

MURANG'A INTEGRATED STRATEGIC URBAN DEVELOPMENT PLAN

2019-2029

‘A well-planned modern
County Administrative and
Commercial Capital’



MINISTRY OF TRANSPORT,
INFRASTRUCTURE, HOUSING,
URBAN DEVELOPMENT AND
PUBLIC WORKS



COUNTY GOVERNMENT
OF MURANG'A

CERTIFICATION

Preparation

I certify that the plan has been prepared as per the Physical and Land Use Planning Act, 2019, the County Government Act, 2012 and relevant planning standards and guidelines.

Signature: _____

Date: _____

DAN K. KIARA

REGISTERED AND PRACTICING PLANNER PPRB NUMBER 030

Certified

Signature: _____

Date: _____

PLAN. ANN MUGO

PROJECT SUPERVISOR

Certified

Signature: _____

Date: _____

COUNTY DIRECTOR OF LAND USE PLANNING

APPROVAL

Recommended

Signature: _____

Date: _____

COUNTY EXECUTIVE COMMITTEE MEMBER FOR HOUSING, PHYSICAL PLANNING AND URBAN DEVELOPMENT

Approval

Hansard No: _____

Date: _____

COUNTY ASSEMBLY

Endorsed

Signature: _____

Date: _____

H.E THE GOVERNOR

PLAN REFERENCE NO: C21/MURANG'A/2020/1

PLAN APPROVAL NO:

FOREWORD BY H.E. THE GOVERNOR

The Kenya Constitution 2010 assigns the function of county planning to the County Governments within its Fourth Schedule. The Murang'a Integrated Strategic Urban Development Plan (ISUDP) is a ten-year geographical information-based database system plan that will guide the spatial development from 2019-2029. This development blueprint is a statutory requirement, as outlined in Section 110 of the County Governments Act (2012) and the Urban Areas and Cities Act (amended in 2019). The Vision of this ISUDP is for Murang'a to be, "A modern administrative and commercial town."

This Integrated Strategic Urban Development Plan reflects the desired spatial form and the desired land use zoning within the 2019-2029 plan period. The desired patterns of land use have been synchronized to existing regional, national, and other county plans. Indeed, the plan reflects the objectives and aspirations of the town as in the County Integrated Development Plan (CIDP -2018-2022).

The ISUDP provides strategies for conservation, use and management of natural resources. In addition, the spatial structure of the population, existing infrastructure, economic activities, and human settlements have been mapped. Similarly, the challenges and opportunities for tapping into these resources have been identified. The Plan has identified areas where priority strategic intervention and funding is required. Equally important, the Plan has considered the rights of all special groups within the County within the constitutional requirements for participatory planning and development.

The preparation of this Integrated Strategic Urban Development Plan was carried out through a participatory process as per the requirements of the County Governments Act (2012), the Urban Areas and Cities Act (amended in 2019) and the Physical and Land Use Planning Act (2019). The process involved representation from the public, the County Government and particularly the National Government through the Nairobi Metropolitan Services Improvement Project (NaMSIP), under the Ministry of Transport, infrastructure, Housing, Urban Development and Public Works (MoTIHUD & PW) that funded the preparation of this ISUDP.

It is expected that this ISUDP will be an important pillar in stimulating socio-economic development, which will subsequently trigger growth of all sectors of the County economy. The Plan will thus become an important guide for investments. I therefore take this opportunity to rally the people of Murang'a to support the implementation of this Plan in the spirit of our desired transformation agenda and hereby commit myself to appropriate funding for its implementation. I look forward to the transformation of our county.

Signature: _____

H.E HON. _____

GOVERNOR, MURANG'A COUNTY.

ACKNOWLEDGEMENT

The Murang'a Integrated Strategic Urban Development Plan (ISUDP) 2019-2029 is a tool for efficiently controlling and managing the use of space over the next ten years, in a sustainable manner. This Plan will also serve as a base for all lower-level urban advisory plans and development control during the plan period. The ISUDP also aims to help coordinate implementation of sectoral projects and programs, especially to reduce wastage of scarce resources and to avoid the duplication of efforts.

The preparation of this Plan has been accomplished through a concerted effort of many players. To start with, I wish to thank the County Executive led by H.E. Governor Francis Mwangi wa Iria, as well as County staff led by Planner Sarah Masaki (the County Executive Committee Member for Housing Physical Planning and Urban Development), for their goodwill and support during the preparation of this Plan.

I would also like to acknowledge the efforts of staff of the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works (MoTIHUD & PW), the State Department for Housing and Urban Development and the Nairobi Metropolitan Services Improvement Project (under the Department of Nairobi Metropolitan Development) for supervising, and supporting the entire planning process. Special thanks go to the NaMSIP Project Coordinator, Engineer Benjamin Njenga, Planner Ann Mugo (Project Supervisor), Planner Esther Muthoni, Planner Mutisya Mutua, Engineer Anthony Moire, Alex Maroko, Kevin Onjiko, Kevin Gitau, Michael Ibabu, Mercy Kirema and Kelvin Ruto.

I also wish to acknowledge the team from Murang'a County's Physical Planning Department who included Josaphat Nduati (Chief Officer, Department of Physical Planning), David Njoroge, Maina Karuru, Dennis Kamande, Jacob Mukura and Angeline Wanjiru.

The consulting team from Alpex Consulting Africa Ltd (ACAL) and BC Gildenhuys and Associates CC (South Africa), worked tirelessly with the teams from the County Department of Planning and NaMSIP in data collection and analysis. I would like to acknowledge the technical expertise provided by my fellow consultants the late Planner Geoffrey Njoroge, Planner Catherine Kinyanjui, Planner Hellen Njoki Wanjohi-Opil, Planner Kelvin Riitho, Dr. Samuel Gichere, Planner Joakim Nyarangi, Planner David Mathenge, Planner Ian Kabimba and Planner Lucy Ngunju.

Finally, I wish to thank the people of Murang'a for sharing their proposals during the two county-level stakeholders' workshops. The plan was also advertised in newspapers and the Kenya Gazette allowing for additional public participation before its completion. It was the vibrant contribution of the people and stakeholders of Murang'a that shaped this Integrated Strategic Urban Development Plan (ISUDP).

PLAN. DAN K. KIARA,

Team Leader and Registered Planner,

ACAL Consulting and BC Gildenhuys and Associates CC (South Africa).

EXECUTIVE SUMMARY

The Fourth Schedule of the Kenya Constitution 2010 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 Plan in respect of the entire area of jurisdiction of the county. The Plan is a framework for organizing and distributing local populations and activities in a manner that achieves both national and county development objectives. It is also recognized that towns and municipalities are engines of stimulating socio-economic development in all the Counties. The Government aims at a coordinated approach to planning and implementation of sectoral projects and programs towards reducing wastage of scarce resources and to avoid duplication of efforts.

Murang'a is located within Murang'a County and lies between latitude 0° 43' 0.01"N and longitude 37° 08' 60.00"E at an altitude of 1,255 metres above sea level. Its strategic location provides opportunities for improving the urban economy through agro industrial development, through value addition strategies including improving fish farming and robust market systems.

The preparation process of Murang'a Integrated Strategic Urban Development Plan relied on the Kenya Constitution 2010, 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 Murang'a County Integrated Development Plan (2018-2022). The preparation process was also informed by various Acts of Parliament including the County Government Act (2012), the Physical and Land Use Planning Act (2019), the Urban Areas and Cities Act of 2011 (and the Amendment, No. 3 of 2019), the Environment Management and Coordination Act (Cap 387 of 2012), the Water Act (Cap 372 of 2012), the Land Act (No. 6 of 2012), the National Land Commission Act (No.5 of 2012) and the Forest Conservation and Management Act (No. 34 of 2016), among others. Through this plan, Murang'a aims to be "A well planned modern County administrative and commercial capital" through improved urban functionality, agricultural processing, infrastructure, and social economic development.

The main objective of the Integrated Strategic Urban Development Plan (ISUDP) is to provide an overall Urban Integrated Development framework. Though the Plan will have a 10-year time-horizon, it shall provide a basis for long-term sustainable development within Murang'a. Specifically, it: conducted a participatory planning exercises in citizens' issues, opportunities, priorities and vision for the town; delineated the effective Murang'a boundary in consideration of projected requirements for urban land within the plan period; analysed demographic changes in the last ten years and those expected over the life of the plan and how these relate to economic changes, welfare and administrative shifts; identified development constraints, potential and challenges (social, economic, infrastructure and environmental profiling) and proposed strategies to address them; identified environmental issues and proposed strategies for effective environmental management including, amongst others, climate change adaptation and disaster risk reduction and management measures; prepared an Integrated Strategic Urban Development Plan, showing current and proposed land uses, growth in trade and investments, infrastructure and utilities improvements (such as transport, water, sewerage disposal, solid waste management), enhanced social services (such as education, health, housing, etc.), and to safeguard cultural and environmental assets; and provided a basis for development control and investment decisions by preparing short, medium term plans to guide compact urban development, including action area plans, advisory or zoning plans and regulations, and other reference materials.

Lack of an integrated urban development Plan had hampered harmonious and coordinated development as manifested in unplanned urban housing, poor road infrastructure, poor drainage systems and other services delivery systems like water supply and sanitation facilities. In summary, the planning challenges facing

Murang'a at the time of preparing this Plan include, but are not limited to the following: Poor spatial order due to lack of an up to date plan integrated enough to guide overall development of the town; Unplanned and uncoordinated urban growth; Inadequate serviced land to accommodate urban growth; Inadequate land information system as a basis for planning, optimal revenue and land rates collection, land data management and development control; Inadequate housing provision and dilapidated public amenities, e.g. schools, health centres, recreational grounds, parking areas, police and justice provision; Poor infrastructure provision, especially roads, water reticulation, drainage and storm water management system; Poor solid waste management; Urban poverty and un-employment catalysed through influx, immigration, and declining employment opportunities; Un-coordinated sub-divisions of land; Misallocation of public land; Poor governance, weak public institutions and inadequate financial and technical capacity to undertake planning and development control; and Ineffective participation in planning and development by local communities and the private sector.

The **Integrated Strategic Urban Development Plan (M-ISUDP)** consists of narrative and graphical interpretations of the contextual aspects as well as the existing character and proposed spatial structure of Murang'a. It is hereby presented in four (4) parts that rationalize a logical flow of chapters as follows: -

Part I: Introduction and Planning Context which explains the Terms of Reference and highlights the background and Vision of the Plan incorporates Chapter One on the background which covers the purpose of the plan, planning challenges in the Town, objectives and scope and the expected deliverables of the plan. Chapter Two on the Planning Context describes the National, Regional and Local context, the policy and legal framework guiding the K-ISUDP process, linkages to other relevant plans and previous planning interventions, the methodology and planning approaches employed in preparing the ISUDP.

Part II: Situational Analysis of the existing situation highlights the existing spatial structure and sector-based thematic constraints that inhibit the development of a vibrant and environmentally sustainable municipality. This is expounded in Chapters Three to ten as they give a comprehensive description of the sectoral situation analysis of the existing spatial structure and the socio- economic indicators which are then summarised in Chapter Eleven that presents a synthesis of emerging issues.

From the analysis of the situational context, the following emerged as the critical factors that the plan needed to focus on in the next ten years to spur growth and make the economy vibrant while streamlining environmental conservation:

- From the physiographic analysis: The terrain guides urban growth. The steep slopes have scenic potentials and can be transformed into recreational zones. The slope is suitable of ground water sources for gravitational water supply schemes. Encroachment of the riparian reserves and wetlands in the town, areas around the rivers are prone to flooding due to the waterlogged soils. Climate change over the recent years has resulted in unpredictable weather patterns impacting agricultural practices negatively.
- From the analysis of the population, it emerged that Murang'a has the highest literacy levels in the country. Due to population pressure, available land is increasingly being fragmented into uneconomic units and the population being linearly distributed tends to make infrastructure provision costly.
- From the analysis of the land tenure systems, it emerged that with the institutionalization of the municipality board, the municipality has a vehicle for rolling out a land management system. With adequate incentives and public awareness, allotment letters can be adjudicated to improve security of tenure. Murang'a has inadequate designated open spaces, poor solid waste disposal methods and mechanism. Riparian reserves are degraded due to the nature of the terrain. The town is prone to landslide
- From the analysis of the housing sector, it emerged that informal neighbourhoods such as Mjini are undergoing gentrification due to increased security of tenure. These are prime for rezoning and

densification through specific zoning regulations and if they are left unplanned will experience uncontrolled developments.

- The physical infrastructure was found to be inadequate. There are inadequate requisite services and Infrastructure (Roads, Sewer lines, solid waste). There is need for upgrading and maintenance of all roads within the area. There is an underutilized water treatment plant with permanent rivers to draw water. This has potential to create water security for the town even with an increased population over the plan period. There is an existing sewer treatment plant that has capacity to cover the projected population over the plan period. The municipality has made a solid waste management plan for the town.
- From the analysis of the CBD, it emerged that there were narrow access roads, inadequate parking bays, encroachment of road reserves and streets encroachment by hawkers.
- Since Murang'a served as the former district headquarters, it is serviced with a good number of facilities such as a post office, fire station, libraries/huduma centres and has adequate land bank for these services. There are however limited number of fire hydrants in the CBD.
- Potential for creating an agro-industrial zone and attracting investors for industrialization. Presence of a number of markets within the town points to vibrancy. However, inadequate utilization of existing spaces for instance Kayole Market and Marikiti market was noted. Mumbi market is in poor condition. The town lacks spatial justice for SME traders leading to economic informality.

Part III: Plan Formulation which discusses the Integrated Strategic Urban Development Plan was based on spatial and sectoral development strategies and measures: It comprises Chapter Twelve which examines four alternative development scenarios in the context of their effects on resources and socio-economic interplay and prescribes a preferred development scenario. Chapter Thirteen presents the proposed Structure Plan based on stakeholders' concerns and vision, Zoning Plan and its explanatory Zoning Regulations table as well as relevant Area Action Plans. Chapter Fourteen explains the Strategic Structure Plan in sectoral strategies and proposals.

Two scenarios were considered in the preparation of the Plan, namely urban economic regeneration scenario and green growth scenario. The urban economic regeneration scenario deliberately puts in place measures to spur growth. It acknowledges economic informality and puts in place measures to promote as opposed to destruction of economic informality. On its part, the green growth strategy recognises that the importance of balancing economic growth with environmental sustainability, by supporting innovation in the green economy. Ultimately, an integrated scenario was settled on. It combined the good features of both scenarios for inclusive and sustainable growth. Strategies were developed to bring this vision to fruition.

The land use plan provides a framework that sets out strategic planning policies in terms of space. A structure plan comprises three elements namely, a physical zoning map, land management policies, and land use standards. Overall, the spirit of the structure plan to promote inclusive economic growth while conserving the environment. The Environmental Strategy synthesizes the opportunities and constraints presented by geological, water, forest, energy, land, and wildlife resources. Water resources strategies cover the protection of riparian reserves, wetlands, and underground water sources by restricting development and introducing innovative changes in surrounding areas (such as better and cleaner farming practices and appropriate tree planting schemes). Forest protection strategies include participatory forest conservation projects, restrictions on development within forests or in their immediate vicinity, agro-forestry plans, and promotion of alternative energy sources. Within the wildlife and scenic resources strategy, promotion of eco-tourism would develop wildlife resources.

The ISUDP provides an economic strategy that uses agricultural development as the basis upon which the county is to grow. The plan identifies diversification of agricultural products, increased production, agro industries and marketing as key features to ensure the county reaps economic growth from agriculture. To this end, the plan proposes the setting up of agro industrial zones and various processing industries for fruits,

vegetables, dairy products and fish. The economic strategy is fused with the environmental strategy where the plan proposes ways to ensure sustainable utilization of the numerous natural resources within the county such as the Aberdare water tower, water resources, wildlife and minerals.

Part IV: Plan Implementation Strategy which presents the Plan implementation framework including its Monitoring and Evaluation. It has Chapter Fifteen which provides the sectoral implementation matrix detailing proposed projects, timelines, and identifies specific actors responsible for implementing the proposed projects as well as prescribing monitoring and evaluation tools and indicators.

For implementation, the plan proposes a two-tier implementation team having both the County Government team and the team from other development stakeholders. The implementation team is proposed to be holding consultative forums at least once every two years to keep track of the progress of the implementation. A capital investment plan is provided showing the cost of the major projects which total to about 50 Billion Shillings within the entire plan period. It is further proposed that the ISUDP will be reviewed after 5 years to harmonize the development strategies with changes that could have occurred within the five years. It is expected that the implementation of this integrated strategic urban development plan will promote socio-economic development through agro industrial developments, promoting tourism and developing strategic linkages in the region resulting into enormous multiplier effects towards improved livelihoods and positive economic effect on the people including employment creation and poverty reduction.

Annexes: cover, among other things,

- a) Annex 1: Minutes of the second stakeholder validation forum
- b) Annex 2: The Notice of intention to plan;
- c) Annex 3: Notice of completion of plan;
- d) Annex 4: List of stakeholders who attended the 1st. Murang'a Town Stakeholders Workshop
- e) Annex 5: List of stakeholders who attended the 2nd Murang'a Town Stakeholders Workshop
- f) Annex 6: Terms of Reference
- g) Annex 7: References

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LIST OF ACRONYMS

CBD	Central Business District
EAPC	East Africa Portland Cement
EMCA	Environment Management and Coordination Act
EPK	Eco Plan Kenya limited
EPZ	Export Processing Zone
GoK	Government of Kenya
ISUDP	Integrated Strategic Urban Development Plan
ISUP	Integrated Strategic Urban Plan
KeNHA	Kenya National Highway Authority
KeRRA	Kenya Rural Roads Authority
KFS	Kenya Forest Service
KURA	Kenya Urban Roads Authority
KWS	Kenya Wildlife Service
MDGs	Millennium Development Goals
MTIH&UD	Ministry of Transport, Infrastructure, Housing, Urban development and Public Works
NaMSIP	Nairobi Metropolitan Services Improvement Project
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
NMED	Nairobi Metropolitan Development
NMR	Nairobi Metropolitan Region
NMT	Non-Motorized Transport
PDO	Project Development Objective
SEA	Strategic Environmental Assessment
SWMA	Solid Waste Management Authority
WRMA	Water Resources Management Authority
WRA	Water Resource Authority
WSPs	Water Services Providers
WSS	Water and Sanitation Services

GLOSSARY OF TERMS

Building density: area of buildings/hectare

Corridors: A corridor is a linear strip of land or area, connecting large activity nodes, traversing urban or inter-urban areas, surrounding a major transport facility or facilities providing an appropriate regional level of mobility and accessibility to adjacent areas. It constitutes a high concentration of population and mixed land uses” and “... accommodates major linear transport routes like heavy and light rail and/or freeways, large shopping concentrations, etc., social, cultural and sporting facilities as well as a large amount of residential accommodation”.

Densification: Densification is the increased use of space both horizontally and vertically within existing areas/properties and new developments, accompanied by an increased number of units and/or population threshold.

Density: The number of units per unit of land area, e.g., dwelling units/ hectare. There are five measures of density:

Efficiency: Development that maximizes development goals such as sustainability, integration, accessibility, affordability, and quality of living, relative to financial, environmental, and social costs, including on-going and future costs.

Gross dwelling unit density: dwelling units / total land area of a project or suburb including roads, public open space and non-residential land uses.

Infill Development: Development of vacant or underutilized land within existing settlements to optimize the use of infrastructure, increase urban densities and promote integration.

Kernel density calculates the density of features in a neighbourhood around those features. The result is a smooth surface indicating the intensity of an attribute (buildings, schools, settlement, social facilities, etc.) over the study area.

Land Use Management System: A system used to regulate land use, including a town planning or zoning scheme, or policies related to how land is used on a plot-by-plot basis.

Land Use Management: Establishing or implementing any measure to regulate the use or a change in the form or function of land and includes land development.

Net dwelling unit density: dwelling units/land occupied by residential plots only.

Nodes: Nodes are focused areas where a higher intensity of land uses, and activities are supported and promoted. Typically, any given area would accommodate a hierarchy of nodes that indicates the relative intensity of development anticipated for the various nodes, their varying sizes, and their dominant nature. Population density: people / hectare.

Sector Plans: This refers to plans for different functions such as biodiversity conservation, housing, transport, local economic development and disaster management. They may also be geographically based, for example, a sub-region, settlement within an area or a component of that settlement.

Settlement density: (dwelling units / total land occupied by settlement) also known as average gross dwelling unit density.

Spatial Development Framework: A Spatial Development Framework (SDF) is a core instrument in spatially expressing the economic, sectoral, social, institutional, environmental vision. In other words, it is a tool for moving towards a desired spatial form for the planning area.

Stakeholders: Agencies, organizations, groups or individuals who have a direct or indirect interest in a development intervention or its evaluation.

Urban Edge: The urban edge is defined as an indicative boundary within the planning area with the sole purpose of containing physical development and sprawl and re-directing growth towards a more integrated, compact and efficient urban form.

Urban–rural transect (continuum): A cut or a path, a gradient or a geographical cross section of a region that can be used to reveal a sequence of environments

Zoning Scheme: A legal instrument for regulating the use of land regarding county or national legislation (see Land Use Management System.)



GOVERNMENT
OF KENYA



COUNTY GOVERNMENT
OF MURANG'A

PART I: INTRODUCTION AND PLANNING CONTEXT



General View of Fort Hall

This part of the report gives a description of the project background and planning context; the urban planning methodology, the integrated and strategic approach taken; and, the national policies, legal context and institutional frameworks that guided the preparation of the Integrated Strategic Urban Development Plan for Murang'a.

1 BACKGROUND

1.1 INTRODUCTION

The Kenya Constitution 2010 assigns the function of county planning to the County Governments within its Fourth Schedule. The schedule allocated all Counties the responsibility of preparing County Spatial Plans as the basis of spatial planning. It is in line with this provision that the Government of Kenya realigned the Nairobi Metropolitan Services Improvement Project (NaMSIP) in the Department of Nairobi Metropolitan Development (NMED) of the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works, to achieve this goal. NaMSIP aims at strengthening urban services and infrastructure in the Nairobi metropolitan region. In addition, the project aims at building capacity of County Governments through investing in local infrastructure (roads, markets, street lighting, bicycle and pedestrian pathways, drainage). Equally important is the fact that the project aims to support improvements in integrated solid waste management and sewerage collection and disposal.

It is with this consideration that this Integrated Strategic Urban Development Plan (ISUDP) was developed. The primary focus is to structurally position Murang'a for growth and competitiveness within a broader county and regional setting. It provides strategies for a land use management system and capital investment framework including an assessment of the environmental impact of the spatial development framework. Planning and development measures are intended to convey a negotiated vision or consensually agreed perspective towards an urban area's growth aspirations in spatial terms. Consequently, the plan has an inherent flexibility allowing for continual discussion and reformulation as and when realities portend.

An ISUDP identifies urban functional spaces in an integrated way, and considers how land-use, transportation planning, and infrastructure and services provision that should be coordinated to contribute to competitive, economically robust, socially liveable, and sustainable urban centres, and to guarantee social welfare, ensuring prosperity in their livelihoods and stimulating community development while safeguarding environmental and natural assets.

An Integrated Strategic Urban Development Plan (ISUDP) is an integrated development framework giving a spatial representation of the social and economic development of an urban area. ISUDP is provided for in section 111(2) of the County Governments Act, 2012 (CGA) which stipulates that it is an instrument for development facilitation and development control within the respective urban Centre. ISUDPs are meant to guarantee optimal use of land to achieve sustainable development by addressing development challenges and exploiting opportunities in key areas that have spatial dimension and should be reviewed every five years. An ISUDP should develop strategies, proposals, programs as well as standards and regulations to enhance efficiency and equity, inclusivity and sustainable development.

Murang'a ISUDP is a GIS-based development framework that shall guarantee public participation in the planning process, facilitate more rational decision-making by policy makers and promote information flow to the public and key stakeholders thereby promoting good governance and progressive investment. The Plan is part of the Nairobi Metropolitan Services Improvement Project (NaMSIP) which is a World Bank funded project. It is within this common agreement between the Government of Kenya and the World Bank that the then Ministry of Lands, Housing and Urban Development procured ALPEX Consulting Africa Ltd (ACAL) and BC Gildenhuys and Associates CC (South Africa) for "Consulting Services for Preparation of Integrated Strategic Development Plan for Murang'a and Kiambu Counties within the Nairobi Metropolitan Region". Subsequent consultations led to a common agreement to prepare the Murang'a County Spatial Plan and ISUPs for Murang'a, Maragua, Kangari, Kandara, A2 Corridor and Kiambu, Wangige, Gatundu, Kamwangi, Githunguri and Kimende.

Preparation of the Murang'a ISUDP was aligned to the County Spatial Plan that was a ten-year geographical information-based database system plan that would guide the spatial development of the county from 2019 to

2029. This development blueprint is a statutory requirement, as outlined in Section 110 of the County Governments Act, 2012. The vision of this ISUDP is “To make Murang’a a well-planned modern County administrative and commercial capital”. The Plan reflects the desired spatial form of the County and the desired land use zoning within the 2019-2029 plan period. The desired patterns of land use have been synchronized to other existing regional, national and other county plans. Indeed, the plan reflects the objectives and aspirations of the County as outlined in the second County Integrated Development Plan (CIDP) for the 2018-2022 Plan period.

The purpose of this Plan, therefore, is to:

- a) Define a vision for future growth and development of Murang’a over the next 10 years;
- b) Indicate anticipated patterns of land use and set out basic standards and guidelines for a land use management system designating desirable urban settlements, functional spaces and management of natural resources within Murang’a ;
- c) Provide an overall strategic and integrated spatial framework for the location and function of development and the resultant urban growth;
- d) Provide a framework to guide infrastructural development and service provision within Murang’a and revitalize housing, industries, trade and commerce to spur economic development;
- e) Provide development guidance based on optimum location and nature of development within Murang’a and enhance environmental protection and conservation;
- f) Determine the effective urban boundary and develop a smart urban system;
- g) Interpret and align National, Regional and County Development policies and strategies and reflect them as development programmes and establish better development coordination and implementation mechanism;
- h) Provide a basis for coordinated programming of development projects and budgeting thereby serving as a downstream management tool guiding public and private investment on key urban infrastructural projects and programmes; and
- i) Improve transport and communication networks and linkages and identify opportunities for job creation and employment.

1.2 PLANNING CHALLENGES

Lack of an Integrated urban development Plan for Murang’a had hampered harmonious and coordinated development has manifested in unplanned urban housing, poor road infrastructure, poor drainage systems and other services delivery systems e.g., Water supply and sanitation facilities. In summary, the planning challenges facing the town as at the time of preparing this Plan include, but are not limited to the following:

- a) Poor spatial order due to lack of an up to date plan to guide overall development of the area;
- b) Unplanned and uncoordinated urban growth;
- c) Inadequate serviced land to accommodate urban growth;
- d) Inadequate land information system as a basis for planning, optimal revenue and land rates collection, land data management and development control;
- e) Inadequate housing provision and dilapidated public amenities, e.g., schools, health centres, recreational grounds, parking areas, police and justice provision;
- f) Poor infrastructure provision, especially roads, water reticulation, drainage and storm water management system;

- g) Poor solid waste management;
- h) Urban poverty and un-employment catalysed through influx, immigration, and declining employment opportunities;
- i) Un-coordinated sub-divisions of land;
- j) Misallocation of public land;
- k) Poor governance, weak public institutions and inadequate financial and technical capacity to undertake planning and development control;
- l) Ineffective participation in planning and development by local communities and the private sector;
- m) Poor revenue base due to historical reasons and depreciation of investments;
- n) Increasing land use conflicts: haphazardly planned estates, problem of accessibility in some areas and the existence of unplanned settlements and loss of aesthetics;
- o) Poor promotion of innovation, inadequate informal business acceptability and regulation;
- p) Inadequate promotion of tourism, culture and natural resources as revenue enhancers; and
- q) Inadequate disaster preparedness and lack of a Disaster Management Plan.

