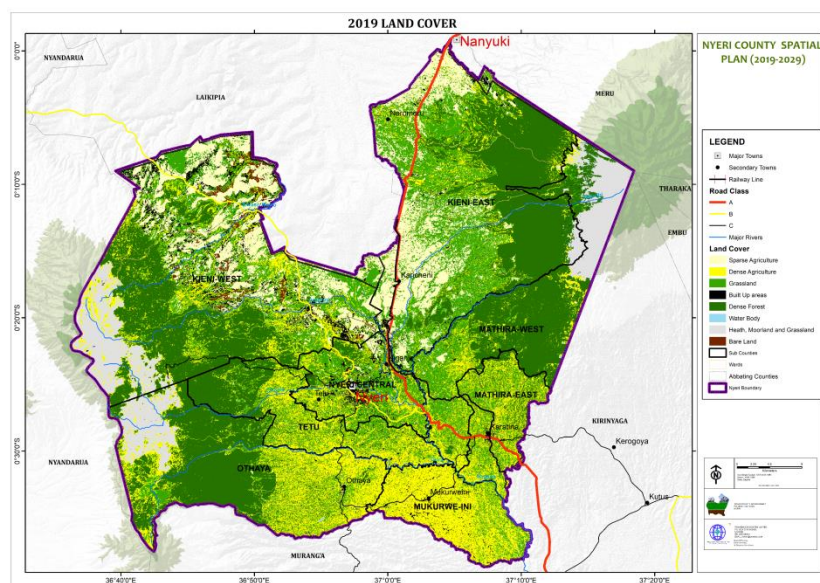
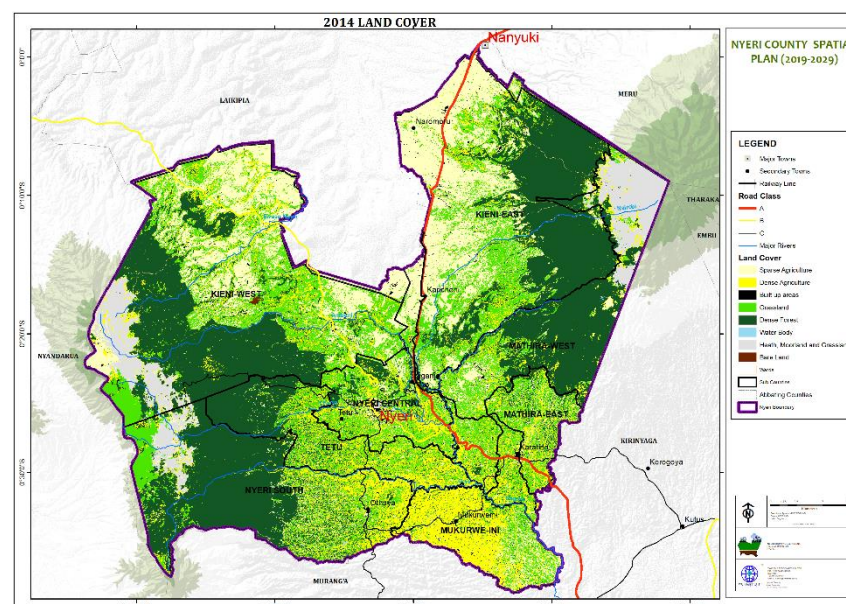
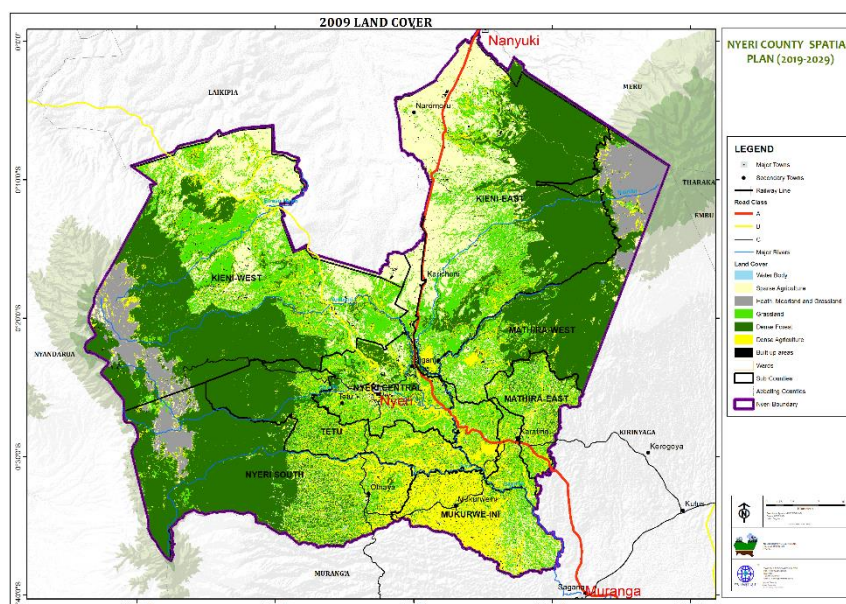
respectively. The larger part of the land is used for food crop while the rest is used for cash crop farming, livestock rearing and farm forestry. The mean holding size is one hectare for majority of the small holders.

Land Use Trends

Over the years, the increase in population has resulted in urban sprawl, encroachment into the environmentally sensitive areas and loss of natural vegetation. Human activities such as crop farming including illegal farming of bhang and tobacco as well as illegal logging have largely contributed to reduction in the forest cover, moorland and heathland.

There has been increase in built up areas in the County in the form of emergence of new centres such as Wamagana, Narumoru and Mweiga which have extended into the rich agricultural hinterlands. Due to climate change and agricultural activities along the riparian reserves as well as over abstraction of water resources, the County is experiencing 50.27% decrease in level of water bodies over the period of 10 years. The resultant consequences are the lack of water for agriculture and tapping for domestic use. The changes in land cover is as shown in the map below:

Map 17: Land cover spatial temporal changes



Source: Two Ems Associates, 2019

Majority of the land parcels (86%) in the County range between 0.1 to 5 acres. Landholding in the County varies from one ward to another. Large land holding sizes are mainly in Mweiga, Mugunda and Kiganjo/Mathari wards, while small land holding sizes are in Magutu, Iriani and Mahiga wards. Due to the increased population pressure on land, rapid land fragmentation has been experienced in the County which has resulted to uneconomical land units leading to reduced agricultural productivity.

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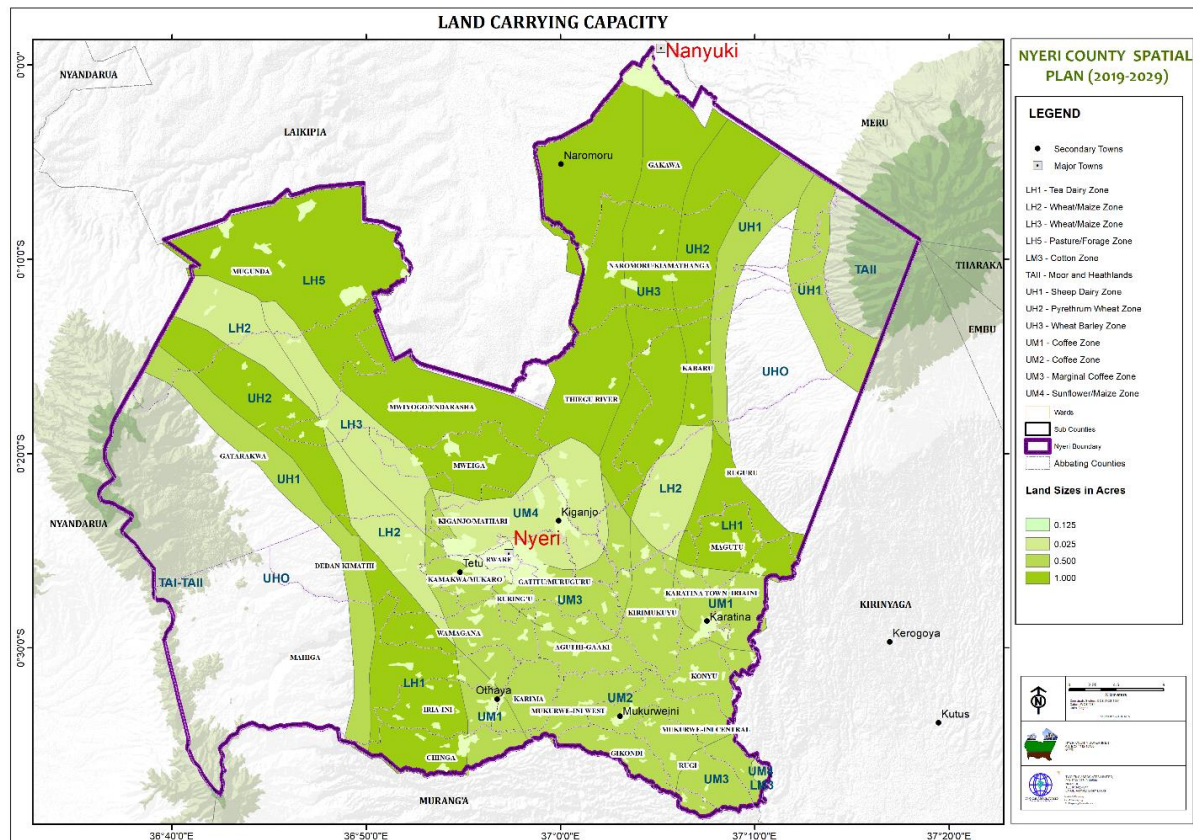
Land Carrying Capacity

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potential should be less than the per capita consumption. With an increase of 36% on dense agriculture, 11% increase on sparse agriculture and a population growth rate of 10%, then the land carrying capacity is sustainable to support the increasing rural population.

In order to accurately estimate the land carrying capacity, there is need to look into the land quality and the potential land productivity in the region. It has been achieved by analyzing the climate and the soil potential structure to find the land production potential. With these potentials, we have looked at the minimum land sizes in which agricultural produce can best thrive. For Tea and Dairy areas is 1 acre of land, 0.5 acres for coffee and Irish potato zones and 0.25 acres for maize zones.

Map 19: Land Carrying Capacity



Source: Two Ems Associates, 2019

2.1.5: HUMAN SETTLEMENTS

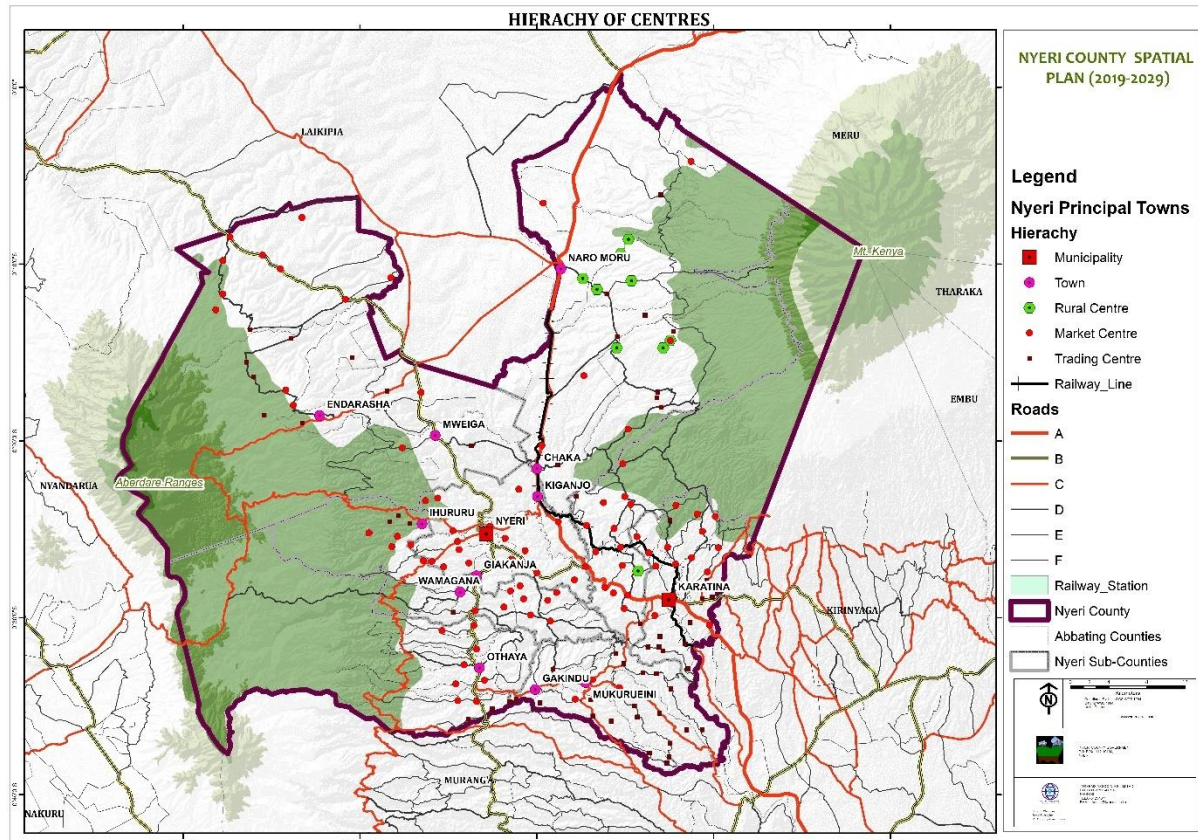
Nyeri County has both urban and rural settlements. These settlements form various form of settlement patterns as a result of natural as well as man-made factors. The natural features that guided the settlement patterns in Nyeri County include rivers, ridges, forest cover, rough terrain, mountains and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

Nyeri County is 80% rural. The growth and development of rural centres in Nyeri County is relatively progressive. This is contributed by factors such as availability of land for agriculture, expansion of small business in the rural centres and their connectivity to the main urban centres. There's also availability of water for drinking in these centres, hence making them favourable for human settlement.

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. Nyeri, Othaya and Karatina have high urban populations. The principle towns are fast growing because of their administrative, commercial and service functions attracting population from rural areas.

Informal settlements in the County include; Majengo Kiamwangi, Kahuru, Kiarathiaini, Itundu, Mbari ya Njagi, Thengeini, Gatondo among others. There is need for the County government to coordinate all slum upgrading projects in the County. The County government should facilitate tenure regularisation in informal settlements, towards providing sustainable living conditions.

Map 20: Hierarchy of Centres



Source: Two Ems Associates, 2019

Growth Trends of Urban Settlements

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

a) Nyeri Municipality

Nyeri Municipality forms a nucleated grid structure which emanated from the CBD. Tourism and agriculture are the backbone of the town's economy as it neighbours rich agricultural fields and popular tourist attractions such as the Aberdare National Park and Mount Kenya (Kenya Information Guide, 2018)

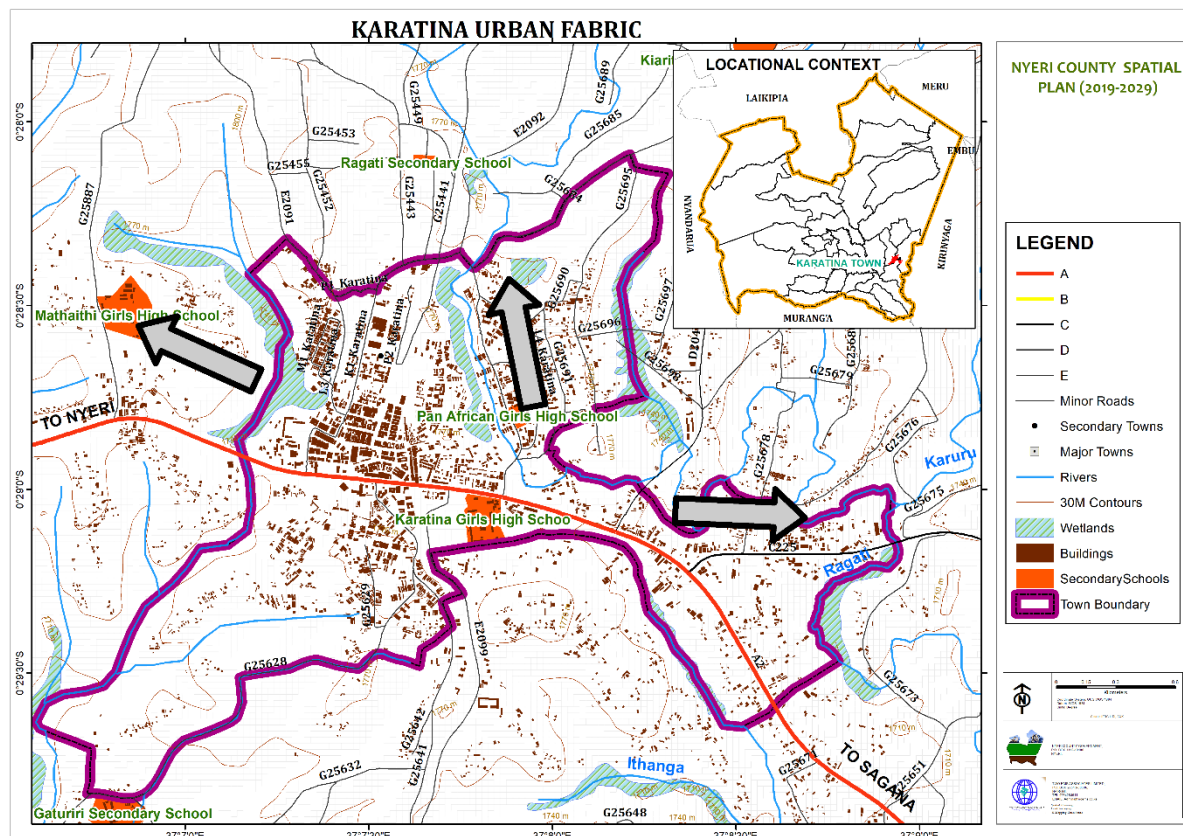
The urban extent of Nyeri Municipality was determined by existing natural and physical features. The North Western section of the boundary were established from the existing gazetted forest edge. The Northern section of the boundary were delineated based on an existing road. The North Eastern Section as well as Eastern sections were delineated along the existing river. The Southern section of the boundary were delineated along a slope of 14% and a wetland.

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b) Karatina Town

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Map 22: Karatina Town Urban Fabric

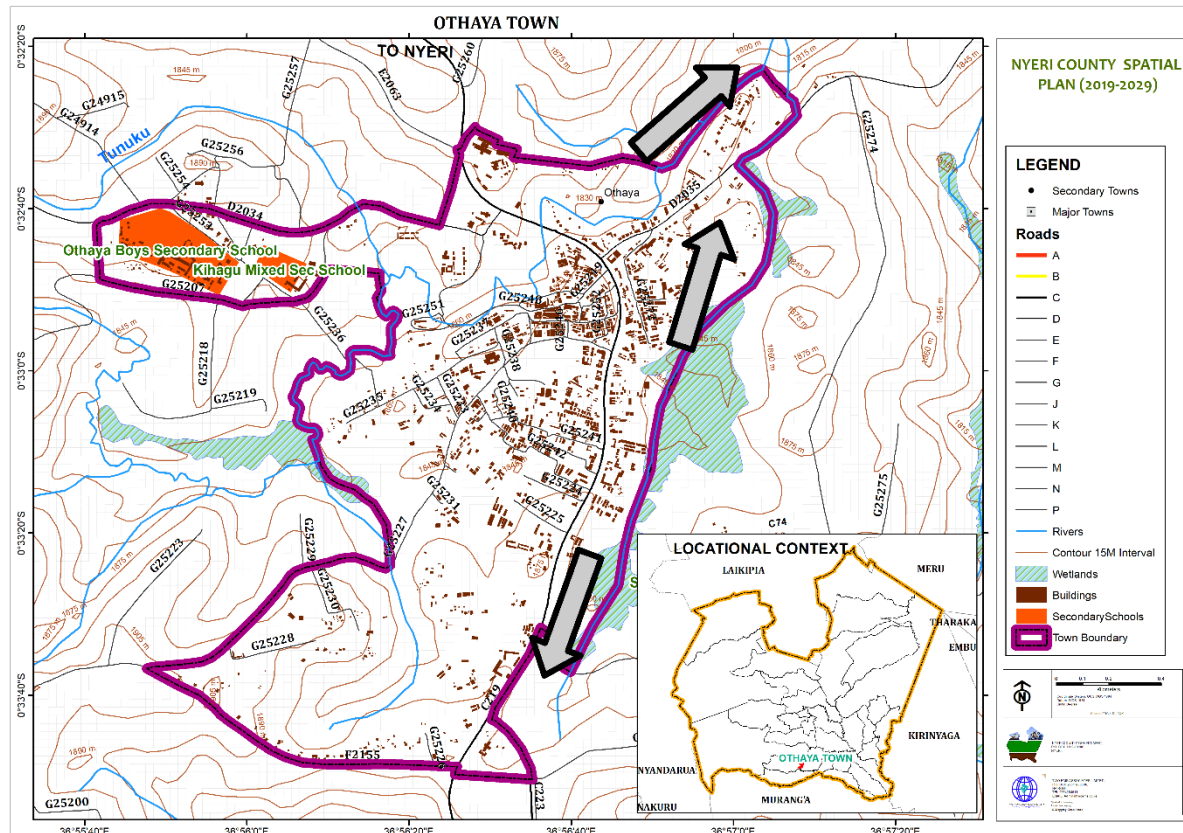


Source: Two Ems Associates, 2019

c) Othaya Town

Othaya town has a commercial and agricultural function with coffee and tea as the main cash crops grown in the agricultural zones. The centre also plays a health function due to the existence of Othaya Level 4 hospital as well as the newly opened Mwai Kibaki Teaching and Referral Hospital. The urban extent of Othaya was guided by the existence of an extensive road network, rivers and a wetland. The eastern section of the boundary was determined by the existence of a wetland while the norther and southern sections of the town boundary were delineated along the existing roads. The western section of the boundary was delineated along the river.

Map 23: Othaya Town Urban Fabric

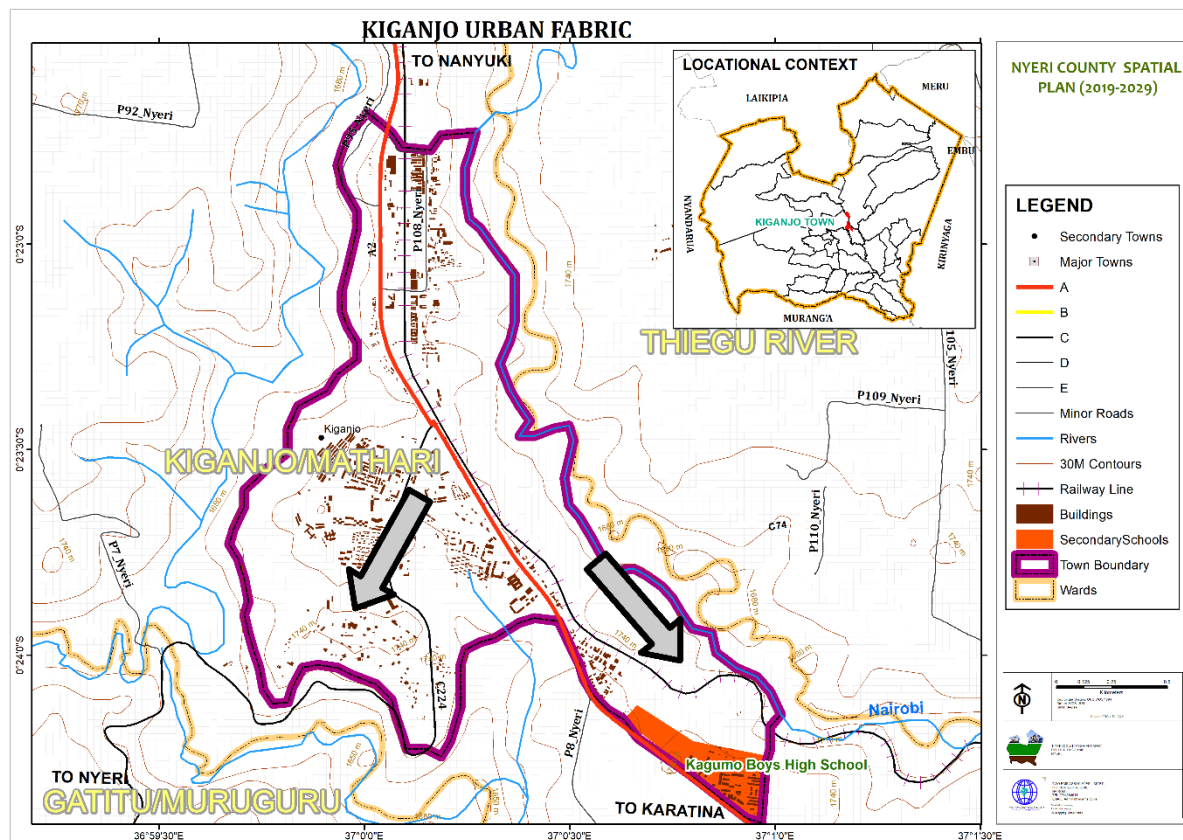


Source: Two Ems Associates, 2019

d) Kiganjo Town

Kiganjo town hosts the Kenya Police College which is Kenya's main college for police training. Kiganjo also hosts one of the Kenya Cooperative Creameries KCC (New KCC) and a milk depot for the Brookside Milk Company (at Chaka). Kiganjo sits at the junction of roads from Nairobi (A2) and Nyeri (B5) and hosts a railway station on the northern arm of the Kenyan Railway System (Kenya Information Guide, 2018). The urban extent of Kiganjo was greatly influenced by the existing industries and Kenya Police College. The eastern and western sections of the boundary were delineated along a 14% slope terrain while the northern and southern sections of the boundary were delineated along the roads.

Map 24: Kiganjo Town Urban Fabric

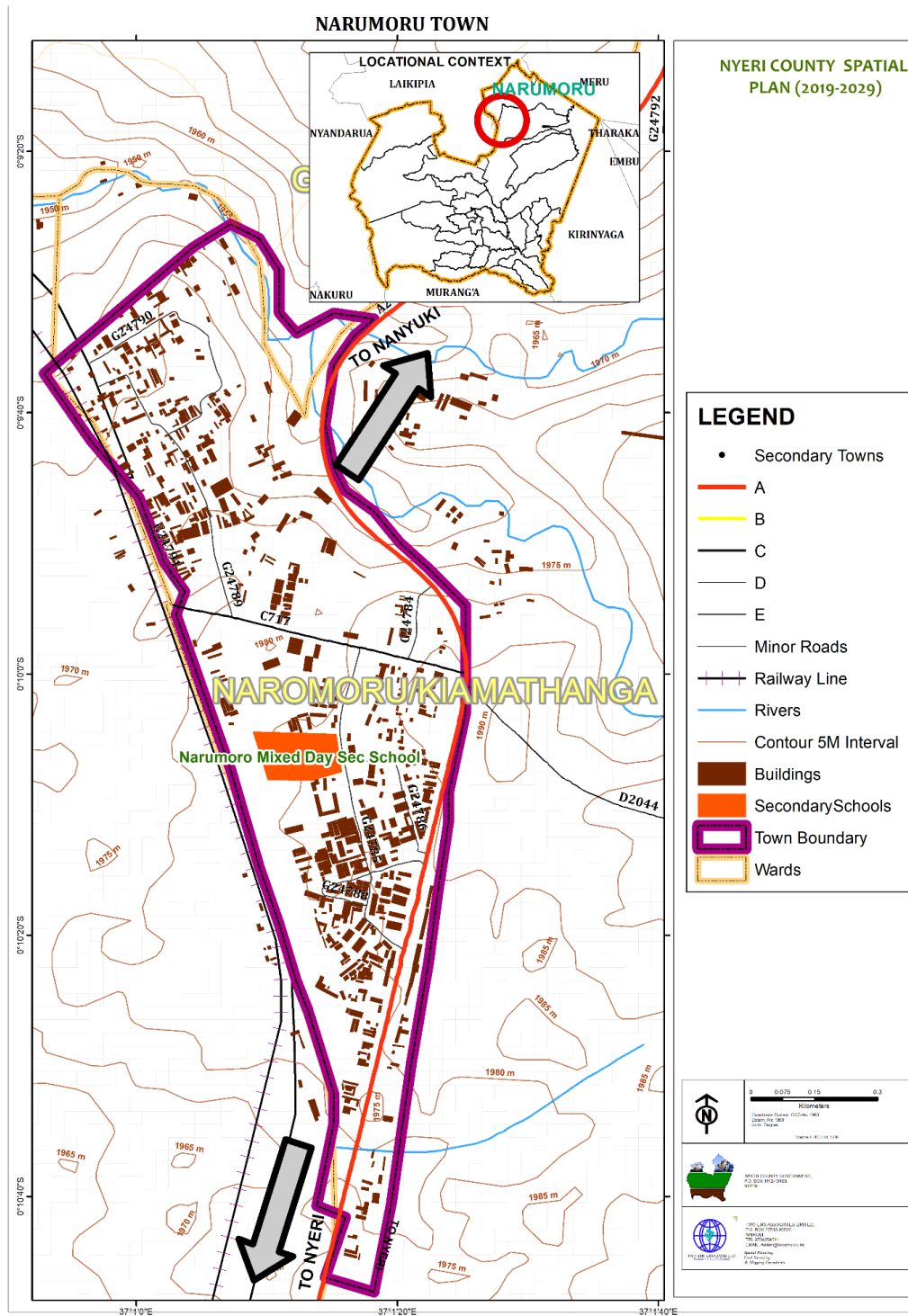


Source: Two Ems Associates, 2019

e) Naru Moru Town

Naru Moru is the headquarters of Kieni-East subCounty. It serves as a commercial centre and as a tourist base for hikers ascending Mount Kenya. Furthermore, Solio Game Reserve is located opposite the centre towards the South Eastern Side of the town. The urban extent boundary was delineated based on the existing road network, direction of growth and the edge of the existing forest cover bordering the centre.