1.3 OBJECTIVES

The main objective of the Integrated Strategic Urban Development Plan (M- ISUDP) is to provide an overall Urban Integrated Development framework. Though the Plan will have a 10-year time-horizon, it shall provide a basis for long-term sustainable development. The specific objectives of the Plan include:

- a) To conduct participatory planning exercises to identify citizens' issues, opportunities, priorities and vision for the town;
- b) To delineate the effective urban boundary in consideration of projected requirements for urban land within the plan period;
- c) To analyse demographic changes in the last ten years and those expected over the life of the plan and how these relate to economic changes, welfare and administrative shifts;
- d) To identify development constraints, potential and challenges of (social, economic, infrastructure and environmental profiling) and propose strategies to address them;
- e) To identify environmental issues and propose strategies for effective environmental management including, amongst others, climate change adaptation and disaster risk reduction and management measures;
- f) To prepare an Integrated Strategic Urban Development Plan, showing current and proposed land use, growth in trade and investments, infrastructure and utilities improvements (such as transport, water, sewerage disposal, solid waste management), enhanced social services (such as education, health, housing, etc.), and to safeguard cultural and environmental assets;
- g) To uphold innovative civic and urban design that enhance the character and form of the Town; and,
- h) To provide a basis for development control and investment decisions by preparing short, medium term plans to guide compact urban development, including action area plans, advisory or zoning plans and regulations, and other reference materials.

1.4 VISION AND MISSION OF THE PLAN

During a stakeholders' workshop organized in the preparation process of this Plan, the stakeholders discussed and agreed on Murang'a being a satellite modern administrative and commercial centre.

The agreed-on Vision statement for Murang'a is: "A well-planned modern County administrative and commercial capital".

It should have:

- a) Adequate, efficient, high quality physical & social infrastructure
- b) Vibrant economic activities
- c) Good governance that promotes socio-economic development, transparency, and accountability
- d) Adequate Environmental Protection and Conservation practices.

To achieve the above objective, an agreed Mission statement was "To collectively improve urban planning and infrastructure for improved services".

1.5 SCOPE OF THE PLAN

The Integrated Strategic Urban Development Plan (ISUDP) covers a detailed analysis of the sectoral and spatial structure of the entire area measuring approximately 2538Ha or approximately 25 sq.km. This covers part of the designated Murang'a-Maragua municipality, with a separate plan being prepared for Maragua.

The Plan is a medium term spatial urban development framework with a planning horizon of ten (10) years from 2019-2029 and shall be subject to five (5) year reviews. It appraises the current situation in the town, highlighting the sectoral and thematic constraints manifesting in the town that inhibits the economic vibrancy, environmental sustainability and community development in the town. It also assesses the town's potential and inherent opportunities and covers the key planning and development challenges experienced in the town. It also proposes robust strategies with pragmatic sectoral programmes and investments to solve the identified constraints. The plan analyses these relevant factors and generates significant development concepts and specific yet detailed sectoral programs and investment proposals for Murang'a which shall be used to guide the future growth of the Town.

The Plan presents the Integrated Strategic Urban Development Plan (ISUDP) which depicts all existing physical features, spatially illustrates development projects and guides physical development activities. It aims to address pertinent issues such as human settlement patterns, urban development, and utilization of natural resources, transport and infrastructural development, hence attracting suitable investment. The Plan aims to comply with the strategies, policies and objectives of the Vision 2030, the National Spatial Plan (NSP), the Metro 2030 Strategy, the Metropolitan Spatial Plan, and complement the programmes identified in the County Spatial Plan 2019-2029. It shall also seek to mainstream contemporary issues of Climate Change Adaptation, Disaster Risk Reduction, utilization of Green Renewable Energy and gender parity.

The Plan purposes to facilitate its full implementation and therefore includes a comprehensive plan implementation framework detailing realistic programmes, their respective estimated costs and time frames. These are appropriately matched with institutional responsibility with an applicable Monitoring and Evaluation (M&E) framework for implementing the proposed programmes and investments.

1.6 OUTPUTS OF THE PLAN

The significant output of this assignment is the Murang'a Integrated Strategic Urban Development Plan (M-ISUDP) that will act as a blueprint to guide development. The (M-ISUDP) was prepared in various complementing phases which generated the following outputs:

- a) A Base map
- b) A situational analysis of the current socio-economic, physical, environmental and cultural characteristics;
- c) An appropriate and widely accepted vision stating the desired growth and development;
- d) Development strategies: Transportation Strategy, Infrastructure and Services Development Strategy, Environmental and Resource Management and Protection Strategy, Human Settlement Strategy, Economic Development Strategy and Agricultural Development Strategy.
- e) A comprehensive Spatial Development Framework depicting specific land use and zoning standards and regulations; and,
- f) A practical Implementation Plan with investment strategies and financing/ revenue enhancement strategies and associated realistic costs and responsibilities for implementation of agreed sector wise prioritized programs.

1.7 PLANNING APPROACH AND METHODOLOGY

In undertaking this assignment, the team adopted an integrated and inclusive approach that would yield a relevant, effective and implementable integrated urban strategic development plan as demonstrated in Figure 2.2. A mixed method approach allowing active participation of the mapped stakeholders was utilized as part of the process taking into account guidelines provided in various statutes including the Constitution of Kenya 2010, Physical and Land Use Planning Act 2019, the County Governments Act 2011 and the Urban Areas and Cities Act, 2012. This was necessary in order to ensure that the processes and the final products are legally compliant. The planning methodology was also in line with the existing regulatory framework as summarized in figure 1.1

Figure 1.1: Summary of Plan Methodology



The process had five major phases namely inception phase, awareness and mobilization, data collection and situational analysis, preparation of draft plans and the final plan preparation. All the Phases were followed in a participatory manner and were validated through technical working groups and stakeholder workshops.

Inception Phase

This phase involved project commissioning. Preliminary discussions with the Client, project beneficiary and project consultants on 2nd June 2015. The main aim was to build consensus on the planning area, defining the methodology and work plan. The Terms of Reference were also defined to regulate the project and its outputs.

On the 19th June 2015, a kick off meeting was called by the project beneficiary for purposes of notifying key players and stakeholders of the intention to prepare the ISUDP and confirmation of the planning boundaries. Thereafter, a County Introductory Meeting was convened to introduce the planning team to the county officers. Reconnaissance surveys were conducted for the consultants to familiarize with the project area

Awareness and Mobilization Phase

Pursuant to the Constitution of Kenya and Urban Areas and Cities Act, 2012, public participation was a key component of this project. In this regard, stakeholders to be engaged in this project were identified through consultation among various actors including project managers at the Ministry of Lands, Housing and Urban Development, County Government of Murang'a, and Consultants. Also entailed in this phase was the formation of a technical working group at the county Level. The general public was also informed of the intention to plan through a public notice.

Data Collection Phase

The data collection process for the project began in August 2016, soon after which the situational analysis began. The data used for the preparation of this ISUDP was obtained from both primary and secondary sources. Primary data was obtained through field surveys and visits. Methods involved; Land use surveys, where each plot within the planning area was identified in the satellite imagery and its land use mapped. Other attributes of the individual parcels were collected and filled in a mapping sheet. The consultants also held Focus Group Discussions and conducted key informant interviews for purposes of acquiring first-hand information.

Secondary data collection was achieved through desktop survey. Secondary sources reviewed included various policy and legal documents, previous plans and maps for various towns among other credible and authoritative sources.

Following data collection, an assessment of physical and social infrastructure was undertaken alongside the population demand. This was in an effort to determine the needs of the population. Also, an environmental and natural resource evaluation was undertaken. This was aided through various computer programs such as ArcGIS for spatial analysis. The findings of the situational analysis were validated during a workshop held on 2nd -6th April, 2018.

Draft Plan Preparation

The existing situation was a key consideration in this phase. Preparation of the draft plan involved formulation of structure plan models, detailed plans; local area plans and sector plans. The draft plan proposals report was prepared and submitted to the client for review before being subjected to stakeholders for validation.

Final Plan Preparation

The process commenced after the draft proposals were reviewed by the client and validated by the stakeholders

Public Participation

Various methods were used to enhance public participation as follows;

- (a) Public Notices- To sensitize and attract the involvement of the greater public, notices were published in daily newspapers. This was in the Standard and Daily Nation dated 30th July, 2015. The notices were also simultaneously placed at strategic notice boards within the local area
- (b) Stakeholders- Actors from different agencies were involved as shown in the table below. As evident, actors were drawn from the National Government, the County Government, opinion leaders, Civil society including NGOs, Churches, professional groups, businessmen, farmers, land owners, resident associations and the general public. The actors were identified in collaboration between the County Government, the ministry of Lands and Urban Development and the Consultants. Professional social media platforms were incremental in enriching the plan and proposals herein.
- (c) Workshops- The design of the project envisaged two workshops for the project. One for visioning and validation of situational analysis and a last one for validation of plan proposals. The visioning and situational analysis validation workshops were held in all the planning areas on 2nd-6th 2018.

2 PLANNING CONTEXT

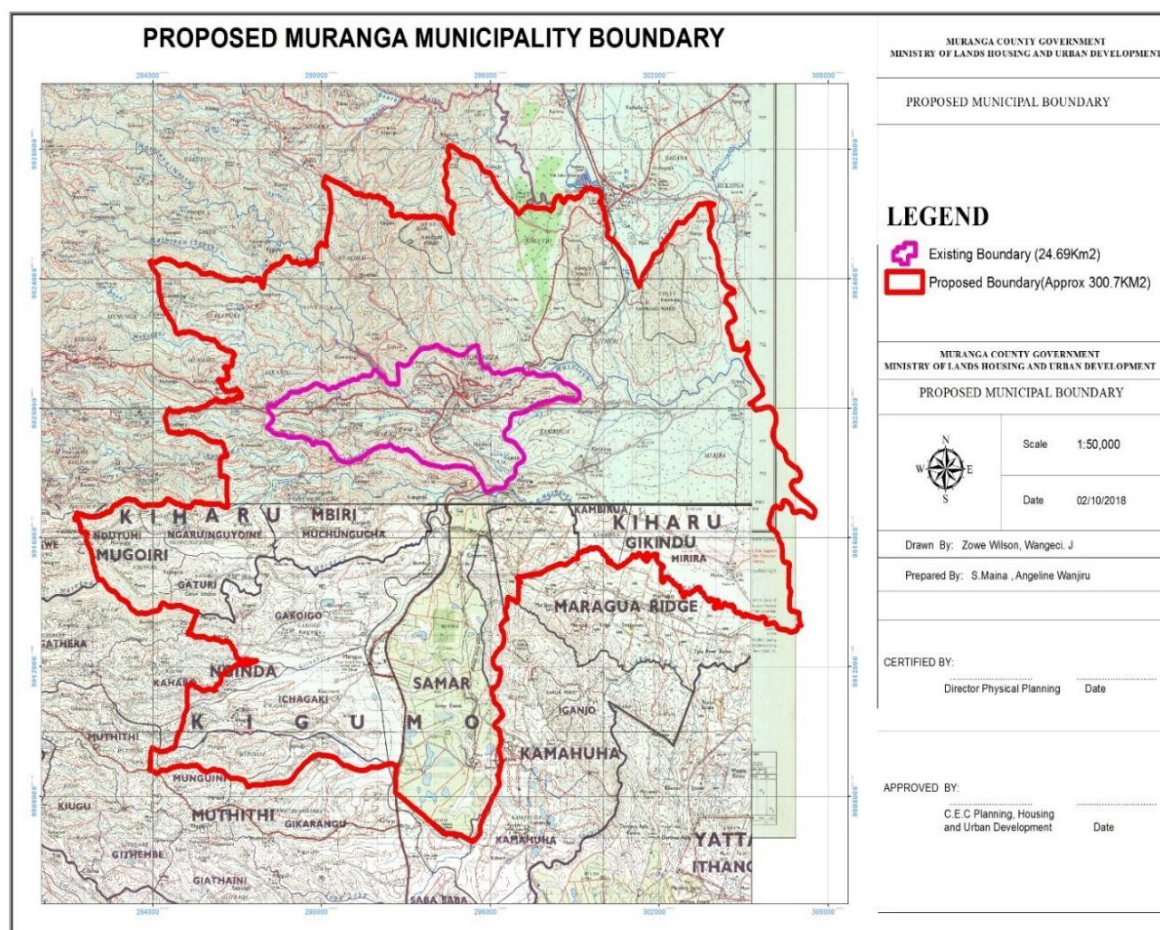
2.1 SPATIAL CONTEXT

2.1.1 GEOGRAPHICAL LOCATION AND SIZE

Murang'a lies between latitude 00 43' 0.01"N and longitude 37 08' 60.00"E at an altitude of 1,255 metres above sea level. It is situated approximately 80km northeast of Nairobi city, the capital of the republic of Kenya. Murang'a is located within Murang'a County which borders Embu, Kirinyaga and Nyeri Counties and covers an area of 2,468.9 Ha (25 Sq. Km an equivalent of about 1% of Murang'a county land area). The current boundary covers the two wards of Mbiri and Township ward. The sub locations within the town are: Maragi, Karuri, Mukuyu and Njogu-ini.

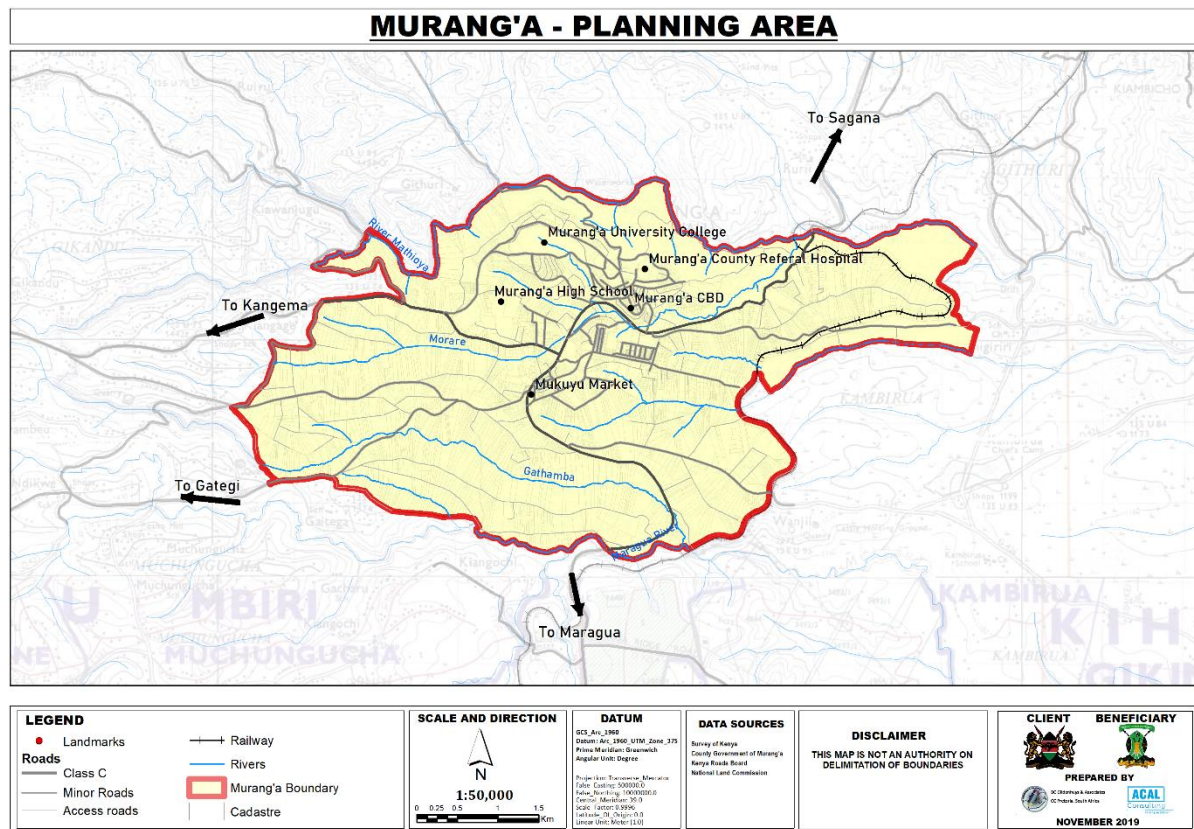
This plan acknowledges that in exercise of the mandate conferred in the dictates of Article 184 of the Constitution of Kenya 2010, Section 48 and 49 of the County Government Act of 2012 and Section 9 (1) to (3) of the Urban Areas and Cities (Amendment) Act, 2017, municipal boundaries were revised by a task force created in 2018. However, this planning report confides to the provisions of the TOR as presented by the client. The boundary of the planning area is as shown in Map 2.1 while the Town Planning area is shown in Map 2-2.

Map 2.1: Proposed Murang'a Municipality Boundary



Source: County Government of Murang'a, 2018

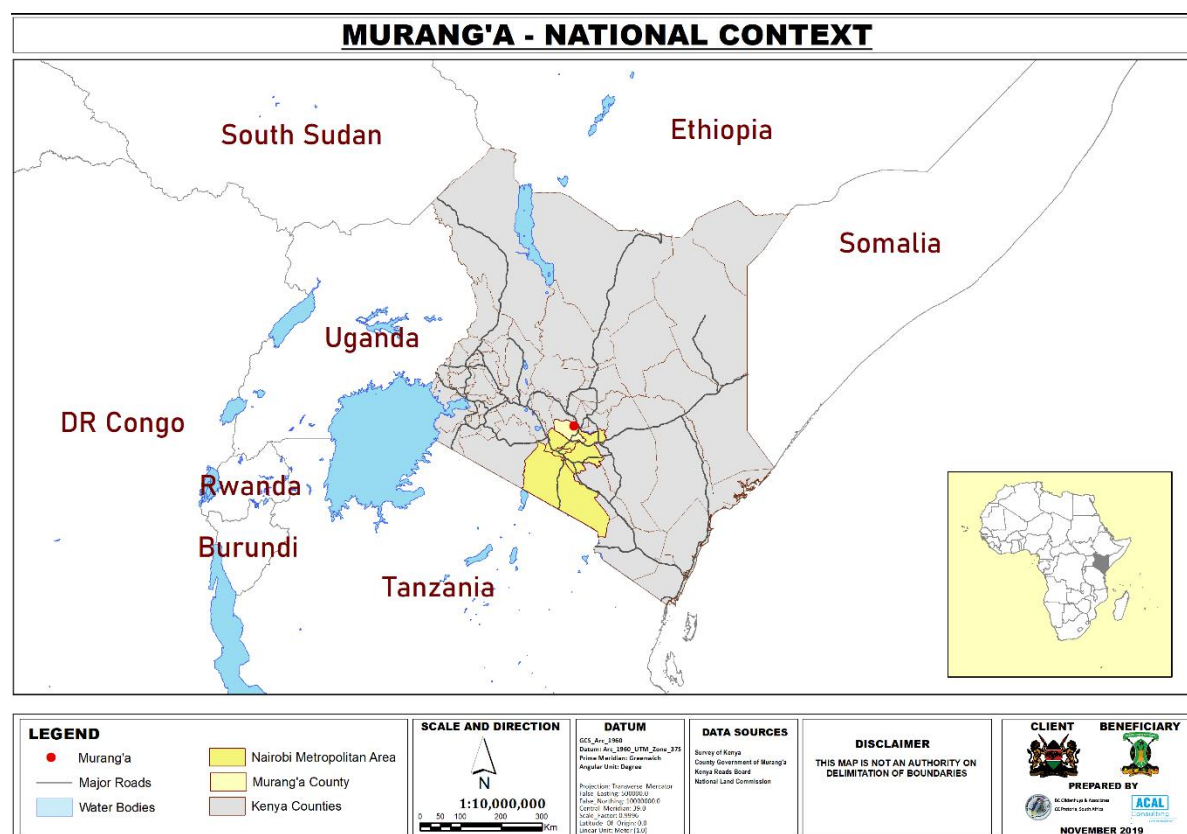
Map 2.2: Murang'a Planning Area



2.1.2 NATIONAL AND COUNTY CONTEXT

Murang'a is the administrative headquarter of Murang'a County. According to the Urban Areas and Cities Act amended 2019 Murang'a as the County Headquarter was conferred municipality status. The County is one of the five counties in the Central region of the Republic of Kenya and occupies a total area of 2,558.8Km². Murang'a county lies between latitudes 0o 34' South and 107' South and Longitudes 36o East and 37o 27' East and is bordered to the North by Nyeri, to the South by Kiambu, to the West by Nyandarua and to the East by Kirinyaga, Embu and Machakos counties. Murang'a is one of Kenya's historically and mythically rich counties as the birthplace of the Kenyan independence movement and is the ancestral origin of the Agikuyu community. See map 2.3 below that depicts the location of Murang'a in national context.

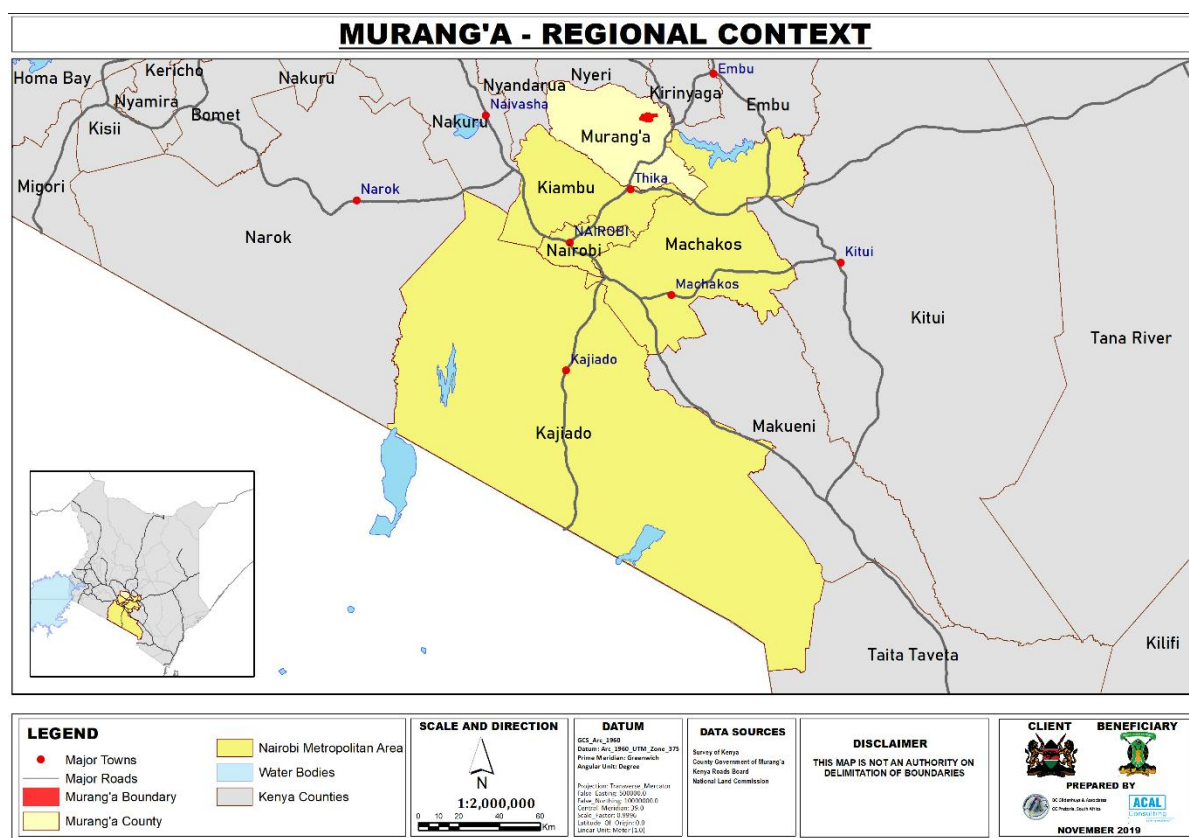
Map 2.3: National Context of Murang'a



2.1.3 REGIONAL CONTEXT

Murang'a lies within the Nairobi Metropolitan Region and the central Kenya region. It is one of the most historically rich towns with a strong economic base and a highly agro-productive agricultural hinterland in Murang'a County. Murang'a is situated to the north eastern side of Murang'a County. It is well served by roads; C71 connects A2 that link the capital city Nairobi to the larger Mt Kenya region. The town is well known for commerce and acts as the county headquarters. The new municipality boundary includes Maragua. Map 2.4 below is a spatial depiction of the regional context.

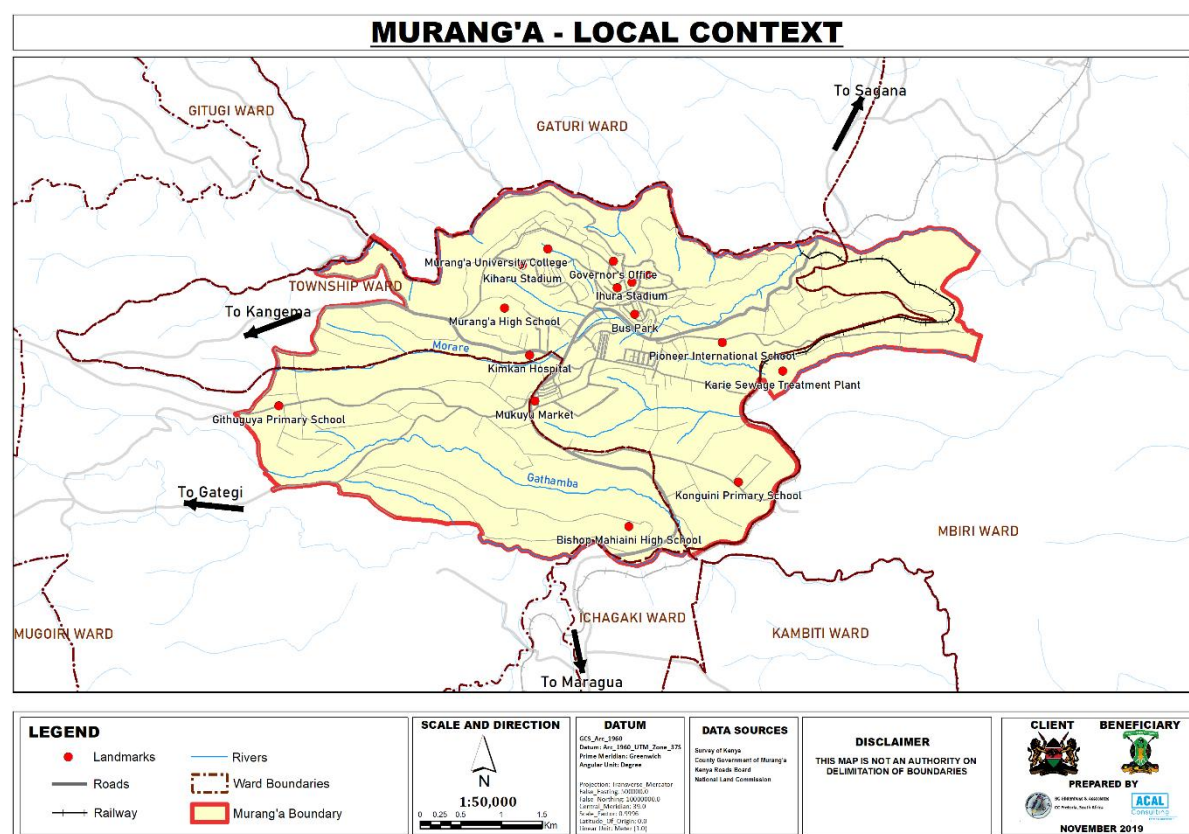
Map 2.4: Regional Context of Murang'a



2.1.4 LOCAL CONTEXT

Murang'a is the major administrative and commercial hub serving the local area within Murang'a County. It is located within Kiharu sub-county and serves as the administrative and civic headquarters of Murang'a County. It borders Murang'a Sub-county to the South, Kangema and Mathioya Sub-counties to the North West and covers primarily the Murang'a Township Ward with a small part of Mbiri Ward being within its boundary. This is shown in the context Map 2.5.

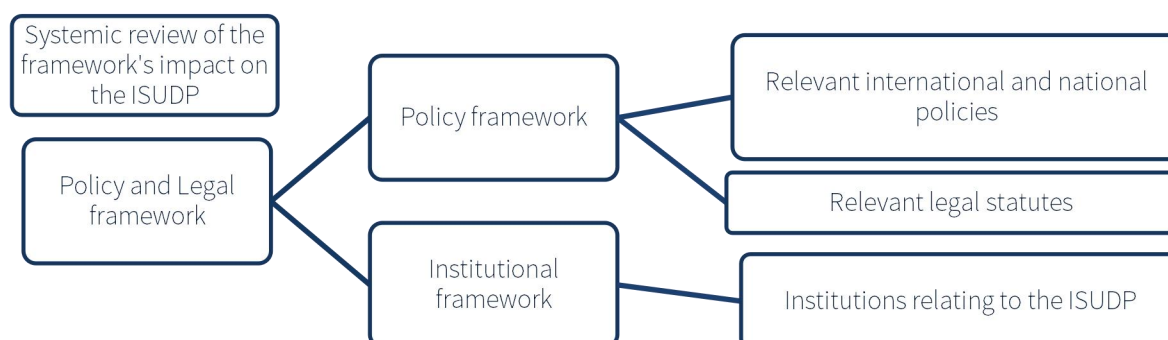
Map 2.5: Murang'a Local Context Map



2.2 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

Kenya's policy, legal and institutional framework form the anchor to which the ISUDP lies on. The framework also guides the implementation of the plan, hence making it important to the plan preparation process. These include the global and national policy obligations as depicted in the figure 2.1 below:

Figure 2.1: Policy, Legal and Institutional Framework



Source: ACAL and BC Gildenhuys, 2019

2.3 GLOBAL POLICIES

Sustainable Development Goals (Goal 11)

The Sustainable Development Goals (SDGs) define global sustainable development priorities and aspirations for 2030 and seek to mobilize global efforts around a common set of seventeen goals and targets. SDG 11 aims to make cities and human settlements inclusive, safe, resilient and sustainable. This ISUDP for Murang'a aims to achieve the following SDG 11 objectives:

- a) Ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
- b) Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport.
- c) Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management
- d) Reduce the adverse per capita environmental impact of cities, including paying special attention to air quality and municipal and other waste management
- e) Provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities
- f) Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
- g) Substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters,
- h) Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local material

New Urban Agenda

The New Urban Agenda provides a roadmap for building cities that can serve as engines of prosperity, inclusion and centres of cultural and social well-being while protecting the environment. The Agenda also provides guidance for achieving the SDGs and provides the underpinning for actions to address climate change. Additionally, the Agenda provides a framework for urban policies, urban planning and design and urban governance, rules and regulations to enhance municipal finance.

2.3.1 NATIONAL POLICIES

The Constitution of Kenya, 2010

The Constitution of Kenya, 2010 gives every Kenyan a right to clean and healthy environment. Other provisions of the Constitution that will guide formulation of the ISUDP include:

- a) Article 60 (1) which provides that land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable and in accordance to principles such as equity in access to land, security of land rights, sustainable and productive management of land resources, transparent and cost-effective management of land, conservation and protection of ecologically sensitive areas.
- b) Article 61 (1) (2) describes land classification in Kenya

- c) Article 63 guarantees the rights of communities to their lands and territories. It states that community land consists of land lawfully held, managed or used by specific communities as community forests, grazing areas or shrines and that it includes ancestral lands
- d) Article 66 (1) states that the state may regulate the use of any land or right over land in the interest of public safety, order, health or land use planning
- e) Article 66(2) states that parliament can enact legislation ensuring that investments in property benefit local communities and their economies.
- f) Article 69 envisions the achievement and maintenance of a tree cover of at least ten per cent of the land area of Kenya.
- g) Article 174 outlines principles of promoting socio-economic development and provision of proximate and easily accessible services which equally depend on proper planning, development and management of utilization of resources.

These provisions from the constitution give a backing for the preparation of this ISUDP for Murang'a. Section 66 and Schedule 4 provide the basis upon which the county government of Murang'a has commissioned the preparation of the ISUDP. Further the fourth schedule provides that the National and County Governments may come together in undertaking their shared responsibilities. It is in this spirit that the National Government through NaMSIP has partnered with the County Government of Murang'a to undertake the planning for the ISUDP.

National Land Use Policy (Sessional Paper No. 1 of 2017)

- a) Provide legal, administrative, institutional and technological framework for optimal utilization and productivity of land related resources in a sustainable and desirable manner at national, county and community levels.
- b) Categorization of land uses in the country.
- c) Advocates for the development of land use plans for the country with full participation of all stakeholders and strict adherence to them enforced.
- d) Promoting environmental conservation and preservation

2.3.1.1 National Land Policy (Sessional paper No. 3 of 2009)

The National Land Policy (2009), provides a framework within which land use planning at the county level is conducted as well as what it desires to achieve. It is upon this framework that the ISUDP will provide the following:

- A basis upon which other physical development plans shall be prepared
- A framework for planning and management of town land resources
- Comprehensive guidelines for determining town land use decisions and future development.

2.3.1.2 National Urban Development Policy

The National Urban Development Policy, seeks to create a framework for sustainable urban development in the country and addresses the following thematic areas: urban economy; urban finance; urban governance and management; national and county urban planning; land, environment and climate change; social infrastructure and services; physical infrastructure and services; urban housing; urban safety and disaster risk management; and marginalized and vulnerable groups.

The NUDP is guided by the Constitution of Kenya 2010, notably clauses 184 and 176 (2) that provide for regulation of urban areas and cities, clause 200(2), which outlines the governance of the capital city, other cities

and urban areas and Vision 2030, which calls for a nationwide urban planning and development campaign. In doing so, the policy provides a framework within which cities, towns and metropolitan regions will play a critical role in national socio-economic development.

2.3.1.3 Integrated National Transport Policy 2012

The aim of this policy is to cover key challenges related to transport infrastructure planning, development and management, of the transport sector. It lays out the legal, institutional and regulatory framework for the sector, safety and security, funding among other factors. Its aim is to provide for an efficient management of a safe, widely accessible transport system that responds to modern technological advancement in a rapidly changing and globalized environment.

This policy accomplished the following: establishment of the Directorate of Transport, Consolidation of Transport Functions under one Ministry, and separation of Policy Making, Regulatory and Service Provision Functions, enhance the Role of the Private Sector in Transport Infrastructure Development and Management, Integrates Non-Motorised and Intermediate Means of Transport into the Transport Systems and provides a consolidation of Urban Public Transport

2.3.2 LEGAL FRAMEWORK

2.3.2.1 The Physical and Land Use Planning Act, 2019

The Physical and Land Use Planning Act (PLUPA) which came to effect in August 2019 repealing the Physical Planning Act (Cap 286) is the framework law guiding the preparation of plans and development control in the country. Section 36 of the Act provides for the preparation of County Physical and Land Use Plans which are 10-year plans to be prepared in every County.

Section 37 provides the objectives of the plan as;

1. To provide an overall physical and land use development framework for the county
2. To guide rural development and settlement
3. To provide a basis for infrastructure and service delivery
4. To guide the use and management of natural resources
5. To enhance environmental protection and conservation
6. To identify the proper zones for industrial, commercial, residential and social developments
7. To improve transport and communication networks and linkages
8. To promote the safeguarding of national security and
9. Any other purposes that may be determined by the planning authority.

Section 41 provides for the process of approval of the plan and grounding for the County Plan being the basis for preparation of sectoral plans and programmes. The Act provides for the revision of the plan after eight years.

Section 54 provides that all plans prepared under the Urban Areas and Cities Act, 2011 shall with necessary modifications be prepared and approved in accordance with this Act, and this therefore means that while as this plan was started under the repealed Cap 286 and UACA, 2011, it will be approved in accordance with the PLUPA, 2019.

Further, the first schedule of the Act provides for the structure of the contents of the plan.

Section 45 gives the basis for preparation of urban area plans for Cities, Municipalities, Towns or unclassified urban areas. It provides that a County shall prepare local physical and land development plans for these urban areas which could be long-term or short-term development plans.

Section 46 provides for the purposes for which the urban plans shall be prepared including; Zoning, redevelopment, regulating land use and developments, providing sectoral coordination framework and guiding the infrastructure provision. Sections 47 and 48 give provisions for the initiation and preparation of the plans.

Section 54 provides that the plans made under the Urban Areas and Cities Act, 2011 shall with necessary modifications be prepared and approved in accordance with this Act. This section as read together with section 45 gives a legal grounding for the preparation of Integrated Strategic Urban Development Plans.

The Act advocates that planning is undertaken to ensure orderly development through land use planning and development control procedures as well as detailing the contents of local physical development plans. The Act also provides guidelines on how the public should be notified upon commencement of the planning process and upon completion of preparation of any physical development plan. This Act provides grounding for the preparation of this ISUDP.

2.3.2.2 County Government Act, 2012

The Act gives mandate to the County Governments, with the role of county planning according to the Constitution of Kenya. No public funds will be appropriated to counties without preparation of spatial plans. The Act requires the County Governor to promote and facilitate citizen participation in the development of policies and plans, and delivery of services in the county. In addition, the Act provides that all plans prepared for a county be approved by the respective county assembly.

Other sections of the Act relevant to the formulation of the Murang'a ISUDP include:

- i. Sec 102 (c) and Sec 103 (f) - protect and integrate rights and interest of minorities and marginalized groups and communities and integrating under-developed and marginalized areas to bring them to the level generally enjoyed by the rest of the Country.
- ii. Sec 103 (i) - achievement and maintenance of a tree cover of at least ten per cent of the land area of Kenya as provided in Article 69 of the Constitution.

2.3.2.3 Urban Areas and Cities Act (amendment), 2019

This ACT allows planning by establishing a legislative framework for classification of areas as urban areas or cities, governance and management of urban areas and cities and participation by the residents in the governance of urban areas and cities.

The statute establishes City, Municipalities and Town Management Committees to oversee the affairs of the city or municipality such as;

- a) Develop and adopt policies, plans, strategies and programs.
- b) Formulate and implement an integrated development plan
- c) Control land use, land sub-division, land development and zoning by public and private sectors for any purpose within the area of jurisdiction.
- d) Framework of the spatial and master plans for the city or municipality.
- e) Promote and undertake infrastructural development and services in the city, municipalities or towns
- f) Administer and regulate its internal affairs

It is worth noting that the Murang'a Municipality Board draws its mandate under this Legislation.

2.3.2.4 The National Land Commission Act, 2012

States the functions, powers of the NLC such as; to monitor and oversee responsibilities over land use planning throughout the country. In addition, this Act provides for the management and administration of public, private and community land in accordance with land policy principles. It provides a linkage between the commission, county government and other institutions dealing with land.

2.3.2.5 Land Act, No. 6 Of 2012

The Act provides power to revise, consolidate, and rationalize land laws as well as provide for the sustainable administration and management of land and land-based resources.

2.3.2.6 Environmental Management Coordination Act, 2012 (Amended 2015)

The Environmental Management Coordination Act, 2012 (EMCA) provides for establishment of an appropriate legal and institutional framework and procedures for management of the environment. It provides regulations for the conservation and sustainable use of resources on wetlands, riverbanks and land for the benefit of the people and communities living in the area. This Act also offers preliminary provisions for the regulation of solid waste, industrial waste, hazardous wastes, pesticides and toxic substances, biomedical wastes and radioactive substances.

2.3.2.7 Water Act, 2016

The Water Act, 2002 provides for sustainable management, conservation, use and control of water resources.

2.3.2.8 Agriculture Fisheries and Food Authority Act, 2013

The Agriculture Fisheries and Food Authority Act, 2013 provides for the establishment of an Agriculture Fisheries and Food Authority. It also provides for the development of policy guidelines by the authority on preservation, utilization and development of agricultural land and related matters.

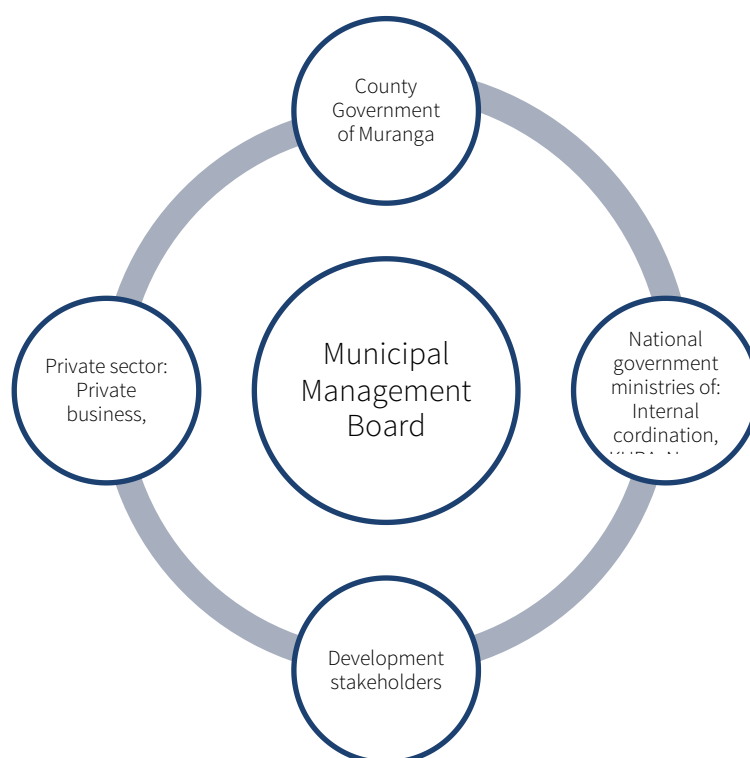
2.3.2.9 Energy Act, 2019

This Act promotes the generation and use of renewal energy and energy efficient technology.

2.3.3 INSTITUTIONAL FRAMEWORK

Institutions are agents of plan preparation and implementation; a sound institutional framework can make or break a plan's implementation. An analysis of the governance capacity to implement the Murang'a ISUDP becomes important to the planning preparation process. These institutions include the national government, County Government, Private sector organizations and the Civil Society organizations that are expected to easily network and coordinate their approach to the plan implementation as a guide to the development of the town (see Figure 2.2). The scoring is based on Level of interest and position, level of knowledge and level of power.

Figure 2.2: Institutional actors



a) Municipal Management Board

As per the provisions of the Urban Areas and Cities Act 2019 the municipal management board remains the single most pertinent player in implementing the ISUDP. The County government appointed Murang'a Municipal Management Board in 2019. The Municipal Management Board's mandate is to oversee the affairs of the town, formulate and implement integrated development plans, and control land use, land sub-division, land development, and zoning. The Board also promotes and undertakes infrastructural development, implements applicable national and county legislations, collects rates, taxes, levies, duties, fees, and surcharges on fees, and promotes a safe and healthy environment.

2.4 LINKAGES TO OTHER PLANS & STRATEGIES

This section identifies a number of higher-level plans and strategies, both global and national. The ISUDP will attempt to localise them towards achieving the vision and strategies therein by localizing interventions that will be achieved via this plan.

Vision 2030

Vision 2030 is the blueprint for Kenya's long-term national development. It is anchored on three main pillars: Economic, Social and Political. The Murang'a ISUDP should be linked to the Vision 2030 so as to be part of Kenya's transformation into *"a newly industrializing, middle income Country providing a high quality of life to all its citizens in a clean and secure environment"* through improvement of key thematic sectors such as Infrastructure; Energy; Security; Tourism; Agriculture; Wholesale/Retail Trade; Manufacturing; Financial Services; and Business Process Outsourcing.

This ISUDP will identify strategies, proposals and projects that will contribute to the delivery of vision 2030.

The National Spatial Plan

The NSP defines the general trend and direction of spatial development for the country by providing a framework for better national organization and linkages between different activities within the national space hence informing the future use and distribution of activities.

The national spatial plan seeks to provide a framework for functional human settlements, enhanced agricultural productivity, planning and managing natural resources and the environment, providing a framework for infrastructure provision, promoting industrial and commercial development and the enhancement of good governance.

Big Four Agenda

From December 2017, the national government announced the Big 4 Agenda that would be prioritized in resource allocation. The four sectoral areas mentioned included:

- a) Affordable Housing.
- b) Food Security
- c) Manufacturing, and
- d) Universal Healthcare

The Nairobi Metropolitan Strategy

In 2008, the National Government prepared the Nairobi Metro 2030 Strategy aimed at making the Nairobi metropolitan region ‘A World Class African Metropolis’ which is safe secure and prosperous. The Strategy forms part of larger national plans such as the Kenya Vision 2030 document. Due to the dominance of the Nairobi Metro, the overall Strategy has national and regional development implications specifically for surrounding counties such as Kiambu, Thika, Kajiado, Machakos and Murang’a. Sustainable development that focuses on social (liveability), economic (competitiveness) and environmental sustainability underpin the Strategy.

Murang’a County Integrated Development Plan (CIDP)

The CIDP provides the County’s vision for the next five years while detailing various projects and programme per sectors with their location for implementation. The CIDP outlines proposals for budgetary allocations to various sectoral programmes such as establishment of industrial parks, upgrading of road networks, among others.

2.5 HISTORICAL DEVELOPMENT MURANG’A

The district of Fort hall (now Murang’a County) was founded in the year 1900 by Mr.GF Hall named “Mbiri” but later renamed Fort Hall after the founder. Hall had left Machakos with 40 armed porters and a company of East African Rifles. Within a few years, the surrounding district had been pacified and reduced to the Fort hall administrative district and remained the headquarters for the Kenya province until 1912 when the capital moved to Nyeri. However, before 1908 there was no definite locational organization except the jurisdiction of two paramount chiefs Karuri wa Gakure and Kibarabara wa Maasai but there were 57 Headmen in charge of various locations. By 1912 the district was divided into two divisions: ‘A’ stretching from Maragua to Chania and ‘B’ stretching from Maragua to Tana each division being subdivided into sections ruled by headmen.

There were 23 such divisions in B and 15 in A. This arrangement persisted up to 1936 when reorganization reduced the number of locations to 15 each, under a headman classification A and B disappearing. In 1953 4 additional locations 16 and 19 were added. Location 17 comprised of the country east of the main Fort Hall - Thika road and south of the Maragua River while the other took in parts of another large location. Towards the end of 1954 a 20th location was created for the low area to the north and east of Fort Hall Township. 1920-District committee formed first meeting in Thika Fort hall, only township in the district with trading centres at Weithaga, Sabasaba, Makindi and Thika. The Population was at 648 people. Bulk goods carried by ox drawn

wagons, damage done by vehicles necessitated the need to construct a road through Pundamilia and join the present near the Murang'a Bridge.

In 1924, serviceable bridges were constructed over Karichiungu River, on the Fort Hall Tuthu road, the one joining Njiris and the Muriranja over the Murang'a River. In the year 1925, formal recognition of the local councils was done as reported in the Fort Hall annual report of 1925, DC. 1927- The District was made up of 3 townships namely Fort Hall, Thika and Sagana. There was the construction of several infrastructures such as the bridge over Maragua at a cost of 14222/65\$; the Rucho River and the bridge over the Thika River on the road that traverses on the South of Mathioya. Agriculture was successful in the year as evidenced by successful Trout breeding as well as good condition of the Sisal Estates at Pundamilia, Sabasaba, Makuyu, Kakuza and Maragwa.

The Kikuyu Trading Association came to being as an association to curb middlemen who were mostly non-natives. The town had a broad road, lighting and the floor of the market was cemented and grass put on it. Native shops in the vicinity had been roofed with paraffin tins. In 1928 Kiriaini-Geitwa road was completed. In 1929 the locusts invaded Fort Hall, which led to loss of cattle, goats and sheep.

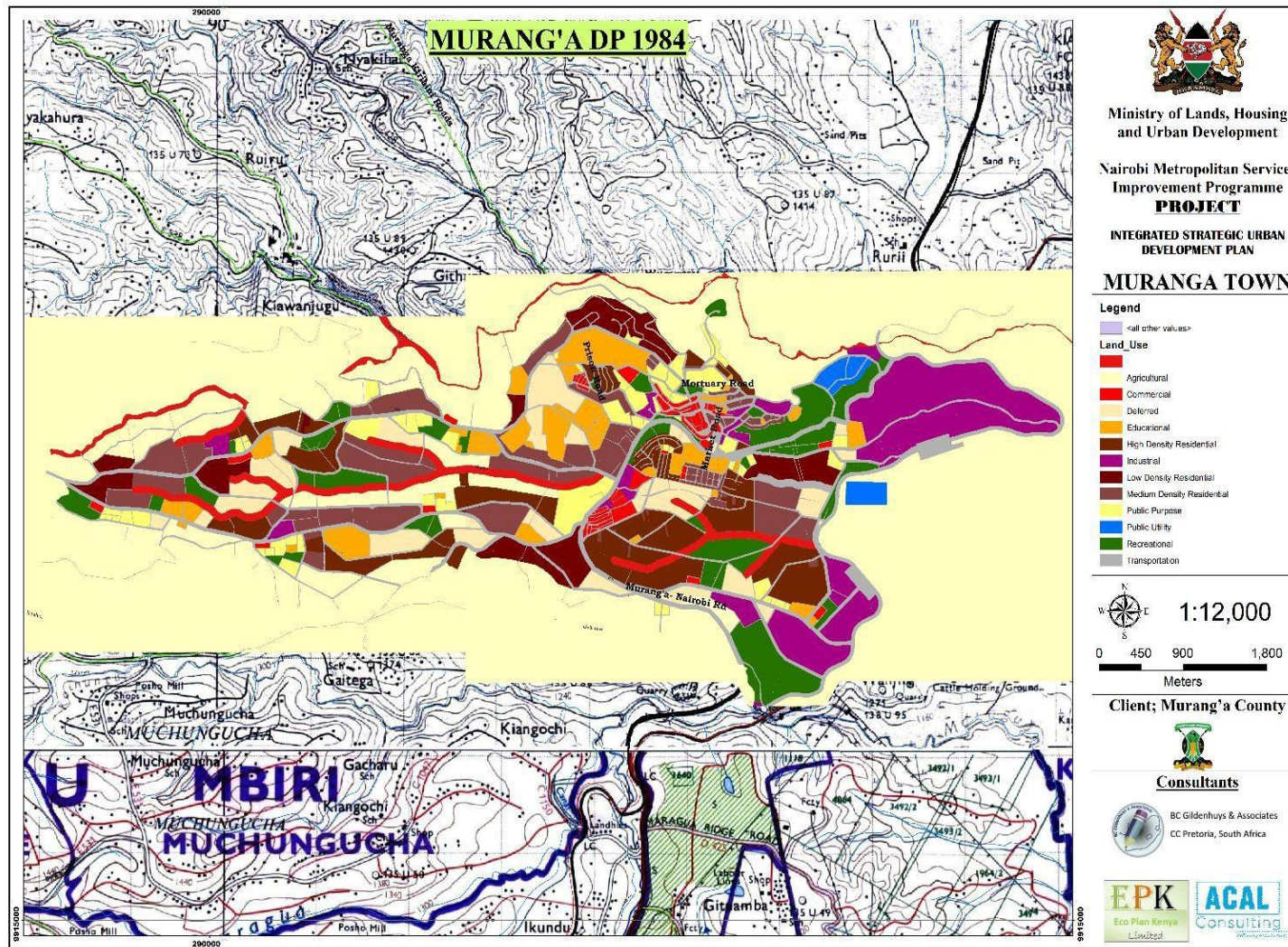
There was the separation of Thika settled area from Fort Hall (gazette Notice, May 1929). In 1930 the chiefs were empowered to water political inspirations within the District. Consequently, the Native tribunals convicted Joseph Kange'the (president of KCA) and two others for convening illegal meetings and the Supreme Court confined them to sentences of 2 months. The natives began to display civil disobedience in 1932 which was attributed to forced labour in Nairobi. It was then that trade centres such as Murang'a and Saba saba were started to give alternative jobs to the natives.

2.6 PREVIOUS PLANNING INTERVENTIONS

There have been attempts to plan the town over the years. In the year 1984 a development plan for Murang'a was formulated. This was meant to cover the period 1984-1994. It was intended to cover the then Murang'a municipality in a boundary determined for the time. However, the implementation of the plan was hindered by several challenges such as: Poor coordination of the implementing teams, frequent changes in town management that resulted to a loss in institutional memory and poor financing of the urban interventions laid out. To this effect, the vision was not attained.

The development of the town has over the years been guided by ad hoc development control regulation not anchored to a development plan. The current land use is therefore not in line with the proposed development plan envisaged in the year 1984. It is apparent that land uses over the years have not corresponded to the vision of the plan. For instances the plan envisioned the town to be an industrial town and allocated an industrial zone that has since been taken up by a host of residential developments.

Map 2.6: 1984 Murang'a Development Plan



Source: ACAL and BC Gildenhuys, 2019



GOVERNMENT
OF KENYA



COUNTY GOVERNMENT
OF MURANG'A

PART II: SITUATIONAL ANALYSIS



This part of the report provides a detailed discussion on the existing situation of Murang'a. It focuses on the geographical location, population and demographics, the economic activities, the environment, infrastructure and facilities; and the problems and opportunities.

3 PHYSIOGRAPHIC CHARACTERISTICS

3.1 BASE MAP

A Base Map is the graphic representation depicting baseline reference information at a specified scale and forms the background setting for a map. The baseline reference information may include landforms, rivers, roads, landmarks, and political boundaries. The main function of a base map is to provide background detail necessary to orient the location of the map, though they also add to the aesthetic appeal of a map.

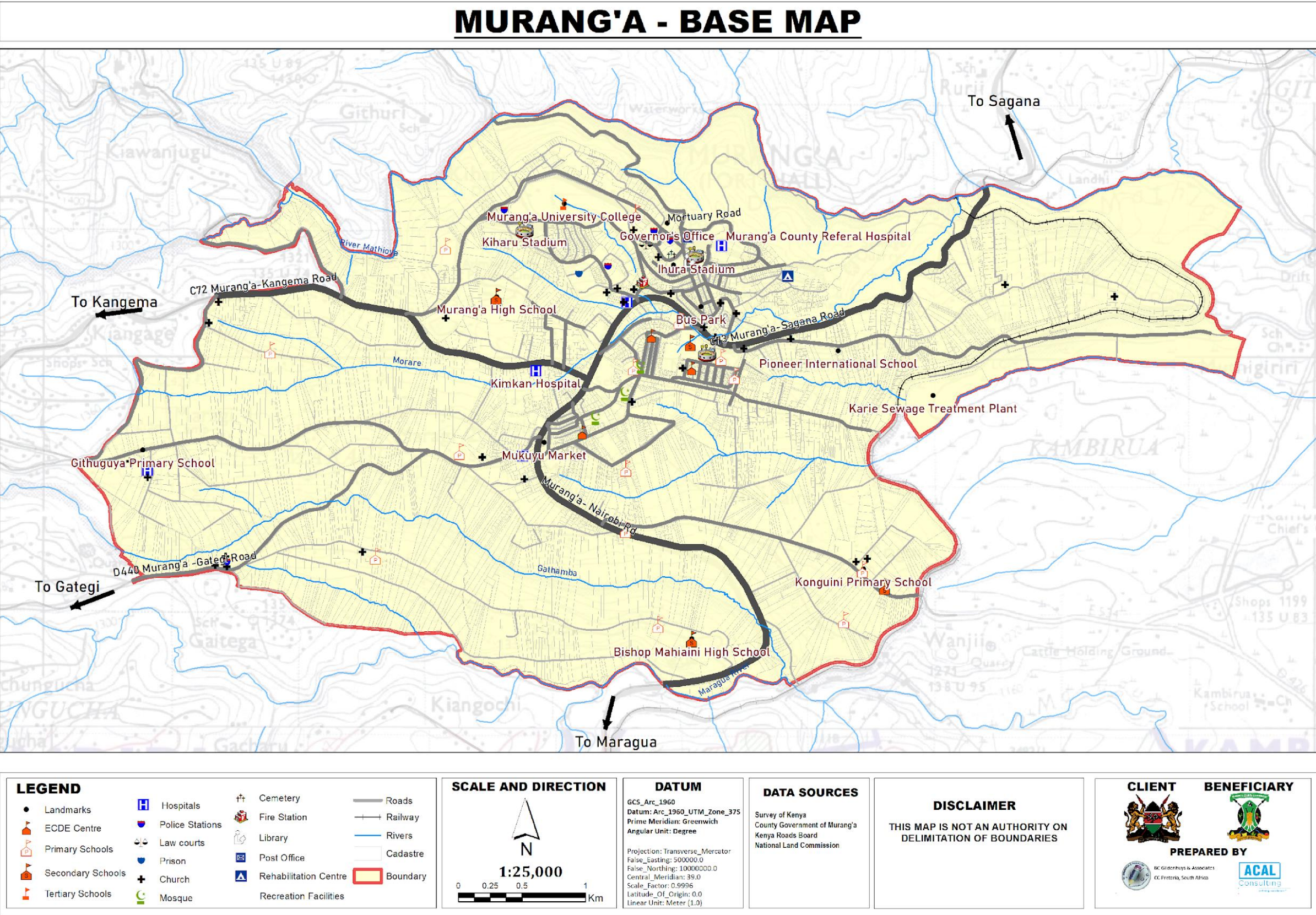
The Base Map was prepared in GIS environment that enabled digitization of an overlay of the Town's aerial imagery, development plans and cadastral layout. This facilitated the digitization of the Town boundary, cadastre, natural features, structures as well as main infrastructure including Roads, Markets and public utilities.