Map 25: Naru Moru town Urban Fabric

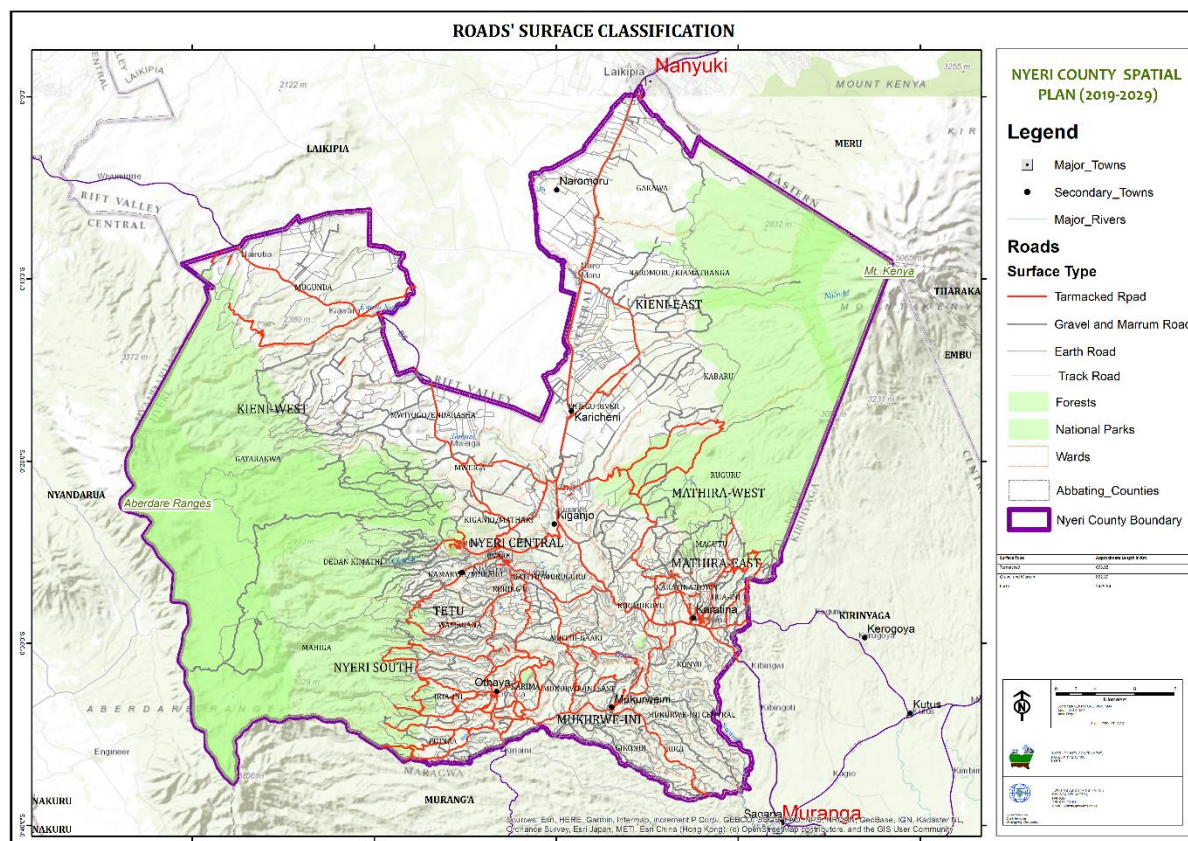


Source: Two Ems Associates, 2019

Road transport is the major mode of transport. Nyeri County is traversed by one major highway; Thika-Nanyuki highway (A2 road) and B5 road with other several class C, D and E roads connecting through the centers within the County. Majority of the roads within the major urban areas are tarmacked and are of good condition while feeder roads within the rural areas are of gravel, murram and earth status.

There are approximately 17.4% 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.

Map 27: Road Conditions



Source: Two Ems Associates, 2019

In the County, NMT comprises of Boda boda (cyclists), walking, and animal transport. However, there lacks infrastructure for NMT such as dedicated paths for cyclists and pedestrians in urban areas. The County has three operational bus parks, which include: Kimathi University Bus Park, The Lower stage, the middle stage and upper stage and Mathari terminus.

Besides parking facilities in Nyeri town other major bus terminals are located in Mukurweni, Karatina, Othaya and Mweiga towns. 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 Nyeri CBD.

b) Infrastructure and Services.

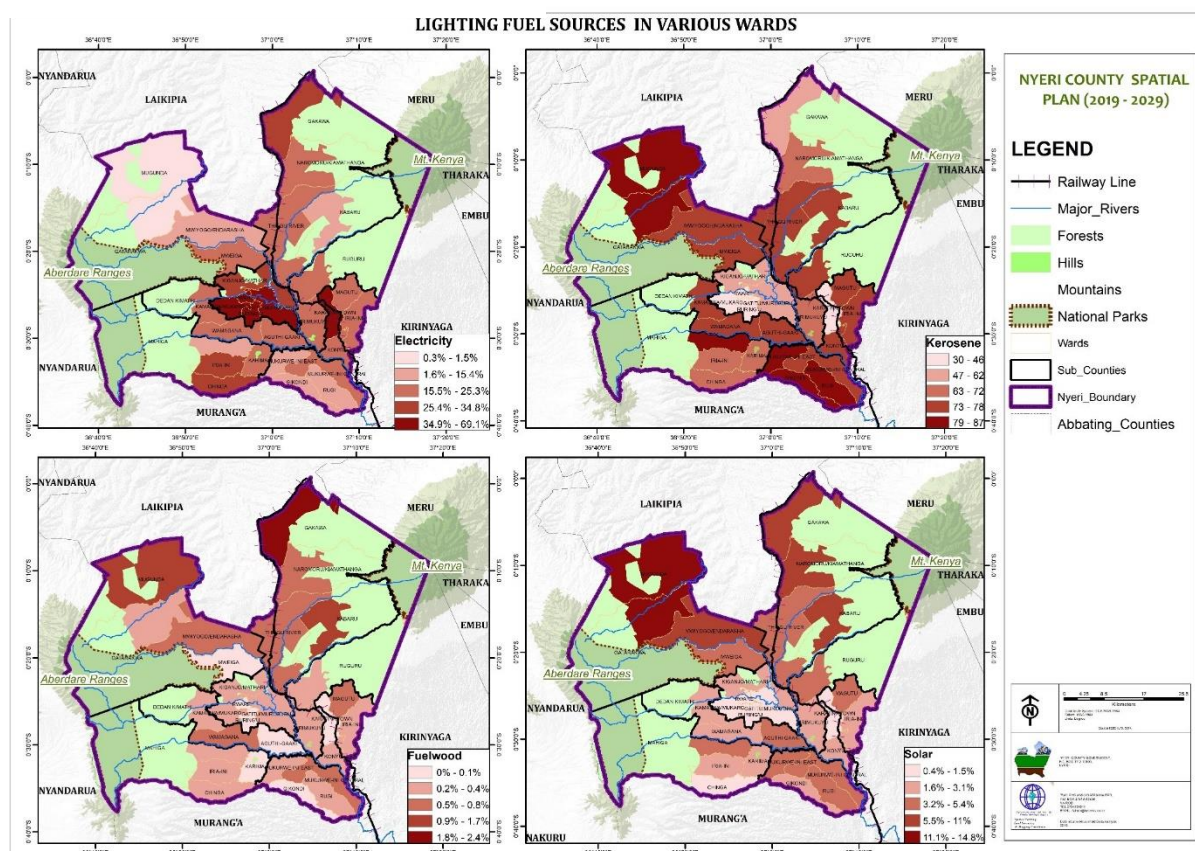
Information Communication Technology

The main source of information is radio stations which constitute 70.0% of the residents within the county. Others include, television stations (15%), newspapers (4.9%) and internet (10.1%). The County residents have reliable and adequate access to ICT infrastructure as majority have access to radio, mobile phones and television sets.

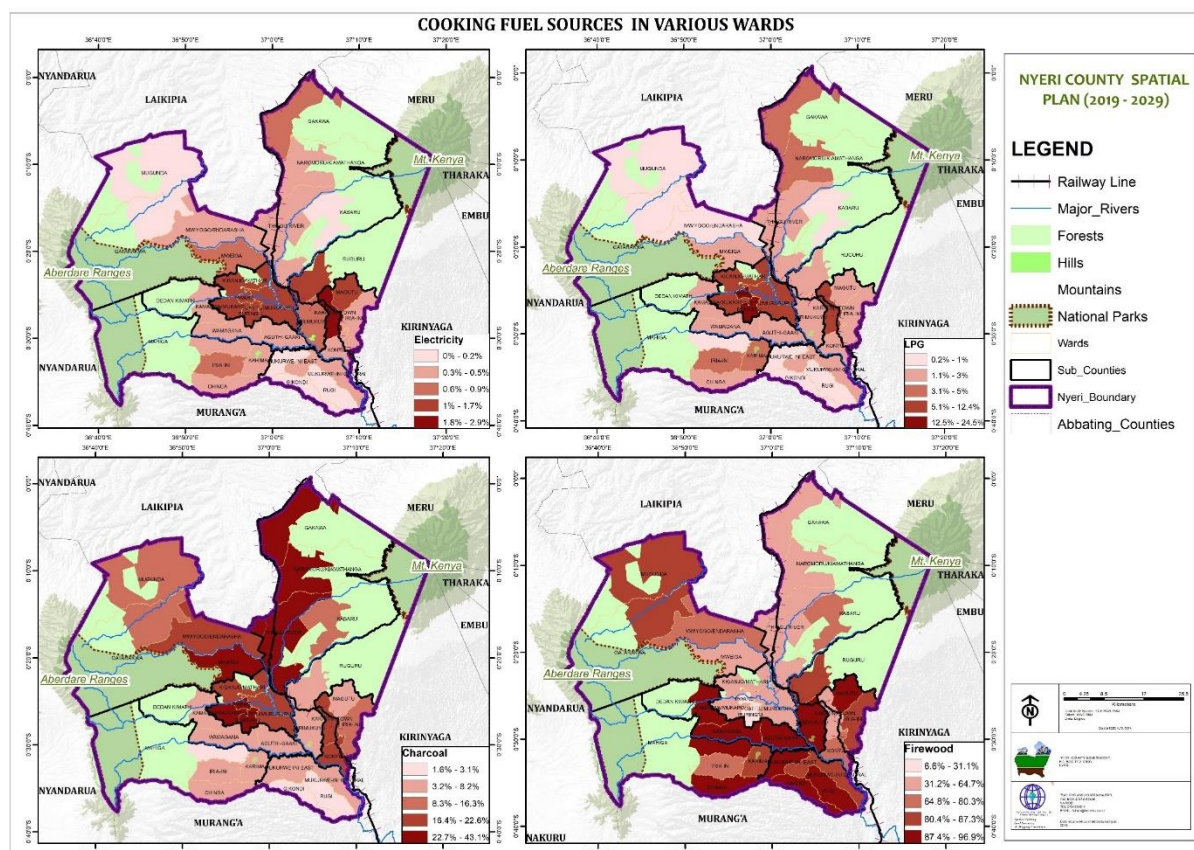
Energy

The major sources of energy for lighting in the County is electricity used by 68% of the residents. Over 80.78% of households in the county are connected to the national grid as at August 2018 (Kenya Power, 2019). The main source of cooking energy is firewood as used by 61% of the respondents from household survey. Firewood is highly used in Rugi and Gikondi wards, while least used ni Rware and Ruring'u wards. There is need to provide alternative energy sources. Solar energy can be used as an alternative energy source within Kieni East and west sub-counties

Map 28: Lighting Energy source per ward



Map 29: Cooking energy source per ward

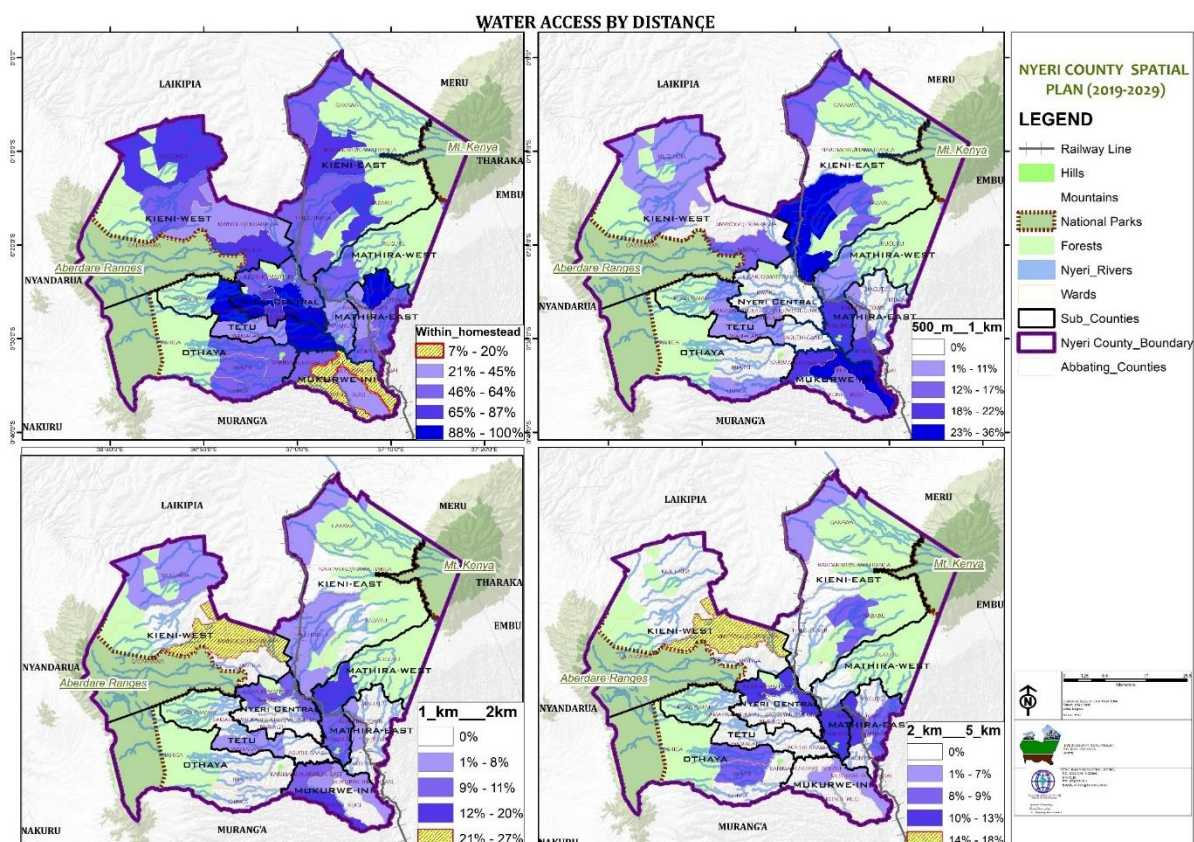


Source: Two Ems Associates, 2019

Water Supply

The major sources of water in Nyeri County are: Rivers, Rainwater and Ground water sources, i.e. springs, shallow wells, water pans and boreholes. With a population of 759,164 people as at 2019, Nyeri County needs approximately 27.709 million cubic meters of water per annum (according to WHO consumption rate standards of 100 litres per head) to satisfactorily meet the current demand. Therefore, the projected population in 2029 (852,774 people) shall require approximately 31.126 million cubic meters of water per annum.

Map 30: Water Access by Distance



Source: Two Ems Associates, 2019

There are five main water supply companies operating on behalf of Athi water services board and Nyeri County government as shown in the table below.

Table 6: Major Water Supply Schemes in Nyeri.

Water supply scheme	Total Water Demand (per annum M ³)	Total Water Supply (per annum in M ³)	Population served.
NYEWASCO	5,612,829	6,655,549	149,605
OMWASCO	7,868,670	10,329,500	179,172
TEAWASCO	1,078,210	2,378,705	77, 124

MAWASCO	1,528,985	4,304,445	148,847
NAROWASCO	530,345	656,270	5,805

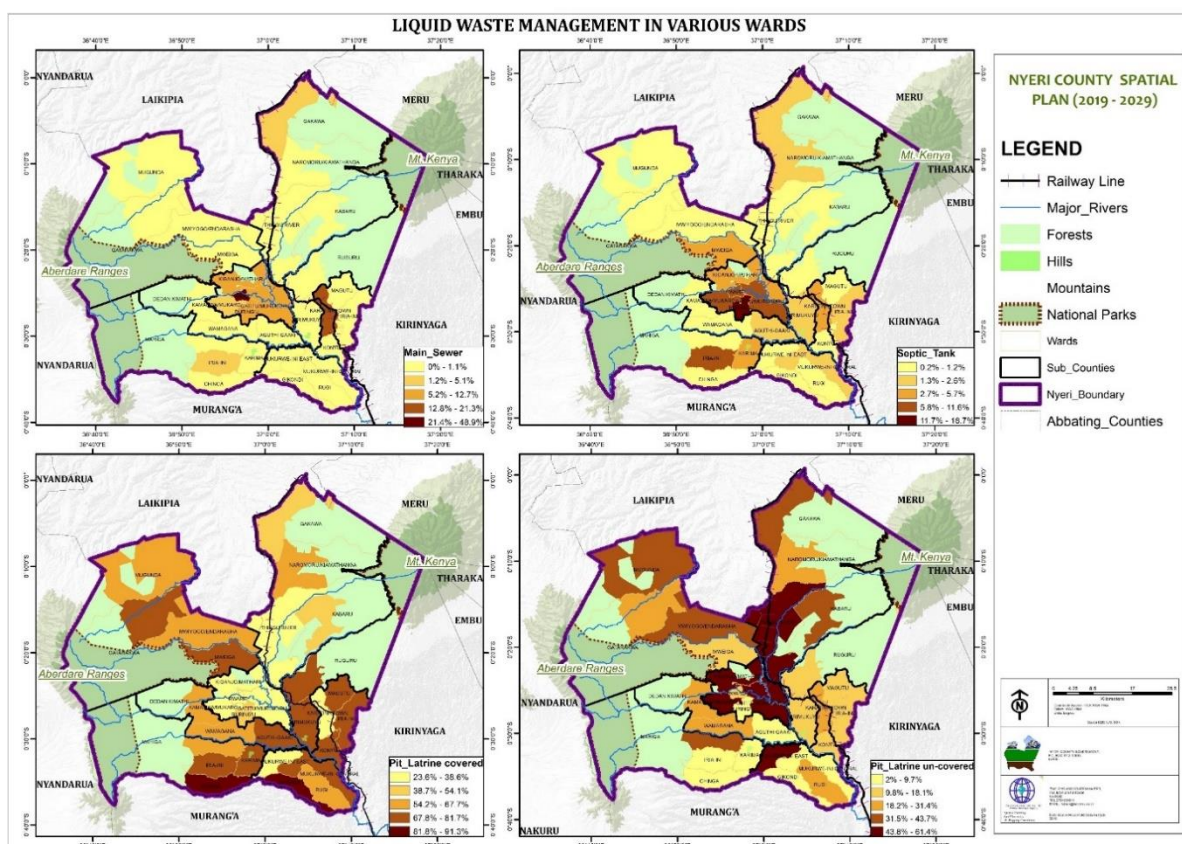
Source: Field survey, 2019

Wastewater Management and Sanitation

Human waste disposal is mainly through the use of pit latrines (85%), water closet (11%) and bush (4%). Nyeri county has 9% of residents connected to sewer, while 11% of households rely on septic tanks. The existing sewer lines only cover major urban centres such as Othaya, Nyeri and Karatina town.

Currently the County has no formally designated dumpsites. There are however several informal dumpsites such as; one at Asian Quarters in Nyeri town and another in the North Western side of Karatina town, gikeu dumpsite in Othaya town, Narumoro dumpsite in Narumoro town and Mweiga town dumpsite. The County Government is in the process of identifying suitable locations for designated waste handling plants.

Map 31: Liquid Waste Disposal



Source: Two Ems Associates, 2019

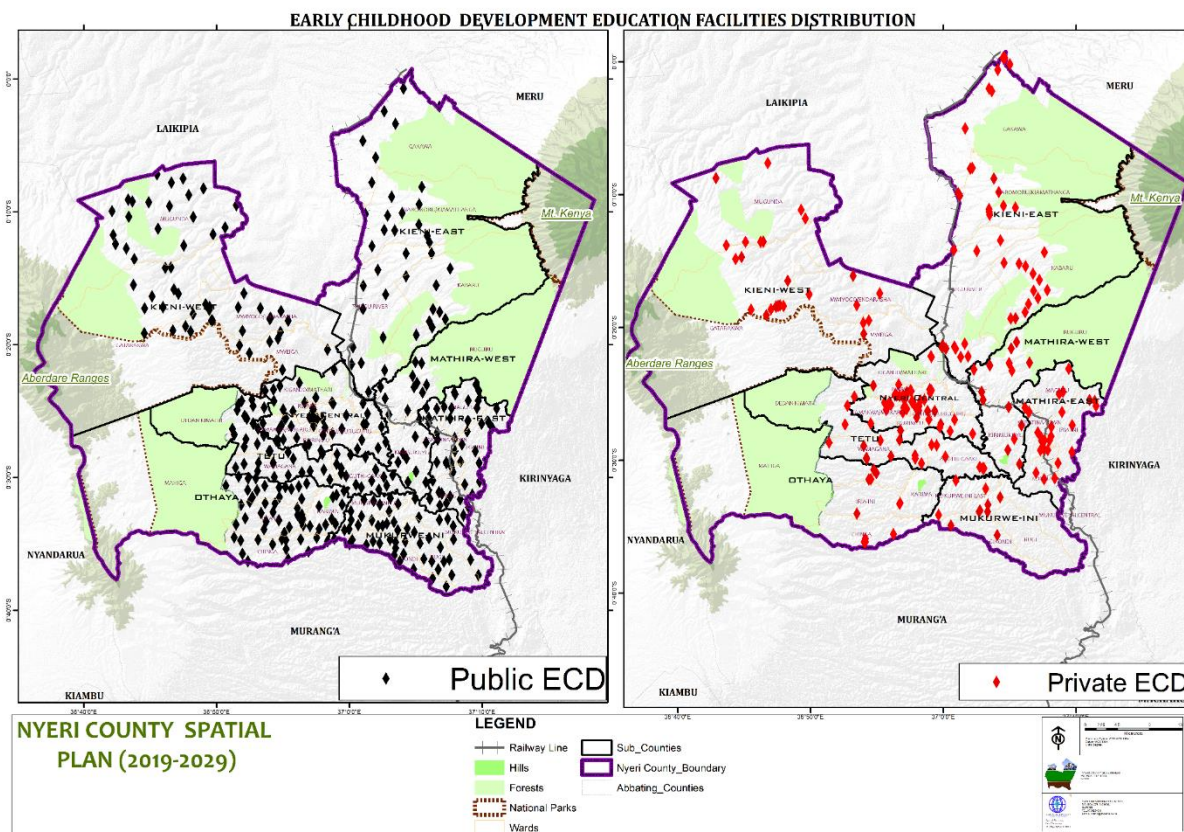
C) Social Infrastructure

Education Facilities

a) Pre-primary Facilities

There are 440 public Early Childhood Development Education (ECDE) centres in Nyeri County, serving approximately 20,000 pupils in 2019. There are a total of 800 ECDE teachers in the County, making the teacher/ pupil ratio to be 1:12. The rate of enrolment is approximately 59.2%, which shows that there is still a significant number of children who are not in school. The main challenges facing ECDE institutions include; insufficient school feeding program funds, inadequacy of learning materials and inadequate teaching personnel.

Map 32: Distribution of ECD Facilities

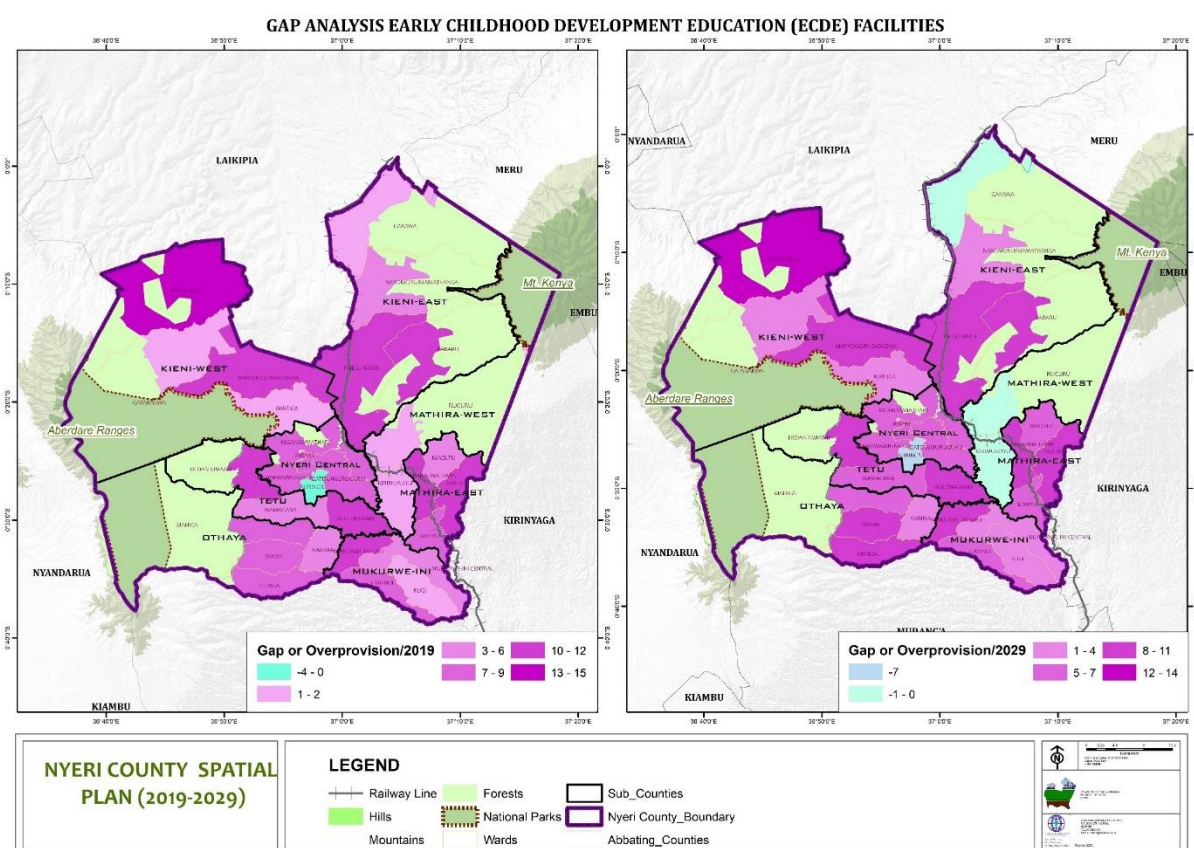


Source: Two Ems Associates, 2019

Gap analysis of ECDE facilities by population: There are adequate ECDEs in the county

Gap analysis of ECDE facilities by distance: Based on the Physical Planning Handbook standards, access to an ECDE should be within 300-500m in residential areas. Areas where the population has no access to an ECDE facility within a 500m radius include Gatarakwa, Mugunda, Mweiga, Kiganjo/Mathari, Kabaru, Karima, Rugi, Iria-ini, and Gakawa wards. Some areas like Gatitu center have access to private ECDs while the nearest public ECD (Kamuiru Primary ECD) is 3km away.