The base map was prepared using the following key steps:

- a) Acquisition of hard copy Registry Index Maps (RIM) from the Survey of Kenya (SoK) and Murang'a Town Development Plans (DP) from the Murang'a County Physical Planning offices;
- b) The hard copy RIMs and Plans were scanned and geo-referenced using GIS (ArcGIS) to bring them to a common coordinate system i.e. Universal Transverse Mercator (UTM) projection on Arc 1960 datum;
- c) An acquired ortho-corrected aerial image of Murang'a was also digitised and provided a digital base map of the Town;
- d) Once proper geo-referencing was done, development plan (DP) was digitized from the geo-referenced DPs and overlaid with the digital site base map as developed from the aerial photograph;
- e) After integrating the DP with the digital area map, the settlement site boundary corner coordinate data was extracted from the digital site plans for ground verification of the draft Base Map;
- f) The Base Map Ground Truthing was then conducted with the help of local informants seconded to the team by respective County Ward Administrators. This exercise facilitated the confirmation the spatial extent of the Town's built-up area, and the determination of significant cadastre attributes, i.e. existing Land Use and type of developments per plot;
- g) The verified and picked Town Boundary and cadastre attributes were plotted on to the compiled base maps. Where coordinate systems between the maps and the boundary were different, necessary coordinate transformation were carried out to harmonize the coordinates to the UTM system. The boundary was plotted on the aerial photographs acquired for mapping the settlement.

The Murang'a Base Map has been applied as a canvas backdrop in the analysis of the several sectoral thematic maps including Transport Networks and Connectivity, Human Settlement Patterns, Infrastructure and Services Provision, and Problem and Opportunities Maps.

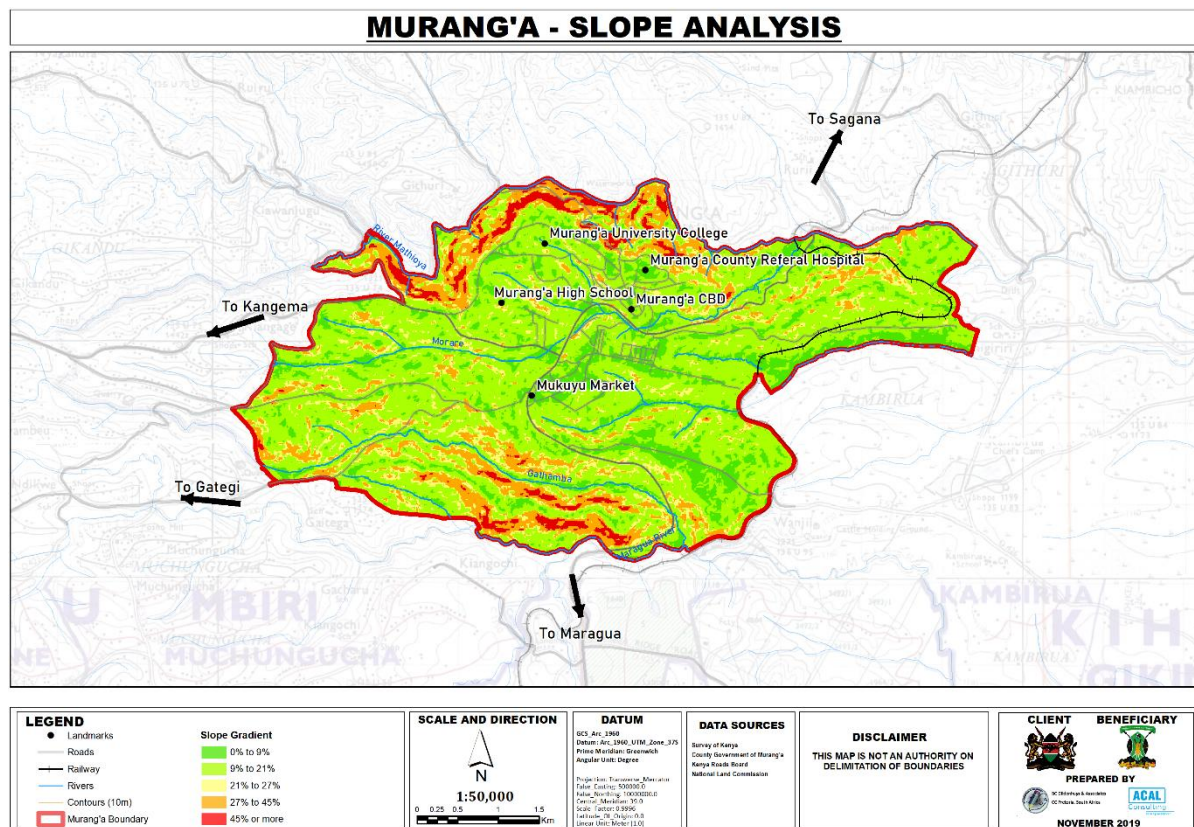
Map 3.1: Murang'a Base Map



3.2 TOPOGRAPHY

Topography and slope are major factors that determine the settlement patterns in Murang'a and indeed the entire republic. The terrain of the town is undulating especially on the east west side. There are hilly ridges that run east west direction. The CBD, Makuyu and Kiharu area within the town have relatively gentle slope that allow developments to thrive. The altitude ranges from 1250-1400 metres above sea levels. The slope is instrumental on the choice of suitable sites for development. This is shown in map 3.2 below:

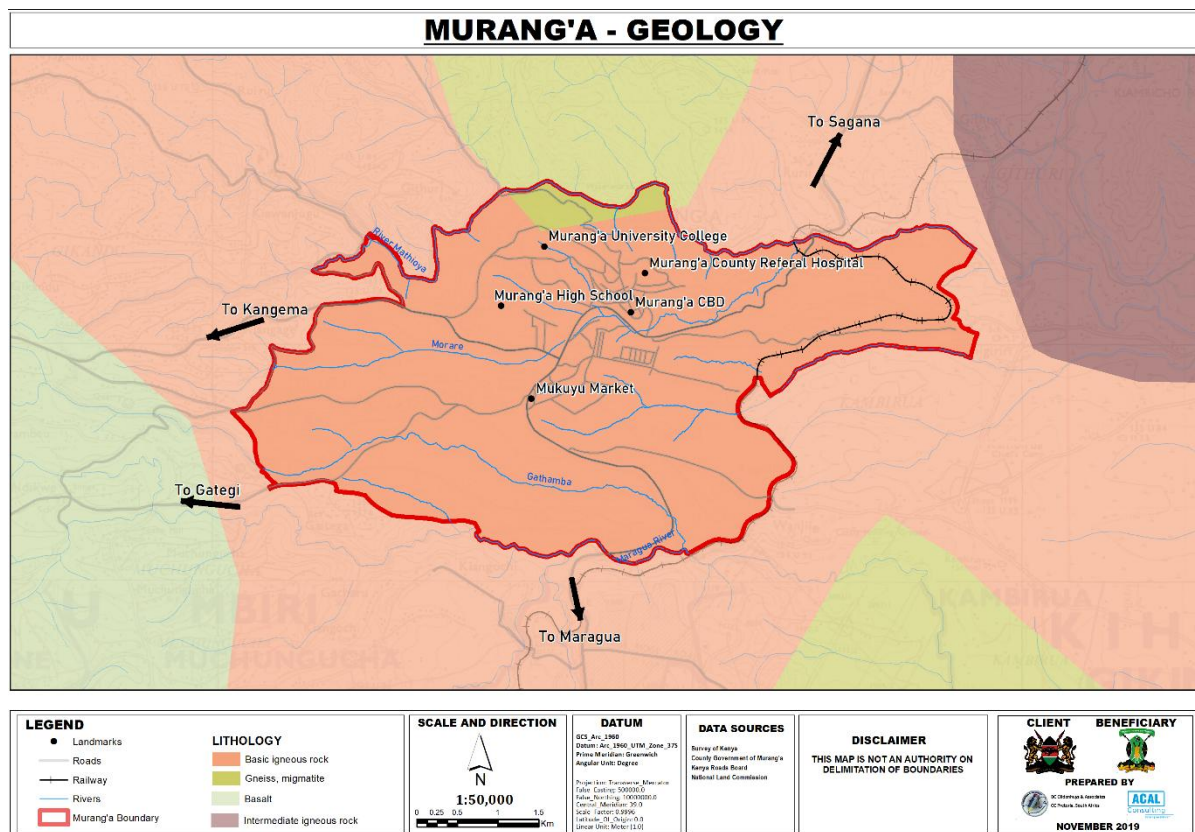
Map 3.2: Slope Analysis



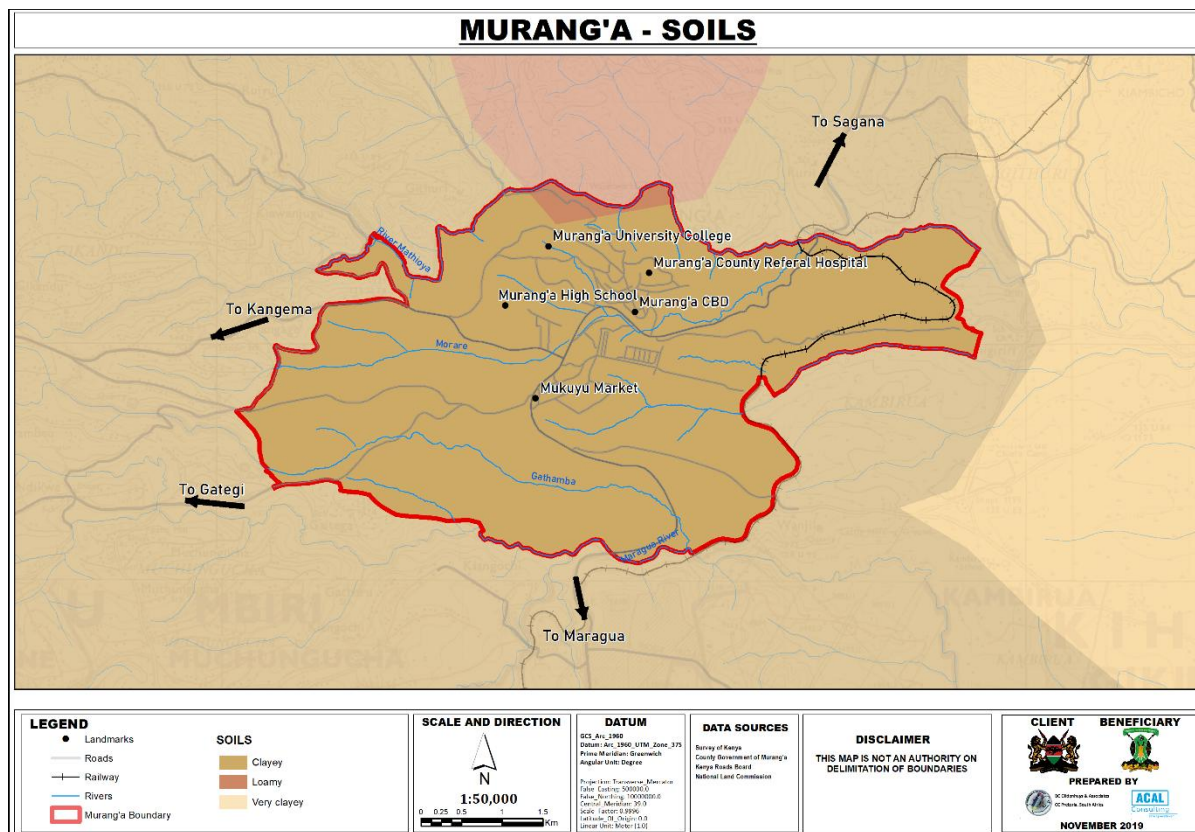
3.3 GEOLOGY AND SOILS

The planning area consists of basic igneous rocks, basalts and volcanic rocks. Basalts are present to the west while gneiss and intermediate igneous rock is present to the east and north east of Murang'a. The geology of Murang'a consists of volcanic rocks of the Pleistocene age and basement system rock of Achaean type. The area is characterized by rich volcanic soils. There are three broad types of soils strong brown loams above 6300 feet, dark red friable clay between 5000 feet and 6300 feet and red friable clays about 5000 feet merging into basement soils. Soils on the ridge tops are thicker and contain more humus than the valley side soils.

Map 3.3: Geology of Murang'a



Map 3.4: Soils in Murang'a



The geology, soil, and engineering properties of rocks in Murang'a town are shown in table 3.1 below:

Table 3.1: Geology, Soil and engineering properties of rock types

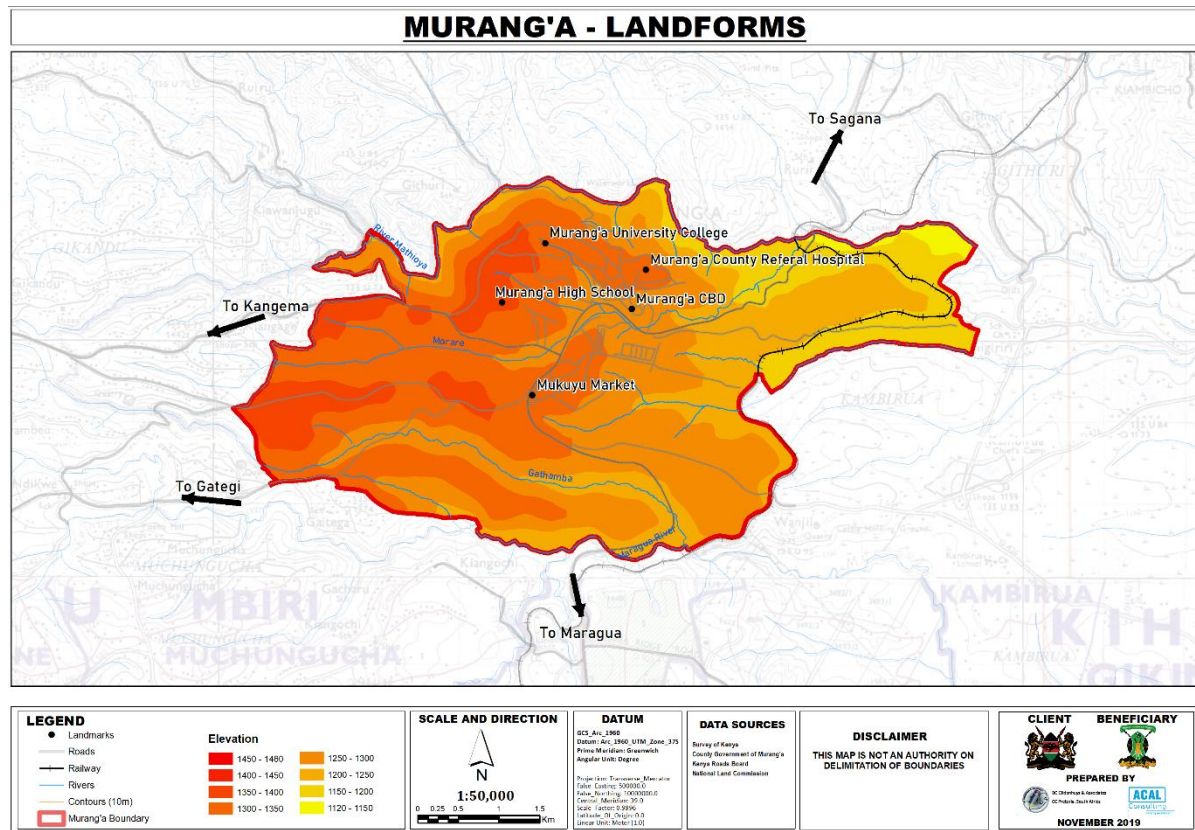
	Soil Profile	Engineering Qualities
Basic igneous rocks	Basic igneous rocks include basalt, dolerite, and gabbro. The mineralogy of basic rocks is typically dominated by pyroxene and calcic plagioclase (>50% anorthite). They commonly include olivine as a non-essential mineral, and can include quartz, alkali feldspar, amphiboles and micas	Regarded as a solid rock and is therefore widely used as construction material.
Basalt	Weathered basalt forms a clay silt or silty clay soil depending on the rainfall and topography. In the mountains, the erosion rates are very high with virtually no soil cover except in the river valleys.	The soils have a moderate to high potential expansiveness and are relatively resistant to erosion. Buildings founded on these soils are prone to extensive damage due to the volume changes in the clay. The un weathered rock forms a good foundation and construction material when crushed. It may sometimes weather rapidly in roads, rock fill dams or embankments. The weathered product may be used for road building and is also a suitable impervious fill material for embankment dams.
Gneiss	In humid areas silty sand or clayey silt forms, which is mica rich with quartz grains. These soils are dispersive (highly erodible) and have a high permeability. Core stone development and uneven bedrock topography may occur. In some areas, e.g. Halfway House, a collapsible grain structure may develop.	Slope instability is frequent when it is saturated—which means that the ground can flow easily downhill. It is a high erodible soil. The core stones can cause problems in the placing of foundations such as piles. A collapsible grain structure may cause damage to structures if proper foundation measures are not implemented. Both the soils and the rock are widely used as aggregates for roads and concrete.
Intermediate igneous rock	Igneous rocks can be thought of as "primary" rocks because they crystallize from a liquid.	Engineering properties of igneous rock describes the strength and mechanical behaviour of the rock mass; these properties are mostly the physical characteristics present in the rock e.g. the rock texture. In areas, prone to erosion and landslides igneous rock is used in stabilizing and stone pitching the area. The Rocks are hard wearing and do not absorb water so are good in lower courses of a building.

Source: Geological Survey of Kenya; F.G. Bell (2013)

3.4 LANDFORMS-HILLS, VALLEYS, RIDGES

A series of ridges that run in a roughly east-west direction constrains development as they characterize the region. Development along these ridges is mostly restricted to flatter areas on the crests, with the land down the slopes into the valley sections remaining free of development or in some instances used for small-scale agricultural. Map 3.5 below shows the landforms in the town.

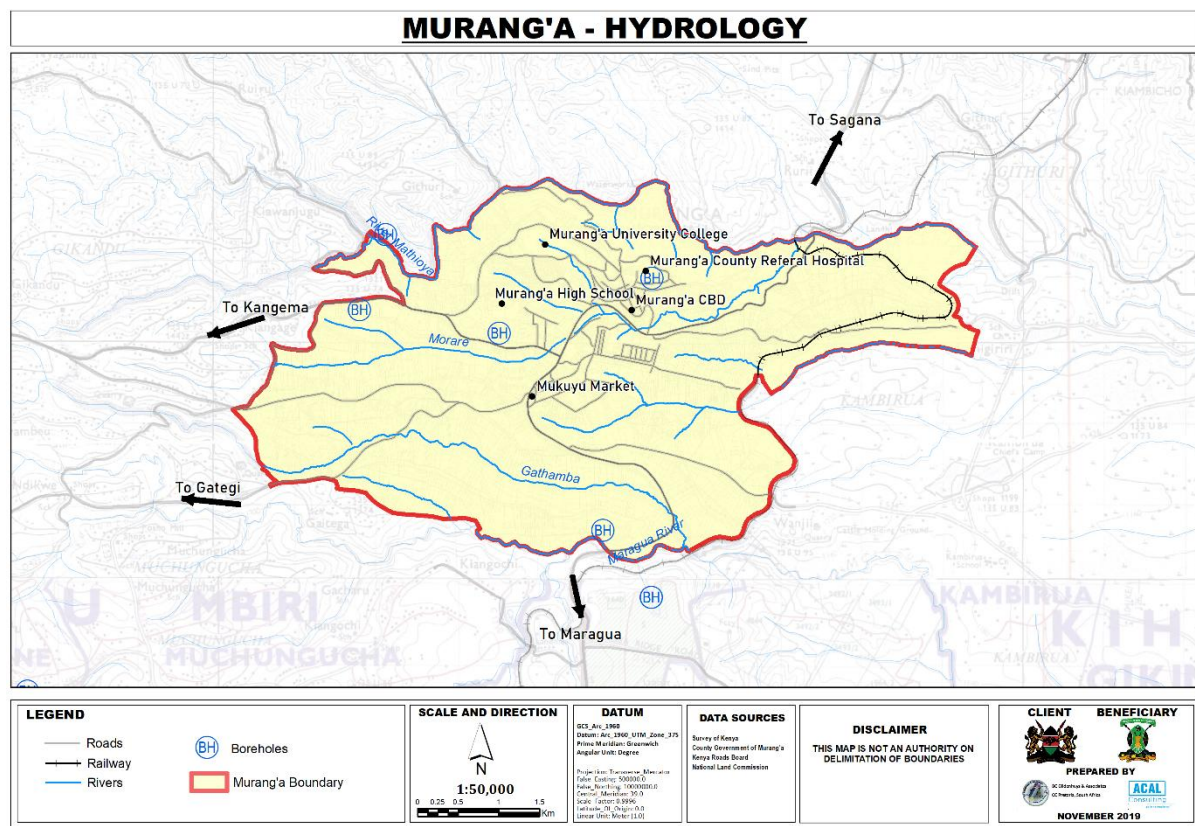
Map 3.5: Murang'a Terrain



3.5 HYDROLOGY AND DRAINAGE

The hydrological features reflect the topography of the County and indeed the town. Murang'a is served with both surface Water and ground water. The main source of water for Murang'a is from the rivers which include, Mathioya, Gathamba, Morare and Maragua rivers. Murang'a has a high potential for ground water extraction evidenced by existence of boreholes used for domestic, commercial and institutional use. The category B borehole in Map 3.6 below is suitable for both domestic and commercial use while category D is suitable for institutional use. The forests of the Aberdare Mountains are a major source of various rivers namely Maragua, Mathioya North, Mathioya South, Kiama and Thika rivers. All these rivers eventually flow into the Tana River, but the county is topographically split by a watershed with the Thika and Kiama rivers to the south and the rest draining the northern part before joining the Tana River.

Map 3.6: Hydrology of Murang'a



The terrain is dissected creating very perceptible topographical features consisting of a set of parallel running deep gorges separated by ridges along which most of the settlement takes place. The numerous streams and valleys necessitate the construction of numerous bridges to connect one ridge to the other; construction and maintenance of roads are therefore made difficult and expensive.

According to the County Development Planning Office, water resources are rivers, shallow wells, springs, dams, boreholes and roof catchment. There are ten permanent rivers, 400 shallow wells, 75 springs, 30 dams and 100 boreholes that supply water for domestic and agricultural use in the county. All these sources supply 60 per cent of the county's population with clean and safe drinking water. However, some rivers in the county especially those near urban centres and markets are polluted due to poorly managed sewerage and drainage systems. Polluted rivers lead to diseases and environmental degradation contributing to the drying up of rivers and waterbeds.

3.6 VEGETATION

Murang'a is dominated by rain-fed herbaceous trees with closed herbaceous vegetation on permanently flooded land located on the wetland area in the planning area. The herbaceous crops are a mix various subtropical crops and represent a zone of transition between the tea growing areas west and coffee producing areas (rain-fed shrub crops) that includes the planning area. To the southeast of the planning area, open trees with a crown cover of between 40-65% exist linking to the open trees to the east of the area. There is also linear street vegetation that go a long way to improving the micro-climate of the area within the town. Image 3.1 depicts some of the vegetation characteristics

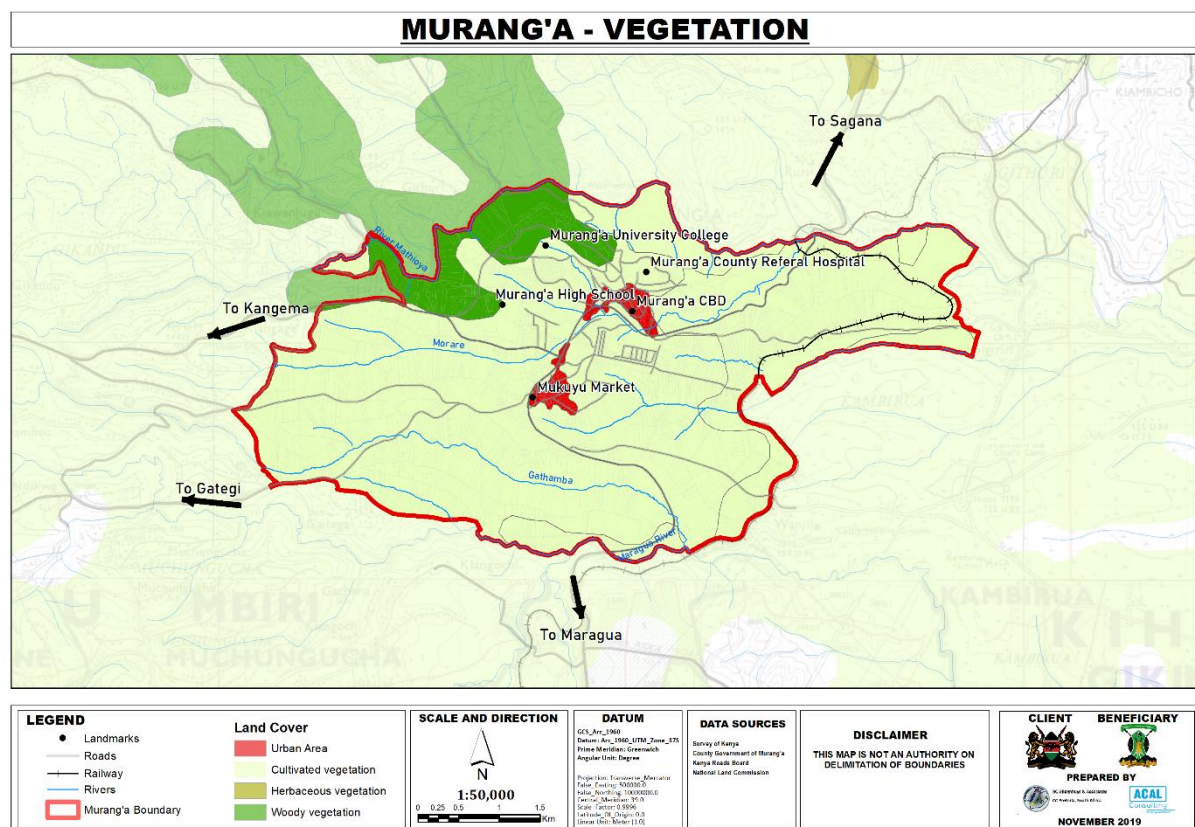
Based on this vegetation feature, crops such as coffee, bananas and tomatoes forms part of the vegetation cover. The major standalone tree species in the natural vegetation is *Brachylaena huillensis* (Muhugu), *Cordia africana* (Muringa), *Juniperus procera* (E.A. Ceda), *Cupressus lusitanica* (Cypress) and *Eucalyptus hybrids* (Var. GC581, GC15, GC14). Map 3.7 below represents the vegetation cover in Murang'a.

Plate 3.1: Vegetation characteristics in Murang'a



Source: Field Survey, 2019

Map 3.7: Vegetation Map of Murang'a



3.7 CLIMATE

Murang'a lies at an altitude of about 1255m above sea level. Being a high-altitude, the rains are normally bimodal in nature; the distribution of rainfall is shown in map 3.8 below. The long rains are received between the months of March to May while the short rains are received between the months of October to December figure 3.1 below for the distribution of the rainfall annually. The rain is reliable and has supported the agriculture development in the town. The highest amount of rainfall is received in the month of April at an average of 432 mm. The area falls under the equatorial region which is wet and humid. The lower parts of Kiharu receive less rain and crop production is therefore supported by irrigation. The centre falls under the equatorial region which is wet and humid. The hottest month of the year is March and the coolest is July and have average temperatures of 21.3°C and 18.3°C respectively this is shown in figure 3.2 below.