Map 33: Gap analysis ECD

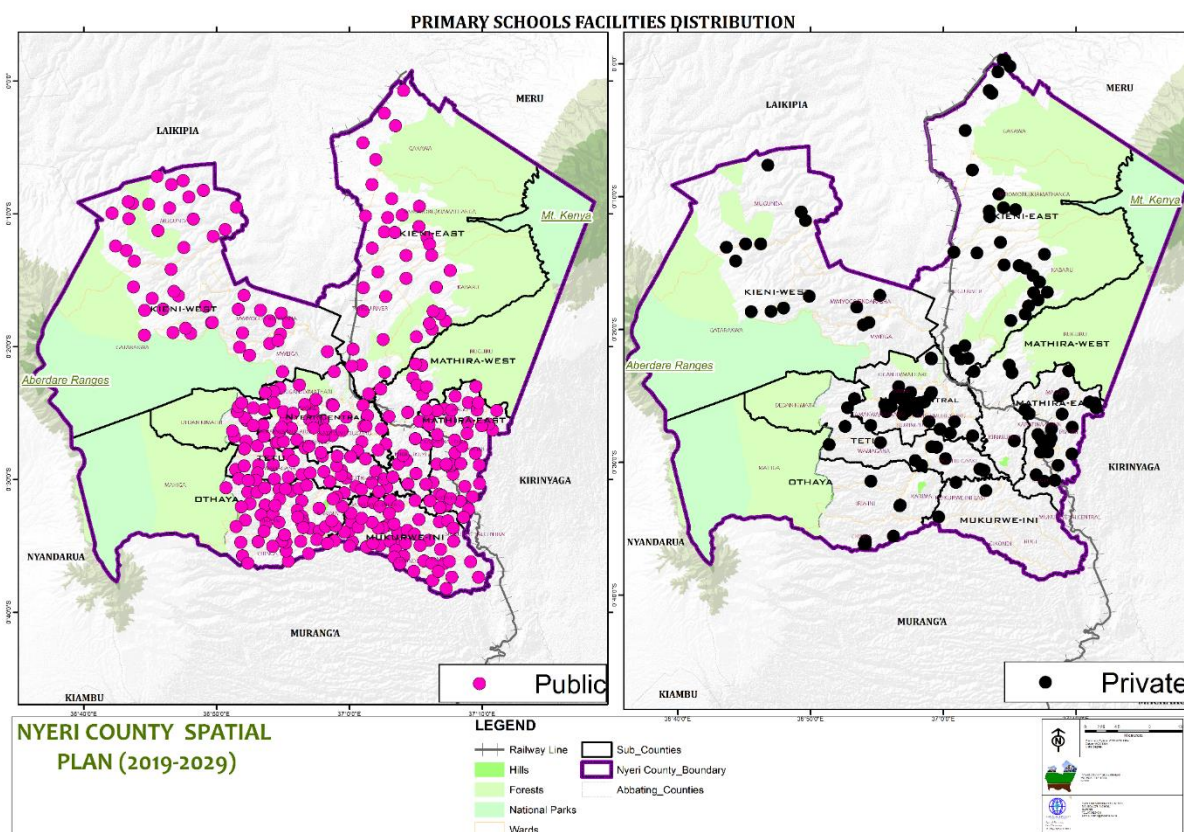


Source: Two Ems Associates, 2019

b) Primary schools

There are 352 public primary schools distributed across the County with a total enrolment of 141,243 comprising of 72,227 boys and 69,016 girls while private primary schools total to 118 mainly located in Kieni East and Nyeri Central sub-counties. The completion rate stands at 89.4% while retention and transition stand at 91% among boys and 85% among girls.

Map 34: Distribution of primary education facilities



Source: Two Ems Associates, 2019

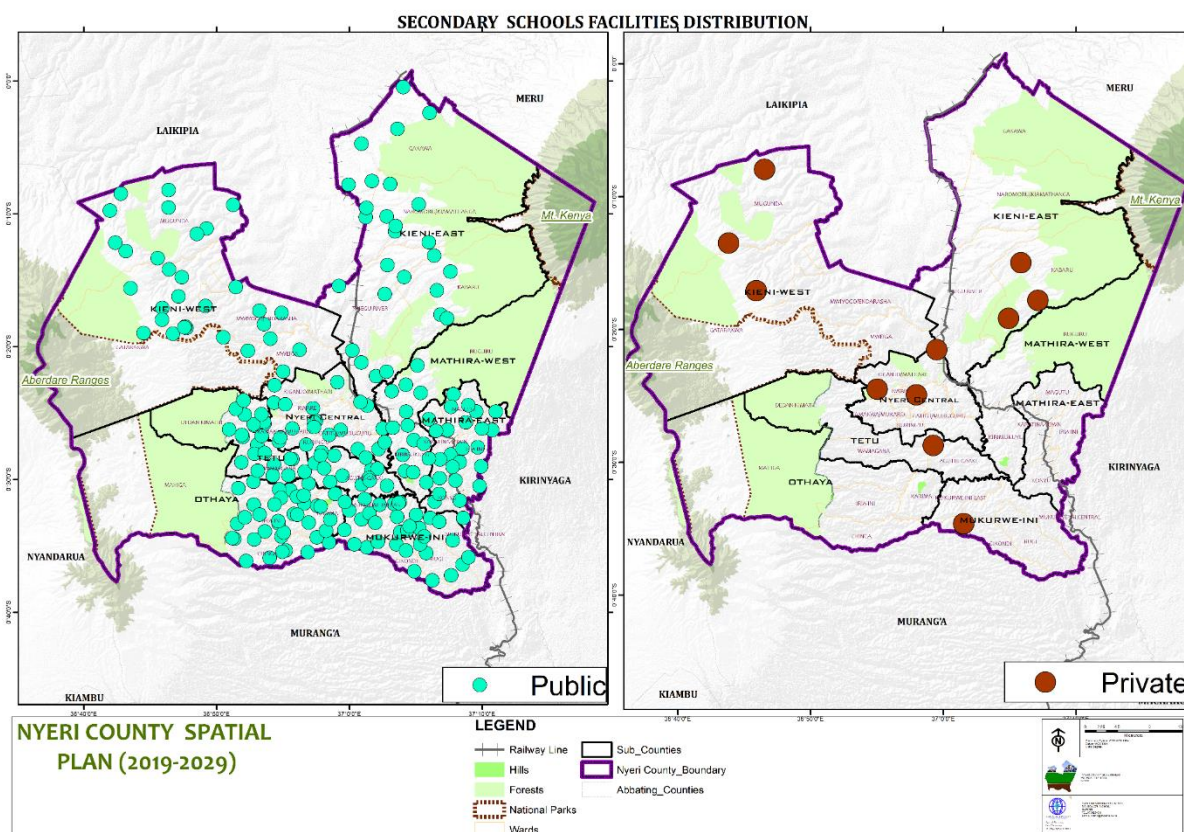
Gap analysis of Primary facilities by population: There are adequate primary schools in the County.

Gap analysis of ECDE facilities by distance: Gatitu Muruguru ward, Gatitu center requires development of a primary school. The area lacks a public primary school facility, the nearest one iamuiru primary school is located 3km away.

c) Secondary schools

There are 225 public and 11 private secondary schools with a total enrolment of 38,731 students of whom 19,469 are boys and 18,962 girls. The teacher/ student ratio is 1: 27 for public secondary schools. The transition rates from primary school to secondary school is 83.5% among boys and 77.7% among girls.

Map 35: Distribution of secondary facilities



Source: Two EMS Associates, 2019.

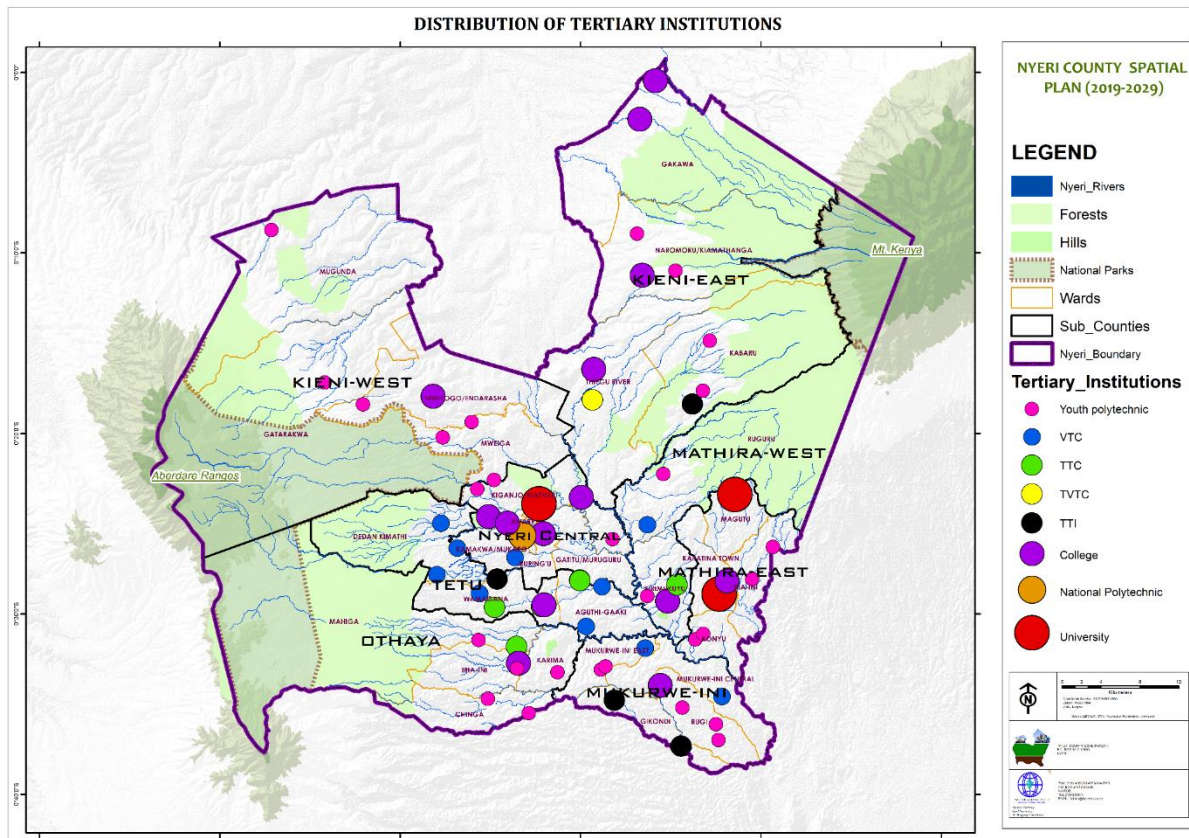
Gap analysis of secondary school facilities by population: There are adequate primary school in the County. Except for ringungu ward that has a shortfall of one secondary school required to adequately serve the population.

Gap analysis of ECDE facilities by distance: Based on the Physical Planning Handbook standards, access to an ECDE should be within 1-2km of reach by all residents. On average, 74% of County residents are within 2km reach of a secondary school. However, 26% of the residents especially in Kieni East and West must make daily trips of about 3kms to school especially those in day secondary schools.

d) Tertiary schools

There are 68 tertiary institutions in Nyeri County. Vast wards such as Mugunda, Endarasha Mwiyo, Mweiga and Gatarakwa lack TTCs or TTIs (which offer diplomas). Moreover, the four wards share four polytechnics which are under-equipped to facilitate the quality of the skills offered.

Map 36: Spatial distribution of tertiary institutions



Source: Two EMS Associates, 2019.

(e) Special Schools

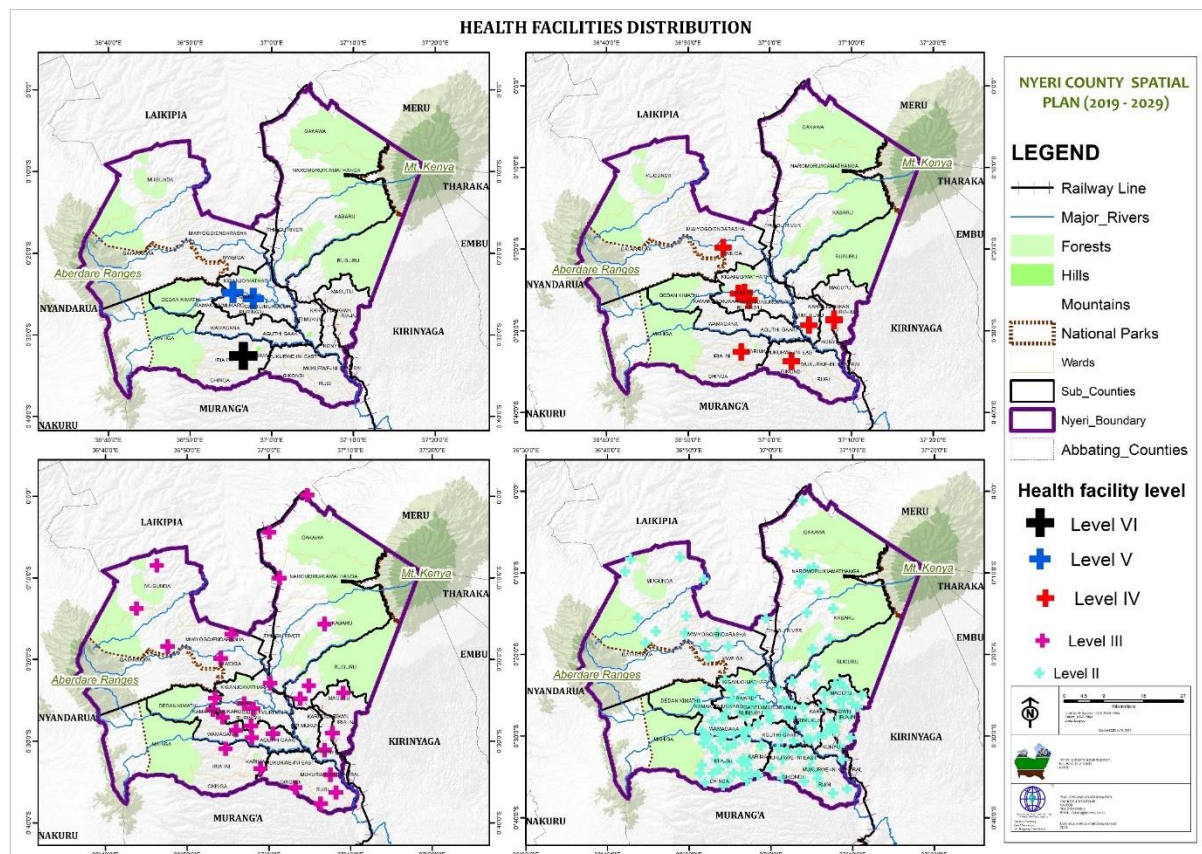
There are 21 special needs schools, which include: schools for the deaf, the blind, all inclusive, those for the physically impaired, visually and hearing impaired and the mentally handicapped/challenged.

Health infrastructure

Health services in the County are organized across 6 levels of service delivery that include: 1 National Referral, 1 County Referral Hospital, 10 Sub-County Hospitals, 26 Health Centres, 88 dispensaries and 251 Community Health Units. The County has a fair distribution of health facilities where the population can access a health facility within a radius of 7Km except in Kieni Sub Counties.

The average distance travelled to access the nearest health facility is 2-3km, which is well below the recommended distance given by the WHO standards of 5km. It indicates a good distribution of public health facilities in the County.

Map 37: Spatial distribution of health facilities



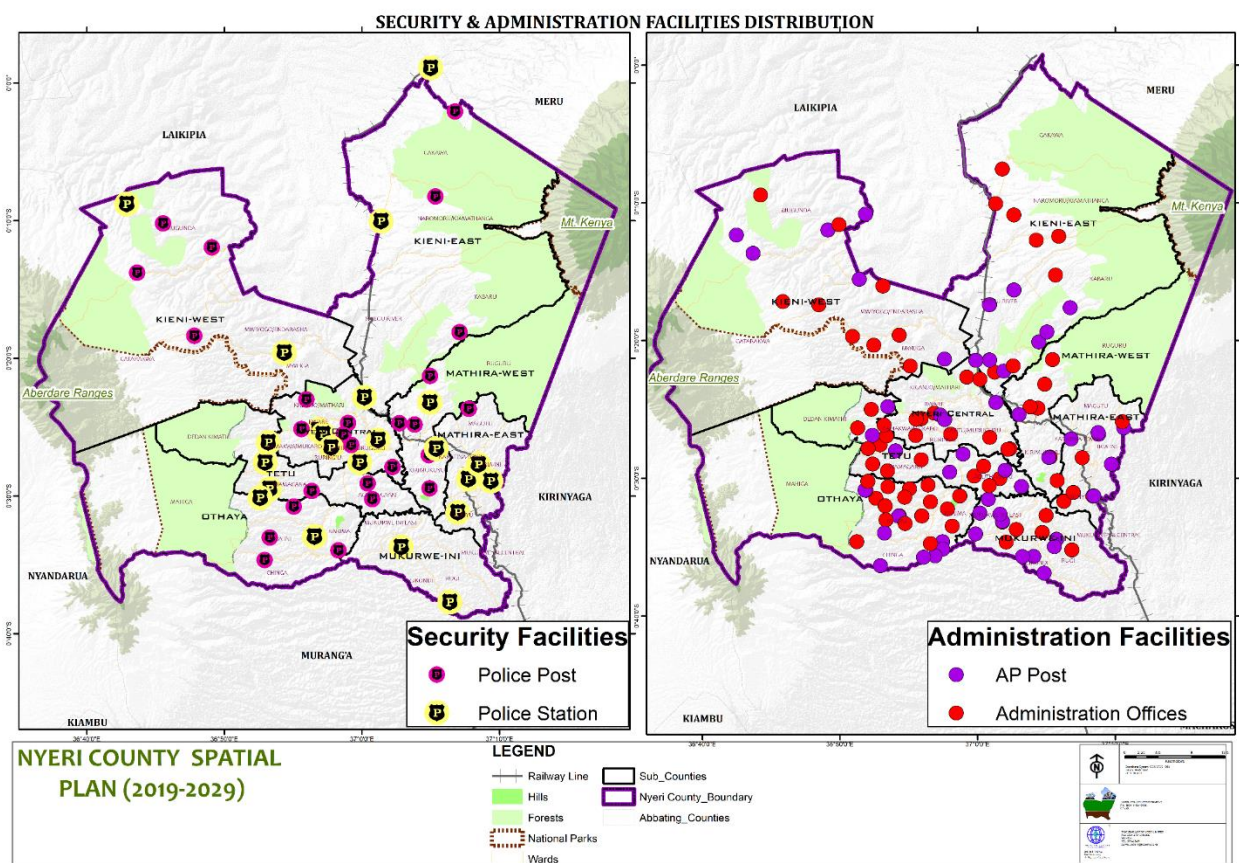
Health Care Gap Analysis (Population)

Nyeri County needs one referral especially in Kieni West to adequately serve the projected population. Tetu, Kieni East, Mukurweini sub-counties need one Level 4 hospital for adequate access to health services. Health centres are needed in Mathira East, Mathira West and Othaya sub-counties. There is a shortage of dispensaries in Mathira

Law Enforcement and Justice Facilities

There are 190 law and order related facilities across the County. These include police station (24), police posts (26), administrative police posts (54), administration offices (85), and prisons (1). The UN recommends 1:450 police: population ratio, with a projected population of slightly below a million in 2029, the County would require 2,223 officers to facilitate law and order.

Map 38: Spatial distribution of administration and security facilities

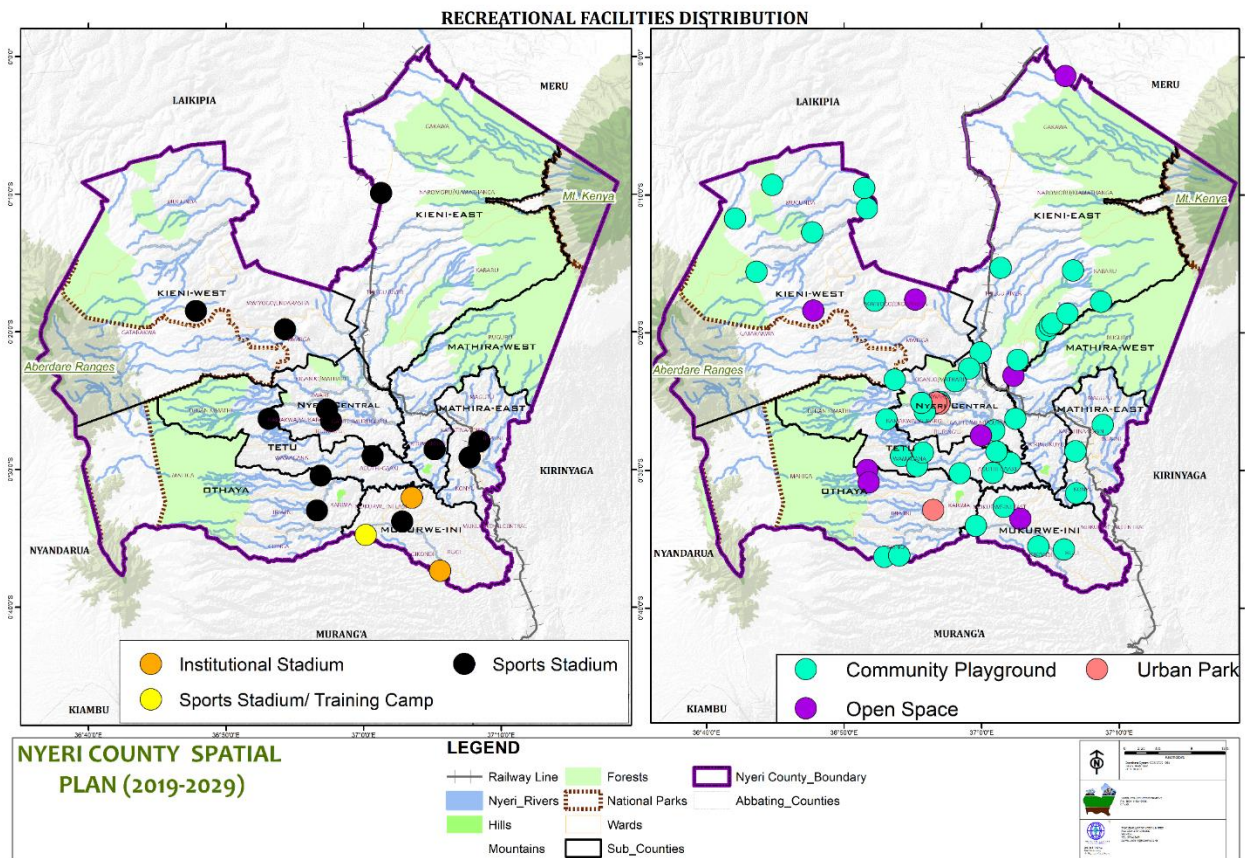


Source: Two EMS Associates, 2019.

Recreational and Community Facilities

Nyeri County has a total of 62.426Ha of land under recreational land use. Recreational land use in the County ranges from stadiums (institutional/public stadia's), Open spaces, community playgrounds and urban parks.

Map 39: Spatial distribution of recreational facilities



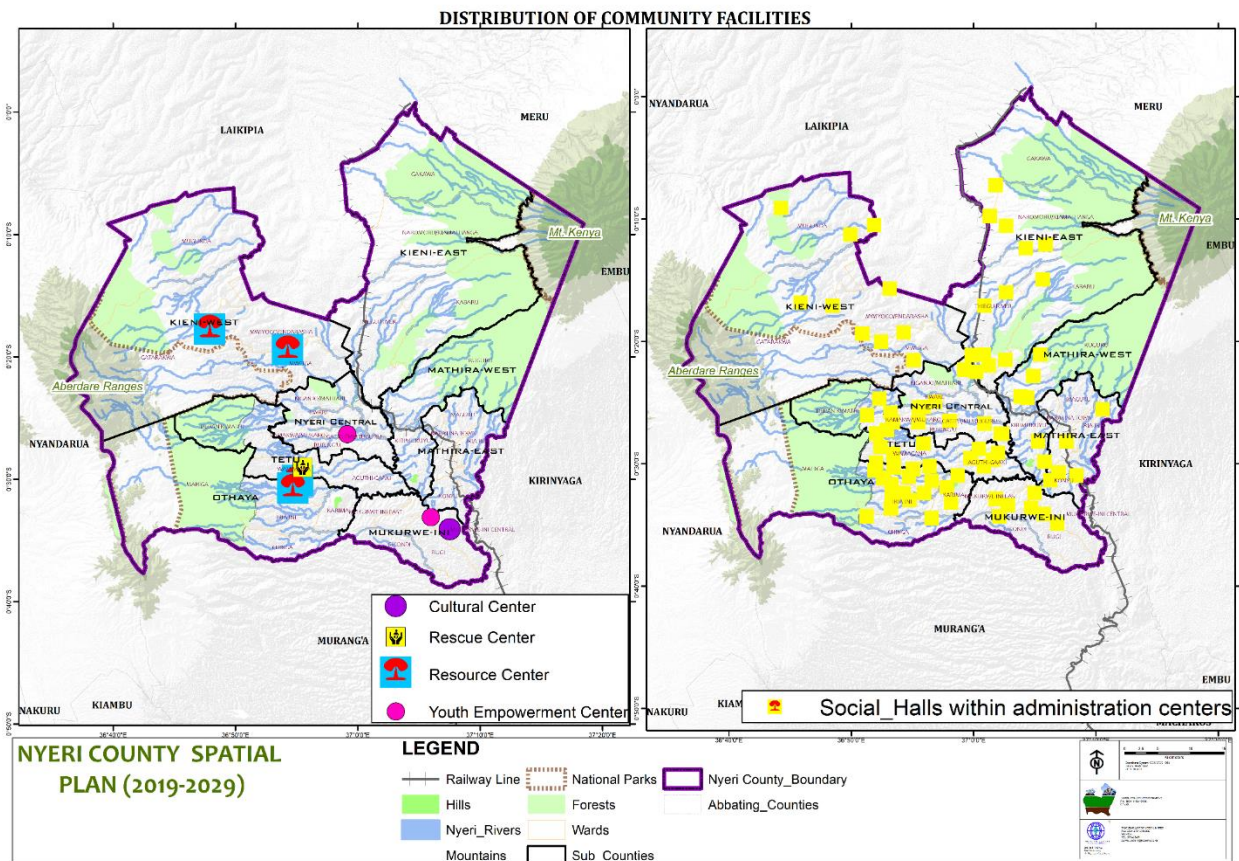
Source: Two EMS Associates, 2019.

Community facilities

There are two museums in Nyeri County; Nyeri Museum and Baden Powell Museum. There are four public libraries run by the Kenya National Library Service, located in Nyeri, Munyu, Chinga, and Karatina and one managed by Gitugi tea factory in Gitugi. According to Urban Areas and Cities Act, a town of at least 10,000 people should be served by at least one library. This shows inadequacy in urban centres such as Narumoro, Mukurweini, Endarasha and Mweiga.

Nyeri County has several public cemeteris, including three main ones in Nyeri town. This includes Nyeri Baden Powell Public Cemetery, Ruguru Community Cemetery, and Muslim Cemetery in Rware, the Hindu/Sikh Crematorium. The County also has an additional four private cemeteries that include the Mathari Missionaries Cemetery belonging to the Catholic Church, the Italian War Cemetery, the British War Cemetery as well as a private cemetery in Amboni, Mweiga town.

Map 40: Spatial distribution of community facilities



Source: Two EMS Associates, 2019.

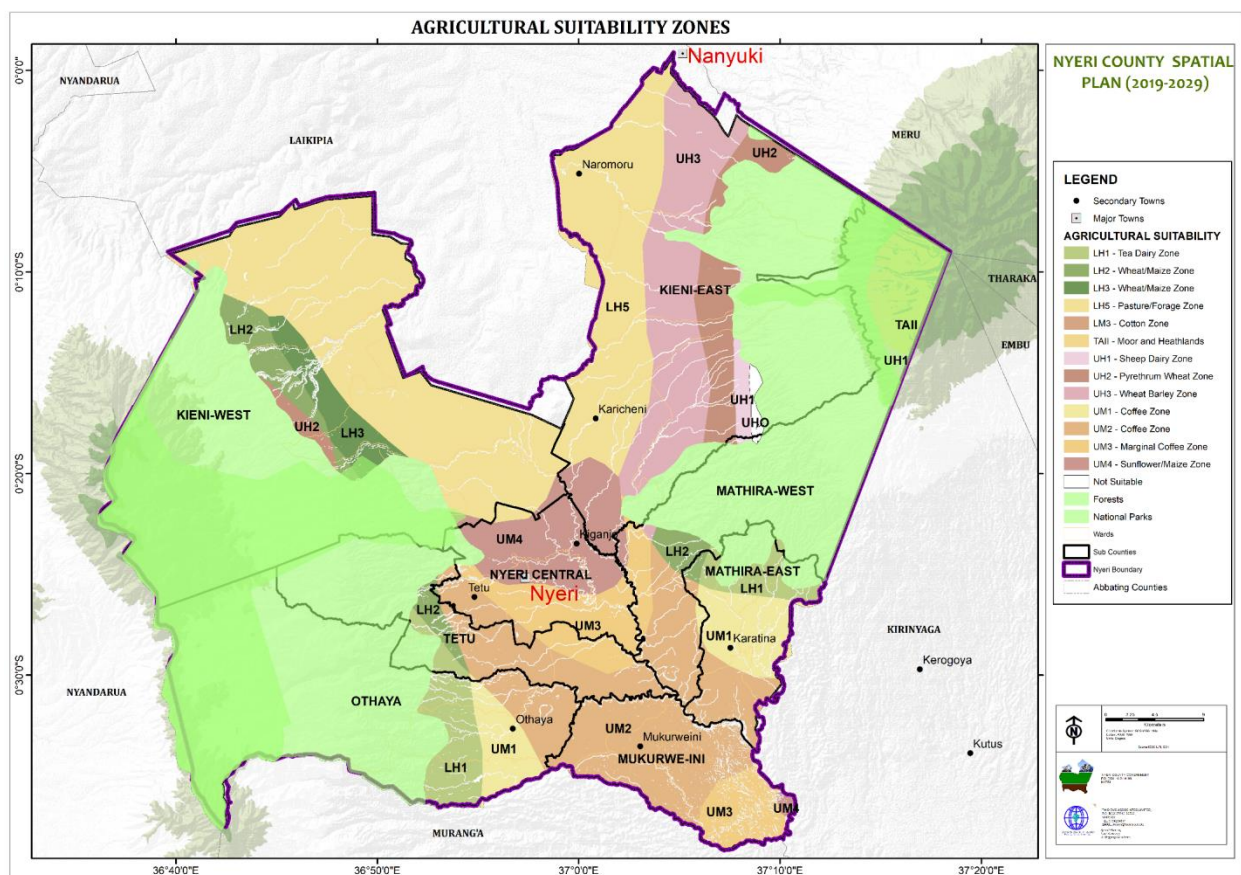
The County is served by two fire stations located in Karatina and Nyeri towns. According to urban areas and cities act standards a fire station should serve a maximum of 50,000 people; this means that the County is highly underserved by the facilities.

2.1.7 ECONOMIC PROFILE

1. Agriculture

Agriculture currently employs 33% of Nyeri County population¹. With an agricultural potential of 758.5km² of arable land, agribusiness is one of the main economic activities within the County. Other economic activities include; livestock rearing, tourism, trade and industry which are carried out by both large-scale industries and SMEs across the County.

Map 41: Agricultural Suitable Zones

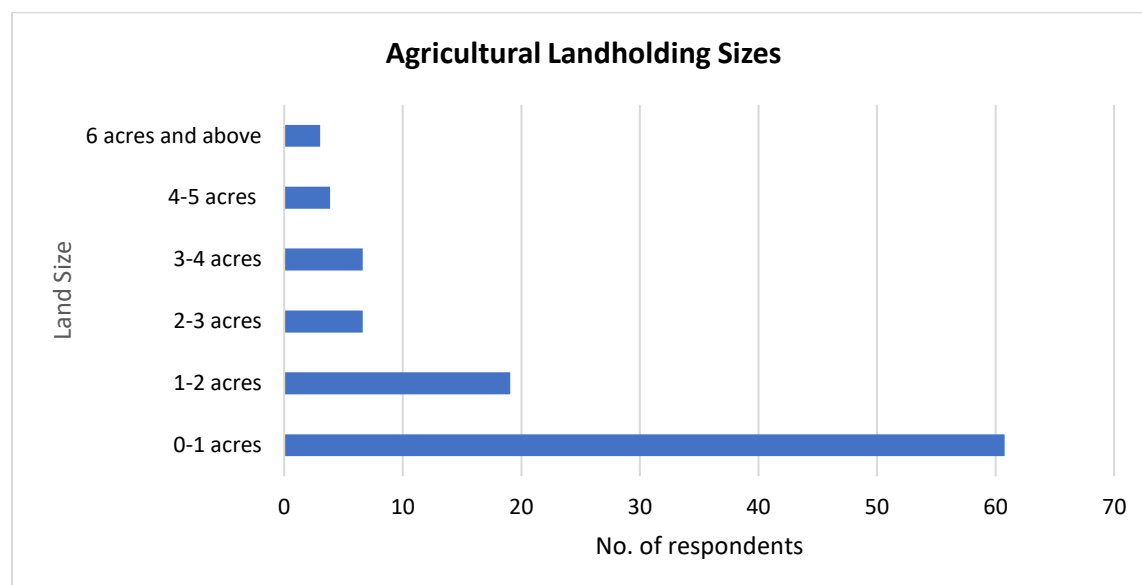


Source: Two EMS Associates, 2019.

The County predominantly consists of small holder farms. Medium and large-scale institutional farms are mainly in form of the ranches and conservancies in the northern parts of the County in Kieni East and Kieni West Sub-Counties.

¹ Field Survey, 2019.

Figure 2: Land Sizes



Source: Field Survey, 2019

Crop agriculture

The main cash crops are coffee, tea and macadamia. Food crops grown are usually 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 in the markets, to institutions or exported to neighbouring counties like Laikipia. Due to the low productivity of the agricultural sector, value addition has been relegated to small scale production of raw materials.

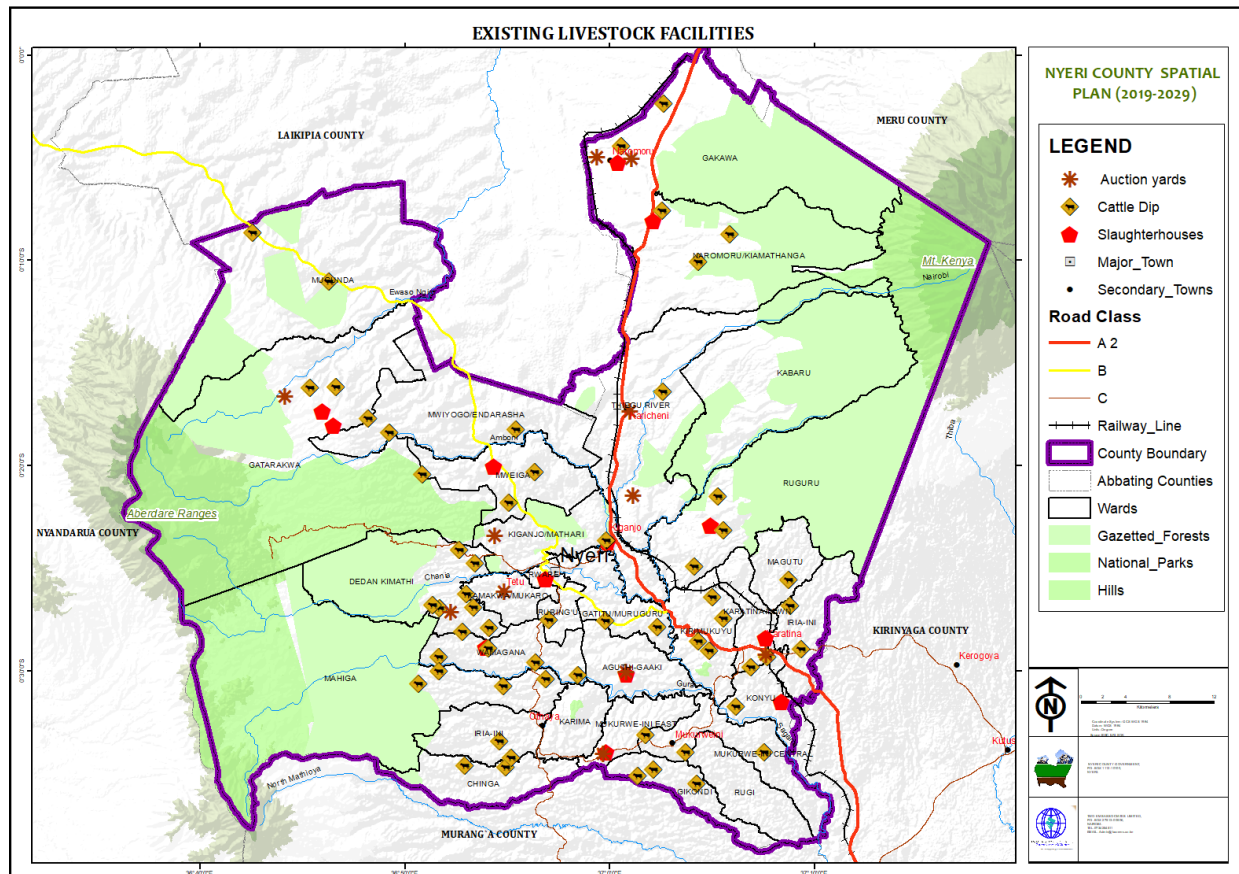
Tea and coffee are mainly grown in the highlands while maize and beans are grown in the lowlands. There is need to put incentives in agriculture like subsidized farm inputs to encourage more people into farming to reduces incidences of food shortage.

The total area under irrigation in the County is estimated at 2600 Ha and the total no. of households practicing irrigation is 10,400. The irrigation potential in the County is 20,620 Ha from 87 irrigation schemes which will benefit 80,600 households.

The untapped crop potential includes flowers, macadamia, avocado, fruits and vegetables such as strawberries, leeks and apples. The County government is promoting value chains in fruits, coffee, milk, horticulture, and macadamia nuts.

The land carrying capacity (Livestock per hectare) is five. Bee keeping and other small stock such as rabbits; guinea pigs and quails are also on the increase. There are cases of dog breeding and sale which is a potential for livestock diversification in the County.

Map 42: Existing Livestock Facilities



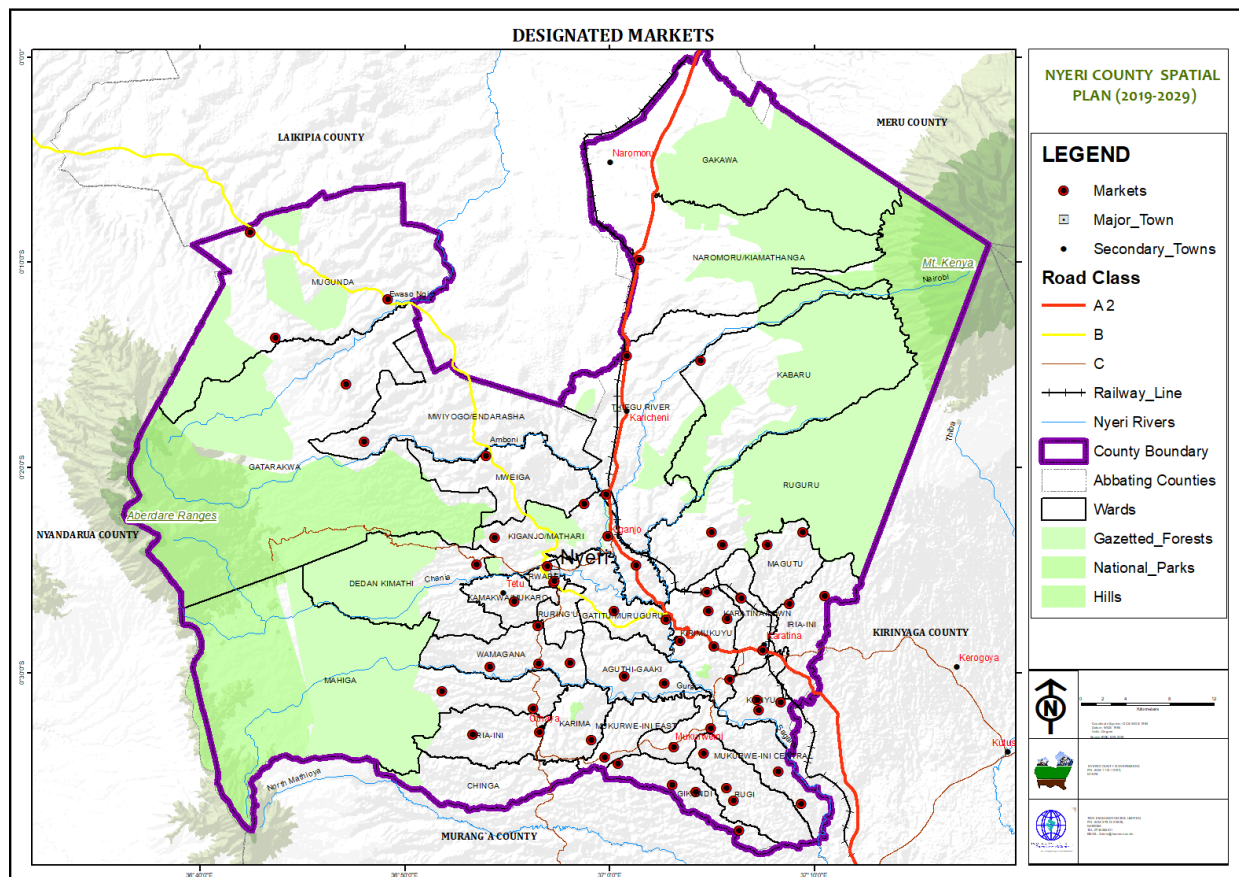
Source: Two Ems Associates, 2019

The County government is promoting value chains in fish, honey, dairy, red and white meat, hides and skins. Existing and potential value addition opportunities include: Dairy processing plants for goat milk, Beekeeping (Honey), Tannery – There are skin bandas across the County but there is no value addition done to the skin and hides from different animals and Livestock Auctions- There are only 3 livestock auction markets across the County. There is need to promote auction yards for the sale of livestock and especially in Kieni East and Kieni West where livestock rearing is predominant.

2. Trade

Agriculturally based Micro, small and medium enterprises (MSMEs) which are private sector driven contributes significantly to the trade in the County. Nyeri has various markets ranging from open air-markets, closed markets, roadside markets and periodic markets. Karatina Market, the biggest market in East and Central Africa is located in Nyeri County. The County has plans to develop more markets under the Economic Stimulus Programme.

Map 43: Markets in Nyeri County

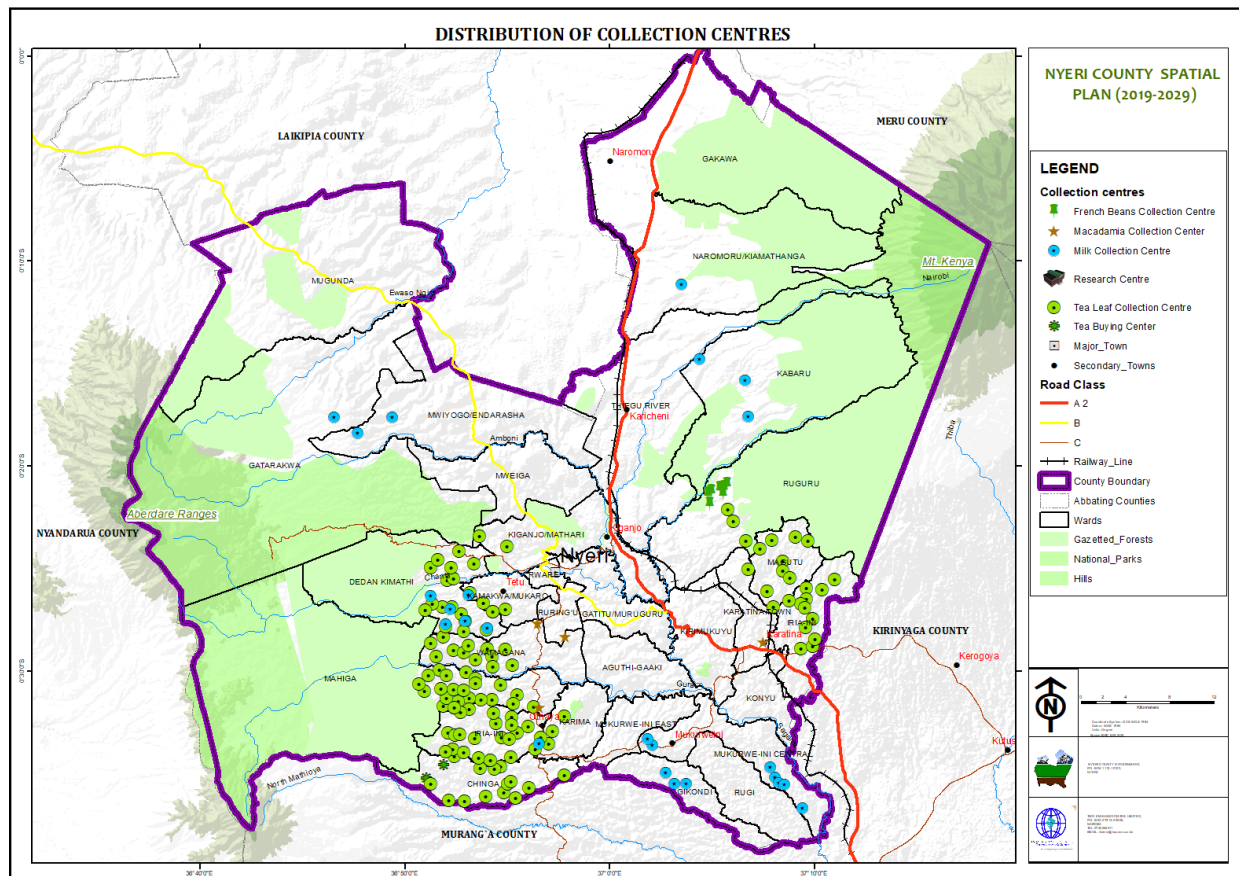


Source: Two Ems Associates, 2019

3. Industry

The major industries in the County are flour milling, soft drink processing, tea and coffee processing and milk processing. The County potential for industrialization is yet to be fully exploited, which would enhance product maximization. The value chains for tea, macadamia and coffee are not fully exploited in the County.

Map 45: Collection Centres in Nyeri County



Source: Two Ems Associates, 2019

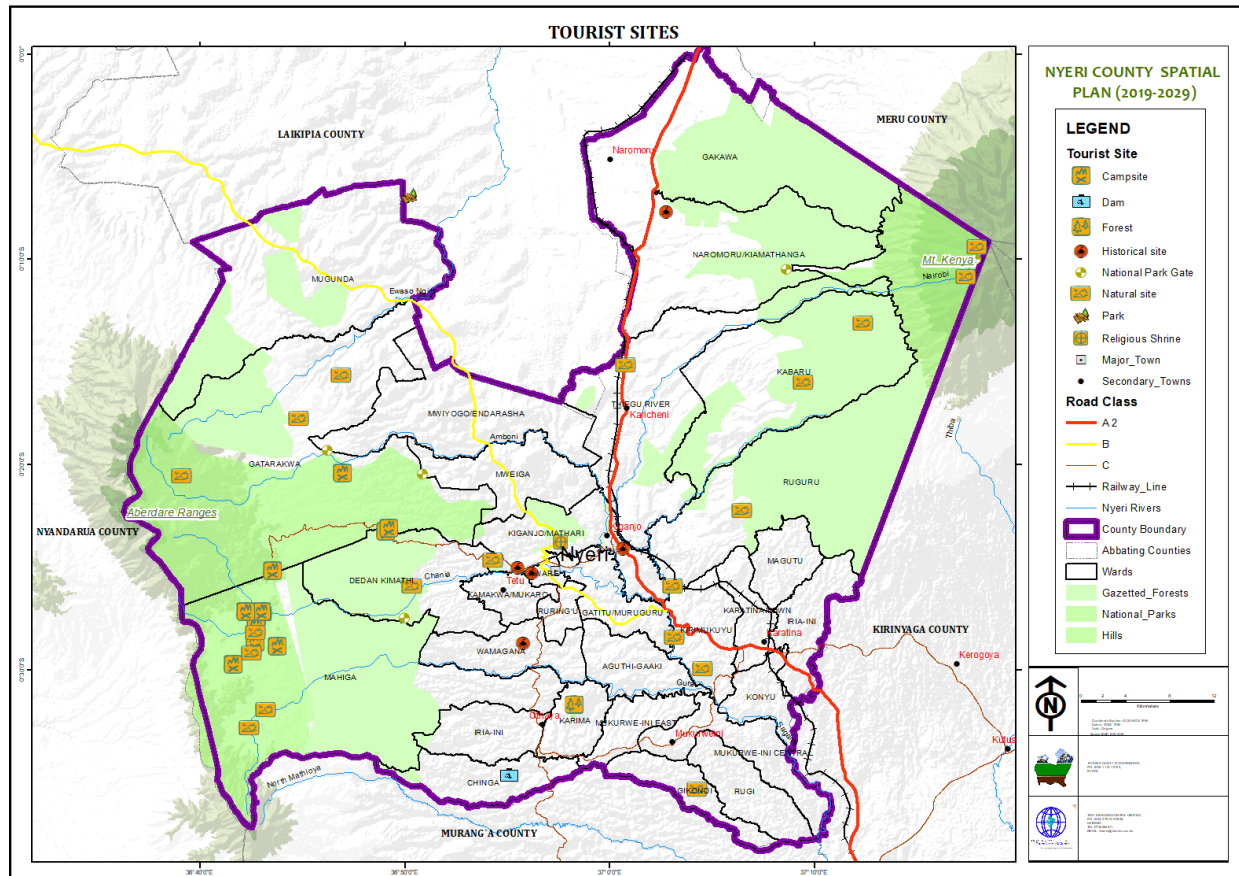
The County has one Industrial park at Karatina and 6 constituencies' industrial development centres at Gakindu, Kiawaithanji, Kariko, Othaya, Endarasha and Karatina KIE site. There are plans to develop Karatina light industries and 2 juakali sites in Mihuti and Mweiga. Nyeri County has two areas under the Kenya Industrial Estates: one in Nyeri Town near the Majengo slum and the other in Naromoru. Most jua-kali activities occur on the roadside in the major urban areas like Othaya, Narumoru, Nyeri and Karatina. Additionally, there are numerous boda-boda sheds across the County.

4. Tourism

Nyeri County is part of the larger Central Kenya Tourism circuit. Most attractions in this circuit offer adrenaline-pumping adventures such as hikes, kayaking and mountain climbing. The Central Kenya Tourism circuit includes Mount Kenya National Park, Aberdare National Park, Meru National Park, Mwea National Reserve, Ol Donyo Sabuk National Park, dedan Kimathi Wildlife

Conservancy, Ngare Ndare Forest, Thomson Falls, Fourteen Falls, Tea Farms in Limuru, and Savage Wilderness Safari for white water rafting. The map below shows the main attractions:

Map 46: Tourist attraction sites



Source: Two Ems Associates, 2019

The untapped tourism attraction potential in the County include; Zania falls, Sporting activities at Chinga dam, Hiking at Nyeri and Tumutumu Hills, Dedan Kimathi Kahiga-ini site, Caves like the Kariba caves and the Maumau caves in Narumoru and slum tourism at the Majengo slums.



PART III: SYNTHESIS

CHAPTER THREE: SUMMARY OF EMERGING 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.

3.1 Challenges

Thematic area	Challenges
Natural resources	Topography -The steep and harsh terrain especially in areas with slopes of above 15 degrees pose a challenge in infrastructural development. The cost of infrastructural development is very high in Mt. Kenya slopes, Aberdare ranges, Mukurweini
	Climatic - Climate change, deforestation and conventional farming systems has promoted massive erosion and decreased water levels in major rivers. The rainfall patterns have changed with the average rainfall received decreasing and increased temperatures experienced across the County.
	Hydrology -Deforestation taking place on the major catchment areas has led to reduced water volumes for major rivers such as R. Sagana, Nairobi. Ewaso Ngiro, Amboni, This has also led to drying up of rivers hence increased demand for water across the County.
	Vegetation -The vegetation cover within the County is decreasing at an alarming rate, especially in Mt Kenya forest reserve and Aberdare ranges, being the major forests. Other forested areas are undergoing increased encroachment, with more land being used for cultivation in Nyeri Forest, Karima Forest, Nyana Forest, South Laikipia forest.
	Wildlife - There is increased human wildlife conflicts due to increased encroachment by human activities into the wildlife ecosystems in Mt. Kenya Forest Reserve, Aberdare Ranges, South Laikipia Forest.
	Energy -Increased use of firewood as source of fuel for domestic and industrial use has led to deforestation across the County.
Population and demography	Rapid population growth and high dependency ratios in the town have over the time put pressure on existing infrastructure
	High unemployment rate - There are limited employment opportunities across the County resulting to incidences of high insecurity
	Pressure on existing resources -The increase in population requires more development funds to build additional social and physical infrastructure
Land	Land degradation - Land degradation is greatly attributed to poor land management practises such as unconventional farming practises and unsustainable quarrying activities. This has led to landslides and soil erosion hence reduced productivity.

	Transboundary issues- There is conflict between Nyeri County and Nanyuki County concerning Nanyuki town
	Incidences of landlessness- The colonial villages created during the colonial administration do not have title deeds leading to informality.
	Encroachment of all public land reserves- The communities have encroached and grabbed public land and the situation has been met with refusal of the communities to give up public land. This has hindered provision of infrastructural and recreational facilities in the County.
	Rapid land fragmentation- Due to the increased population growth, land subdivision is taking place at a very high rate leading to uneconomical land units
	Unsurveyed lands- There are several unsurveyed plots leading to land conflicts especially in rural areas e.g. in Kirimukuyu, Ruguru
	Land conflicts- There are land ownership conflicts in some parts of the County. This is attributed to the lack of title deeds due to the lengthy acquisition of title deed process and presence of unsurveyed land.
Economy	Crop Production – Acidic soils of Iria-ini reduce fertility of the soil and translate to low crop yield. • Areas with landslides (Konyu, Mukurwe-ini Central and Rugi) and soil erosion (Kabarau, Mukurwe-ini East, Gatarakwa, Kirimukuyu, Ruguru, Iria-ini, Karima, Mahiga and Kiganjo) also affects crop yield. • The low level of value addition initiatives for crops across the County leads to loss of produce when in surplus. • Marketing of crop produce in the County is a challenge which results in farmers not getting value for their crops.
	Livestock Production – The main challenge in livestock production is the lack of proper marketing channels and value addition initiatives for milk which is the main product of livestock production in the County. There County is also slow to embrace fish and bee keeping as alternative livestock production avenues.
	Trade and Commerce – High taxation rates and license fees in the County hinder the presence of a healthy business environment.
	Industrialization – The poor state of infrastructure in the County discourages industrialization.
	Tourism – The tourist attractions sites in the County are undocumented making it difficult to exploit especially caves. There is also lack of sensitization on conservation of tourist resources across the County.
Infrastructure	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.
	Unreliability of water sources such as rivers for household consumption needs.
	Steep Terrain is also a challenge in some areas such as Mukurweini subCounty that experiences landslides,

	Inadequate teaching personnel and learning materials in all public education facilities especially in polytechnics, ECDE, primary and secondary facilities.
	Inadequate health personnel such as Nurses, clinical officers, general physicians, and specialized medical doctors.
	Inadequacy of security facilities in Kieni west.
	Siltation of dams such as Chinga dam, leading to reduced holding capacity of the dam.
Human Settlements	Poorly planned urban settlements- Urban sprawl has led to the encroachment of fragile ecosystem. The urban centres lack physical and land use development plans as well zonation plans. The population growth in urban centres does not match the service provided.
	Poorly regulated rural settlements- The agricultural activities in the rural areas have led to the encroachment of forests reserves and fragile ecosystems. There is excessive subdivision of land in areas with high agricultural potential. There Insecurity in some areas of the County especially in Gikondi ward. The poor access to social infrastructure and amenities. There human-wildlife conflicts in centres adjacent the Mount Kenya and Aberdare gazetted forests. The rugged terrain in making areas difficult to access.
	Inadequate quality housing- There is lack of titles and other identifying documents in some areas. Housing shortages are experienced in urban areas. Poor access to social amenities.

3.2 Opportunities

Thematic area	Opportunities
Natural resources	Topography -The topography offers opportunity for tourism and potential for tapping into scenic features in Mt. Kenya slopes, Aberdare ranges, Mukurweini.
	Climatic - 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.
	Hydrology -Some of the major rivers can be tapped into creating multipurpose dams such as R. Sagana, Nairobi. Ewaso Ng'iro, Amboni. They also determine storm water drainage across the County.
	Vegetation -The varied flora provides great opportunity for wildlife ecosystem Mt. Kenya Forest reserve, Aberdare Ranges, Nyeri Forest, Karima Forest, Nyana Forest, South Laikipia forest The forested areas are the main catchment areas for major rivers
	Wildlife - Presence of various animal species that are tourist attractions Mt. Kenya Forest Reserve, Aberdare Ranges, South Laikipia Forest.
	Energy -Tapping into solar energy as alternative energy source Kieni West and Kieni East. The County has potential in tapping biogas fuel to reduce the demand for energy for domestic and industrial use
Population and demography	A youthful population provides an opportunity for innovation and technology and ensures that there is an available workforce
	In-migration into the town takes place at both the national and international levels. This is an opportunity that can boost the growth of the local economy and spur regional development.
	The population has high literacy levels
	A rich cultural environment provides an opportunity for different cultures to mingle and exchange ideas.
Land	Preparation of zoning regulations - The development of land use regulations will provide opportunity to curb land fragmentation and ensure sustainable and optimal utilization of land
	Land Banking - This will provide an opportunity for the County government to have an inventory of public land and effectively plan for provision of services
	Sustainable land use practices - The community should be sensitized on better agricultural practices to avoid land degradation

Economy	Crop Production- There are opportunities to promote agro-industrial development as there is available produce as raw material for the industries in the County. Irrigation schemes are an opportunity for the County to increase crop yields and open up the drier areas of Kieni Sub-counties to agriculture.
	Livestock Production- Nyeri County can promote value addition in livestock production to involve processing hides and skins.
	Trade and Commerce- There are opportunities in getting traders funds to improve their businesses as well as promote access to credit. There is also need to improve markets to promote trade and commerce in the County.
	Industrialization- There is an opportunity to revive industries that have collapsed like the wheat and onion industries of Kieni West and the cabbage industry in Karatina. Additionally, there is need to allocate land for cottage industries to diversify the industrial development of the County
	Tourism- It is important to zone off Tourist sites in the County to enable conservation efforts. There is also an opportunity to market the tourist attractions through an inter-County partnership in marketing between Meru, Murang'a, Laikipia and Kirinyaga counties.
Infrastructure	Promotion of inter-County modal linkages
	Opening up/upgrading of strategic rural roads that will spur development and promote security
	Public Private Partnerships in road development
	Availability of resource centres that can be developed further into Innovation and employment centres through provision of enabling infrastructure such as conferencing facilities and linkage to 4G+/5G Fibre-Optic Cables.
	Availability of more than 4.5kV/hr/day/M ² of sunshine in parts of Kieni. This presents an opportunity for solar energy harnessing farms.
	Availability of waterfalls and major rivers, that can be tapped for mini-hydro-electric turbines. Energy produced in these plants will be utilised by tea processing factories.
	The County population has about 90% adequate access to health facilities. An opportunity for the County to concentrate on improving the facilities conditions which is an added advantage.