Map 3.8: Rainfall distribution map

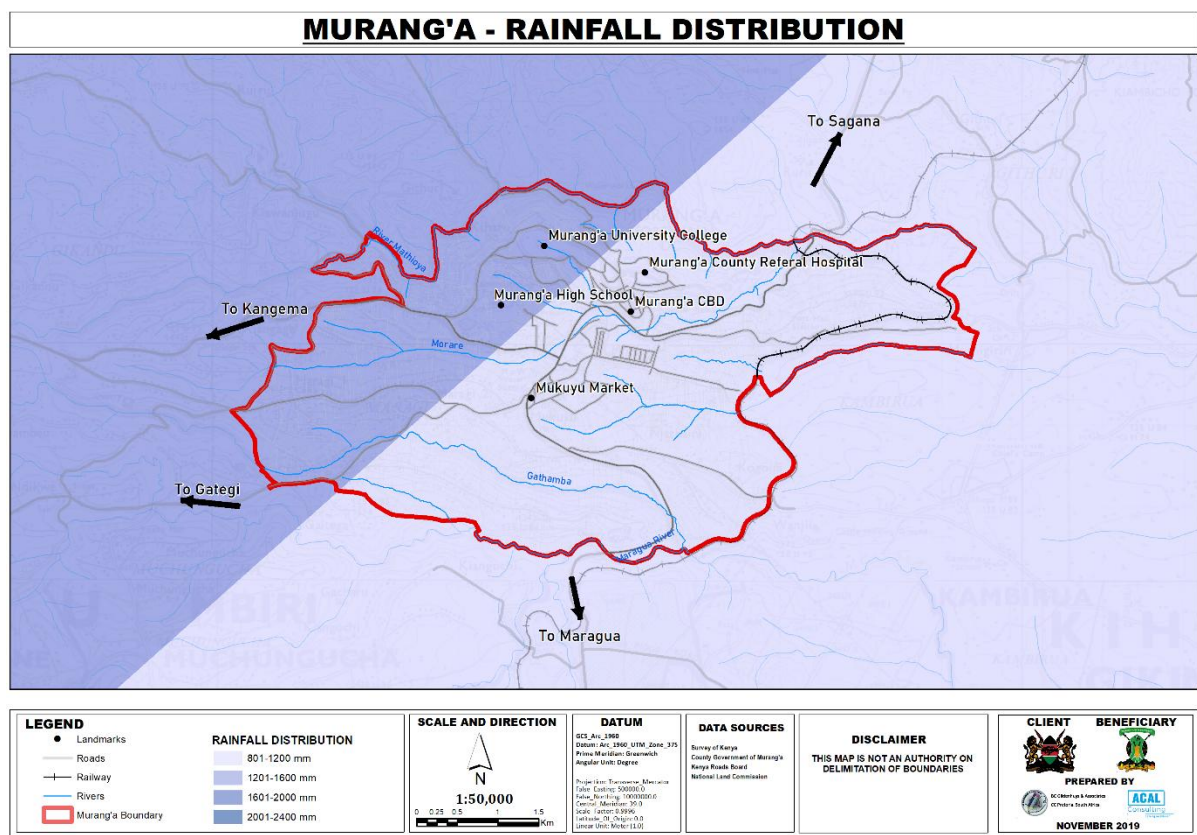
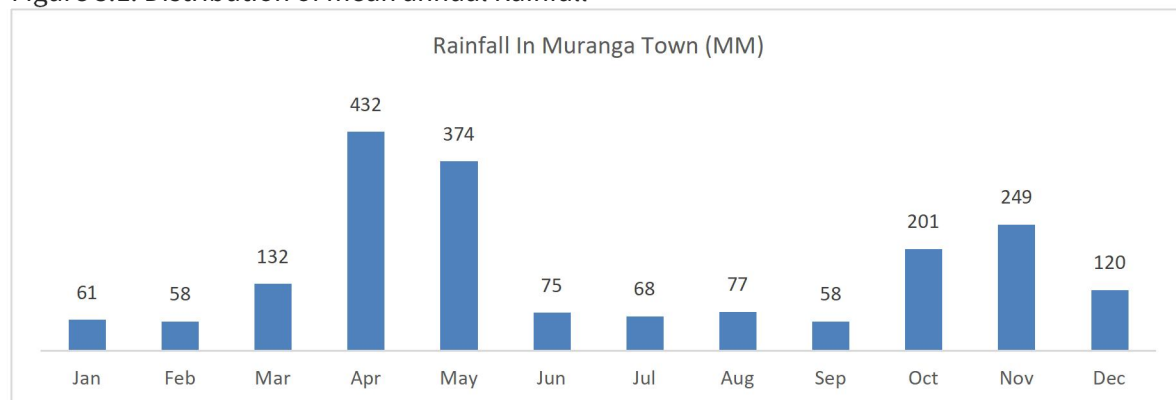
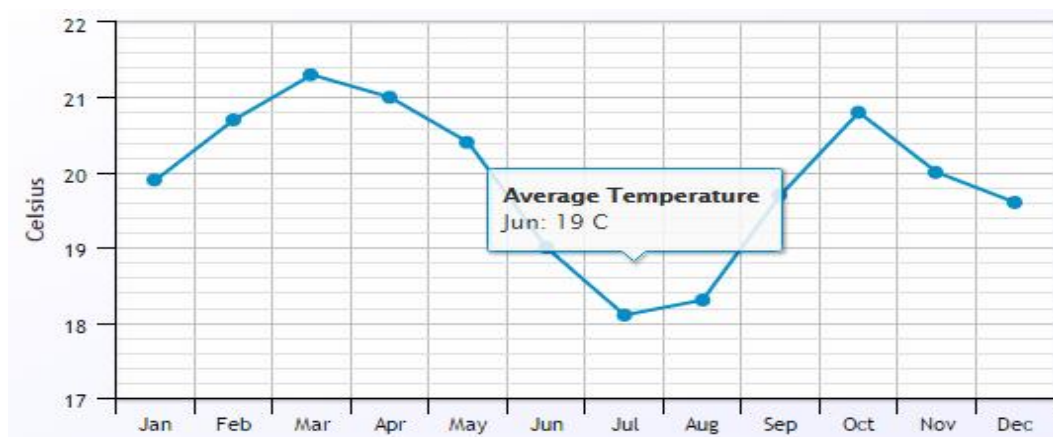


Figure 3.1: Distribution of mean annual Rainfall



Source: Farm Management Handbook of Kenya, 2010

Figure 3.2: Average Temperature

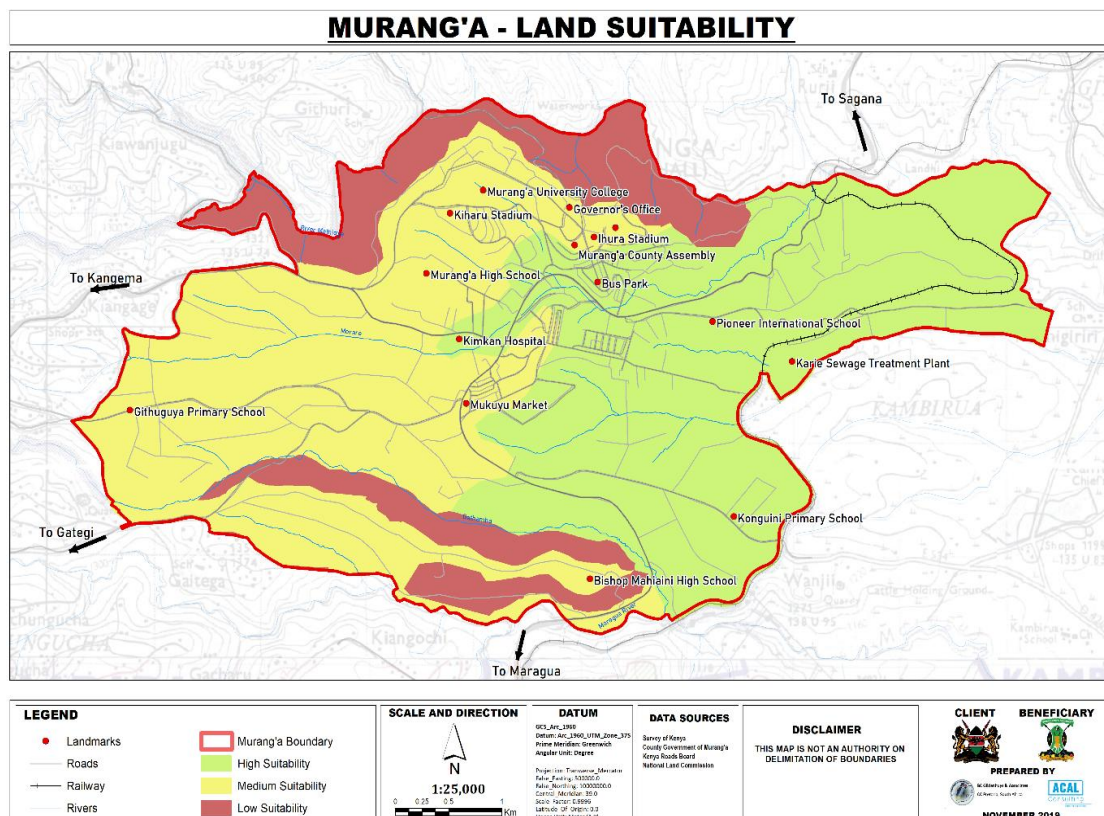


Source: Farm Management Handbook of Kenya, 2010

3.8 LAND SUITABILITY FOR DEVELOPMENT

Map 3.9 below presents a sieve analysis of land based on topography; it sieves areas suitable for development based on this factor. The areas have described as undevelopable and unsafe for human settlement are areas above 45% of slope as undevelopable. Areas between 25% and 45% of slope require conservation as well as they are potential points of soil erosion and landslides if poorly managed. The map also isolates riparian reserves as areas not suitable for development. The land toward the North of Murang'a after Edinburgh is very steep land bound by Mathioya River profile and thus not suitable for development or human settlement (See Map 3.9). Some areas towards the South around Mumumbu primary School is also very steep towards a riverine profile. Most suitable land is found to the East of the Town towards Thigiriri area.

Map 3.9: Murang'a Physical Suitability Map



3.9 EMERGING ISSUES

Based on the foregoing analysis of the physiographic characteristics a number of issues were considered important for this ISUDP and will inform the strategies going forward. These issues are summarized in the table below:

Table 3.2: Opportunities and Constraints based on the natural resource profile

SECTOR	OPPORTUNITIES	CONSTRAINTS
Topography	The terrain guides urban growth. The steep slopes have scenic potentials and can be transformed into recreation zones with a variety of slope related economic activities.	The steep terrain of the ridge constrains infrastructural expansion. The slope and terrain, with poor planning can result to urban disaster.
Hydrology, water and drainage	Abundance of ground water sources for gravitational water supply schemes Opportunities for irrigation and fish-farming from River Mathioya, Gathamba, Morare and Maragua rivers. Set up storm drainage channels following river flow direction Opportunity Tapping of underground water sources	Encroachment of the riparian reserves and wetlands Pollution of the rivers through human activities
Geology and soils	The rocks morphology is a potential source of construction materials used for road building and is also a suitable impervious fill material for embankment dams.	Poor farming methods resulting to soil erosion and hence infertility Areas around the rivers are prone to flooding due to the waterlogged soils
Climate	Experiences high rainfalls favouring agricultural production. The mean annual temperatures are suitable for tapping solar energy	Climate change over the recent years has resulted in unpredictable weather patterns impacting agricultural practices negatively.

4 POPULATION AND DEMOGRAPHY

4.1 OVERVIEW

Population and demographic analysis are important elements in town planning as it gives the basis on which resources, infrastructure and management and organizing of a town's economic sector can be done effectively. The population also provides a basis for projecting land demand. This chapter seeks to analyse the demographic characteristics of Murang'a in order to understand the dynamics in terms of age and number among other traits and the influences on the social and economic aspects of the region.

4.2 POPULATION SIZE AND DENSITY

As per the 2019 population census, the total population of the town was **43,314** people. Of these, 21,056 are male while 22,258 females. There are a total of 15,244 households in the town and a population density of 1,739 people per square kilometres. This is shown in table 4.1 below.

Table 4.1: Population Size and Density

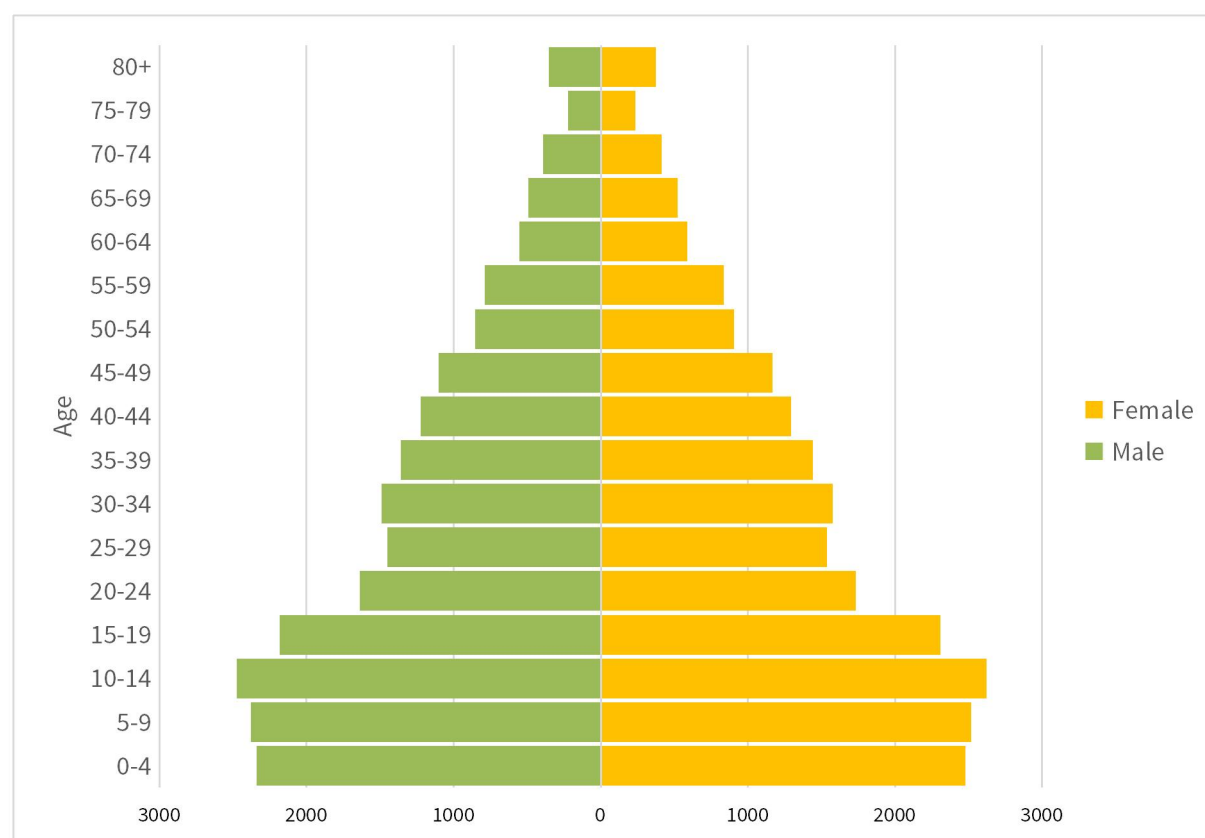
Location	Sub Location	Population (2019)					
		Male	Female	Total	HH	Area (Km ²)	Density
Mbiri	Kiangage	1,216	1,252	2,468	683	3.9	634
Township	Karuri	4,420	5,372	9,792	3,454	4.2	2,327
Mukuyu	Mukuyu	3,588	2,985	6,573	2,134	3.9	1,691
Nj'oguini	Maragi	3,267	3,425	6,692	2,143	5.0	1,347
	Kambwe	3,963	4,150	8,113	2,969	4.1	1,984
	Mjini	4,845	5,351	10,196	3,861	4.1	2,491
Total		21,299	22,535	43,834	15244	25	1,739

Source: KNBS, 2019

4.3 POPULATION STRUCTURE

Murang'a has a youthful population which is aged between 14-35 years of age with majority being under 24 years as per Figure 4.1 and table 4.2 below. The structure is a transitional population structure due to a shrinking child population, where 0-9 year olds constitute 22%, and an increasing youthful population, where 10-34 year olds constitute 36% of the total population. This population which makes up for slightly more than a half of the entire Murang'a's core urban population. The youth, being the majority should be empowered to influence decision making. It is therefore necessary to involve them in participatory and development-based activities. This calls for establishment of youth empowerment and talent centres, creation of employment avenues, enforcement of youth enterprise programs and sensitization on family planning.

Figure 4.1: Population structure



Source: KNBS, 2019

Table 4.2: Age sex distribution of Murang'a

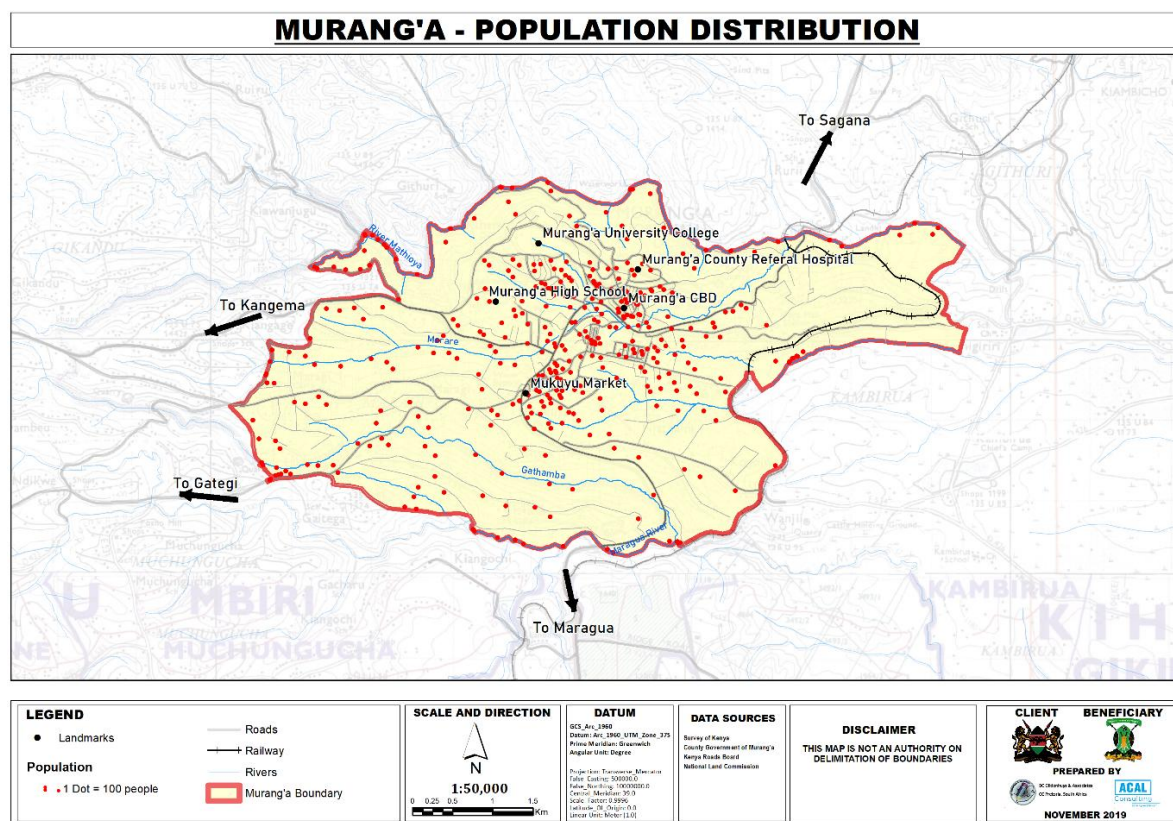
AGE COHORTS	MALE	FEMALE	TOTAL
0-4	2341	2477	4817.687
5-9	2378	2516	4894.293
10-14	2476	2620	5095.416
15-19	2182	2309	4491.574
20-24	1636	1731	3367.614
25-29	1451	1536	2986.952
30-34	1490	1576	3065.456
35-39	1361	1440	2801.008
40-44	1223	1294	2517.587
45-49	1105	1169	2273.299
50-54	854	903	1756.737
55-59	791	837	1627.478
60-64	554	586	1140.8
65-69	482	520	1011.541
70-74	391	413	803.7779
75-79	222	235	456.3201
80+	352	373	724.7994
Total	21289	22534.15	43832.34

Source: KNBS, 2019

4.4 POPULATION DISTRIBUTION

The population in Murang'a is highly concentrated in the CBD, Mukuyu and Kiharu and dispersed in the agricultural area and fragile area, while the linear developments are situated along the roads as per map 4.1

Map 4.1: Population Distribution Map



4.5 POPULATION PROJECTION

The Murang'a urban population projection is based on the national urban growth rate of 4.0212% as per the 2019 national population census. The population has been projected to grow up to 67,623 people by the year 2030. This ISUDP takes cognizance of this growth in population.

Table 4.3: Population Projection for Murang'a

LOCATION	SUB LOCATION	POPULATION (2019)				POPULATION PROJECTIONS (2029)			
		MALE	FEMALE	TOTAL	DENSITY	MALE	FEMALE	TOTAL	DENSITY
Mbiri	Kiangage	1,216	1,252	2,468	634	1,876	1,931	3,807	976
Township	Karuri	4,420	5,372	9,792	2,327	6,819	8,287	15,106	3,597
	Mukuyu	3,588	2,985	6,573	1,691	5,535	4,605	10,140	2,600
	Njoguini	3,267	3,425	6,692	1,347	5,040	5,284	10,324	2,065
	Kambwe	3,963	4,150	8,113	1,984	6,114	6,402	12,516	3,053
	Mjini	4,845	5,351	10,196	2,491	7,474	8,255	15,730	3,836
Total		21,299	22,535	43,834	1,739	32,858	34,765	67,623	2,683

Source: KNBS, 2019

4.6 DEMOGRAPHY

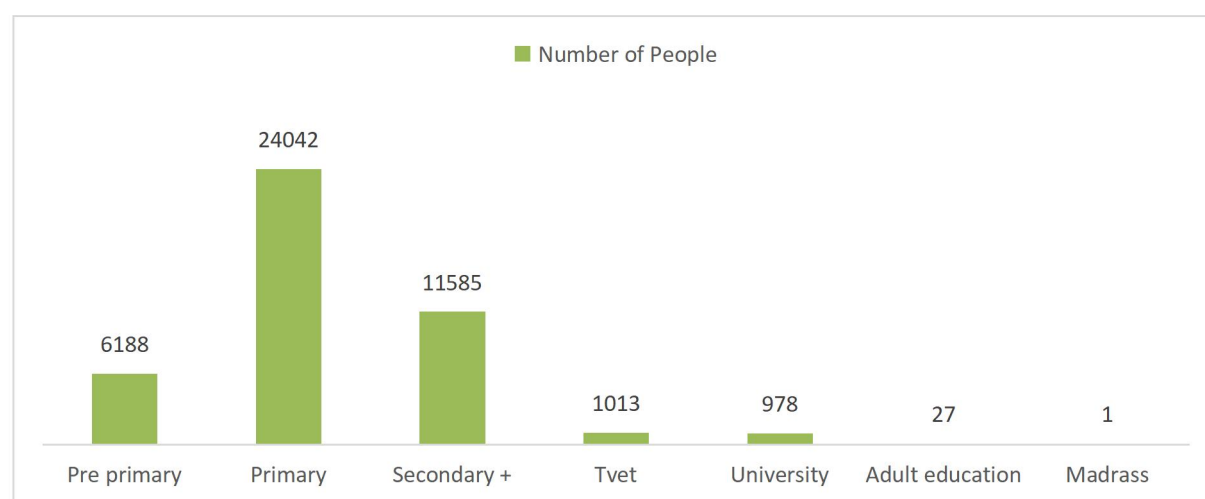
Indicators of well being

As per the 2019 population census, the urban enrolment rate in primary schools stands at 97.75 % while the gross enrolment rate in secondary schools is 71.04%. At the same time, the transition rate from primary to secondary school is 70.6 %. The primary school completion rate in the county is 97.13 %. This implies that 26.53 % of the primary school pupils who complete primary education do not proceed to second school education.

Literacy

The national literacy rate stands at 71.4% whereas that of Murang'a County is at 70.1%. This implies that the literacy rate at the county is slightly lower than the national. As per the 2019 population levels, the highest education levels of the residents of the town is primary school at 50% with 24,042 people. This was followed by secondary school at 26%. This is shown in figure 4.2 below. According to the Second Murang'a County Integrated Development Plan (2018-2022), the literacy level for male is 73.9% while for the female is 66.7 %. Therefore, the literacy rate for male is higher than female. At the national level, the net Primary school enrolment rate stands at 92.9% whereas the county net Primary school enrolment rate stands at 93.85%. At the county, net set secondary school enrolment rate is 67.2% for both boys and girls.

Figure 4.2: Highest Education level of residents of Murang'a



Source: KNBS, 2019

Life Expectancy

The life expectancy in Murang'a County stands at 63.4 years with 67.2 years for female and 59.65 years for male. At the national level the life expectancy stands at 56.6 years. This indicates that the county life expectancy in Murang'a County is higher than the national rate.

Mortality

The maternal mortality rate of the County stands at 107 per 100,000 live births compared to the national maternal rate which stands at 362 per 100,000 which mean the maternal mortality in the county is lower than the national.

Morbidity

The common diseases in Murang'a are respiratory system diseases, skin disease, hypertension, rheumatism and joint pains. This therefore calls for proper focus on the diseases for management purposes.

Income

The national Purchasing Power Parity stands at 1,436 USD compared to the 1,455.5USD at the county level. This therefore means that an average household size of four is able to spend at least 121USD per month. This shows that on average an individual in the county spends 1 USD per day. This means that people in the county are living along the poverty line, but in reality, 36.3 per cent of the county population lives in absolute poverty. The same phenomenon is indicative of Murang'a.

4.7 SOCIAL ANALYSIS

Culture and Religion

Most people in Murang'a are predominately Kikuyu and embrace the values and culture of the Agikuyu community. Majority of the population in Murang'a are Christians from many different church denominations within the town. Most of the Christians are Catholics and PCEA. There is a strong presence of Muslims in Mjini.

The kikuyu culture provides opportunities for social economic growth of the town. Cultural practises such as content and style of "mwomboko" music, Kikuyu cultural practices such as proverbs, riddles, and rituals can be harnessed for growth and preservation. To achieve this spatially, this ISUDP should be intentional in balancing between heritage conservation and sustainable urban regeneration.

Marginalized and Minorities

Marginalisation is a consequence of a skewed process of the distribution of scarce resources it has been interpreted as a process of social exclusion from the dominant socio-economic, cultural and political structure. The Constitution of Kenya 2010 defines marginalised communities as one or more of the following: A community that, because of its relatively small population or for any other reason, has been unable to fully participate in the integrated social and economic life of Kenya as a whole; a traditional community that, out of a need or desire to preserve its unique culture and identity from assimilation, has remained outside the integrated social and economic life of Kenya as a whole. Or; an indigenous community that has retained and maintained a traditional lifestyle and livelihood based on a hunter or gatherer economy; or pastoral persons and communities.

According to the National Gender and Equality Commission in its publication '*Unmasking Ethnic Minorities and Marginalized Communities in Kenya*', Minorities and Marginalised populations of Muranga include the Asians located in township ward and the Swahili located in township (Muranga Mjini). Key issues that were identified to affect the minority and marginalized groups include political under representation, high poverty levels, low access to education, insecurity (political tension) and poor infrastructure. While there are ongoing interventions such as tarmacking of roads, bursaries to improve their education levels, and purchase of vehicles for delivery of public services, there is need for further initiatives to integrate these communities with other communities. Mechanisms to resolve political tensions, through intergovernmental relations are also imperative to protect the interests of the minorities and marginalized communities.

From a planning perspective, this ISUDP must provide the spatial justice to the marginalised and minorities in the town.