	Availability of community playgrounds, open spaces, and stadiums spread across the County wards, this means provision of recreational facilities would not necessitate land acquisition. Therefore, the availed fund would be used to develop the facilities instead.
	Availability of privately managed/owned special education facilities for the people living with various forms of disabilities. This provides an opportunity for the County government to explore Public-private partnership in facilitating the less fortunate in the society.
Human Settlements	Urban settlement- There is potential Growth Centre that are likely to spur development within the County. The reclassification of Nyeri urban centres is required since most have outgrown their current designation. There is availability of land as well as space for provision of social amenities. The urban centres are linked to transit corridors.
	Rural settlement- The presence of water sources such as rivers presents an opportunity for Irrigation to boost the food security. There is availability of land for provision of social amenities.
	Housing- Construction skills are taught in local institutions within the County. There is availability of construction materials in the County such as sand, building stones, water and grass for thatched houses. There is presence of a National housing policy that gives guidelines for provision of social housing. There is an opportunity for increased investment and funding in the housing sector due to the increased demand.



PART IV: PLAN FORMULATION

4.1: SCENARIO BUILDING

This chapter highlights the possible future development alternative given the background of the challenges and opportunities identified.

Integrated Spatial Development Corridor Scenario.

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. Assigning of specific functions to the towns along the corridor.
2. Preparation of Physical and Land Use Development Plans for the towns along the corridor. i.e. Karatina, Marwa, Kiganjo, Chaka, Naromoru, Nanyuki, to take advantage of the of road and rail network in the proposed Northern Corridor.
3. Development and upgrading of the tourism circuits linking the main transportation corridor with tourist attraction sites in the County. E.g. in the Aberdares and Mt. Kenya.
4. Reviving the old railway system facilitate transportation of people and goods along the corridor.
5. Upgrading of all the roads linking up agricultural potential areas to facilitate easy movement of agricultural produce.
6. Upgrading of all the airstrips in the County to facilitate travel of both local and international tourists.





THE NORTHERN CORRIDOR.

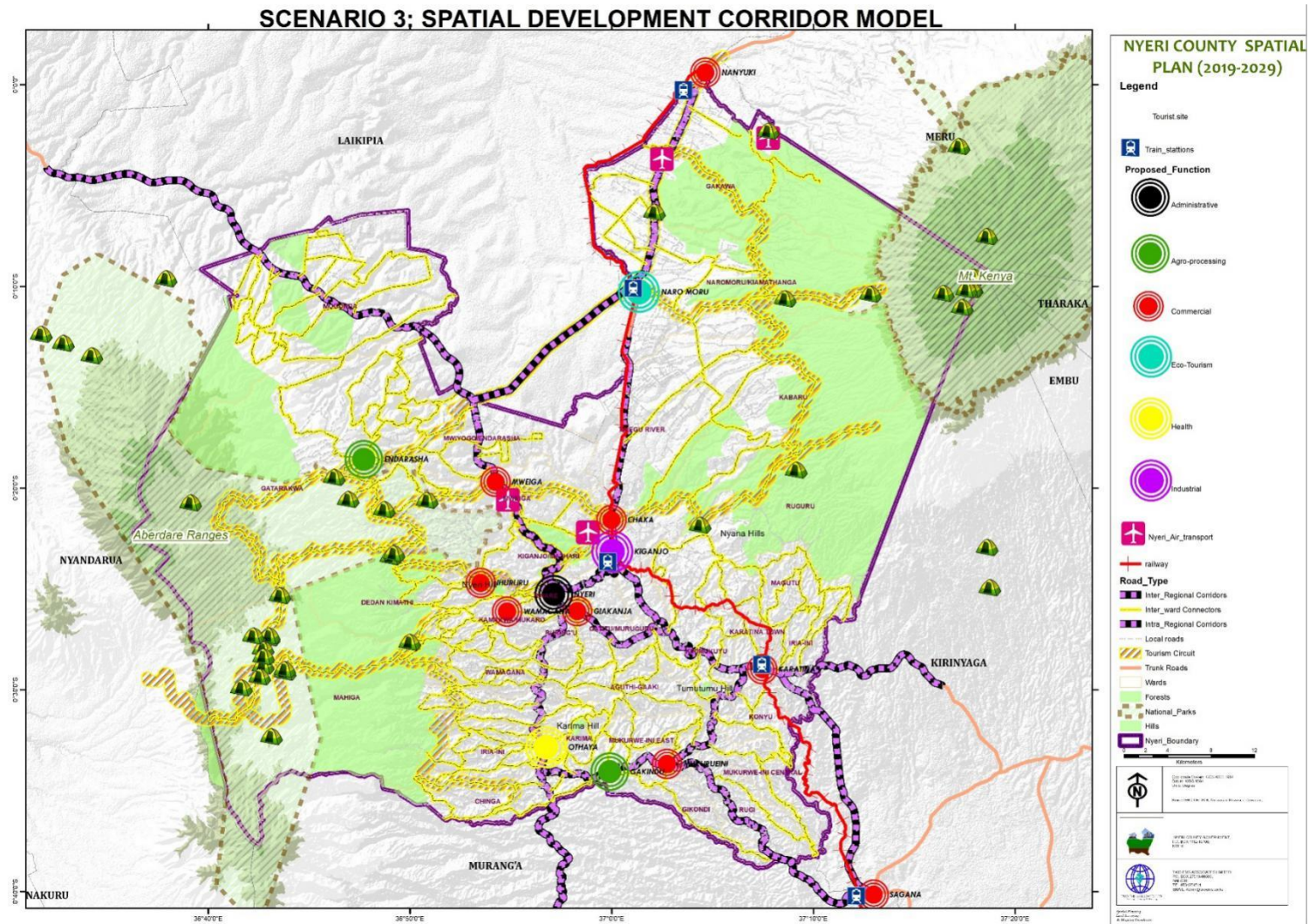
The Northern Corridor is a proposed multimodal trade route linking the landlocked countries of the Great Lakes Region with the Kenyan maritime seaport of Mombasa. It passes through Nyeri County from Nairobi, through Marwa and proceeds to Nanyuki and Isiolo, connecting with the LAPSSET Corridor. The road is designed to be a dual carriageway. It also includes the railway corridor along the same route.

Impact of the Northern Corridor to the economy in Nyeri County.

The presence of the Northern corridor in the County will:

- Boost trade and employment along the corridor. One of the flagship projects is the construction of Chaka Market, with an investment of Ksh. 1 Billion, designed to incorporate multiple entities like banks, restaurants and more than 2000 trading stalls for Agricultural traders in the Kieni area.
- Facilitate the production and processing of livestock and agricultural products.
- Enhance multimodal connectivity and linkage to domestic and global markets, hence enhancing global competitiveness.
- Open up rural areas for development.
- Facilitate regional trade and investment with neighbouring countries, e.g. Uganda and DRC.

Map 47: Integrated Spatial Development Corridor model



Evaluation of Scenario.

SCENARIO	IMPACT
Spatial Development Corridor Scenario	If the County grows based on the Spatial Development Corridor Scenario, it will lead to: POSITIVE IMPLICATIONS: ➤ The development of a multimodal connectivity among the various transport modes through integration and utilization of road, rail and air transport. ➤ It will lead to the integration between land use and transportation, which will foster the creation of self-sustaining economic corridors. ➤ Maximization of agricultural production in the County by linking the agricultural production areas to the transportation corridors and to agro-industrial zones. ➤ It highlights and links the tourism circuit corridor, linking tourism sites across the County to each other, hence promoting the tourism sector. ➤ It promotes the conservation of the environment and eco-system in the County as this also promotes tourism in the County. ➤ It will lead to the creation of agro-industrial zones where agricultural produce will undergo processing and value addition for sale to the external and local markets. ➤ It will prompt the preparation of growth of Physical and Land Use Development Plans for towns along the development corridors, hence creating growth management strategies for urban areas and human settlements. ➤ It assigns functions to towns, which will anchor the economies of the specific towns. This scenario explores all development sectors in the County hence promoting wholesome development across all sectors. More importantly, it links Nyeri County with an international corridor, the Northern Corridor, which is a proposed multimodal trade route linking the landlocked countries of the Great Lakes Region with the Kenyan maritime seaport of Mombasa. It is therefore the preferred scenario of development for Nyeri County.

4.2: POLICIES, STRATEGIES AND ACTIONS.

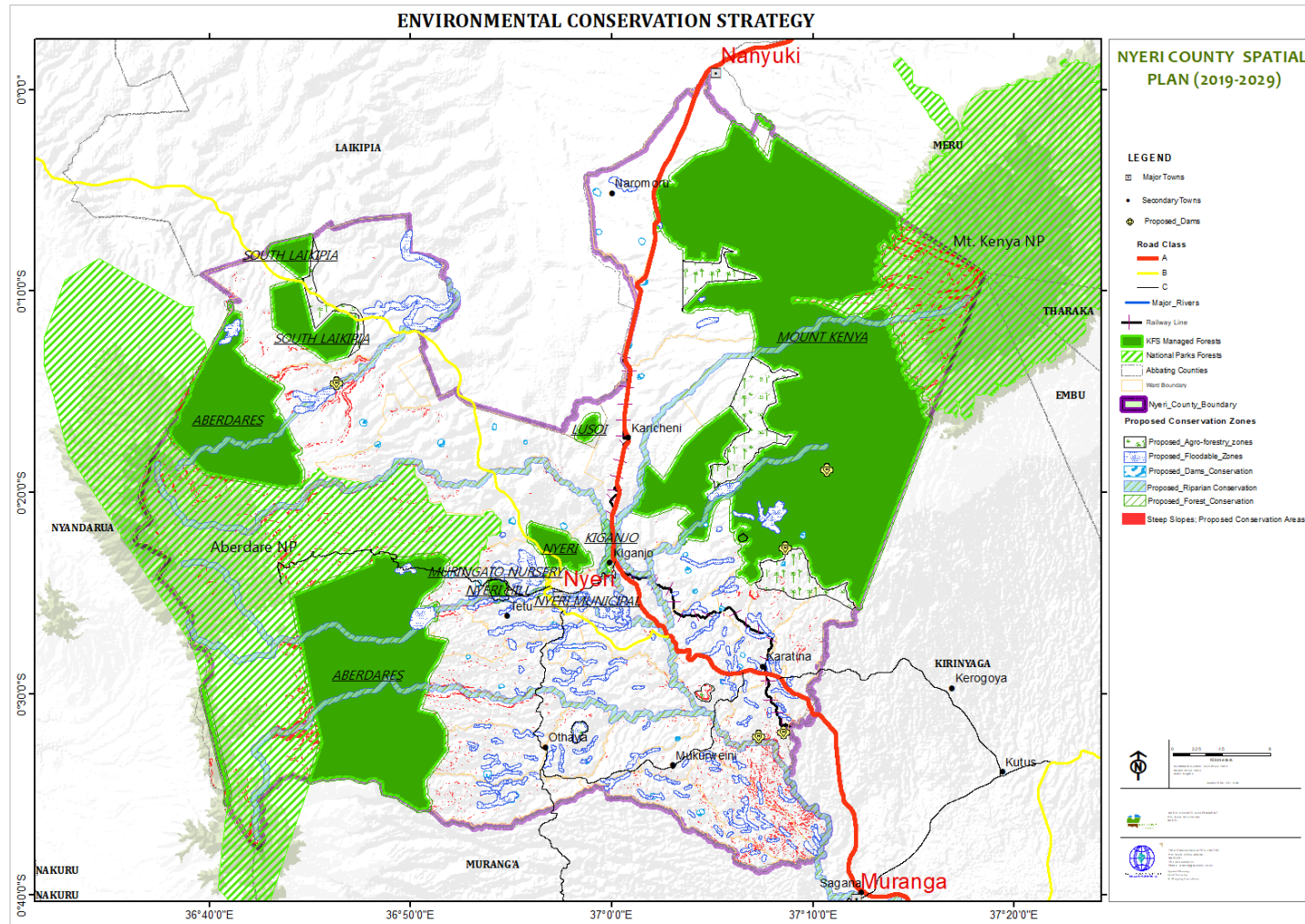
Strategies are the courses of action geared to the achievement of the vision of any entity. The strategy formulation process is informed by the existing background documents, synthesis in terms of the potentials, opportunities and constraints of data collected, the consultant's experience and stakeholders' inputs gathered throughout the process.

Five broad sectoral strategies are proposed within the CSP through a variety of achievable sector-specific programmes and projects localized in specific areas. These five strategies that combined form the county spatial development framework is: (a) Environment Conservation strategy, (b) Economic development strategy, (c) Integrated transport strategy, (d) Human settlement development strategy, and (e) Appropriate infrastructure and services provision strategy.

Environmental strategy	•Forest resources •Water resources •Wildlife & Scenic resources •Soil resources •Green energy •Land resources
Economic development strategy	•Crop agriculture •Human settlements strategy •Livestock •Industry •Trade •Tourism
Integrated transport strategy	•Road transport •Air transport
Human settlements strategy	• Urbanization strategy • Rural development • Housing
Appropriate infrastructure and services provision strategy.	• Physical infrastructure • Social Infrastructure

4.2.1 Environmental Conservation Strategies

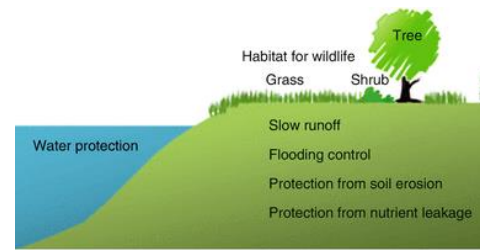
Map 48: Environmental Conservation strategy



Source: Two Ems Associates, 2019

Strategies

- Forest protection and conservation
- Promotion and conservation of wildlife and scenic resources
- Reduction of human-wildlife conflict
- Protection of riparian reserves.
- Rehabilitation of existing dams
- Soil conservation in the whole County.
- Tapping of solar energy in sections of Mugunda and Gakawa wards.
- Building of dams and construction of hydropower stations along rivers Sagana, Gura, Chania
- Investing in use of biomass technology to help reduce the demand for energy within the County
- Development of a digitized County Land Information System
- Development of site-specific subdivision land sizes through enacting of relevant policy and zoning regulation.
- Speeding up and easing the process of issuance of title deeds especially in the colonial villages
- Identification and mapping of all public land across the County



Riparian buffer zone



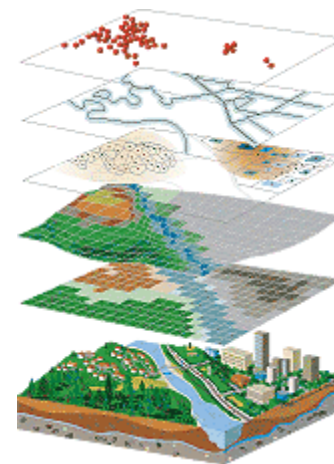
Hydro power generation



Contour farming



Agroforestry



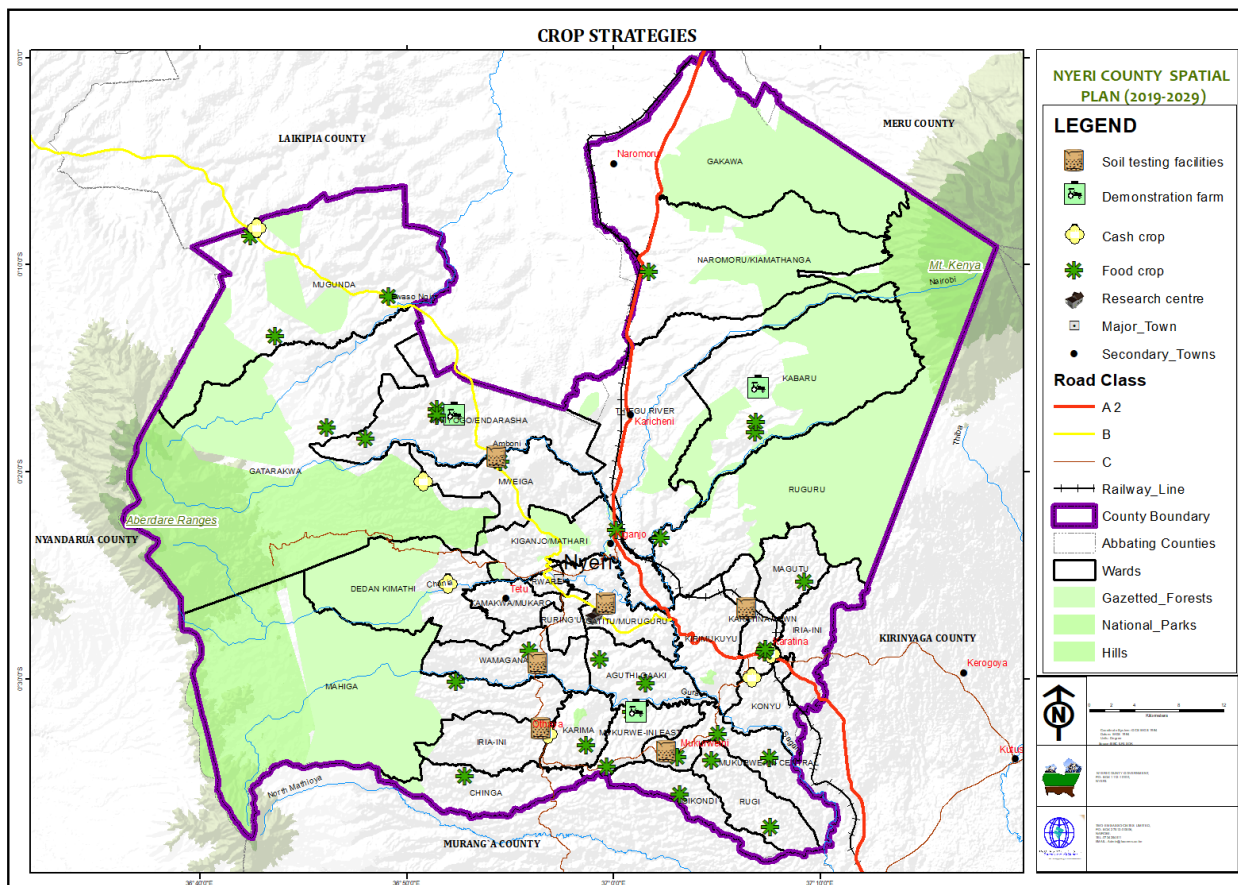
Land Information System

4.2.2 Economic Development Strategy

The goal of the economic strategies is to boost the economic growth of the County by strengthening the economy in the following sub-sectors:

a) Agriculture (Crop Production) Strategies:

Map 49: Crop Strategies



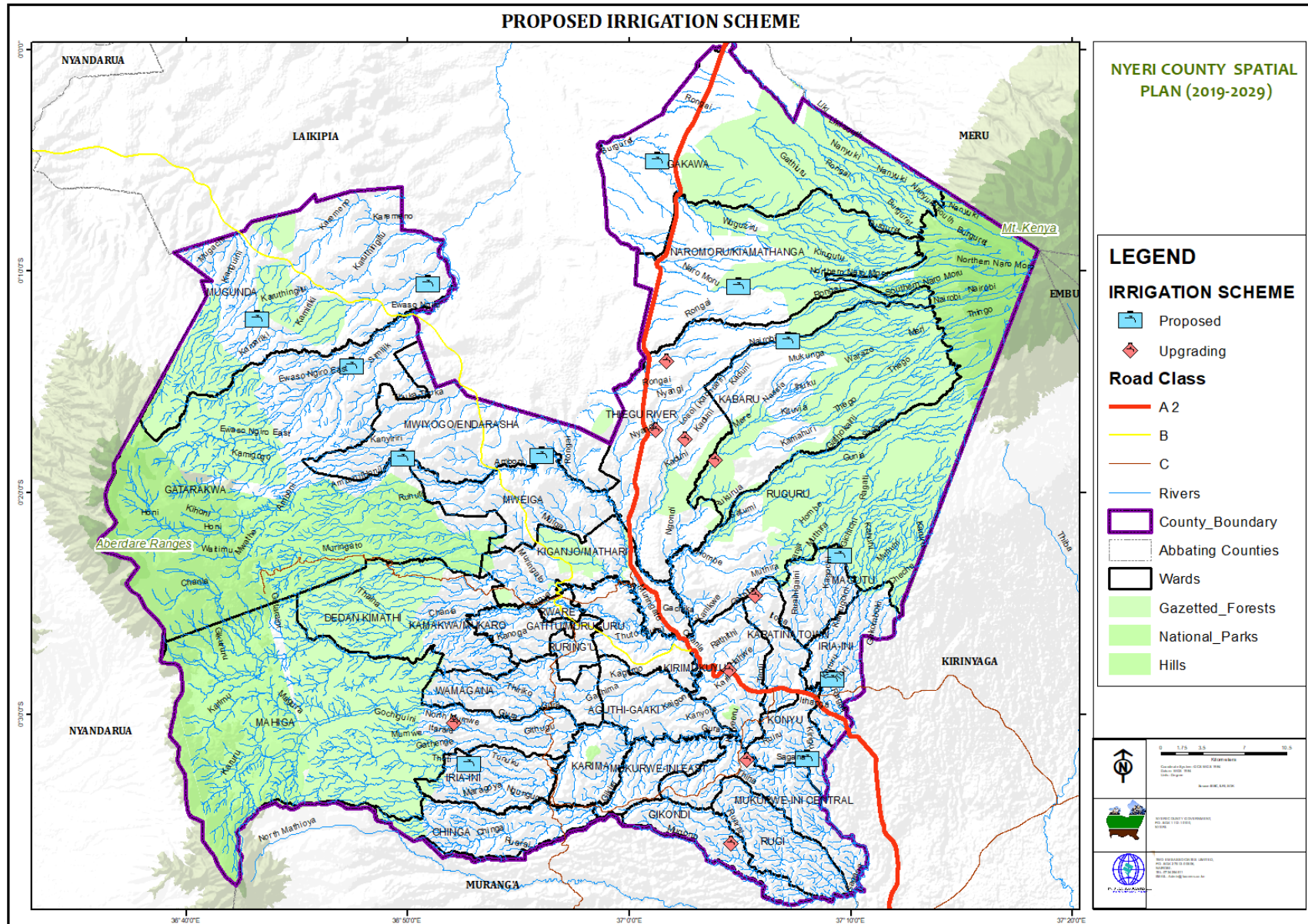
Source: Two Ems Associates, 2019

Strategies

- Crop diversification e.g. into avocado, macadamia and apples in tea zones.
- Diversify tea breeds to green and purple tea for diverse tea markets locally and internationally within Ragati and Gathuthi tea factories.
- Improve access to farm Inputs
- Promote technology-based farm management systems in the whole County
- Improving efficiency and effectiveness of extension service provision
- Improve access to markets
- Improve access to agricultural credit
- Promote farmer education and capacity
- Establishment of a soil testing center in every sub-county (Nyeri, Wamagana, Narumoru, Mweiga, Karatina, Mukurweini, Othaya and Thunguma towns
- Construction of avocado collection centres in Kamoini, Giakaibei, Gititu, Wamagana, Thangathi, Chinga and Avocado processing plant in Mukurweini and Munyange
- Construction of macadamia processing plant in Karatina and Gatarakwa.
- Construction of a potato processing plant in Mwiyo and Narumoru; and potato collection centre in Gatarakwa
- Construction of an onion storage and collection facility in Mwiyo
- Construction of Mango processing plant in Kamwa
- Construction of storage facility Giathangu cereal depot, Mweiga silo and gakiundu silo
- Construction of a storage and collection centre for horticulture produce in Charity and Mikundi
- Construction of an onion industry in Nairutia
- Construction of a tea processing factory in Ngooru
- Construction of a banana processing plant in Tambaya and Kiawaithanji and banana ripening and collection centre in Mihuti
- Construction of a wheat milling industry in Kiawara and Nairutia
- Construction of an arrowroots and sweet potatoes processing industry in Ichamara
- Construction of a carrot packaging industry in Karatina
- Construction of a horticulture industry in Kimahuri to process cowpeas and French beans



Map 50: Proposed Irrigation Schemes



Source: Two Ems Associates, 2019

Strategies

Up scaling, upgrading and revival of existing irrigation and water projects such as;

- Upper and Lower Maguto irrigation scheme in Karatina Town Ward for horticulture
- Sagana irrigation scheme in Mukurwe-ini Central Ward
- Hohwe Dam in Kirimukuyu Ward
- Revival of Kahuoine water project in Mahiga ward
- Kaharo & Gathero irrigation schemes in Gikondi ward
- Gathathini, Lusoi, Thung'ari, Karichen, Gatuamba dams in Theigu River ward
- Ndathi-Mbiriri irrigation project in Kabaru ward

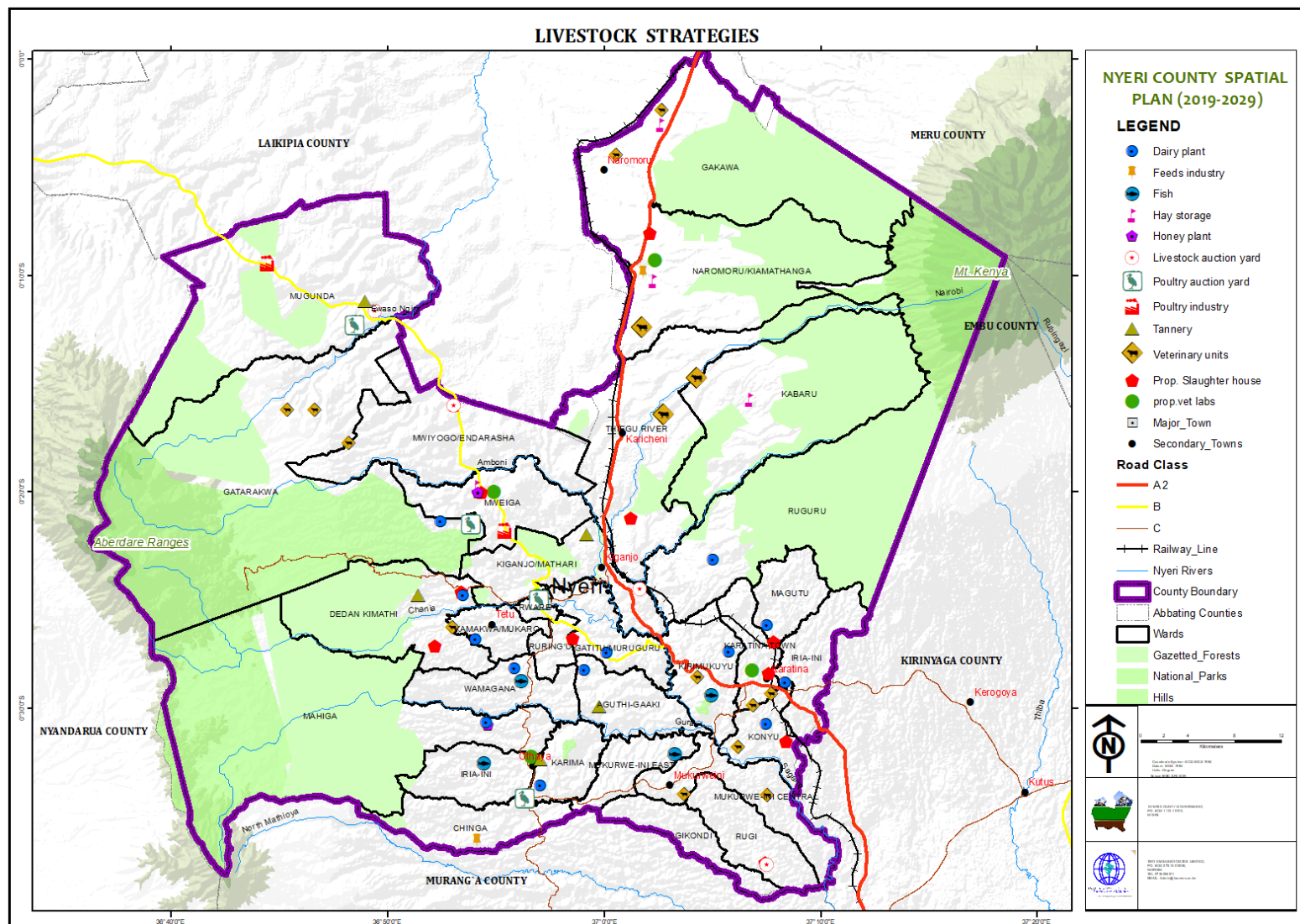
Development of irrigation projects in;

- Konyu ward along River Tana
- Iria-ini Ward along river Thuti, river Gikira, river Mumwe, or river Gura.
- Mugunda ward along river Ewaso Nyiro, or river Karimino
- Magutu ward along river Ragati
- Iriani ward along river Kururu
- Kabaru ward along Nairobi river
- Narumoru ward along Narumoru river
- Endarasha ward along Amboni river



b) Agriculture (Livestock Production) Strategies:

Map 51: Livestock Strategies



Source: Two Ems Associates, 2019

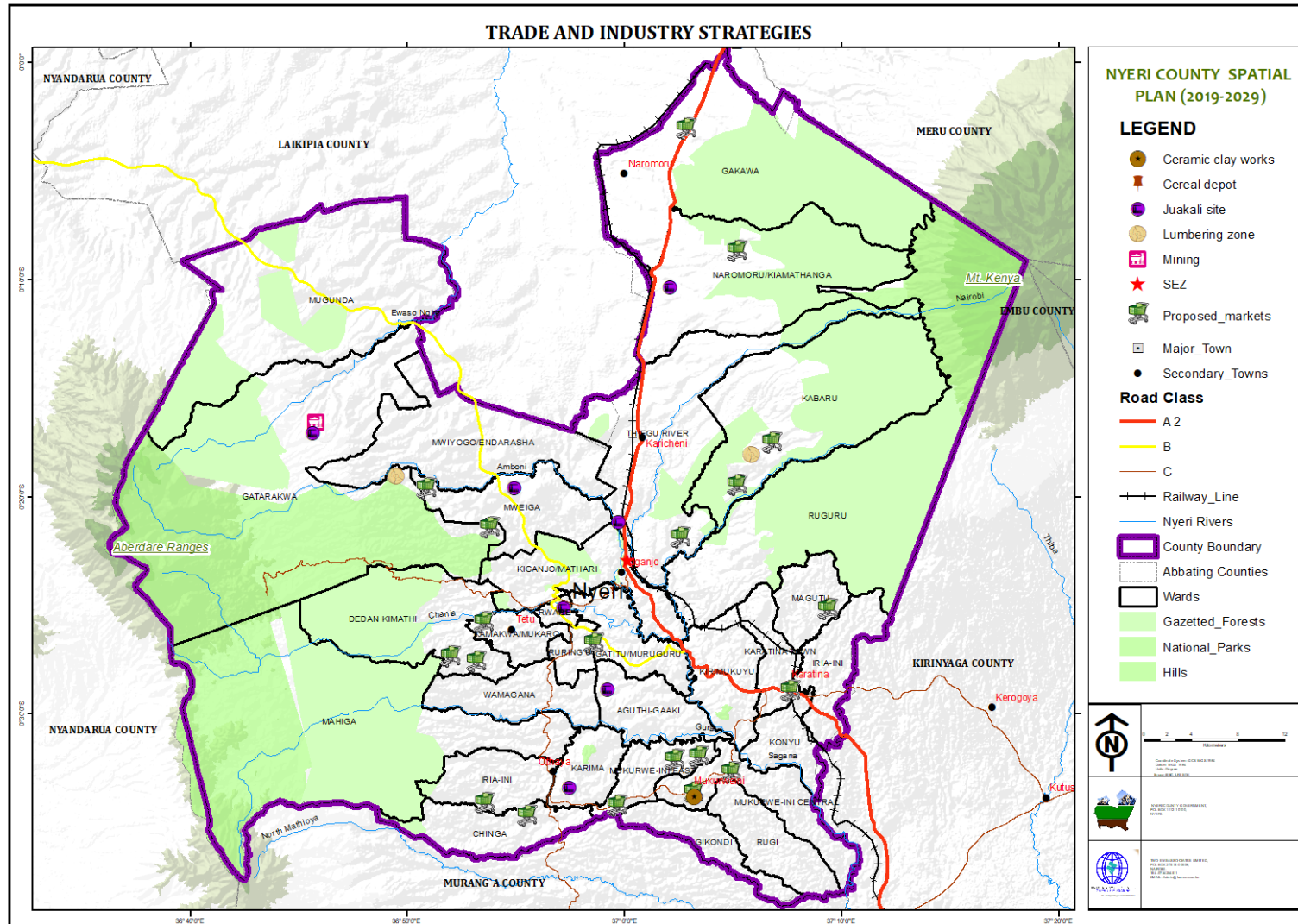
Strategies

- Improve livestock breeds
- Promotion of Hay stores (strategic reserves) for dairy animal feed in Ihururu, Wamagana, Ruring'u and Mahiga
- Hay storage facility at Narumoru, Mweiga, Gakawa and warazo
- Converting some of the existing cattle dips to vet units with AI services, vaccination points, and holding grounds in Mukurweini, Othaya, Mathira East and West, Tetu and Nyeri Central sub-counties.
- Promote fish farming as an alternative economic activity
- Promote bee keeping as an alternative economic activity in Kieni East and West sub-counties
- Construction of honey processing plant in Mahiga
- Promotion of Rabbit keeping as a viable alternative economic activity
- Construction of a milk processing plant (for cow milk) in Gatitu, Wamagana, Konyu, Gikumbo, Mutathini, Kiamariga, Mahiga, Kiaganda
- Construction of a milk processing plant (for goat milk) in Gatarakwa and Ngandu.
- Construction of an animal feed industry in Narumoru and Chinga
- Construction of tanneries in Kiawara, Othaya, Kangaita and Kiganjo
- Construction of a modern slaughterhouse at Karundas, Huhoini, Ihururu, Micha, Ngamwa, Karura, Endarasha
- Construction of meat processing industry in Naromoru
- Establishing auction yards at Kiawara, Kirichu, Kanyagia, Kamwa
- Establish a poultry auction yard at Mugunda, Gatarakwa, Chinga and Nyeri,
- Upgrading the Ihururu milk cooling plant to a processing plant
- Construction of a fish hatchery in Iria-ini



Trade and Industry Strategies:

Map 52: Trade and Industry Strategies



Source: Two Ems Associates, 2019

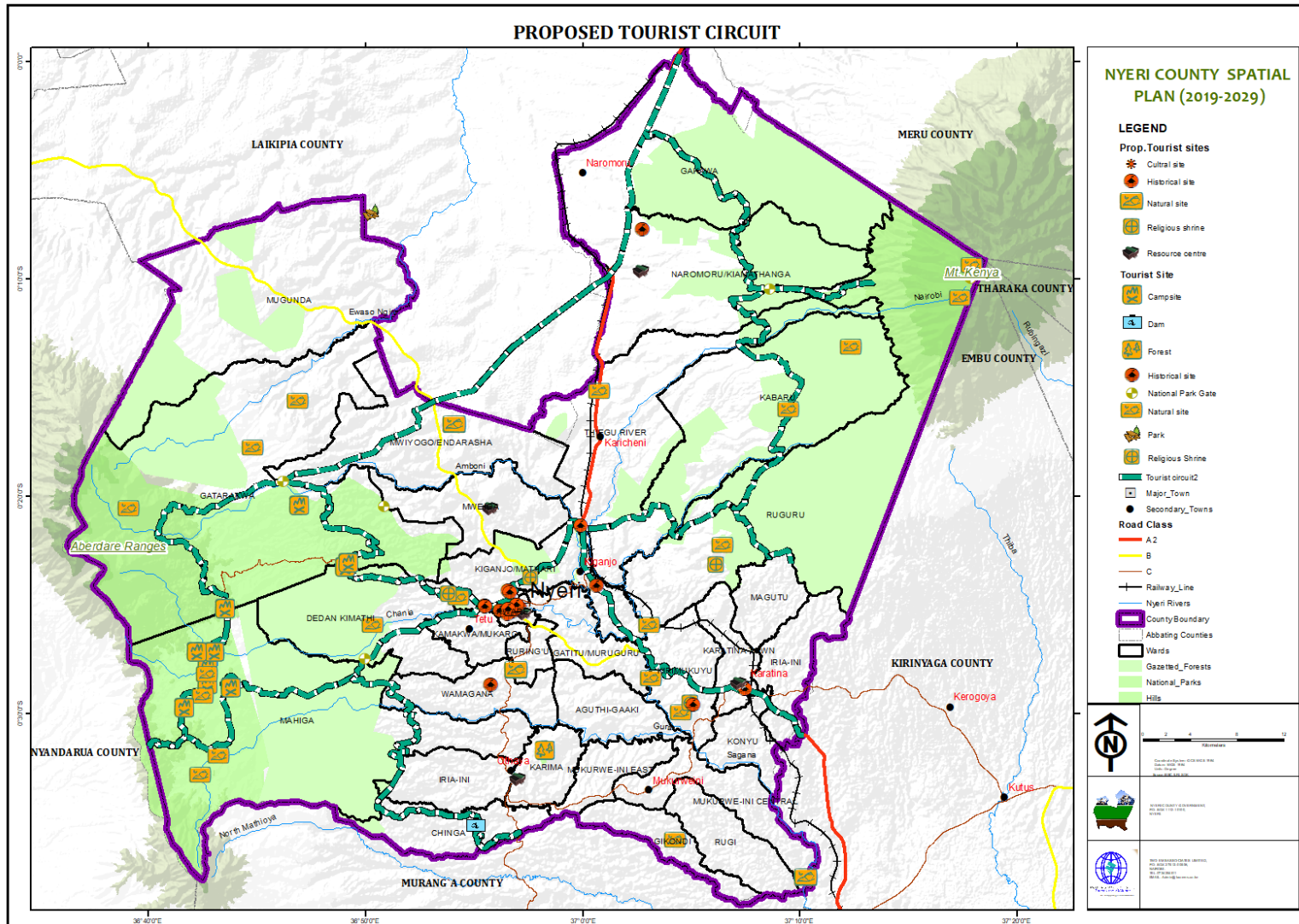
Strategies

- Establish and promote an Annual Investment Forum in the County to attract investors to participate in Nyeri's economy.
- Introduction of supporting infrastructure like street lighting, toilets, waste management points, water points and storage facilities within all markets across the County.
- Establishment of one stop shop licensing in the County
- Preparation of a trade policy for the County
- Creation of proper modern markets in Konyu ward, Gatarakwa ward, Ruguru ward, Narumoru ward, Ruring'u ward, Aguthi/Gaaki ward, Kiganjo ward, Gakawa ward.
- Connection of trading centres to water and electricity
- Expansion of the existing KIE sites in the County
- Construction of a juakali zone in Chaka and Othaya, Naromoru, Nyeri town, Kiawathanji, Watuka, Mweiga
- Establishing the Kiganjo SEZ site for branding and marketing of agricultural products for export
- Offering of subsidized machinery to ballast beaters & quarry miners in Chaka
- Oversee formation of a strong miners' union/association for quarry owners
- Promote ceramic making from clay in Mukurweini
- Promote murram harvesting in Gatarakwa



c) Tourism Development Strategies:

Map 53: Proposed Tourism Circuit



Source: Two Ems Associates, 2019

Strategies

- ❖ Marketing of the tourism circuit regionally and internationally
- ❖ Establish an Annual Festival for the County to showcase various tourist attraction and the culture of the residents to promote tourism.
- ❖ Creation of information centres at Nyeri entry point towns (Narumoru, Mweiga, Karatina, Othaya)
- ❖ Establish Nyeri and Karatina, Mweiga, and Narumoru as MICE destination (Meetings, Incentives, Conferencing and Exhibitions)
- ❖ Promote Wildlife and Scenery based Tourism in Aberdare and Mount Kenya National Parks
- ❖ Infrastructure investment and improvement
- ❖ Promotion of historical centres in the County like Paxtu cottage at the Outspan Hotel, Baden Powell graves and Historical Gardens, Kimathi Trench at Kahigaini, Mau Mau caves in Narumoru,
- ❖ Promotion of cultural centres like the Outspan and Narumoru/Kiamathanga centres to promote the culture of the people of Nyeri County
- ❖ Promote cultural festivals and Miss Tourism events where the ethnic communities can display their culture through music and dance.
- ❖ Promote Sport tourism along Chinga dam to involve water sports and sport fishing; zip-lining activities in Aberdare ranges.



Lake Hohnel in Mt. Kenya



Elephants at Tagwa

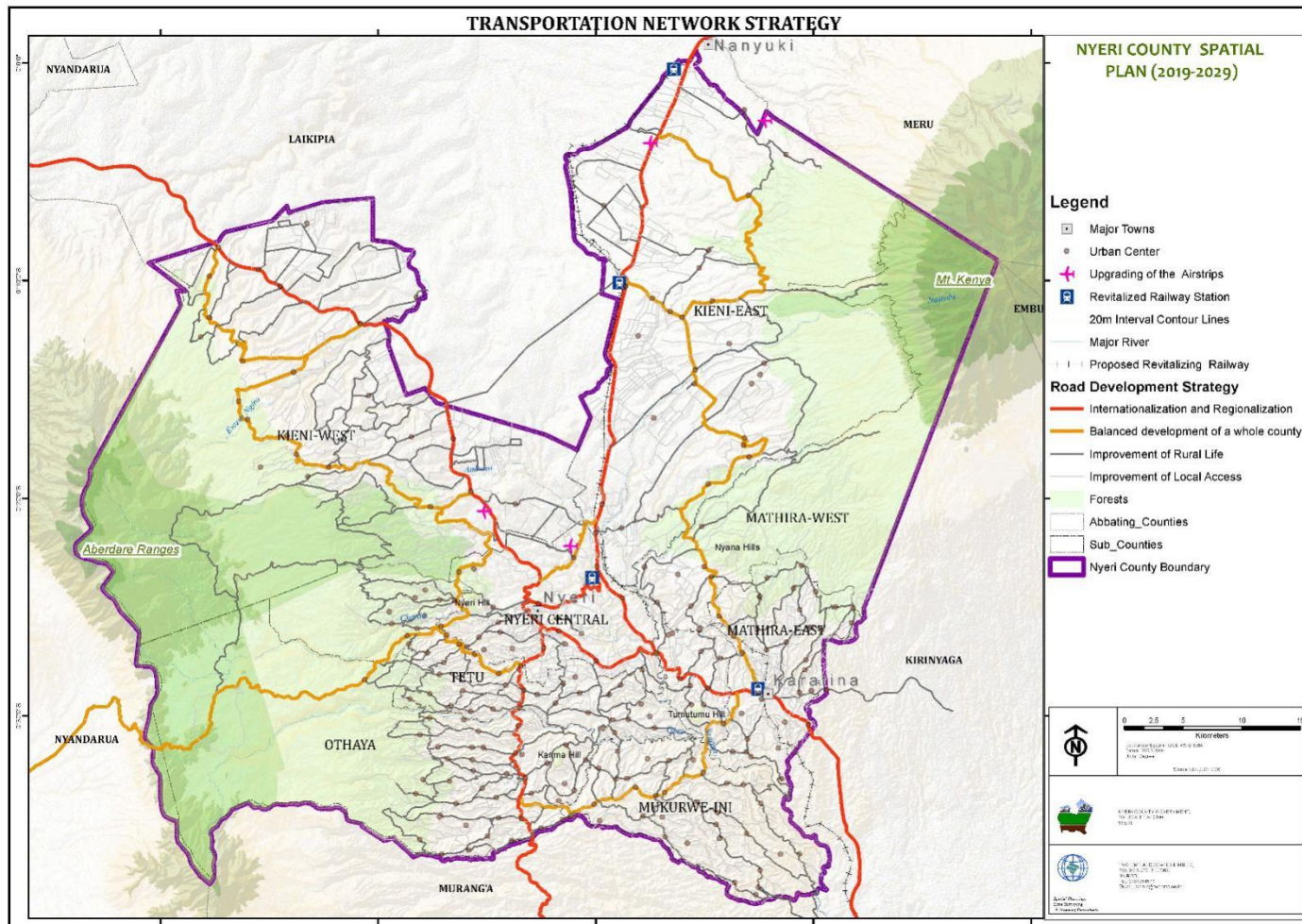


Tourists climbing Mt. Kenya.

4.2.3 Integrated Transportation Strategy

Transport is a critical component of any sustainable and inclusive development to facilitate economic growth and poverty reduction.

Map 54: Proposed Transportation Network



Source: Two Ems Associates, 2019

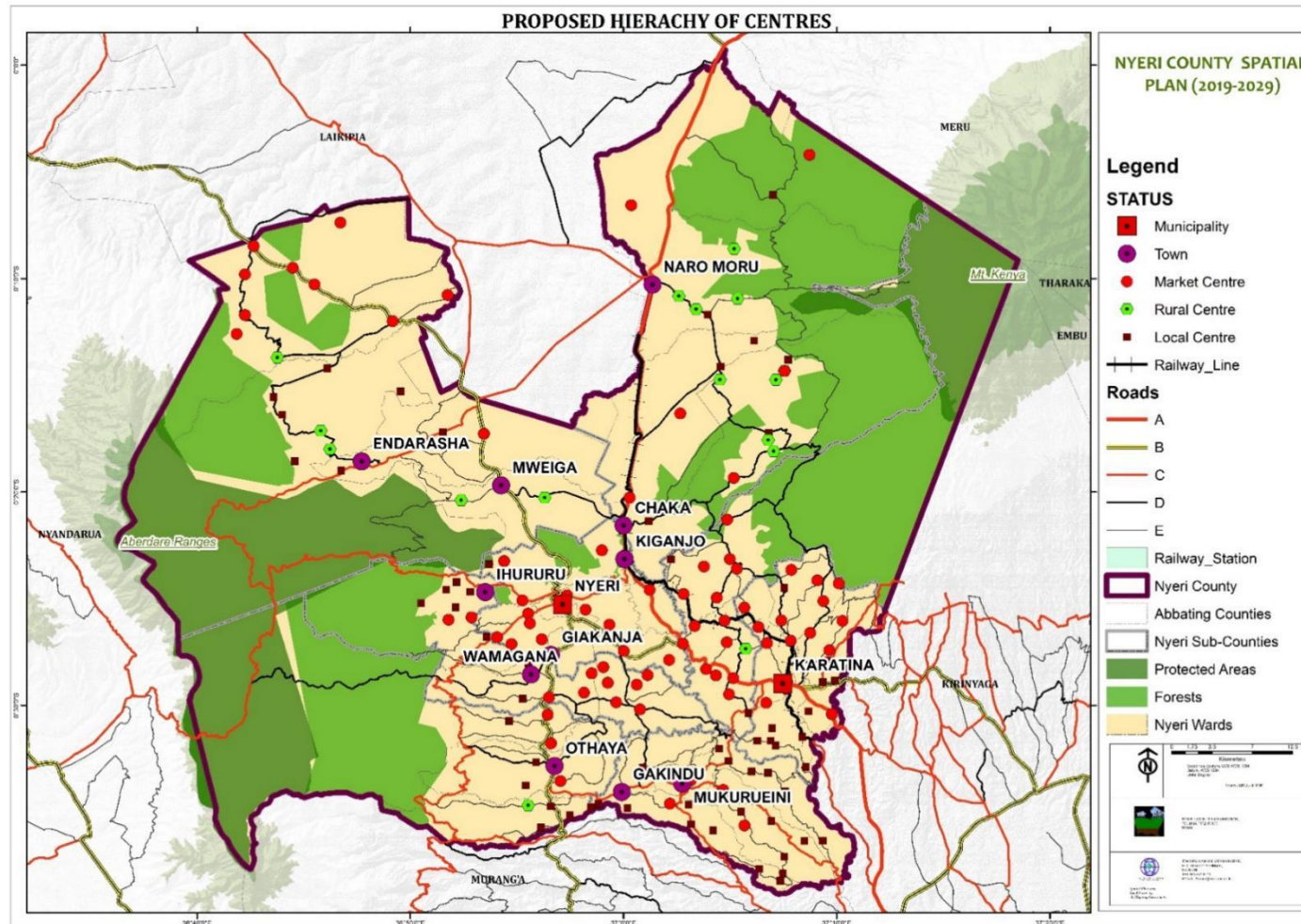
Strategies

- **Upgrading and tarmacking of strategic roads;**
 - Nyeri-Ihururu-Kinunga-Kiandogoro-Tosha-Naivasha
 - Endarasha-Mwiyogo-Naromoru via Solio ranch.
 - Ichamara-Kimondo-Thangathi-Kiuu-Kirinyaga (joining A2)
 - Mukuruweini-Mihuti-Karundu-Gakurue-Kariru-Kimathi-Sagana.
 - Kagocho-Karindundu-Mukurweini road
 - Nyeri-Nyaribo-Chaka-Kiganjo (Modal Interchange)
 - Kimunyuru-Embaringo-Gakanga-Watuka-Charity-Endarasha
 - Mweiga-Amboni-Endarasha
 - Amboni-Nyarugumu-Ihururu-Ihwa-Kinunga-Kagogi-Muthua-ini-Kagwathi
 - Irigathathi-Manyata-Gathioro – Nanyuki town
 - Karundas-Kairi-ManstoneMere-Judea-Bagdad-Kurkulet-Munyu
- Graveling and Murraming of feeder roads in the County (refer to map)
- Construction of walkways and bicycle lanes in Mweiga, Nyeri, Chaka, Karatina, Mukurwe-ini Othaya, and Endarasha.
- Construction/rehabilitation of drainage system on all roads
- Construction of bridges
 - All the roads across River Gura river, Chania, Sagana etc
 - Bridge to be constructed (Kwa John bridge)
 - Wathairo bridge
 - Ngura Road Bridge
 - Karuraini (Githima bridge) Muhoya bridge
 - Bridges across Karege, Gituchu, (Kiahuria, Karege, Githegethe secondary schools
 - Hombe Bridge and Gathira Bridge
 - Bridge/culvert near Gakawa dispensary
- Construction of modern parking lots all urban centres
- Incorporation of Disabled friendly parking bays in all urban centres
- Construction of modern bus park in Mukurweini, Othaya, Karatina, Mugunda, Magutu and Naromoru
- Upgrading of airstrips to an all-weather standard with all necessary equipment's. such as: Nanyuki Airstrip, Nyaribo Airstrip, Mweiga Airstrip and Mt. Kenya Airstrip



4.2.4 Human Settlement Strategy

Map 55: Proposed Hierarchy of Centres



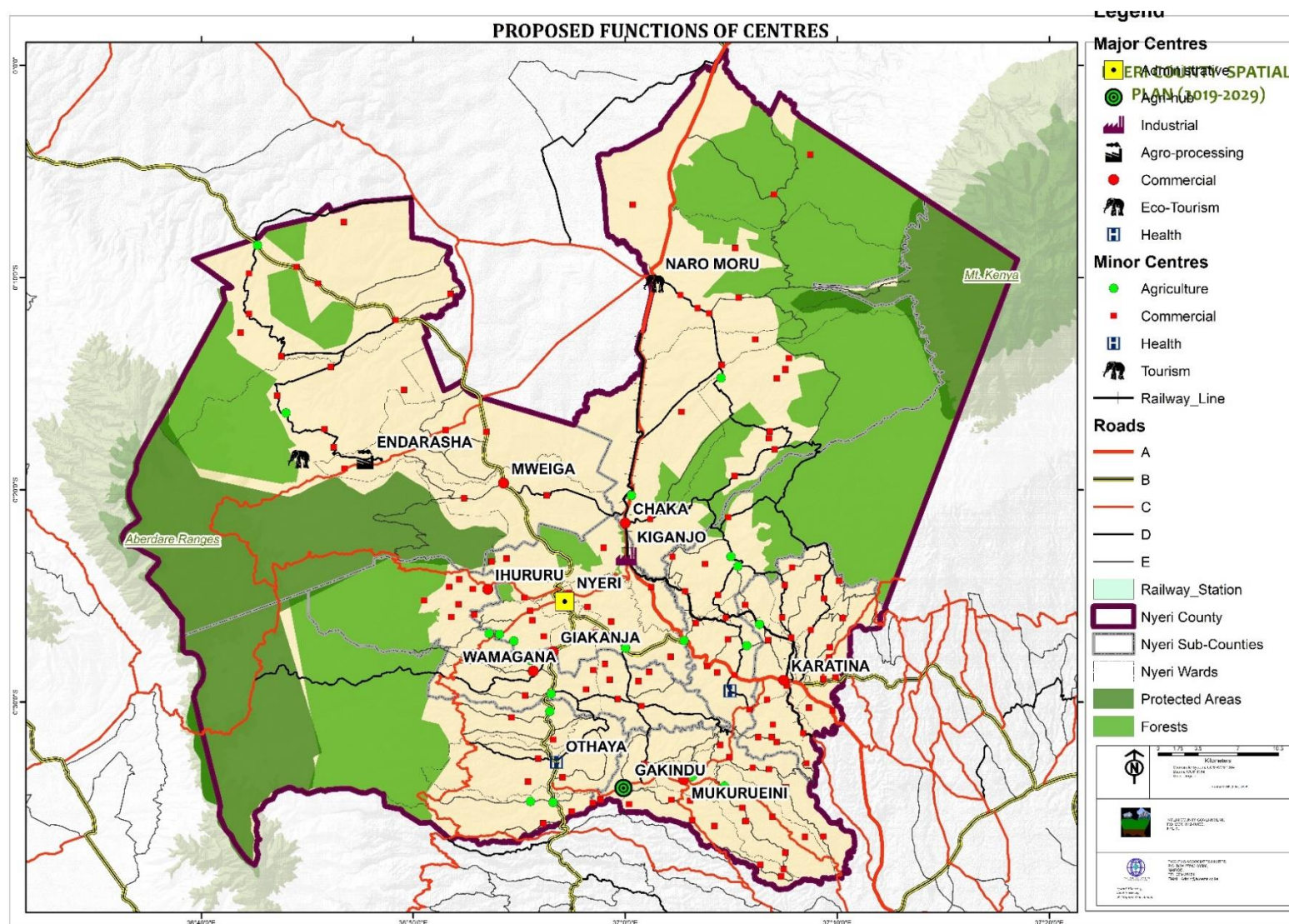
The Human Settlement Strategy has sub-strategies for planning of urban areas and planning of rural catchments.

The urban strategy proposes the improvement of existing urban areas through preparation of local physical and land use development plans for all major centres as well as growing centres.

The rural development strategy proposes the servicing of rural areas and the conservation of prime farmlands.