4.8 EMERGING ISSUES

Based on the analysis of the population and demographic characteristics, a number of issues were considered important for this ISUDP and will inform the strategies going forward. These issues are summarized in table 4.4 below:

Table 4.4: Emerging Issues

SECTOR	OPPORTUNITY	CONSTRAINTS
Population size and density	<ul style="list-style-type: none"> A youthful population provides an opportunity for innovation and technology as well as ensures that there's an available workforce. 	<ul style="list-style-type: none"> If the population continues to grow at low rate: a threat to work force in future.
Population structure and distribution	<ul style="list-style-type: none"> The structure is a transitional population structure due to a shrinking child population, where 0-9 year olds constitute 22%, and an increasing youthful population, where 10-34 year olds constitute 36% of the total population. The town, may not experience population explosion visible in other Kenyan towns. 	<ul style="list-style-type: none"> Population being linearly distributed makes tends to make infrastructure provision costly
Population projection	<ul style="list-style-type: none"> At a growth rate of 4.4, the population by 2029 is expected to be 67,623 people. The potential to ensure the population is sustainably accommodated in this ISDUP through densification strategies and economic opportunities. 	<p>The density is expected to increase from 1,739 ppkm² to 2,683 ppkm² . Measures to densify the population must be born in mind</p>
Demographic and social characteristics	<ul style="list-style-type: none"> The fertility rate of 3 implies that the town population will only grow gradually and not experience population explosion visible in other Kenyan towns. The development indices in the town are relatively higher than the national average. 	<ul style="list-style-type: none"> Majority of residents have not attained secondary or tertiary school education. Increasing unemployment rates Low poverty levels will impact ability to economic activities with a tendency to result to economic informality.

5 LAND AND LAND USE ANALYSIS

5.1 CLASSIFICATION OF LAND

The Constitution of Kenya section 61 bestows land rights to the people and classifies land in three distinct categories: public, community or private. To this extent, land in Murang'a is classified as private or public land as there is no registered community land in Murang'a. Public land in Murang'a is mainly occupied by the Government offices and Institutions, while private land is occupied by commercial, residential, industrial and agricultural land uses.

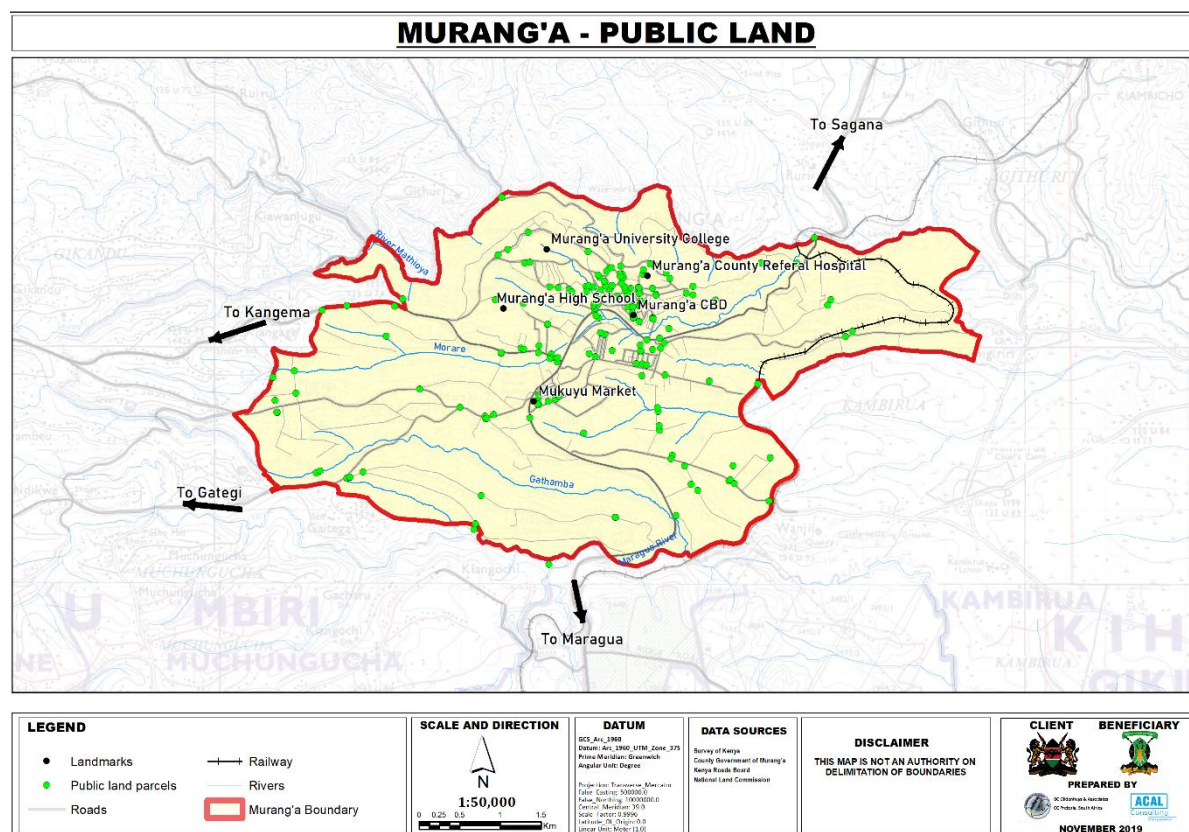
5.2 LAND TENURE

The private land is owned by individuals, institutions and organizations. The land tenure is freehold for most agricultural land while leasehold is for most urban land leased by the County government and Central government.

The leasehold land in Murang'a is through allotment letters by the county. Residents are slow to apply for lease titles and this has in turn resulted in challenges of double allocation. According to the ministry of lands, the processing of allotments into leases is a slow process. This highly impacts the security of tenure. There has been high rate of subdivisions most of which are not registered.

According to the survey office in the County government, most of the public land remains surveyed. While land under government housing has been allocated for private use, highly inhibiting the ability to allocate such land to development of government social housing. Map 5.1 below depicts the inventory of public land.

Map 5.1: Inventory of Public land in Murang'a



5.3 LAND USE PATTERNS

The existing land use in Murang'a as shown in Table 5.1 and Map 5.2. It includes; residential, agricultural, commercial, public purpose, transportation, deferred land, educational and public utility. The predominant land uses in the town agricultural residential and commercial land uses.

Table 5.1: Distribution of Land uses in Murang'a

LAND USE CODE	LANDUSE	AREA (Ha)	PERCENTAGE (%)
0	Residential	880.612	33.6%
1	Industrial	32.56	1.2%
2	Educational	87.93	3.4%
3	Recreational	210.5	8.0%
4	Public Purpose	60.88	2.3%
5	Commercial	25.67	1.0%
6	Public Utility	30.54	1.2%
7	Transportation	290.24	11.1%
8	Deferred land	0	0.0%
9	Agricultural	1001.01	38.2%
	Total	2619.942	100%

Source: ACAL and BC Gildenhuys, 2019

The most predominant land use is agriculture, representing 58% of the total area this is followed by residential use at 12.6%. Undeveloped land is 5.6%% of the total land area. Other major land uses include transportation (8.2%) and educational use (3%). The residential land use is concentrated adjacent to the commercial core that occupies only 2.2% of the total land area. Map 5.2 shows a detailed existing land use map for the town.

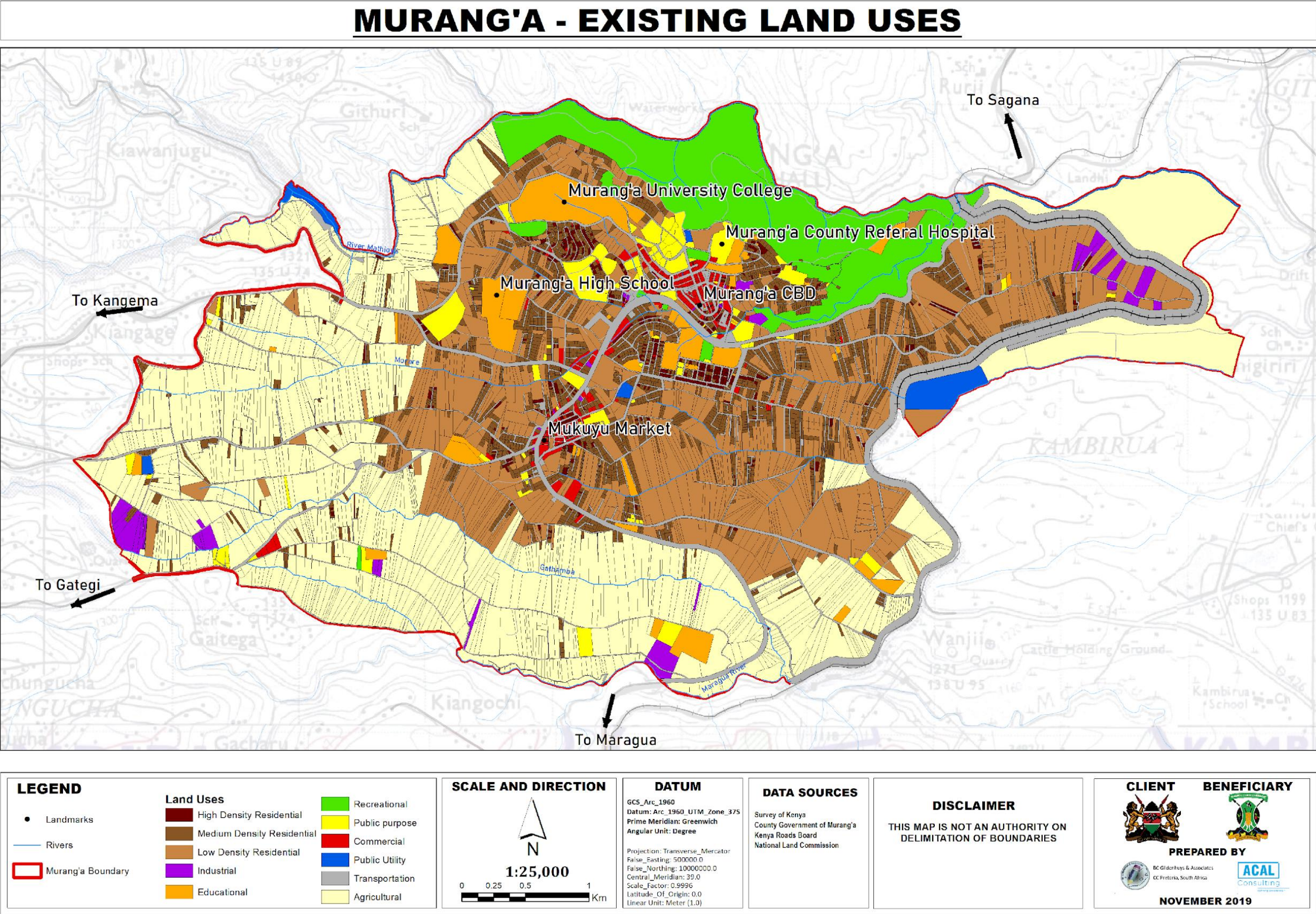
The average farm size under large-scale holdings is 6.4 ha in Murang'a County (CIDP, 2018). The County has however been experiencing rapid subdivision of agricultural land mostly in the urban areas. Table 11 shows land sizes in selected urban areas in Murang'a. The average land holdings in the urban areas are up to ten times smaller than the average land holding in the rural areas.

Table 5.2: Land sizes in selected urban areas in Murang'a

Number of parcels assessed	4 333
Average size (ha)	0.81
Total size (ha)	3 508.51
Maximum size (ha)	390.02

Source: ACAL and BC Gildenhuys, 2020

Map 5.2: Existing Land Use



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5.4 LAND ADMINISTRATION AND MANAGEMENT

In Murang'a land is administered through set instruments by the land registry of Murang'a as well as the county government of Murang'a. There is no Land information system as a tool of public land administration. This means that, on the one hand, a database containing spatially referenced land-related data for the area is maintained manually. Procedures and techniques for collection, updating, processing and distribution of the data relating to land is not centralized.

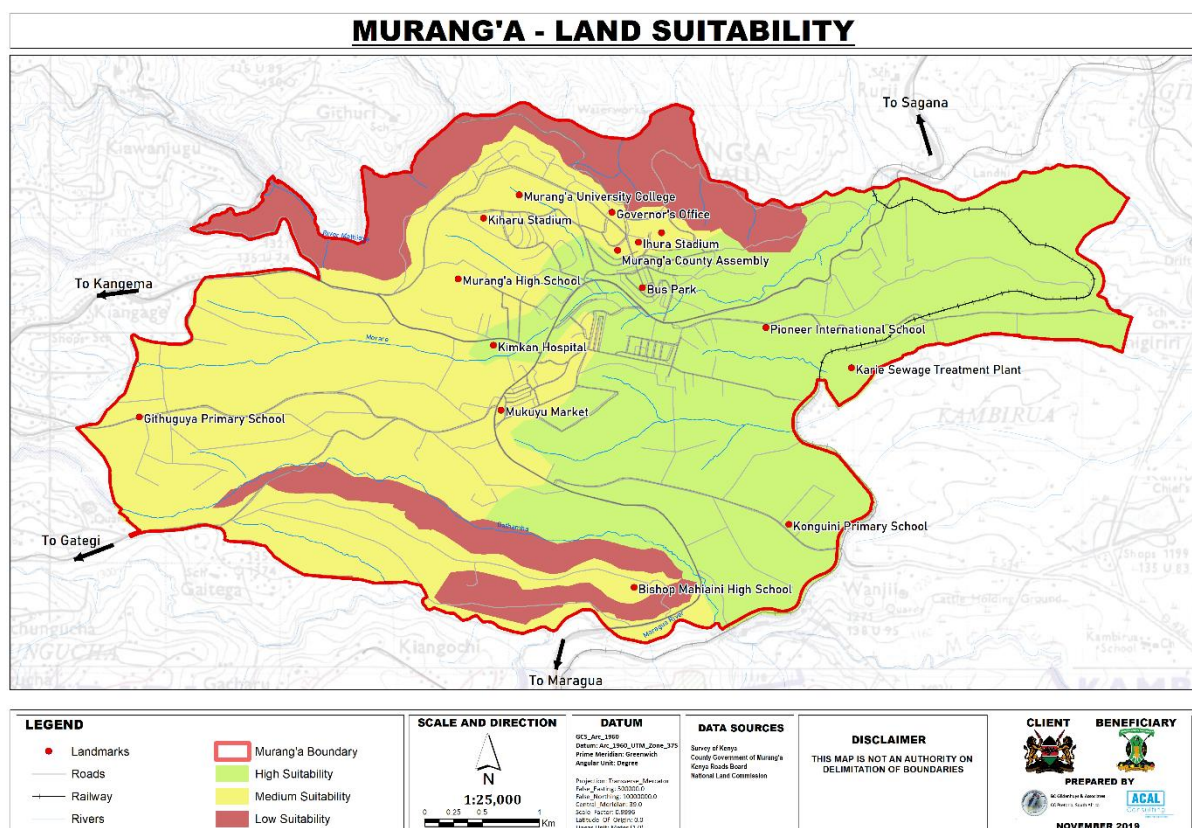
As a result, land management structures available have not been able to tame the rampant subdivision of agricultural land and double allocation of plots. Continuous subdivision not only affects the viability of land uses but which will have an impact on the long-term development of the area.

5.5 LAND AVAILABILITY AND SUITABILITY

Most of the land in Murang'a is under private ownership and thus not readily available for public purposed development. Land is scarce within Murang'a and there is no reserved land. Majority of land in Murang'a town is under leasehold and could be brought into intended land use structure through conditional renewal of lease terms. Public land for development is limited and this calls for land acquisition for public amenities and utilities. The land availability informs future planning policy development and will assists in the monitoring of adequate supply of deliverable land.

The land toward the North of Murang'a after Edinburgh is very steep land bound by Mathioya River profile and thus not suitable for development or human settlement (See Map 5.3). Some areas towards the South around Mumumbu primary School is also very steep towards a riverine profile. Most suitable land is found to the East of the Town towards Thigiriri area.

Map 5.3: Murang'a physical suitability map



5.6 LAND VALUES AND MARKET

The land market is almost uniform in the entire former central province. However, the property sales limited has rated areas in Murang'a and neighbourhood at a range of Ksh 4 million per acre of land. This is dependent on the proximity to the tarmac roads and connectivity to utilities such as water and electricity. The most expensive part is the CBD. The land market is dominated by the private sector. Most of the land has been subdivided and bought for speculation.

5.7 EMERGING ISSUES

Based on the foregoing analysis, this ISUDP identifies the following opportunities and constraints with regards to the management and administration of Land:

Table 5.3: Emerging issues from land and land use analysis

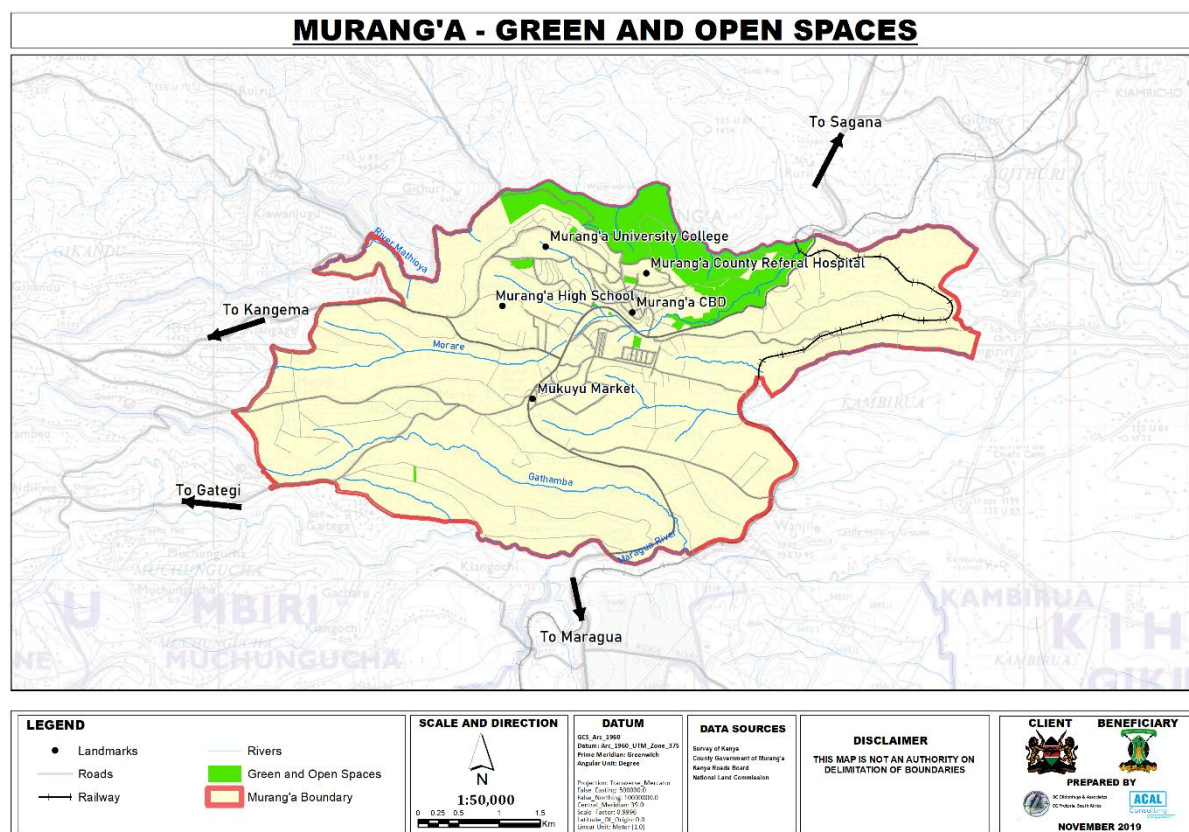
OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none">• With the institutionalization of the municipality board, the municipality has a vehicle for rolling out a land management system.• With adequate incentives and public awareness, allotment letters can be adjudicated to improve security of tenure• The land unsuitable for urban development; toward the North of Murang'a after Edinburgh is very steep land bound by Mathioya River can be repurposed for urban recreation activities	<ul style="list-style-type: none">• Land regulation in Murang'a town, as with most towns is still not up to date. Instances of double allocation are therefore prone to occurrence.• Public land has been allocated acquired for private use.• Developments on environmentally sensitive locations –riparian• Un-serviced developments• Increasing land transaction affecting efficient land delivery• Increasing land prices

6 ENVIRONMENT AND NATURAL RESOURCES

6.1 URBAN GREENERY, OPEN SPACES AND RECREATIONAL

Murang'a has been experiencing loss of vegetation through clearing for human settlement, clearing for agriculture, harvesting forest trees for wood fuel and building materials. It lacks designated, well planned open grounds though there exists 10 acres of open land near the Post office and is bound by Mathioya River. There is also a public space that is currently being used as a car wash. Residents also use Kiharu Stadium for sporting activities. Map 6.1 below shows the open spaces.

Map 6.1: Green and Open Spaces



6.2 CLIMATE CHANGE AND DISASTER MANAGEMENT

Murang'a, like most areas in Kenya, climate change continues to be one the most complex and challenging environmental problems. According to UNDP, in general inter-annual climate variability is high across Kenya as manifested by; the rising cases of extreme weather, extreme temperatures, extreme precipitation on the other hand has resulted in the falling of rainfall in higher volumes. The result has been more frequent flash floods and landslides.

The disasters in Murang'a can be classified into the following categories:

- Natural disasters: Such as landslides; Murang'a has steep lands especially around Edinburgh
- Man Made disasters: Abandoned quarries, fires, transport accidents quarried on that are susceptible to disaster especially during heavy rains.

- 1) Water availability: a) Water bodies have been reducing in both size and volume due to destruction of water catchment areas. b) Drying of riverbeds. c) Increased water resource use conflicts
- 2) Agriculture: a) There has been resurgence of weeds, diseases and pests destructive to crops and livestock. b) Reduction in agricultural productivity due to unpredictability of seasons, reduction in rainfall.
- 3) Livelihoods: There has been an increase in food insecurity in the south-eastern sections of Murang'a

6.3 ECOLOGICALLY SENSITIVE AREAS

- Rivers, streams and riparian reserves- Planting of eucalyptus trees along the riparian reserve greatly contributes to diminishing water resources. Poor agricultural practices within this area have also contributed to increased siltation into the rivers as well as pollution from herbicides and pesticides.
- The wetlands and swamps- Wetlands and swamps are host to unique flora and fauna that is at risk of biodiversity loss due to encroachment, particularly through agricultural activity.
- Areas with slopes of above 25%- The physical planning handbook categorizes areas above 25% of slope as undevelopable and unsafe for human settlement. Areas above 15% of slope require conservation as well as they are potential points of soil erosion and landslides if poorly managed.

Map 6.2: Ecologically Sensitive Areas



Effective waste management method reduces the consumption of natural resources and lowers the ultimate needs for waste disposal. Lack of a proper sewer and drainage system is posing a threat to the water resources as domestic, agricultural and industrial waste is released into the rivers/streams. The Murang'a Municipality has developed a solid waste management plan in light of the solid waste management challenges that existed in the area. These included: rampant and in disseminate dumping due to poor public awareness on waste management alternatives, a municipal landfill/dumpsite that relies on burning, lack of waste segregation and the increasing cost of waste management.

The open dumpsite is dependent on open dumping. The by-products of solid waste deposited in a landfill have adverse effects on the surrounding environment and humans living close to landfill sites. Given empirical evidence of the impact, it is imperative that without protection technologies, the open landfill near the river is both an environmental and public health risk. Plate 6.1 below depicts this proximity based on an image of the town. This negative environmental impact can be reduced by applying protection technologies and appropriate solid waste management technologies.

Plate 6.1: Google image showing the proximity of the landfill to the river



Source: Google Images, 2019

6.5 EMERGING PLANNING ISSUES, OPPORTUNITIES AND CHALLENGES

Table 6.1 shows a summary of various environmental emerging issues in Murang'a town.

Table 6.1: Emerging issues, opportunities, and challenges

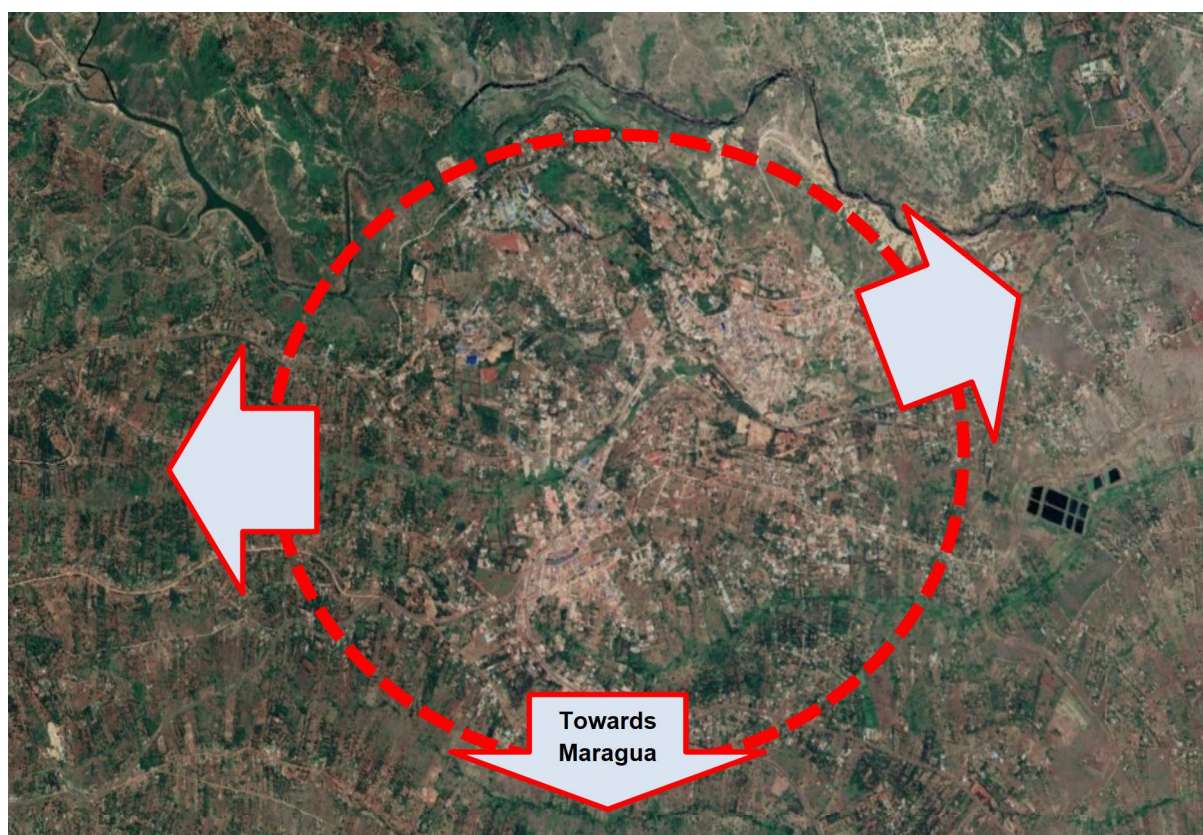
SECTOR	OPPORTUNITY	CONSTRAINTS
Urban greenery	Existence of three stadiums in Murang'a	<ul style="list-style-type: none"> There is no urban greenery for recreation or beautification within the urban core Poor maintenance of the existing stadium
Ecologically sensitive areas	These areas provide ecological services such as water provision and scenic views	<ul style="list-style-type: none"> Encroachment of riparian reserve Soil erosion Due to the nature of the terrain, the town is prone to landslide
Climate change and disaster management	Increased water volumes during rainy seasons can be stored for future use. Presence of existing storm water channel	<ul style="list-style-type: none"> Unpredictable weather patterns Declining water levels Drought Flooding
Waste management	Existence of a waste management plan	<ul style="list-style-type: none"> Lack of a waste disposal site- open dumping

7 HOUSING AND HUMAN SETTLEMENTS

7.1 INTRODUCTION

The function of Murang'a is defined in the county spatial plan. It is the administrative heart of Murang'a County, as it is the county headquarters. Accordingly, it also serves commercial and educational functions. Its growth is constrained by natural physiographic features. For instance, the ridges leading to Mathioya River limit the growth to the North. The terrain is steep even within the central business district. As a result, development follows transportation corridors that follow ridges. The County is currently proposing the classification of Murang'a (incorporating Maragua) as a Municipality as it is a county headquarters thus automatically qualifies for upgrading as per the Urban Areas and Cities Act. The growth of Murang'a is mainly to the south-easterly direction (see plate 7.1) due to the physical constraints posed by the river valley to the North.