Source: Two Ems Associates, 2019

Map 56: Proposed function of centres



Source: Two Ems Associates, 2019

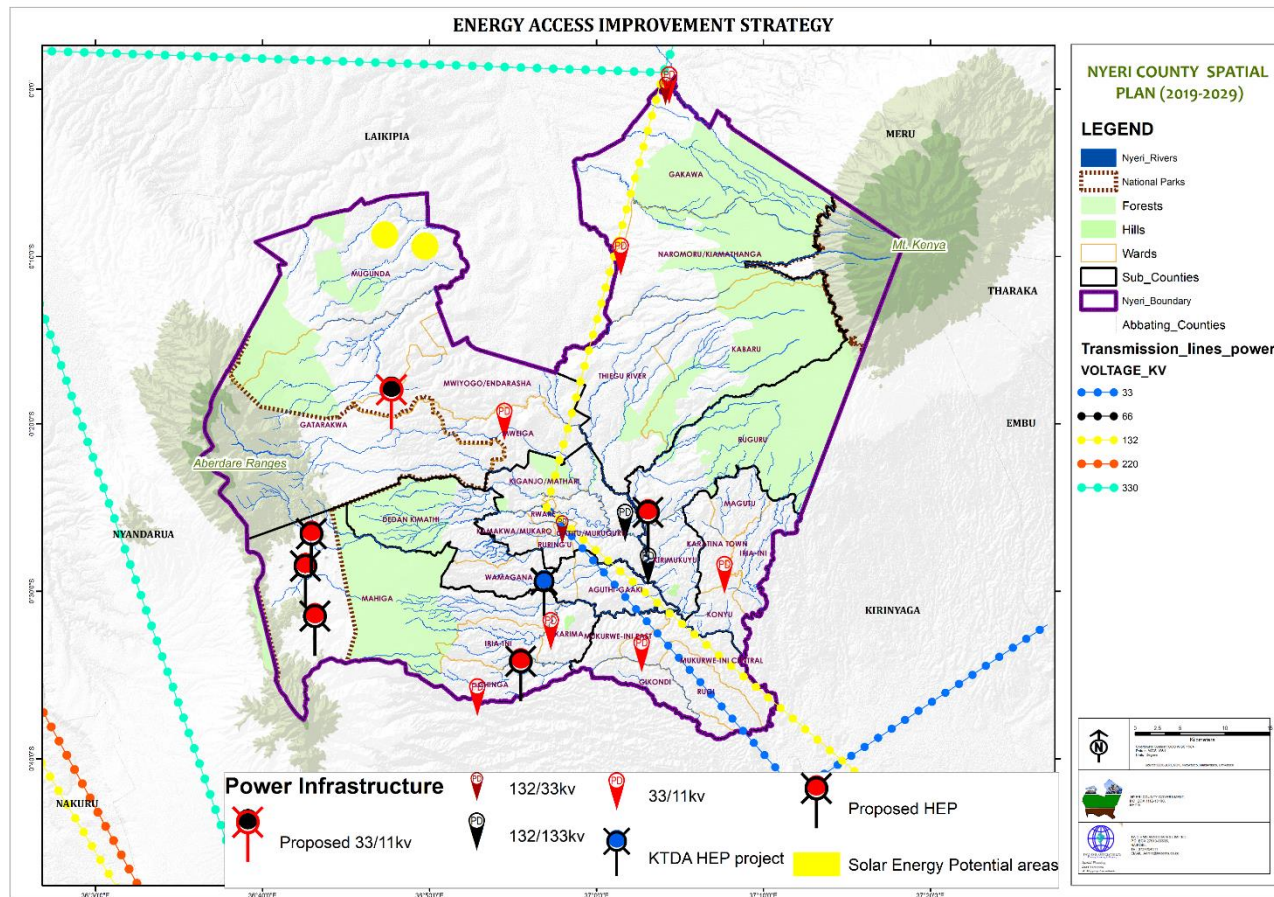
Strategies

- ❖ Preparation of Local Physical and Land Use Development Plans to zone land-use activities and promote control development for Karatina, Othaya, Mweiga, Mukurweini, Endarasha, Narumoru.
- ❖ Delineating urban areas to encourage vertical development and more compact urban areas in (Nyeri, Karatina, Othaya, Mweiga, Kiganjo, Mukurweini, Wamagana, Ihururu, Endarasha, Naru Moru, Chaka, Giakanja).
- ❖ Rehabilitation/ establishment of public utilities in major towns such as sewerage treatment systems/ plants, water treatment plants and landfills/ dumpsites in all major towns.
- ❖ Encourage PPP initiatives to promote investment in housing sector and Provide services that induce development of urban housing.
- ❖ Provision of mobile social services (mobile maternity clinics, libraries and water bowsers) to cater for the dispersed settlements in the County.
- ❖ Zoning and conservation of ecologically fragile areas to prevent encroachment.
- ❖ Encourage local research institutions to explore on appropriate building technology suited for the County's rural areas.

4.2.5 Appropriate infrastructure and services provision strategy

Infrastructure forms the key enabling component in achieving the plan vision of “transforming lives through advancement of infrastructure, economic prosperity, food security and environmental conservation”.

Map 57: Energy Access Improvement Strategy



Source: Two Ems Associates, 2019

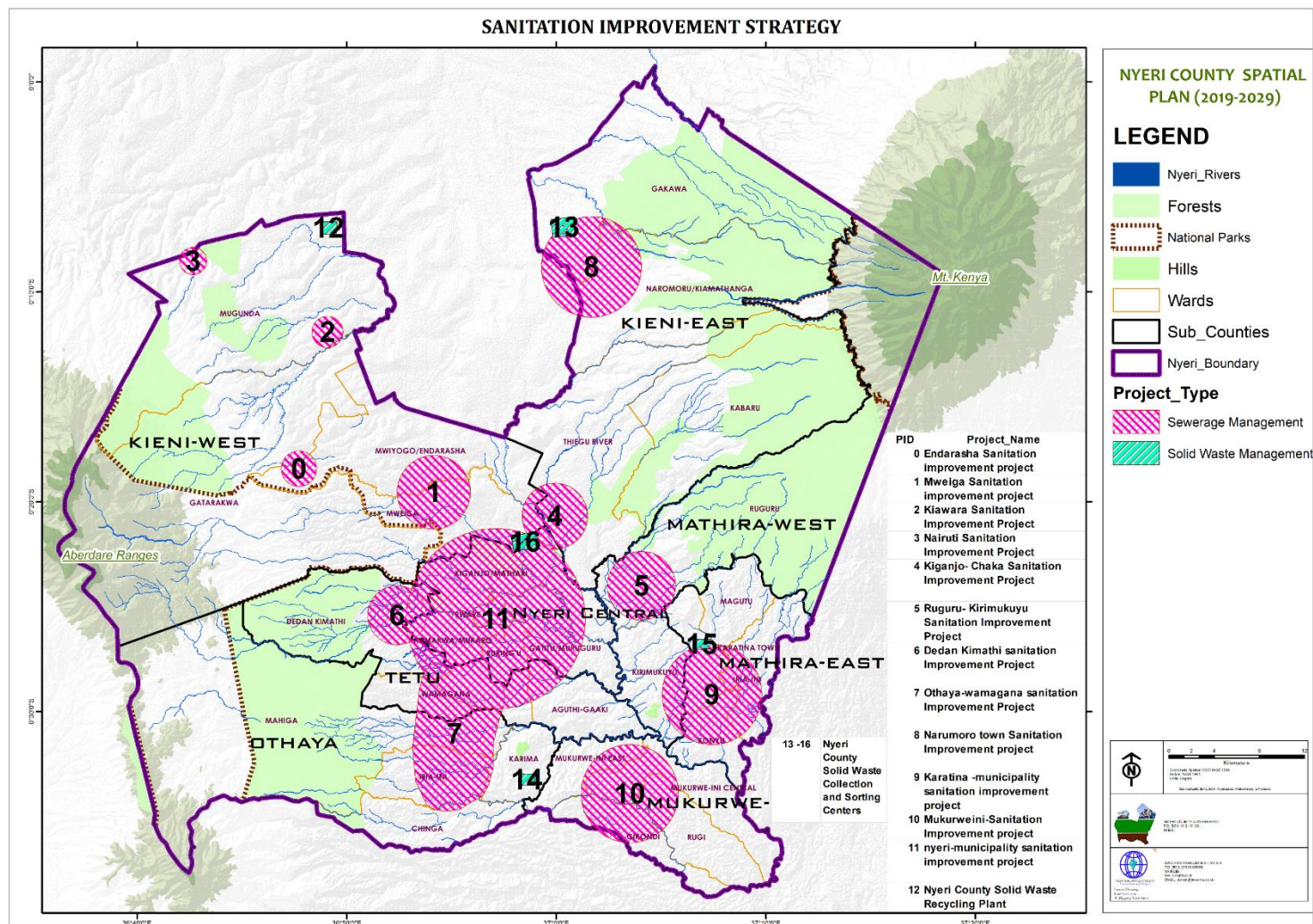
Strategies

- Connect all resource centers to 4G+/5G Fiber Optic Cable.
- Construction and operationalization of a solar harnessing farm at Mugunda, Area between New-city and Kiawara, Rurii and Muringa.
- Construction and operationalization of a Mini-Hydroelectric Turbines at Chinga. Gura river, Kariba, Mariba river, Chania river falls
- Construction and operationalization of power evacuation infrastructure

[illegible]

- ❖ Public-private partnerships in water harvesting, this can be practised in Mahiga, dedan kimathi, Iriani, magutu, Iria-ini and Ruguru wards
- ❖ Rehabilitation, upgrading works of existing water reservoirs in Kamburaini Dam, Kabunda Water Project Earth Dam, Kabendera Water Dam, Githura Dam, Chinga Dam, Hohwe Dam and Kiria Dam etc
- ❖ Rehabilitation, and Upgrading of local community water schemes: All existing Water local water projects, Gatarakwa Water Project, Kabunda Water Project etc

Map 59: Sanitation Improvement Strategy



Strategies

- ❖ Construction and operationalization of sewer trunk lines and Sewerage Treatment Plants i.e.

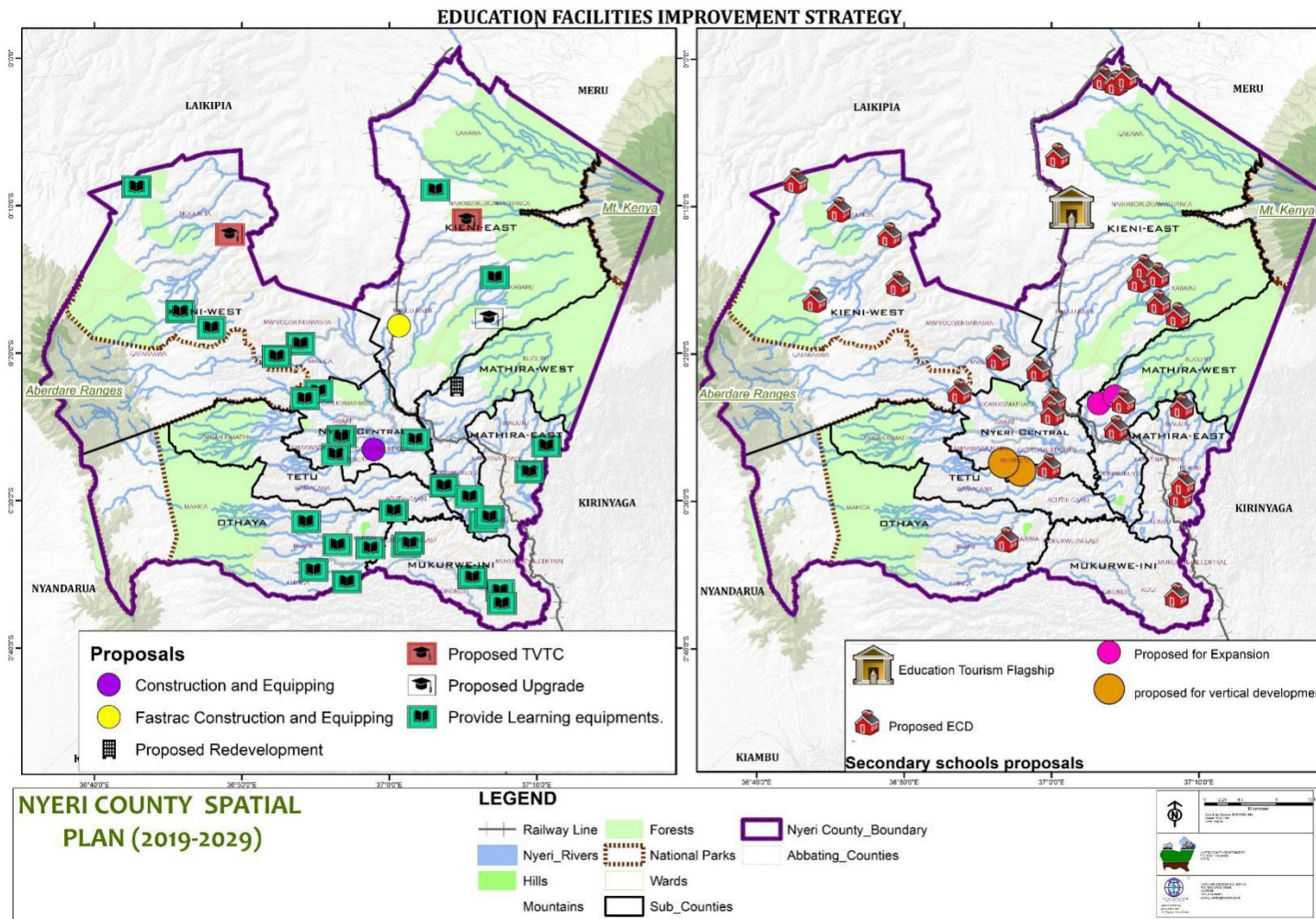
-Endarasha – Mweiga; Nairutia – Kiawara; Dedan Kimathi; Othaya-Wamagana; Naromoru town; Nyeri-municipality; Mukurweini-Sanitation Improvement project Karatina -municipality; and Kiganjo-Chaka Sanitation Improvement Project

- ❖ Construction and operationalization of Solid waste Management Plant in Mugunda ward

Source: Two Ems Associates, 2019

a) Education

Map 60: Education Facilities Improvement Strategy



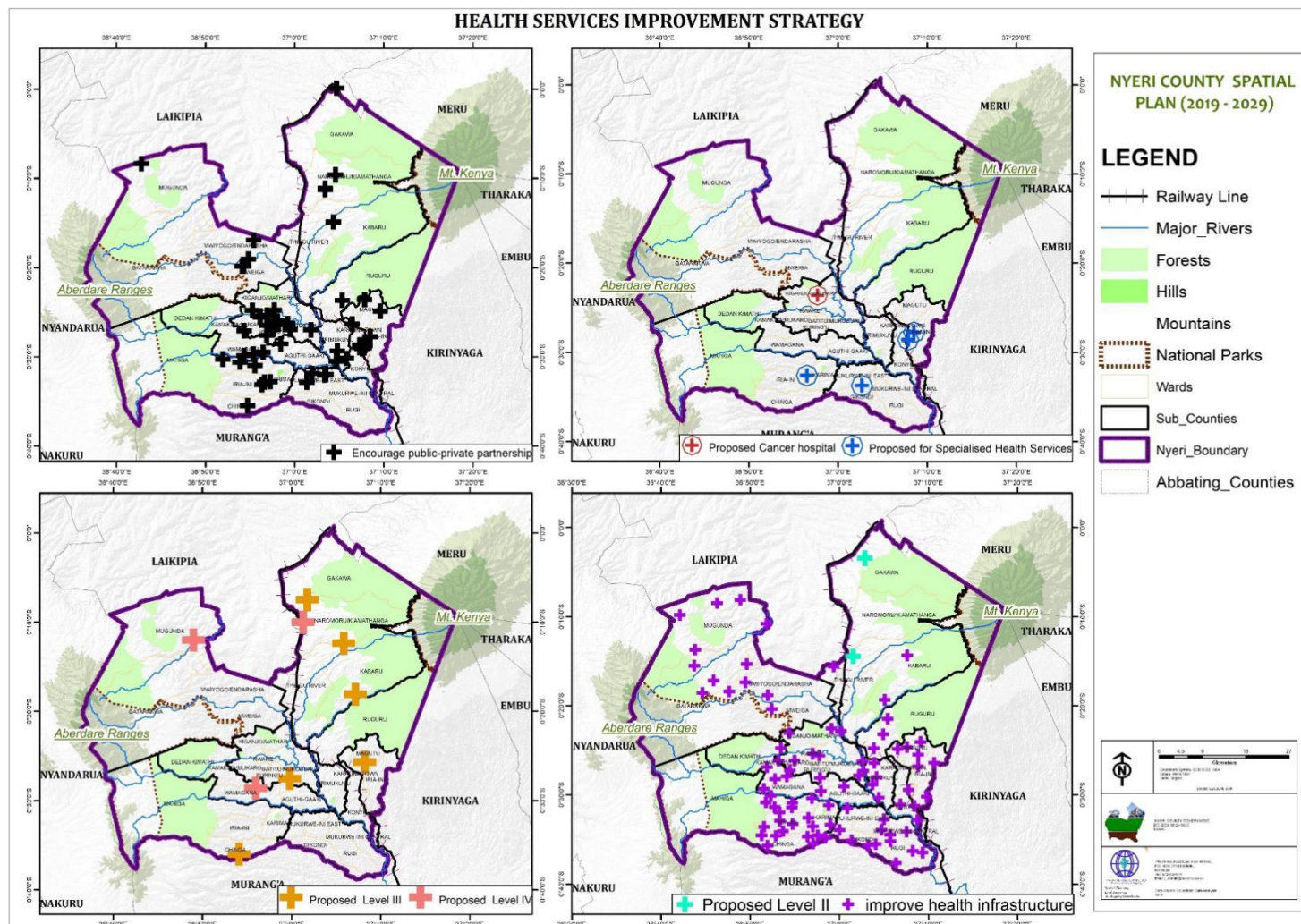
Strategies

- ❖ Improvement of ECD, Primary and Secondary education facilities through teaching personnel deployment.
- ❖ Construction of ECDE facilities in Gatarakwa, Mugunda, Mwireri, Gakawa, Othaya town etc.
- ❖ Improvement of tertiary facilities through provision of learning equipment and upgrading of Kiamathaga polytechnic to TVTC; Kimahuri polytechnic to VTC.
- ❖ Construction and equipping of proposed Miesha TTI
- ❖ Improvement of special education facilities

Source: Two Ems Associates, 2019

b) Health

Map 61: Health Improvement Strategy

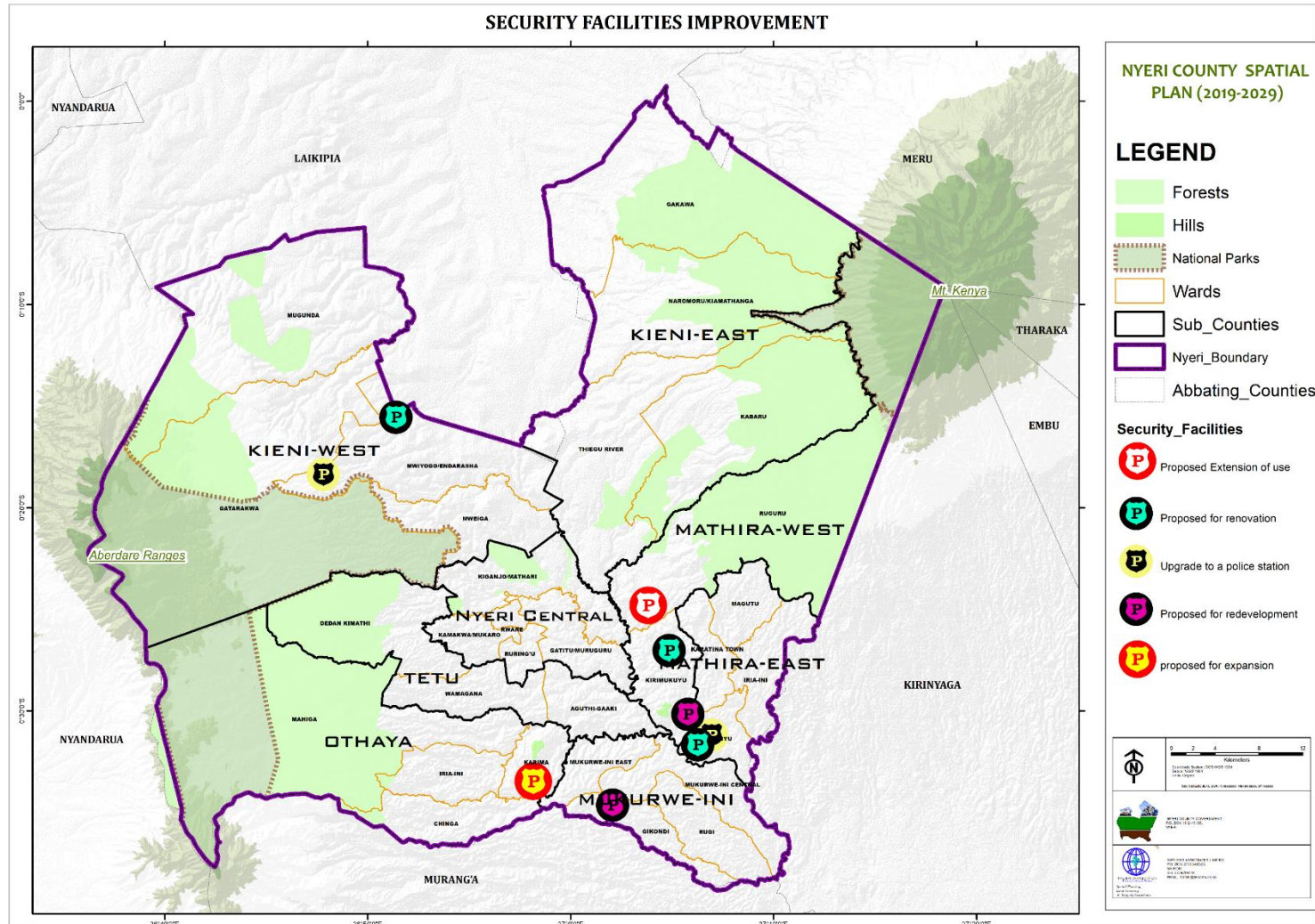


Strategies

- ❖ Improve the number of Ambulances in all Level IV, and at least one in every health center.
- ❖ Provision of speacilized health services to Karen Hospital, Mukurweini Sub County Hospital, Othaya Hospital
- ❖ Upgrading of Gautama Dispensary to Level II
- ❖ Upgrading of Naromoru, Gichira, and Wamagana Health Centre to level IV
- ❖ Upgrading of Mureru, Ndathi, Kamburaini, Gatitu, Gitimaini, Kagicha Dispensary to level III

c) Security

Map 62: Security facilities improvement strategy



Strategies

- ❖ Redevelopment, renovation and upgrading of the following facilities; Mwiyo AP Post, Endarasha Police Post, Chief Office Gikondi, Kiamabara Police Station, Chief Camp Konyu, Ngunguru Chief Camp, Rititi Police Post, Ngorano Police Post, Itemerini Assistant Chiefs Office
- ❖ Provision of adequate number of Police vehicles in all the police posts and stations across the ward.

SOCIAL HALLS AND RESOURCE CENTERS IMPROVEMENT

NYERI COUNTY SPATIAL PLAN (2019-2029)

LEGEND

- Nyeri_Rivers
- Railway Line
- Forests
- Hills
- National Parks
- Wards
- Sub-COUNTIES
- Nyeri Boundary
- Abbatting Counties

Resource_Centers and Social Halls

- Construction and Equipping
- Equipping
- Equipping and Redevelopment

Strategies

- ❖ Construction and equipping of libraries in Kiawara, Endarasha, Chaka, Mukurweini, Ngorano and Wamagana
- ❖ Construction and equipping of fire brigades in Ngorano, Mukurweini, Othaya, Naromoru, Wamagana, Endarasha fire station etc
- ❖ Construction and Equipping social halls and resource centers in Mahiga, Mumwe community center, Kiamariga community hall, Kirerema Youth Center, Endarasha Community Resource Center, Mweiga Town Hall etc

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4.3: SPATIAL DEVELOPMENT FRAMEWORK

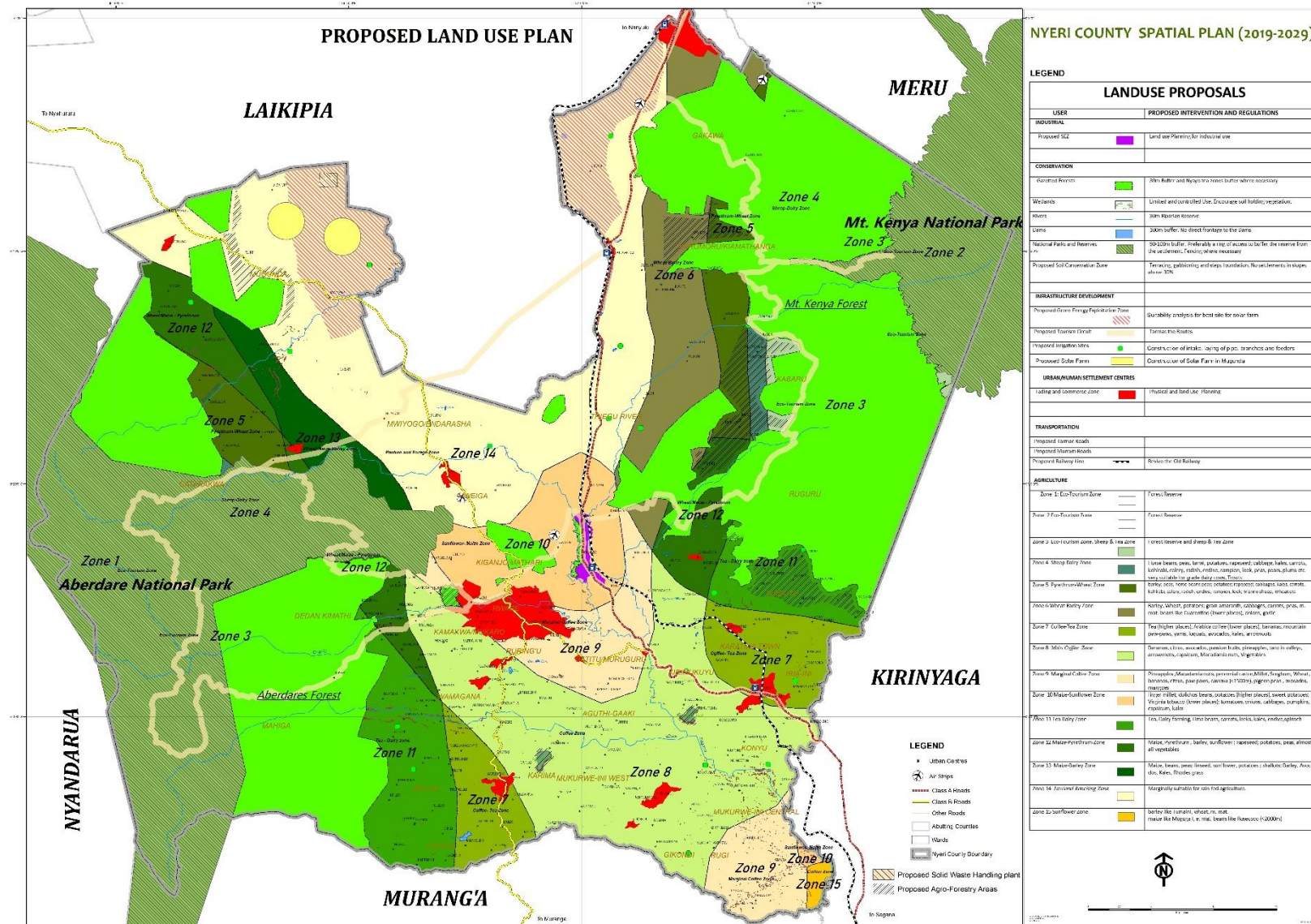
This chapter presents the County spatial structure that indicates the broad land uses, transportation connectivity proposals, existing and proposed infrastructure facilities and areas of economic activities, following an integration of the various scenarios envisioned. The County spatial structure has further been depicted at smaller scale using the wards 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.

4.3.1 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:

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 64: Proposed Land Use Plan



Source: Two Ems Associates, 2019

4.3.2 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.

There are three main elements of a structure plan as depicted below:

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

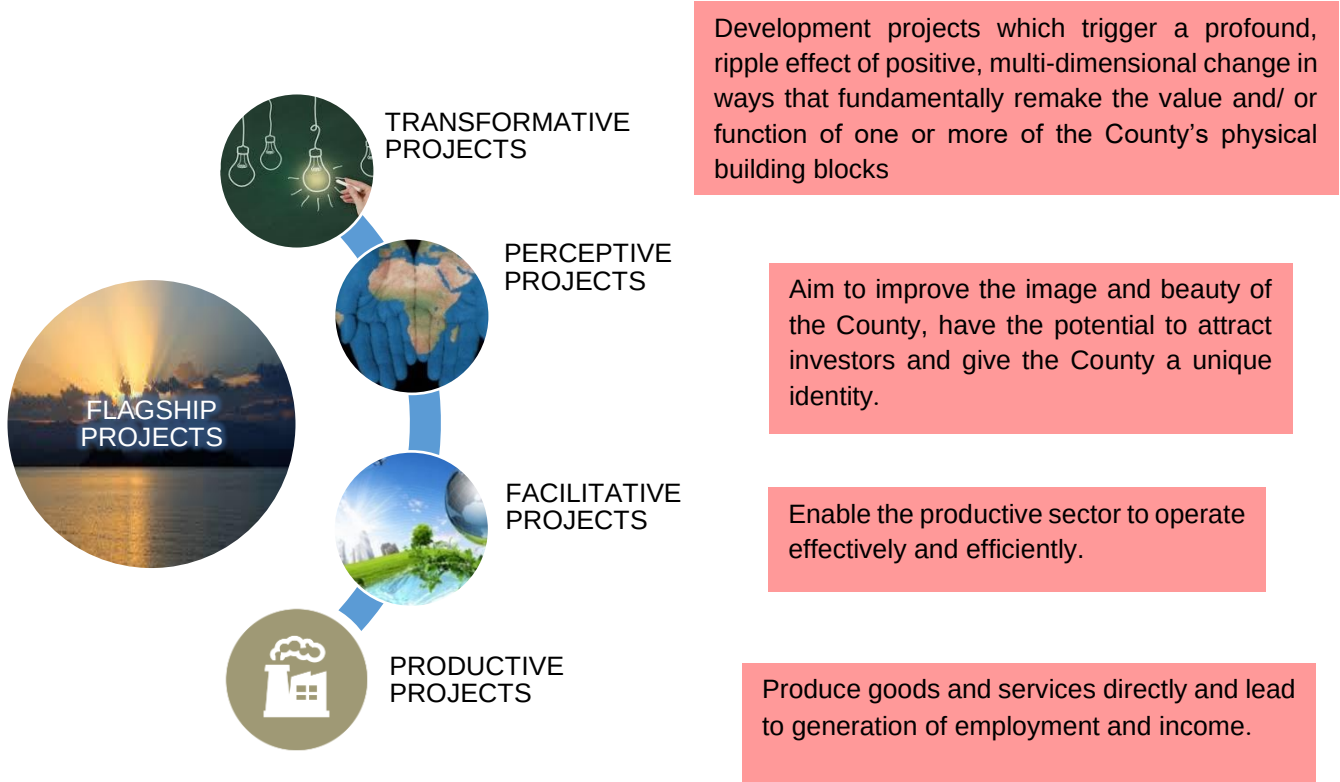
- Identify the standards guiding use of land within each proposed land use category

[illegible]

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4.4: ACTION PLANS & AREAS FOR STRATEGIC INTERVENTION.