Plate 7.1: Direction of urban growth in Murang'a

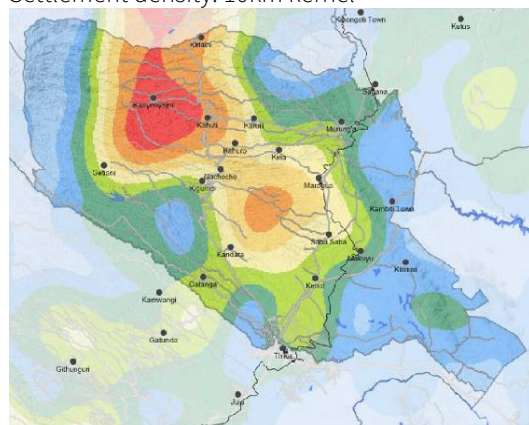


Source: Google Earth Imagery, 2019

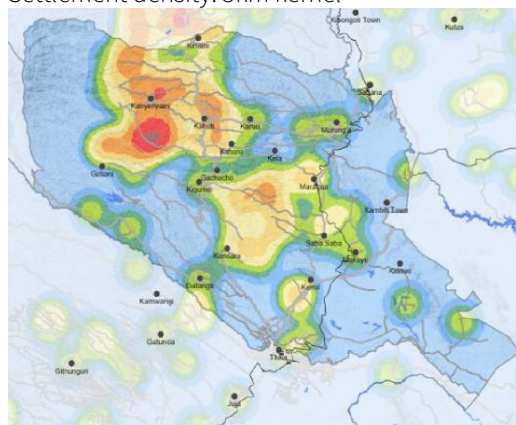
This form of growth is better interpreted by a kernel growth analysis as shown in figure 7.1 below. Development in Murang'a has fused around the CBD and along the western edge of road C71. The additional cores of development include Mjini and Mukuyu. This analysis indicates that the developments have majorly been taking a linear form along the main highway as discussed above. This form of development if unchecked could result to urban sprawl which results to expensive infrastructure and service provision. The plan will thus seek to set a limit to the urban limits and encourage densification.

Figure 7.1: Settlement Densities in Murang'a County

Settlement density: 10km kernel



Settlement density: 5km kernel



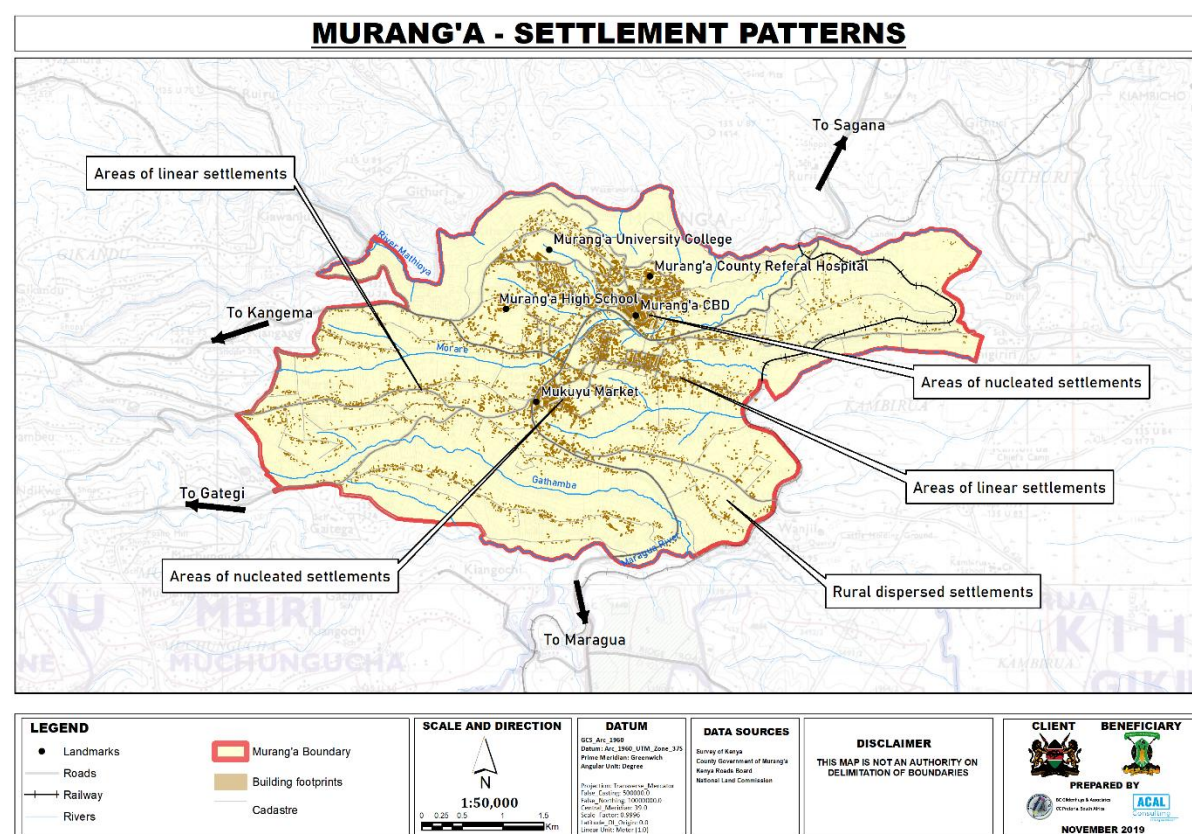
Source: ACAL and BC Gildenhuys, 2020

7.2 SETTLEMENT PATTERNS

There are three distinct settlement patterns evident in Murang'a as depicted in Map7.1. These are:

- Nucleated patterns depicted by concentration of the Murang'a CBD, Mukuyu, Mjini Area, South of Murang'a CBD, and Kiharu area around Murang'a technical university
- Radial Pattern around hills as is the case for Mjini, CBD around the Murang'a County Assembly and linear along Murang'a-Nairobi road), Murang'a- Karuri road.
- Dispersed pattern found in steep sloping areas like Karii area. Sparse settlement is found along fragile areas and steep terrain area especially on the North Eastern side of Murang'a in the quarry area.

Map 7.1: Settlement patterns in Murang'a



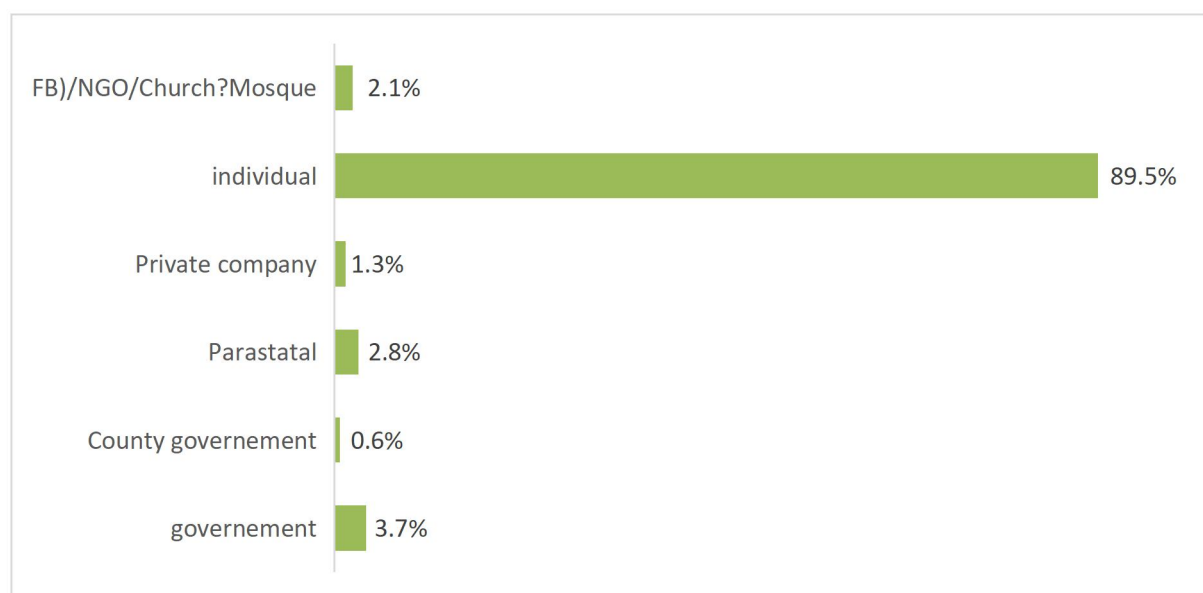
Each of these settlement patterns provide distinct advantages in urban growth as summarized in the bullets below:

1. Dispersed settlement.
 - a) Strength: large tracts of land for agriculture
 - b) Weakness: Skewed and inadequate infrastructure services distribution
2. Linear settlement.
 - a) Strength: nearness to transport features
 - b) Weakness: many activities on the road cause congestion and accident Encroachment on road reserves, expensive to provide services in this kind of pattern
3. Clustered settlement.
 - a) Strength: Efficient provision of services
 - b) Weakness: Unplanned clustered settlements hinder connectivity

7.3 HOUSING

The existing residential area covers 880 Hectares representing 33.6% of the total Murang'a area. The residents are housed in apartments, row housing and single unit dwelling houses that depict a high to low density zones graduating from the CBD and reducing in density as one moves away from the CBD. As per the 2019 population and housing census, 96% of all houses are owned by the residents while only 3.7% are rented. Accordingly, of the houses owned, 89.5% are individually owned, 3.7% are owned by the government, 2.8% belong to parastatals as shown in figure 7.2 below.

Figure 7.2: Mode of housing tenure in Murang'a



Source: KNBS, 2019

The housing typologies in Murang'a are in the form of apartments and row housing in the CBD, Mjini and Mukuyu Area, maisonettes and townhouses in the residential neighbourhood surrounding Murang'a CBD and around Murang'a Technical University. Mixed typologies are evident at the Town council houses are in the form of apartments and row housing. Some house typologies are shown in plate 7.2 below.

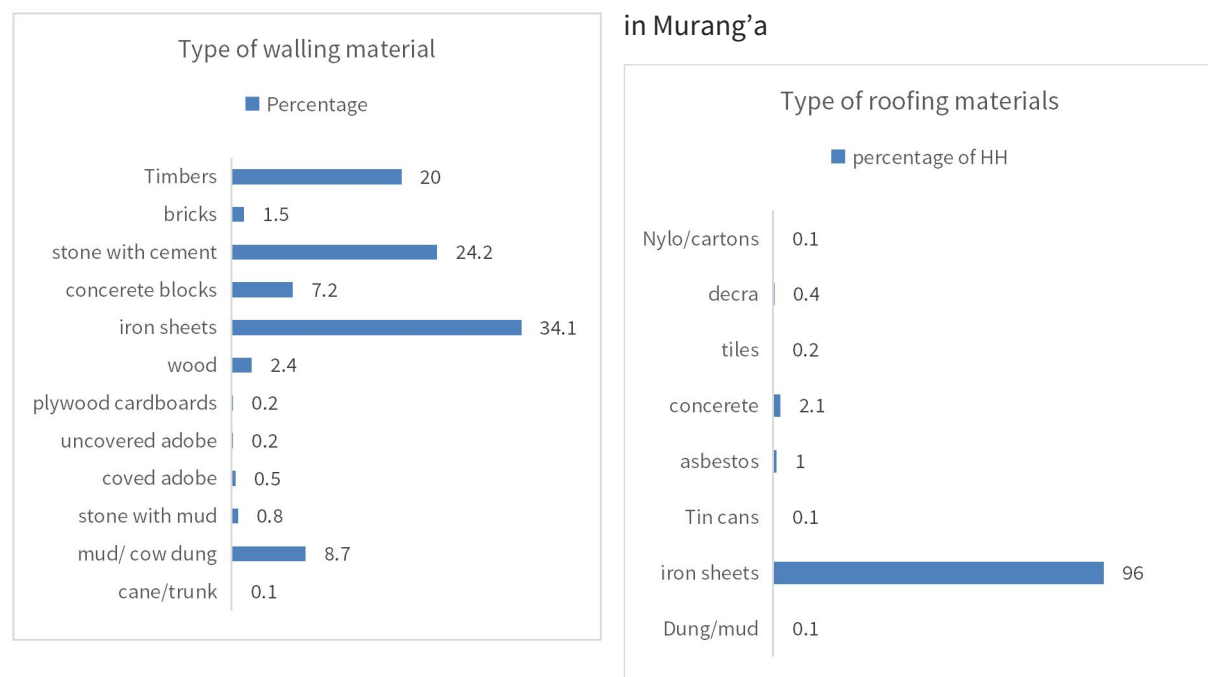
Plate 7.2: Apartment and Row Housing Typologies in Murang'a



Source: Field Survey, 2021

As per the population census of 2019, iron sheets are the most popular roofing material at 96% of all housing followed by concrete roofs. All other types of roofs had a score of less than 1%. Similarly, iron sheets are the most popular type of walling material at 34.1% of the residents indicating so. This was followed by stone with cement walls at 24.2% of the residents. These figures are shown in figure 7.3 below.

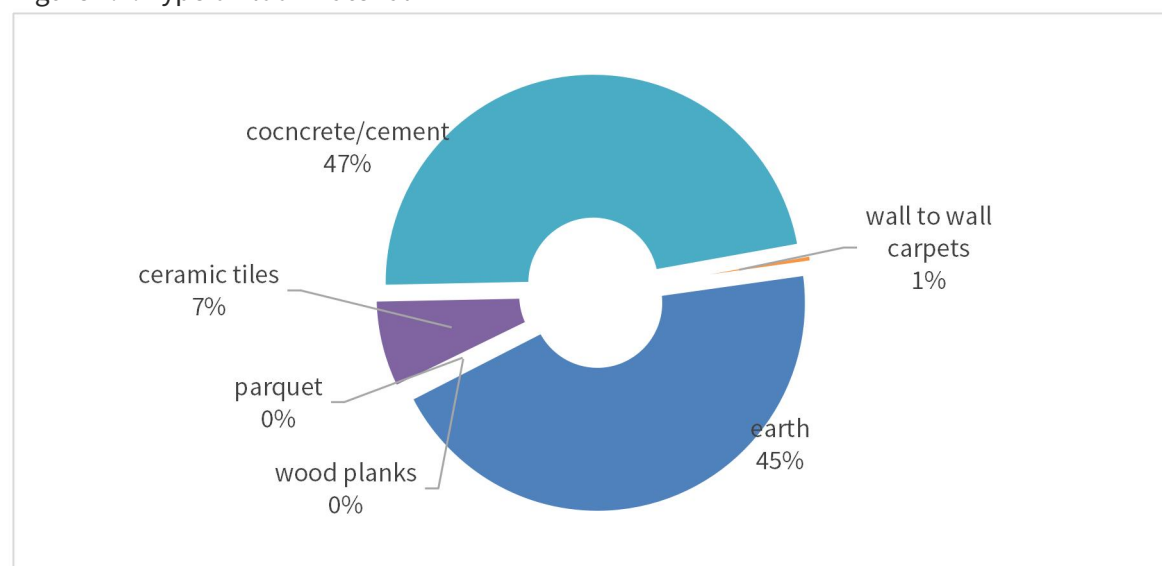
Figure 7.3: Type of roofing and walling material in Murang'a



Source: KNBS, 2019

As per the 2019 population and housing census, 47% of the residents preferred concrete/cement floors making it the most popular floor material. This was closely followed by earthen floors with 45% of the residents indicating that this was their floor type. Other floor types were ceramic tiles with 7% of the residents, wall to wall carpets at 1% and wood planks and parquet floors at less than 1% each. This is shown in figure 7.4 below.

Figure 7.4: Type of floor material



Source: KNBS, 2019

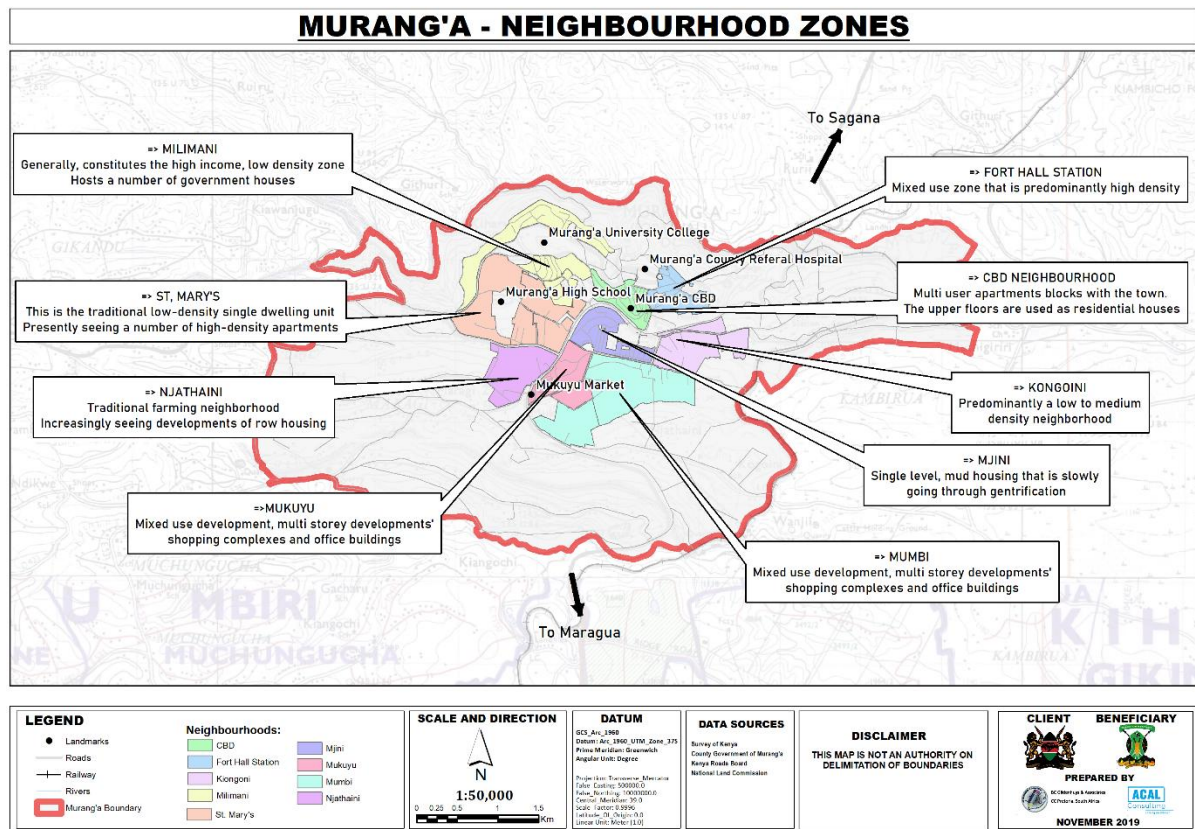
7.4 NEIGHBORHOODS AND THEIR CHARACTERISTICS

Murang'a forms a distinct core surrounded by a neighbourhood class that slowly gives way to a rural hinterland. This is depicted in map 7.2. The neighbourhood is summarized in Table 7.1.

Table 7.1: Neighbourhoods in Murang'a and their characteristics

NEIGHBOURHOOD	LOCATION	CHARACTERISTICS
Milimani	Between the government offices, and Murang'a university	Generally, constitutes the high income, low density zone. Hosts a number of government houses
St Mary's	Between the university and Kangema road	This is the traditional low-density single dwelling unit, presently being seeing a number of high-density apartments
CBD neighbourhood	Apartments within the CBD	Multi user apartments blocks with the town. The upper floors are used as residential houses
Mukuyu/Mumbi	Mumbi and Mukuyu zone	Mixed use development, multi storey developments, shopping complexes, office buildings.
Mjini	Mjini area	Single level, mud housing that is slowly going through gentrification
Kongoini	Murang'a Nairobi road towards Maragua	Predominantly a low to medium density neighbourhood
Njathaini	Kangema road	Traditional farming neighbourhood that is increasingly seeing developments of row housing
Fort Hall station	Between Posta and the river along Mathioya road	Mixed use zone that is predominantly high density

Map 7.2: Murang'a Neighbourhoods



7.5 FORMAL AND INFORMAL SETTLEMENTS

The settlements patterns are inconsistent leading to informality. Majority of formal settlement are however found in areas around the CBD and the council houses. The area is located on the south western part of the CBD. It is anchored to the recently upgraded class B23 road which is the primary access. The primary access road forms a loop anchoring Mjini area. The character of Mjini area is mainly mud houses of Swahili architecture, their coastal touch was influenced during the colonial period where the Muslim were able to settle in the area.

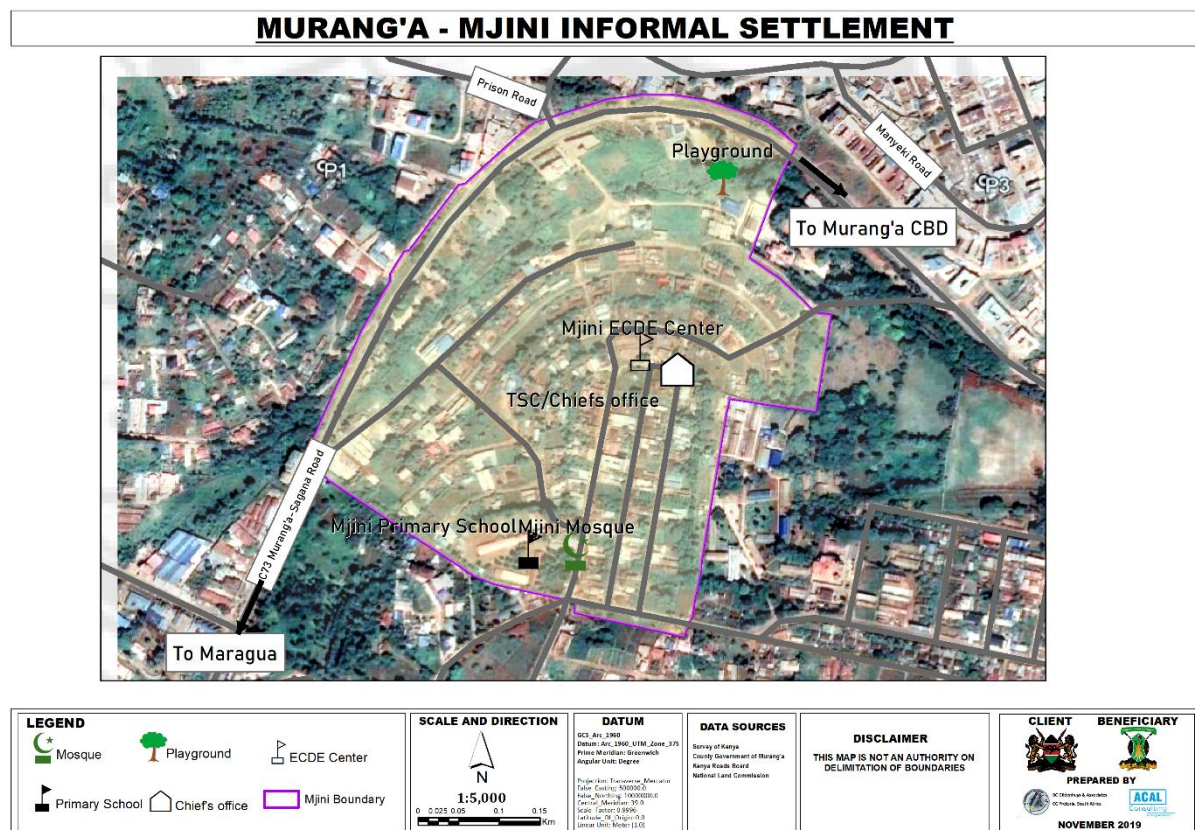
The settlement, however, is going through a natural growth. Land tenure issues are being addressed by initiatives to formalise tenure and a natural densification. In its change, it is imperative that this plan encourages densification without losing its cultural heritage. There is therefore need to rehabilitate the neighbourhood but also maintain the culture of Mjini residents. Promoting modernity with conservation would work well as a strategy to revamp Mjini area. The area is served by social facilities such as Mjini Primary school and a chief's camp. Spatial depiction of Mjini settlement is shown in map 7.3 and plate 7.3 below.

Plate 7.3: Typical housing in Mjini, modern houses replacing the aging traditional housing



Source: Field Survey, 2019

Map 7.3: Mjini Informal settlement



Source: ACAL and BC Gildenhuys, 2019

7.6 EMERGING ISSUES

Table 7.2 below shows a summary of the merging issues on Housing and human settlement in Murang'a.

Table 7.2: Emerging Issues on Housing and Human Settlements

SECTOR	OPPORTUNITY	CONSTRAINTS
Urban development trends	<ul style="list-style-type: none"> Existing infrastructure services such as a sewer treatment plant and trunk system. Intensify vertical construction to maximise on settlement and prevent. Settlement on river reserves 	<ul style="list-style-type: none"> Steep Terrain (Scape of Area) which are risky and expensive to construct. Lack of an existing zoning plan to guide development Skewed and inadequate infrastructure services distribution Many activities on the road cause congestion and accidents
Rural development trends	<ul style="list-style-type: none"> Agricultural areas provide opportunity for a food secure urban area. 	<ul style="list-style-type: none"> Land fragmentation to very small plot sizes e.g., 30'x60'
Formal and informal settlements	<ul style="list-style-type: none"> Emergence of well-planned residential developments 	<ul style="list-style-type: none"> Poor servicing of commercial and residential areas.

8 TRANSPORT, INFRASTRUCTURE AND UTILITIES

8.1 TRANSPORTATION

Transport system is the circulation system of any given area which maximizes accessibility through essential movements between linked activities. The circulation of transport system should always consider safety, comfort, affordability, amenity and environmental effects. The transport infrastructure in Murang'a consists of fixed installations including roads, railways, airways, waterways, canals and terminals such as airports/strips, railway stations, warehouses, trucking terminals and refuelling depots and is shown in Map 8.1.

Transportation in the Murang'a ISUDP is important because it facilitates economic, industrial, social and cultural development. It also contributes to shaping land use patterns and structures as well as human settlements.

8.1.1 ROAD TRANSPORTATION

8.1.1.1 Interconnectivity and Intra-connectivity

The town is well connected both internally and externally. There are two class C roads that connect at the town almost creating a Y shape. The C roads link the town to various centres, towns and indeed class A2 that connect the region with the capital. The accessibility is deliberately dictated by the terrain of the town. The town connects to Murang'a town and Nyeri through C72 and Thika and Nairobi via A2.