These are critical transformative projects with high multiplier effects and with potential to kick-start the economy of Nyeri County. These projects have been categorized into three:



4.4.1 Perceptive Projects

These include:

4.4.1.1 Annual Nyeri Festival

The annual Nyeri festival aims at bringing tourists, both local and international to the County with the intention of marketing Nyeri as a tourist destination. The festival will also serve as an avenue to market local agricultural products and promote the need for value addition of the agricultural products.

The festival will have the following activities:



Branding Nyeri as a MICE (Meetings, Incentives, Conferencing and Exhibitions) Destination



Coffee and Tea tasting events can be held in different locations within the coffee and tea growing areas



Cheese Tasting festivals to brand dairy products from Nyeri for local and international markets

The annual festival should also be supported by an interactive online portal, with a one-stop mechanism for visitors who would like to attend the festival and also people and groups who would want to organise and have conferences and exhibitions in Nyeri.

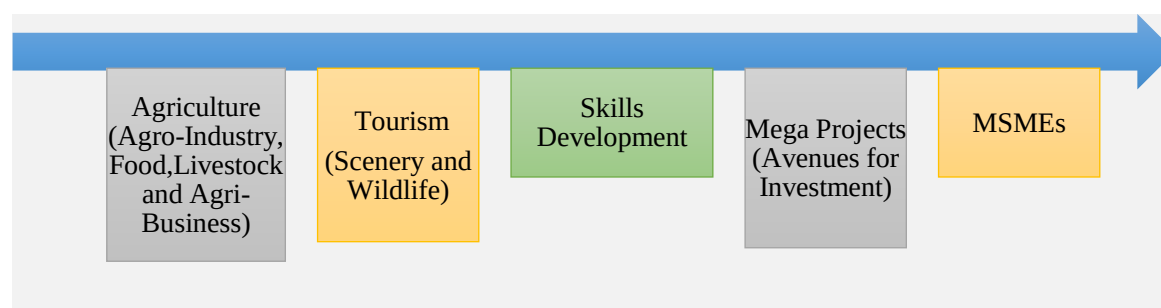
4.4.1.2 Annual Investment Summit

The Annual Summit brings together the Nyeri County Government officials, Nyeri 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 Nyeri. The summit is expected to promote various connections as illustrated below:



**Investment
Summit**

The investment summit aims to establish the Nyeri Entrepreneurship Expo Summit which invites investors to the County to see what the County has to offer. The County niches to be promoted as the main focus sectors are proposed to include:



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.

4.4.2 Productive Projects

4.4.2.1 Investment in Industries: Agriculture, Lumber and Mining

The flagship project aims at promoting economic growth of the County through industrial development that will spearhead poverty reduction and inclusive growth.

1. SPECIAL ECONOMIC ZONE

The proposal is to develop a Special Economic Zone at Kiganjo. The function of the SEZ is to receive agricultural products from various processing plants and collection centres for branding and marketing. The location of the SEZ is due to supporting infrastructure like rail and road transportation links, availability of an NCPB silo for storage of excess produce.



The SEZ is proposed to have the following components:

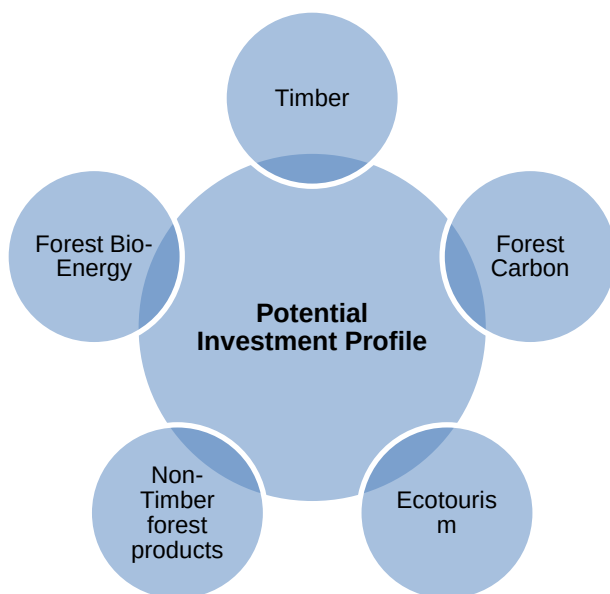
- Modern storage facilities
- Loading zones
- A one-stop shop
- Agri-business incubation centers
- Agriculture Training and Research Center
- Demonstration farm

2. FOREST-BASED INDUSTRIES

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 project will follow the KFS PELIS model where locals are allowed into certain parts of the forest that are already deforested to grow various tree species for sustainable logging. The registered forest farmers can also supplement forestry with beekeeping and grow medicinal herbs that do well in forest areas. The proposed logging zones are in Gatarakwa and Kabaru.

The proposed forest-based sector investment profile is as follows:



3. MINING (CERAMIC INDUSTRY)

The Mukurweini area has clay soils with the potential of supporting a ceramic industry. There have been small scale ceramic industries in the area that have failed due to high costs of production. The flagship project aims at development of the emerging mining sector to attract local and foreign investors to invest capital and expertise into the industry and to promote local economic development for the County and communities. Some of the products from the ceramic industry would be ceramic tiles, utensils and decorations.



4.4.3 Facilitative Projects

4.4.3.1 Environmental Conservation Flagship.

Landslides and soil erosion are some of the key challenges experienced within the County. Therefore, there is urgent need to undertake projects that will help in soil conservation and protection of ground cover minimizing instances of landslides and erosion.

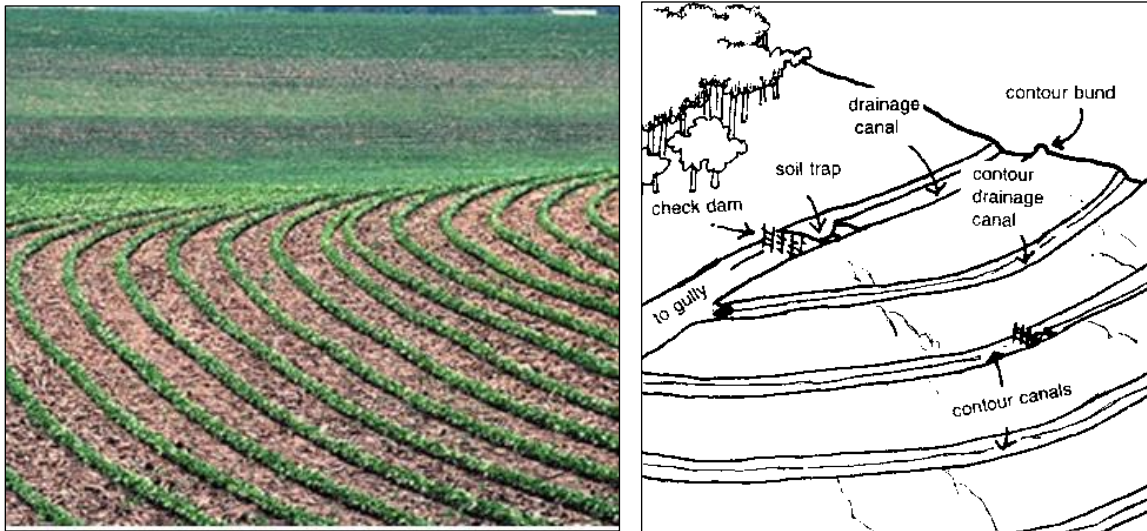
1. BAMBOO TREE PLANTING

Planting of bamboo trees along the steep slopes and riparian reserves is important in curbing soil erosion because they help in soil stabilization especially in steep slopes. In addition to just soil conservation, bamboo trees can be used for paper hence a source of livelihood to the farmers.



2. CONTOUR FARMING

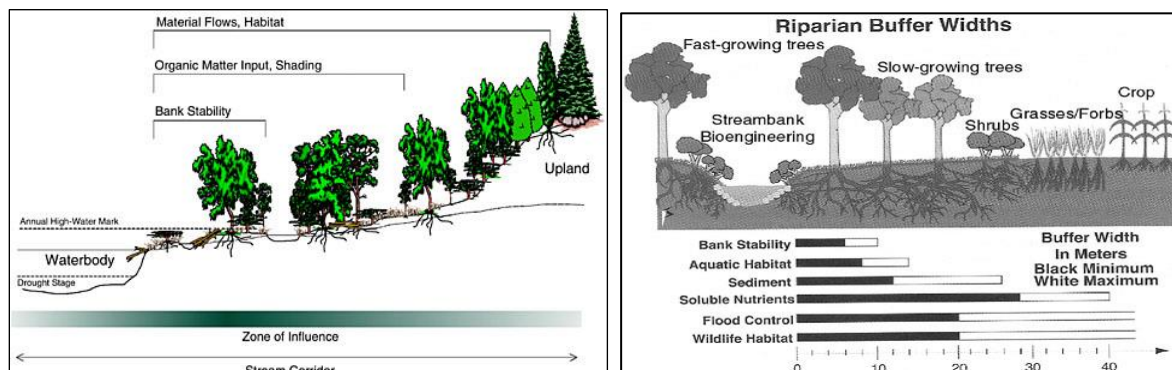
This is a soil conservation practice where farmers especially those on steep slopes plant crops and trees across or perpendicular to contours on a farm. This method is very efficient in controlling soil erosion and landslides as it creates man made water breaks that not only helps in water penetration into the soil but also helps in conservation of the topsoil.



3. RIPARIAN CONSERVATION

In conservation of the riparian reserves, it is important to undertake the following activities;

- Apiculture
- Terracing and building of gabions on steep slope areas
- Reafforestation



4.4.3.2 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 Nyeri County with its neighbouring counties. This can be done through:



Road promoting Agriculture:

This will enable connectivity in the rich agricultural areas of the County that are currently underserved by good roads:

- Karindi-Mukurwe-ini, Gikondi-Muthuthini-Karaba-Mutoga-Thaara
- Mweiga-Amboni-Endarasha-Charity-Watuka-Gakanga-Embaringo-Kiamunguru
- Kimunyuru-Embaringo-Gakanga-Watuka-Charity-Endarasha-Mwiyogo
- Amboni-Nyarugumu-Ihururu-Ihwa-Kinunga-Kagogi-Muthua-ini-Kagwathi



Roads promoting tourism:

This includes construction, upgrading and maintenance of roads used to access tourism destinations across the County:

- NaroMuro-Mwiyogo-Kihuhiro
- Mweiga-Mwireri-Chaka-Karundas-Iruri-Judea-Manyata—Irigithati-Guruai-NaroMoru-Nanyuki
- Gathaithi-Itundu-Ndumanu-Kagochi-Iruri-Karundas-Chaka-Mwireri-Mweiga-Amboni
- Njogu-ini-Mathari-Nyeri-Nyaribo-Chaka-Karundas-Iruri-Kagochi-Ndumanu-Itundu-Gathaithi
- Nyeri-Mathari-Ihururu-Kihuhiro



Roads promoting Commerce and Business:

This include construction and upgrading of road to promote commerce in the County:

- Ihithe-Kiandogoro-Mutubio-Ndunyu Njeru Road.
- Narumoru-Karich-Milimani-Chaka-Kiganjo-Kirichu-Marua
- Mweiga-Babito-Kiawara-Rurii-Tanyai-Nairutia
- Narumoru-Karicheni-Milimani-Kiganjo-Kigongo-Nyeri-Kiamwathi-Giakanja-Gachatha-Kagere-Gacami-Othaya-Kariki.

4.4.3.3 Leadership and Governance Flagship

VISION: Transparency 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 strengthen public transparency and accountability. Kenya Vision 2030 stresses on the improvements in resource mobilization with focus on the involvement of the private sectors.

Objectives

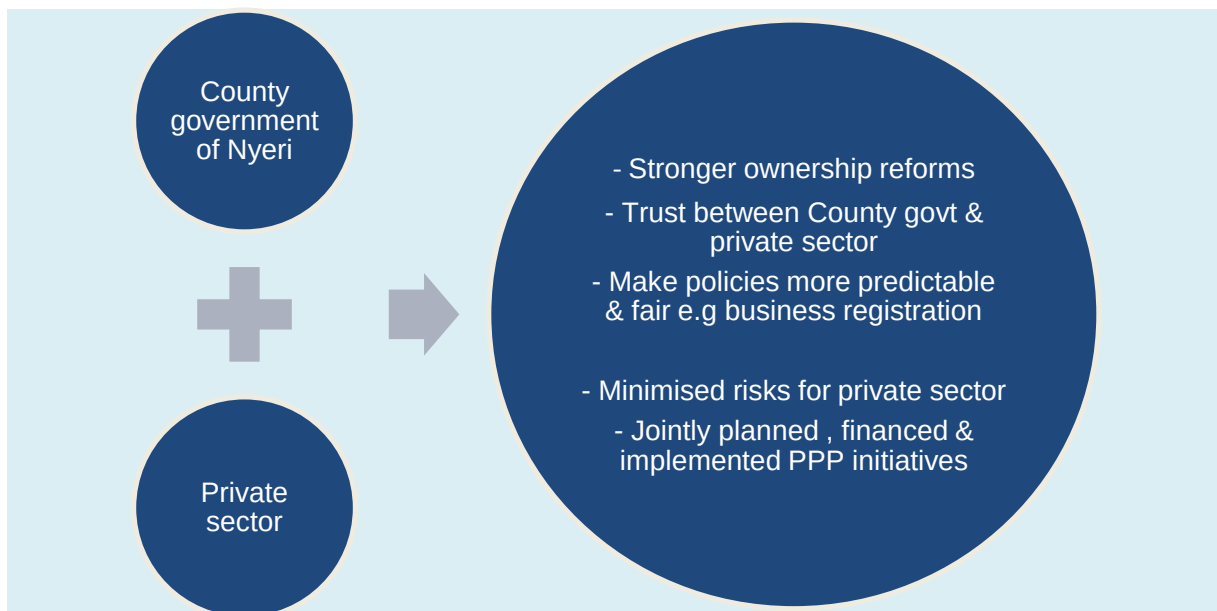
- Public Accountability per Ward through formation of Independent Public Monitoring and Evaluation Committee
- Civic Education and sensitization of community per ward on ongoing and planned development projects based on roles of leaders
- Integration of County Leaders per quarter of the year to take stock of development issues in region.

4.4.3.4 Private sector-driven resource mobilization

This is a facilitative flagship project which aims at assisting Nyeri 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 Nyeri partners and forms voluntary and collaborative relationships with the private sector. Private sector actors may include:



This flagship project is anticipated to bring in the following results:





PART V: PLAN IMPLEMENTATION

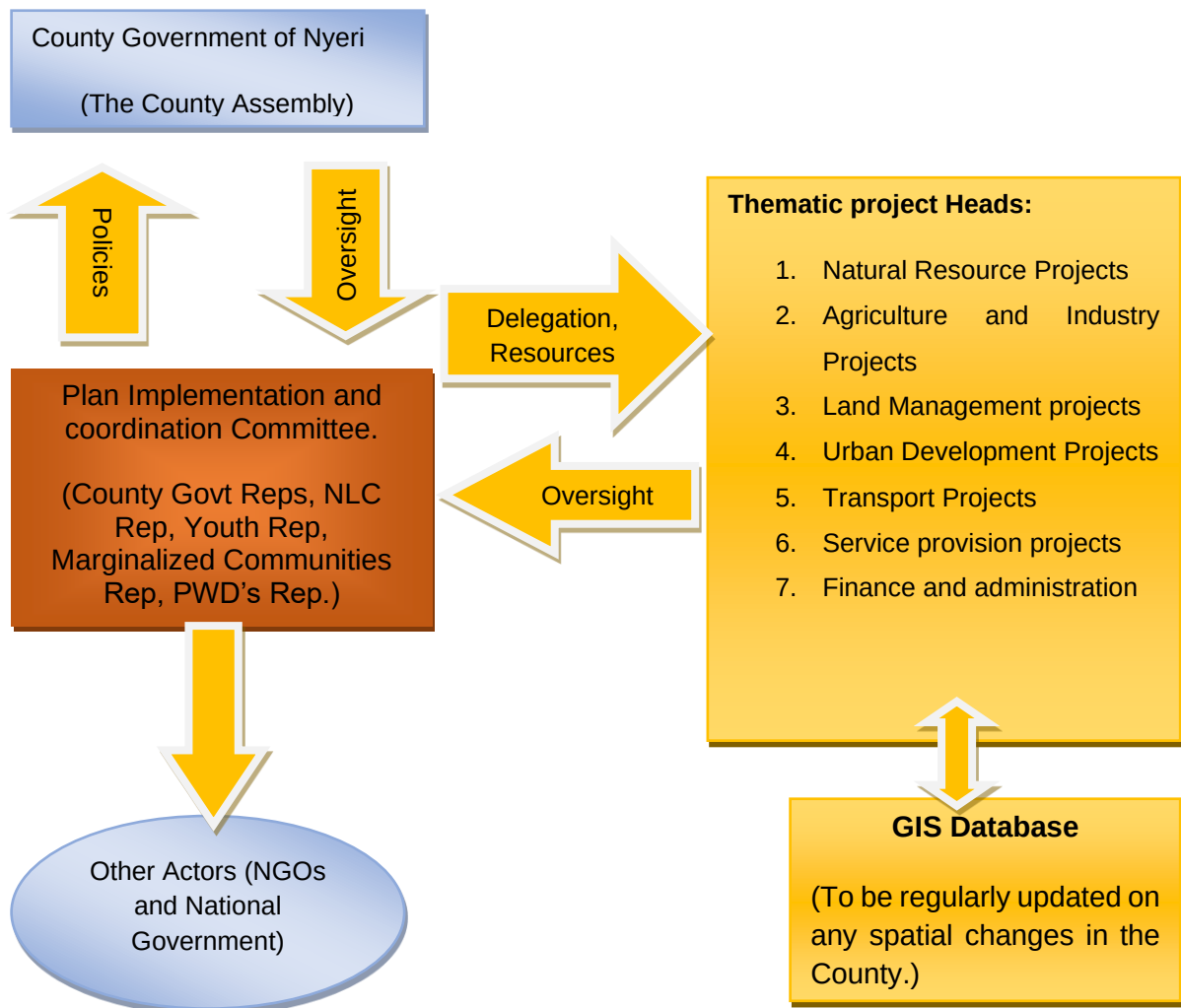
PLAN IMPLEMENTATION STRATEGY

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:



5.1 Coordination Framework

The framework proposes the formation of a Coordination Committee to oversee effective implementation of the plan projects and proper management of the allocated funds. The committee members must not be more than two-thirds from one gender, and a representative of disabled persons, the youth and marginalized communities must be incorporated into the committee. The following schematic diagram best illustrates the coordination framework in the implementation of the Plan.



Members of the Plan Implementation & Coordination Committee

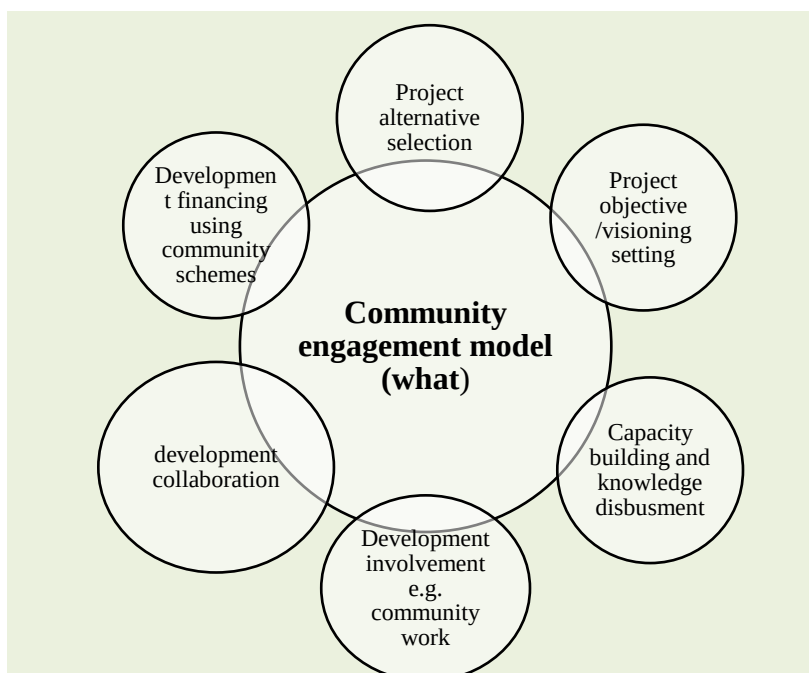
The coordination committee should constitute of:

- a) The Chief Officer (Lands, Housing, Physical Planning and Urbanization) or any relevant person appointed by the Chief Officer, to manage the implementation process. He/She will oversee all functions of the coordination committee including the implementing heads of departments;
- b) Senior member from the department of Trade, Culture, Tourism and Co-operative development;
- c) National Land Commission Representative at the County Level;
- d) Head of Department Agriculture, Livestock, and Fisheries;
- e) HOD Water, Environment, Natural Resources, and Sanitation;
- f) HOD Public Administration;

- g) HOD Education, Sports, Science and Technology;
- h) HOD Health;
- i) HOD Gender and Social Services;
- j) HOD Transport, Infrastructure, Public works and Energy
- k) One representative of disabled persons, marginalized communities and the youth.

5.2 Community Participation Framework

The residents of Nyeri 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.



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

5.3. Communication Strategy

Why a communication strategy:

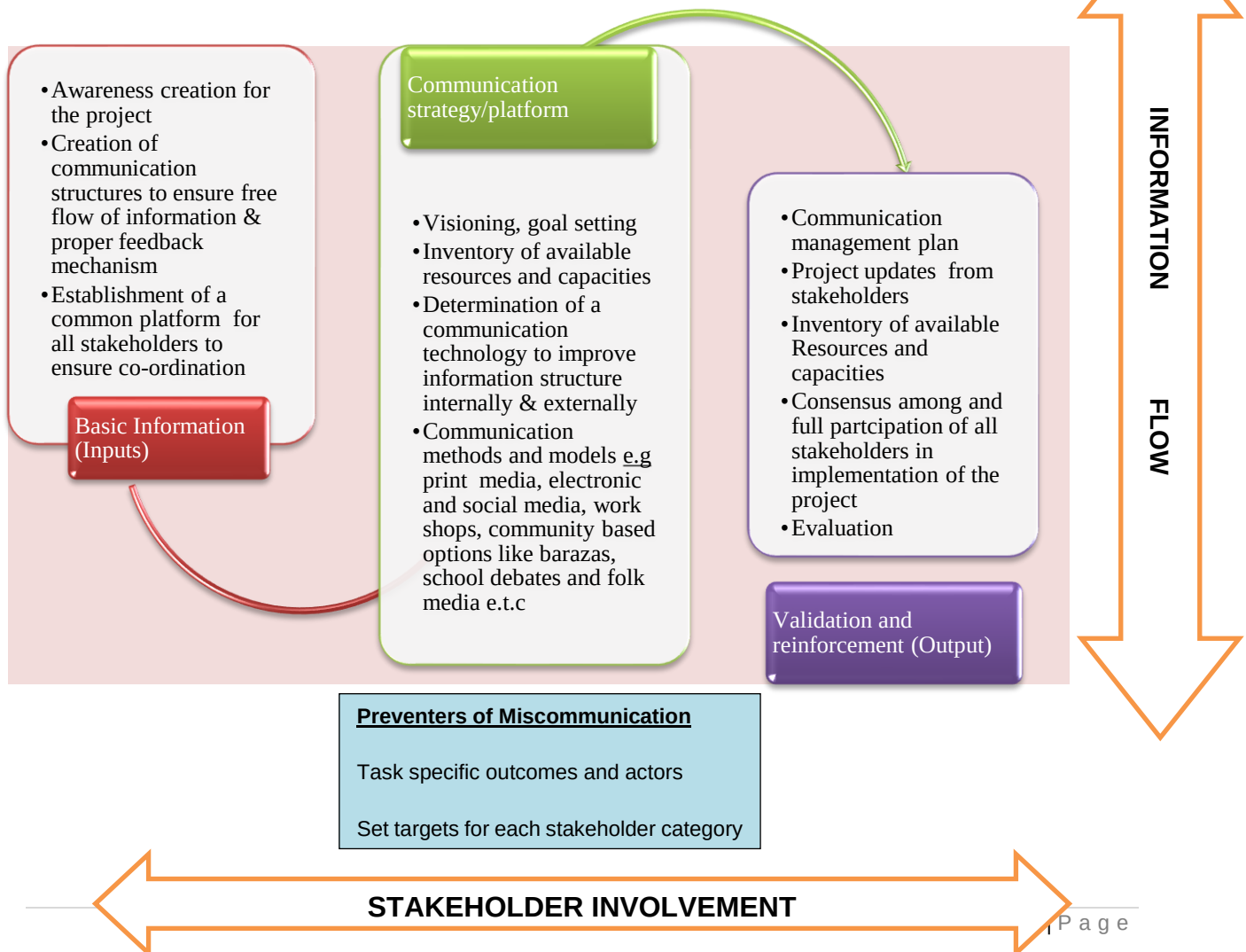
- Effective exchange of information between all concerned stakeholders and built consensus with common vision for realization of the Nyeri County Spatial Plan;
- Efficient communication structures and channels to ensure free flow of information and proper feedback mechanisms between identified stakeholders; and
- Effective transmission and sharing of information and ideas among various players involved in planning process, implementation, monitoring and evaluation of the Nyeri County Spatial Plan.

Whom:

Community leaders and members, representatives of marginalized groups (women, the disabled and indigenous people) Nyeri County Executive and County Assembly policy makers, staff of line government offices, donor

What and how:

Cost effective and cost-efficient methods based on existing resources to achieve:



5.4 Capital Investment Plan

Nyeri County requires to invest in infrastructure and the social improvement assets that should enhance the economic and social development of its 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 Nyeri.

Summary of Capital Investment Costs

No:	Sector:	Total Approximate Cost Phase 1 (Ksh)	Total Approximate Cost Phase 2 (Ksh)
1.	Environmental Conservation Strategy	109,252,750,000	39,704,750,000
2.	Economic Development Strategy	5,869,086,240	1,116,000,000
3.	Integrated Transport Strategy	17,617,300,000	10,227,200,000
4.	Human Settlement Strategy	1,608,200,000	901,800,000
5.	Infrastructure Development Strategy	6,782,664,625	2,093,427,696

Summary of Capital Investment Costs per Phases

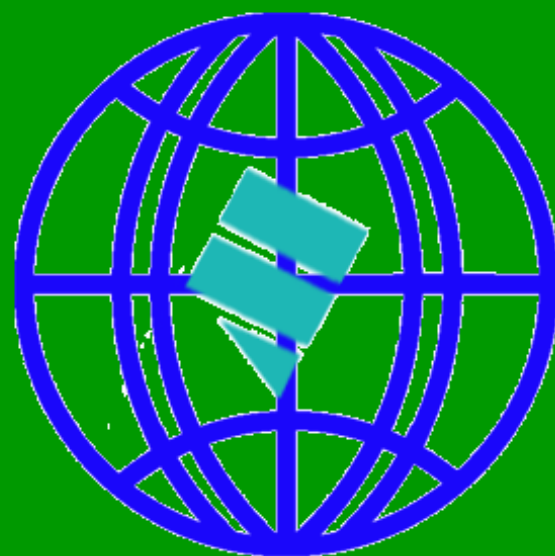
No:	Phases:	Amount
1.	Phase One (2019/2020-2023/2024)	141,130,000,900
2.	Phase Two (2024/2025-2028/2029)	54,043,177,700

5.5 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 Nyeri
		Increased County revenue collection.
	Increased investment opportunities in Nyeri County	Increased number of investors in the County
		Enhanced trading capacity of the County.
		Increased employment opportunities in the County.
		Diversified economic activities in Nyeri County.
	Enhanced infrastructural capacity of Nyeri County	Improved, efficient transport options & reduced travel time.
	More vibrant and formal economic spaces	Increased entrepreneurship & revenue circulation in the County.
Social impacts.	Improved health service delivery.	Reduced disease prevalence and mortality rates.
	Preservation of heritage value and culture.	Reduced dilution of cultural heritage & Increased heritage tourism in the County.

	Improved quality of education delivery	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.	Increased forest cover in the County
		Community participation in conservation efforts.
		No loss of natural forest.
	Conserved and protected water catchment areas	All rivers, springs and wetlands ecosystems to be gazetted and secured.
		Increased civic awareness on environmental issues.
		Increased and sustained water supply in the County.
	Improved wildlife conservation	Increase in the number of tourists visiting the County



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