Table 8.1: Functions of various roads in Murang'a

CATEGORY	ROUTE DESCRIPTION	FUNCTION
Murang'a Road C71	Exits A2 at Kenol and Joins A2 in Sagana.	Links Murang'a to the A2 corridor. It is arguably the most important road in the area. It cuts through the municipality and defines the character of area. To a non-resident, the street scape formed defines the character.
Kangema road C72	Murang'a -Kangema Road	This exits from the C72 around Mjini area and connects the town to Kangema and northern hinterlands.
D	Murang'a Kiriani road	Connects the town to Kiria-ini toward the north of the County and further in the region to Nyeri
E	Murang'a- Kambirwa Road	Connects the rural hinterland to the centre
Other categories	Urban feeder roads	Generally responsible for ensuring accessibility. The network around the urban centre is dictated by terrain and the network in turn defines settlement. Several roads are unnamed and unmarked

Source: ACAL and BC Gildenhuys, 2019

Map 8.1: Transportation in Murang'a

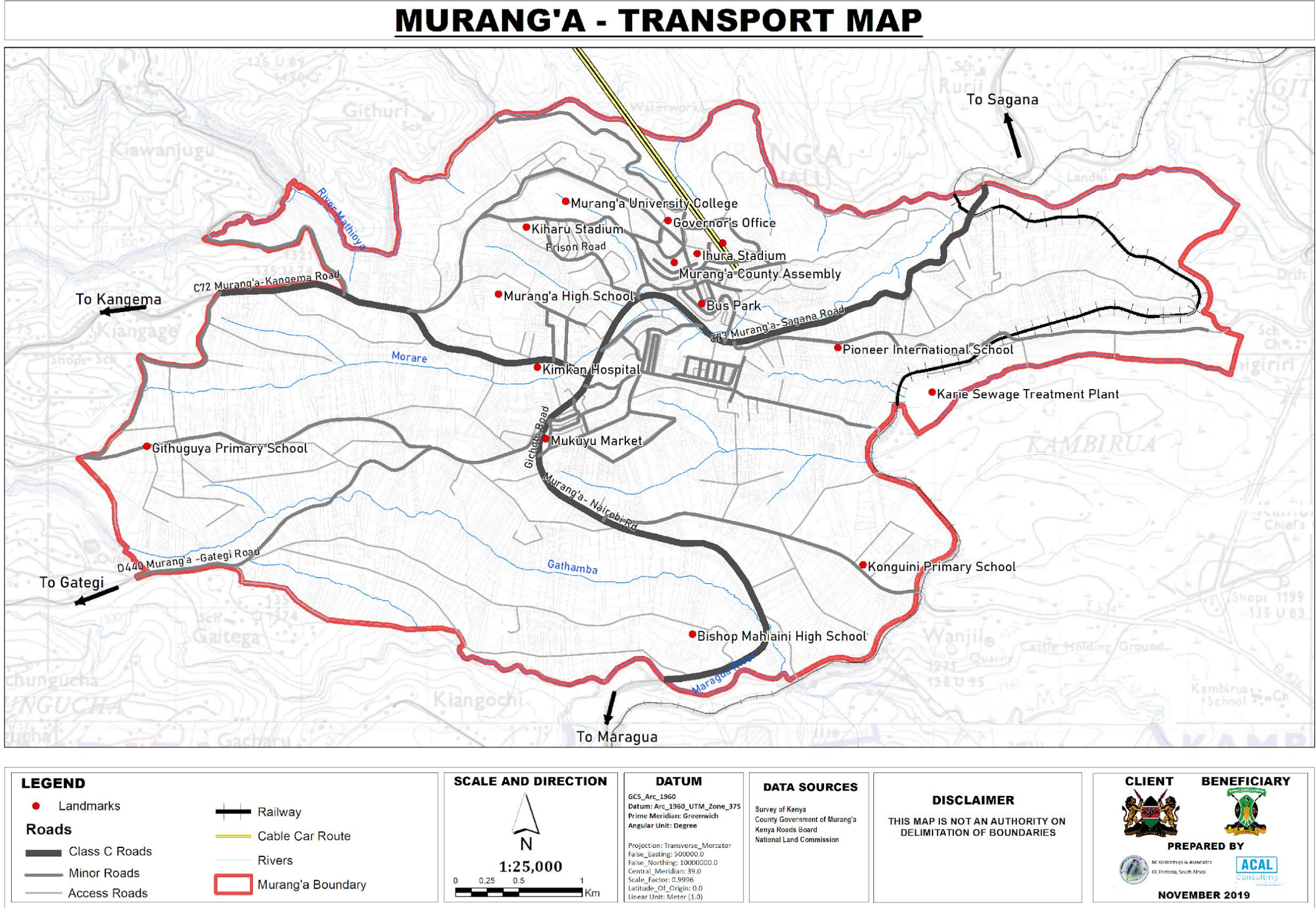
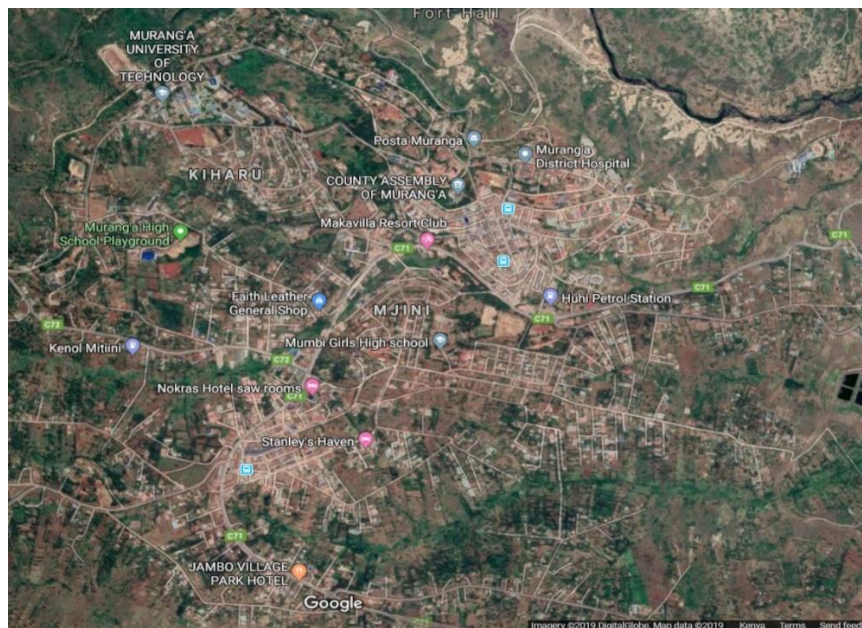


Plate 8.1: Road connectivity and conditions



Road connectivity and conditions

The two main class C roads are in a good condition; the road reserves are relatively intact with encroachment by several informal businesses.

There are numerous feeder roads that are predominantly responsible for compacting growth. Feeder roads tend to be narrow.

Feeder roads are either tarmac or gravel. There are areas that are not connected by a proper network of roads

Source: Satellite image, 2019

Plate 8.2: Road conditions of backstreets of Murang'a



Source: Field Survey, 2019

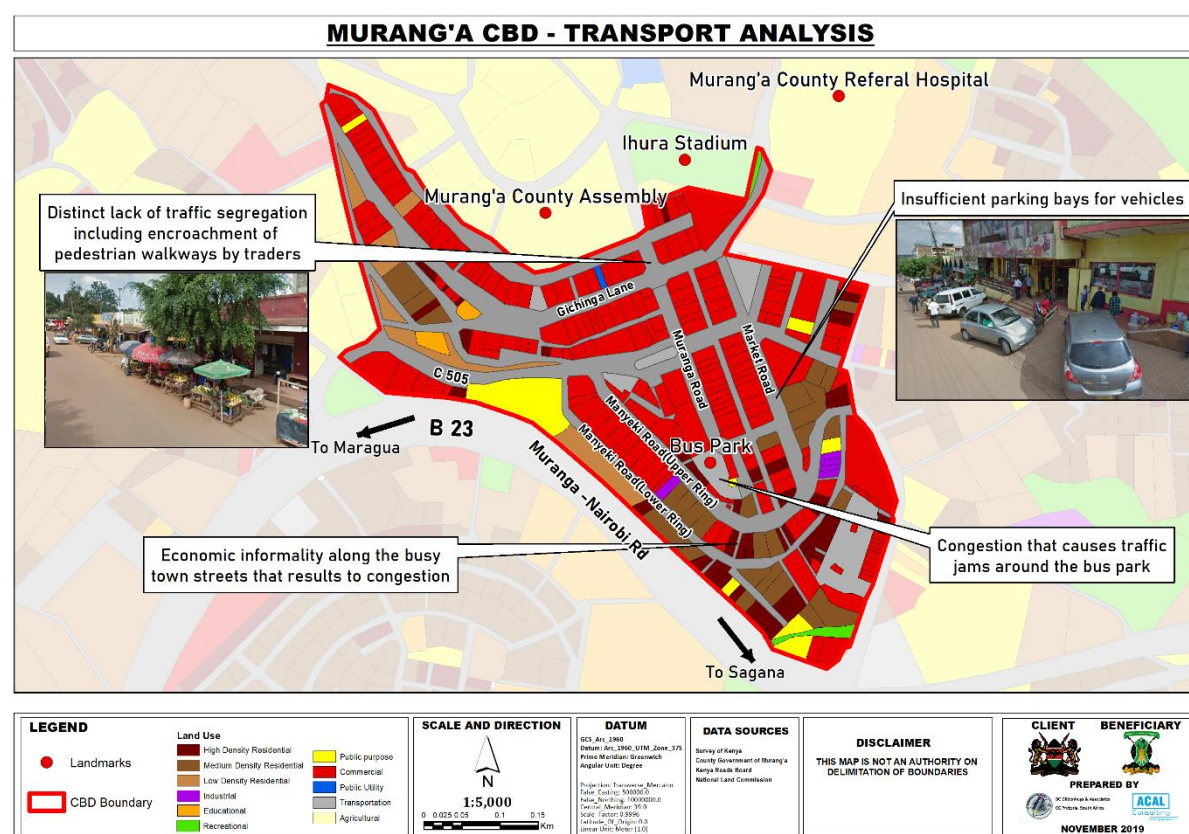
8.1.1.2 CBD Roads Analysis

Three main named streets make up the CBD: C70 on the lower part, Market Street and Murang'a road and Manyeki road. The following are the main characteristics for consideration in this ISUDP:

- Congestion that causes traffic jams around the bus park
- Economic informality along the busy town streets that results to congestion
- Distinct lack of traffic segregation including a lack of/encroachment of pedestrian walkways by traders
- Insufficient parking bays for vehicles.

Further analysis of the CBD roads is shown in map 8.2 below.

Map 8.2: CBD Roads Analysis



8.1.1.3 Modal Split

Transport to the town from the rural hinterland, the town and regional towns is paramount to the success of the town. Trips may be made by differing methods or modes of travel and the determination of the choice constitutes the modal split. Three predominant modes of transport are used: private, public motorized and public none motorized. The following three modes are made by the residents of Murang'a. Table 8.2 below presents a representation of the modal split.

Table 8.2: Modal split analysis of Murang'a

TRIP	MODE	PURPOSE
From Murang'a neighbouring centres within the County	Public transportation by Matatu	As Murang'a serves an administrative function, a number of trips are meant to cover service delivery function
	Private transportation via private vehicles.	This is a major split for farming communities to deliver agricultural produce to the market but also a significant source of supply for commodities required in the smaller towns.
	Motorbike	As the town has a high range of day and night population, this split would be residents from neighbouring towns/satellite reporting to work.
From Murang'a to	Public transportation	Due to the proximity to Nairobi, the city's dominant effect

Nairobi	by Matatu Private transportation via private vehicles	continues to be felt. Public transportation vehicles to Nairobi constitutes the highest number of vehicles.
From neighbourhoods to the CBD	Private transport, Public vehicles, Motorcycles and three wheeled Tuk Tuk	This is predominantly a work home trip for the residential population of Murang'a. The choice of mode of transport used is a function of proximity, cost, and convenience and income levels.

8.1.1.4 Terminal Facilities

Murang'a has two bus termini; Murang'a bus station and Kiharu bus station. These two stations are not adequate to cater for the increased vehicle population. There is an estimated traffic of 1700 vehicles daily. Most matatus pay monthly stickers while a few are charged on entry. Private parking has daily charge with an estimated 334 slots in Murang'a CBD. Each of the two terminus caters for specific routes but the demand for terminus space far outstrips the space available for this. The demand for this facility will soar considering the town is the county headquarter and the high population increase necessitate by trade and administrative services.

Traffic Flow inside the CBD is quite congested due to the large pedestrian traffic boarding and alighting at terminals and stops, disorderly Matatu driver's behaviour, many illegals on street parking. This worsens the limited space in the actual terminus. The increased demand implies that vehicles tend to stop by the streets and road reserve causing a backlog in space. The impact of the traffic congestion is shown in plate 8.3 below.

Plate 8.3: A section of Murang'a backstreet turned into a matatu bus stop



Source: Field Survey, 2019

8.1.1.5 Traffic Management

Trips generation is mainly to work and shopping areas. Murang'a attracts people from the hinterland to the urban areas to access commercial services, farm inputs and transport raw materials to the markets and industries. The design of the road as utilized currently need improvement to be able to cater for this traffic including those traversing from Nairobi to Nyeri.

8.1.1.6 Non-Motorized Transport

Non-Motorized and Intermediate Means of Transport (NMIMT) include head loading, on bicycles, or through animal transport. NMIMT is an important means of transport both in urban and rural areas. NMT is important to people in Murang'a as it helps them have access to employment, health, education and recreation facilities.

It is also majorly used because most vehicles cannot enter most of the settlements, due to the narrow roads and its poor condition. Non-motorized transport in the town is composed of, bicycles and walking which are widely the main form of transport in the town. The road network within the town needs to be expanded to accommodate the pedestrians and cyclists (boda-boda). Increase in the number of motorcycle users as a more recent development in transport poses the need for planning for non-motorized transport in the town.

8.1.2 RAIL TRANSPORT

Murang'a is traversed by part of the railway network. However, the railway is in a poor condition that it cannot be used. The railway station lies in ruins as shown in the Plate 8.4 below due to lack of use. Railway offers an opportune means of transport and its revitalization, through a broader regional strategy should be contemplated to spur growth. The metropolitan region has contemplated a metropolitan commuter rail system. Its potential to spur growth in the town will be anticipated in this plan.

Plate 8.4: State of the Railway Station in Murang'a



Source: Field Survey, 2019

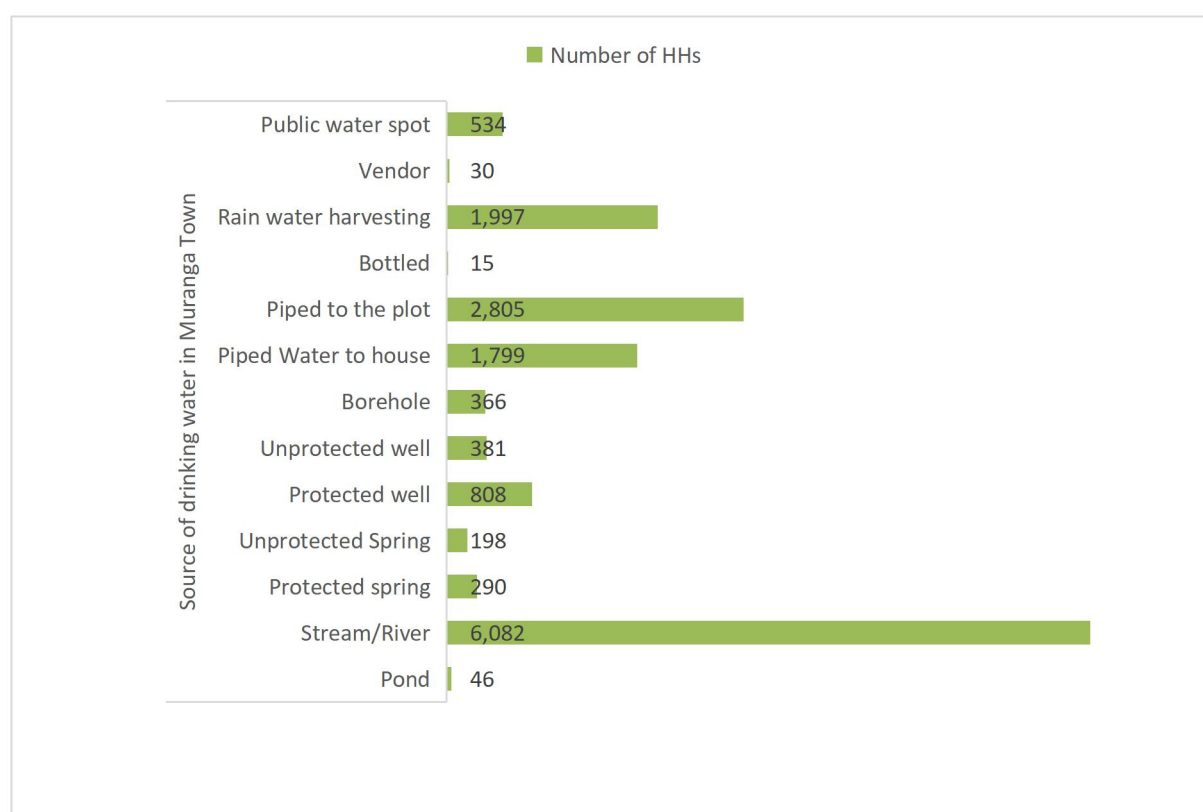
8.2 WATER

Water supply and network is a critical resource for sustaining all forms of life, as well as economic and social activities in a country. Murang'a is served by only one water and sewerage service provider; Murang'a Water and Sewerage company (MUWASCO).

8.2.1 WATER SOURCES

According to figure 8-1 below, streams and rivers are the largest source of domestic water with 39.9% of the households getting their water from this source. This constitutes a total of 6,082 households. The second most populous source of domestic water is piped water either to the house or the plot at 11.8% and 18.4 % of the respectively. These two sources constitute a total of 1,799 and 2,805 households respectively. Other sources include: rain water harvesting, protected and unprotected springs, ponds, boreholes, water vendors, public water spots and bottled water. The summary is shown in figure 8.1 below.

Figure 8.1: Source of domestic drinking water per household in Murang'a

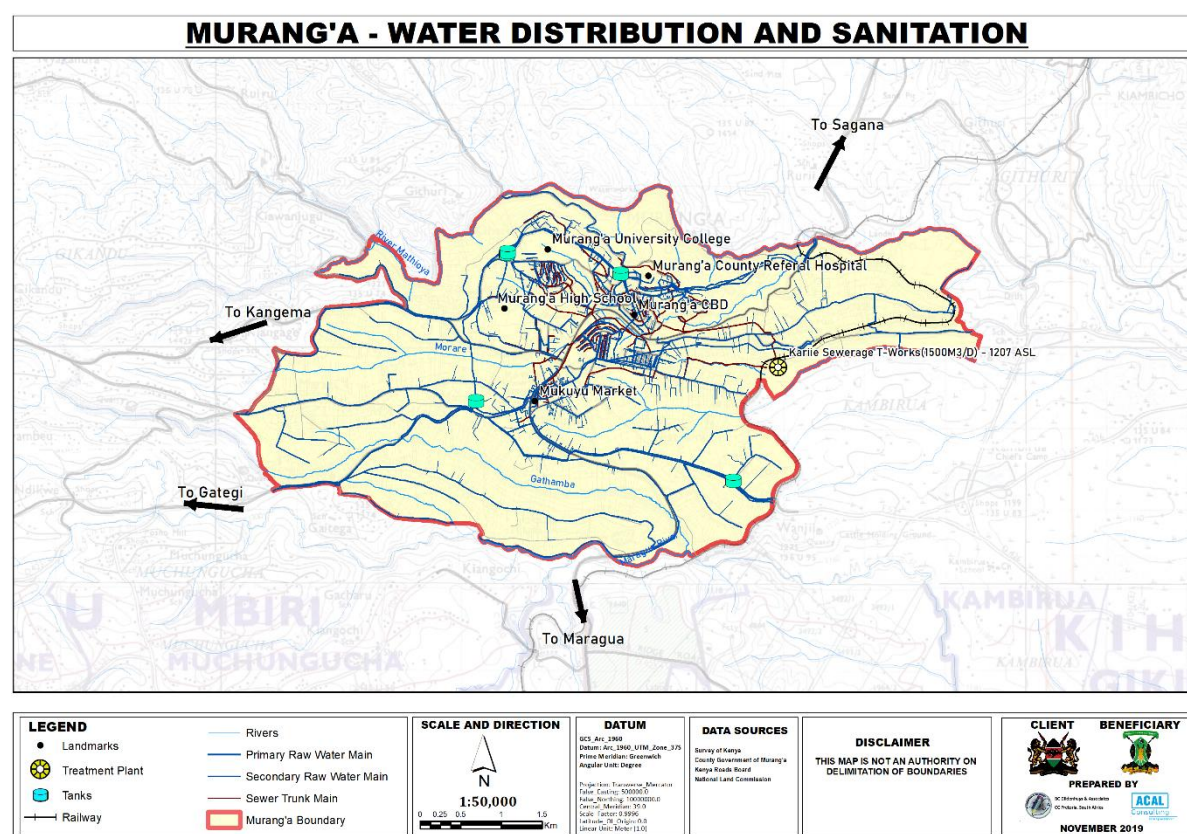


Source: KNBS, 2019

The major rivers from which water is collected are Mathioya River located towards the north of the planning area and Murang'a River located at the south of the planning area. The river tributaries i.e. Irati River and Kayahwe River are tapped by MUWASCO for the distribution of water at Kiawambeu water treatment plant. There is also Kayahwe water treatment plant.

MUWASCO covers a total area 145 Kilometres square with an estimated population of about 75,000 people. This catchment population is significantly larger than the planning area which covers a land size of 25 square kilometres. The area covered includes Mbiri, Township, and Kimathi and Mugoiri wards. MUWASCO has over 15,000 registered connections with 13,000 being active. The main water source is Kiawambeu Water Project with a production capacity of 15000m³ but currently producing 11000m³ and Kayahwe which produces 4000 m³. The sewerage distribution network is shown in map 8.3 below.

Map 8.3: Murang'a Water and Sewerage Distribution



8.2.2 WATER DEMAND AND SUPPLY IN MURANG'A TOWN

The existing treatment capacity of both Kayahwe and Kiawambeu is 15000 cubic metres per day against a demand of 25,000cubic meters per day. The existing water networks cover about 145 square kilometres with an approximate population of 10,000 connections. This includes other areas other than Murang'a town (see Map 8.3 above and Table 8.3 below).

Table 8.3: Water Demand and Supply

WATER DEMAND	SUPPLY
25,000M ³ /Day	15,000M ³ /Day

Table 8.4: Ongoing projects for Murang'a on water and sanitation

ITEM	PROJECT	LOCATION	REMARKS
1	Athi Community Water Distribution Projects	Kambirwa, Miriira, Kafuta, Muchungucha, Embassy	Enhancement of water connectivity in MUWASCO SPA Area

Table 8.5: Proposed Water and Sanitation Projects

ITEM	PROJECT	LOCATION	REMARKS
WATER PROJECTS			
1	Karuri - Kiharu T-Works Water Project	Karuri - Murang'a Town	Augmentation of Murang'a Town Water Supply
2	Kayahwe - ACK Mukuria Hungu Water Project	Kayahwe - Mumbi	Augmentation of Mukuyu & Mumbi Water Supply
SANITATION PROJECTS			
1	St-Marys Sewer Line Project	St Marys Primary School	Increase sewer connectivity throughout the Muwasco SPA Area
2	Kambwe-Sewer Line Project	Kambwe	Increase sewer connectivity throughout the MUWASCO /SPA Area

Challenges include costs for expansion for the existing sewerage and treatment works to cater for the increasing demand, the undulating terrain and theft.

8.2.3 WATER POTENTIAL

The town has potential for underground water as the aquifers are rich as well as rainwater harvesting. Currently the rivers as a source of water have been used. The water potential can be harnessed to supplement the demands.

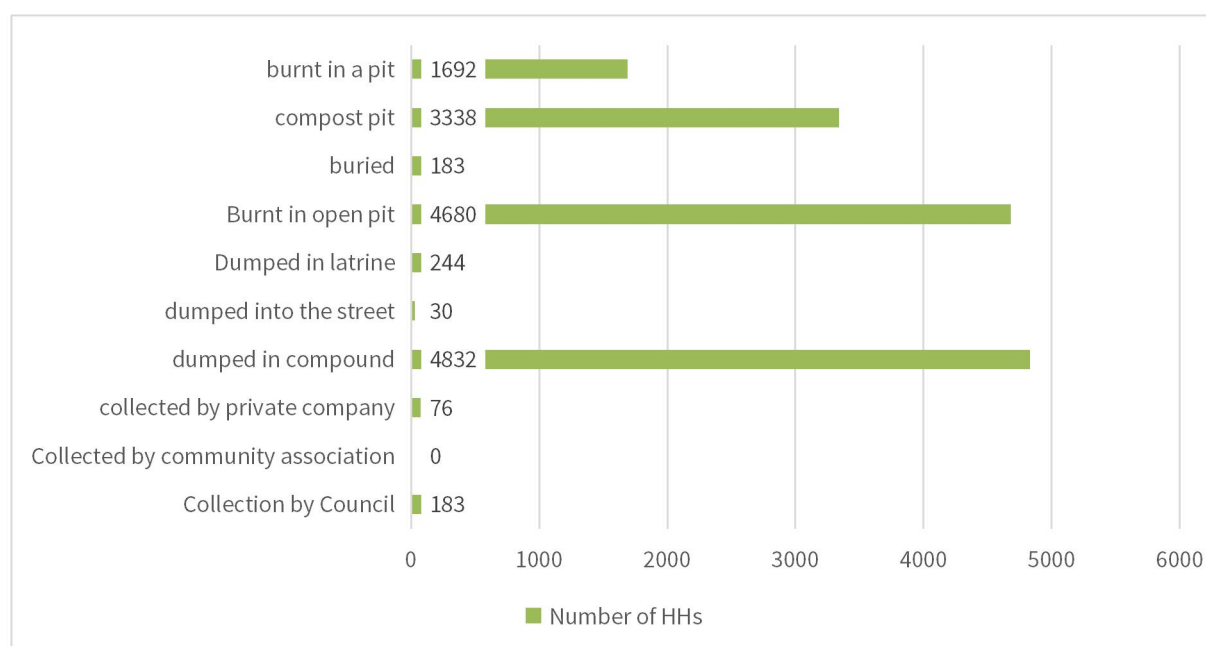
8.3 WASTE MANAGEMENT AND SANITATION

8.3.1 SOLID WASTE MANAGEMENT

Murang'a town generates various types of waste which include but not limited to hazardous materials, domestic waste, agricultural waste, papers, hospital waste, dead animals, glasses, plastics etc.¹. Most of the waste is generated at household, marketplaces, cities, towns, institutions and industrial zones. Data on waste quantities in the town has not been quantified by both the county government and private providers. Most of the town and domestic waste generated is disposed of in open dumpsites across the county. Biomedical waste is largely disposed through incineration and rudimentary kilns. Waste transportation is largely using open trucks run by the county government.

¹ Murang'a County solid waste management plan, 2019

Figure 8.2: Methods of Household solid waste disposal



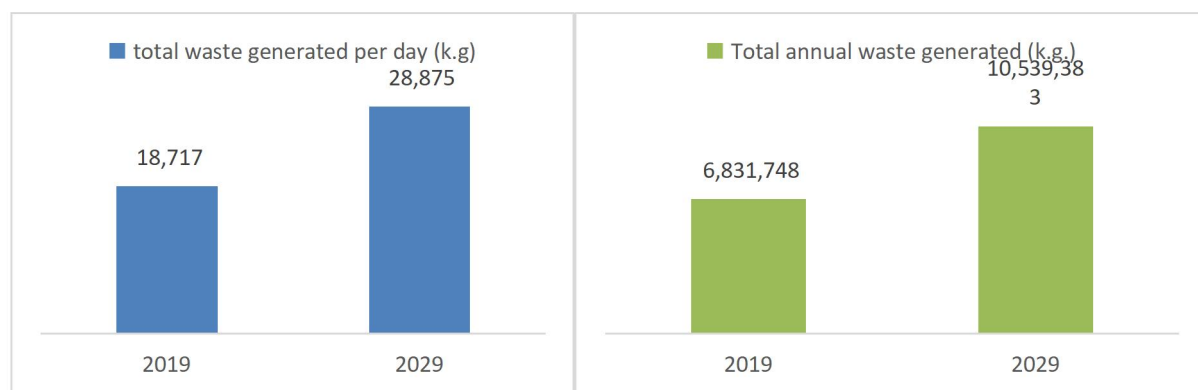
Source: KNBS, 2019

Solid waste collected in Murang'a is taken to the Karii Dump Site, a relatively small open dump operated by the county government. It is located next to Murang'a wastewater treatment ponds. The waste disposal operation is characterized by an overland waste dumping subject to continuous burning. According to the NaMSIP Mitubiri baseline study, the Karii dumpsite serves the following catchment area: Muranga, Kahuro, Maragua, Kigumo, Kangema and Kangari. With waste being transported as far as 47km to the dumpsite.

The town and waste management periodically contracts the service of an open dump (tipper) truck for the collection and transport of waste to the Karii Dump Site. The cost of this service is 7,000 Shillings per day. The authorities estimate that 9,360 tonnes of solid waste are collected annually (2018 data). The average waste collected per capita is estimated at 0.427 kg/person/day. The average waste generated per capita per day at the national level is estimated at 1.5 kg/person/day.

Based on the per capita waste generation of 0.427kg/person/day, it is estimated that the present 18,717kilos is generated by the urban population of Murang'a and an approximate 6, 831tonnes per year. Projected to the end of the plan period, it is expected that the town will generate an approximate amount of 28,875kilos per day as shown in figure 8.3 below:

Figure 8.3: Solid waste projection for Murang'a



Source: ACAL and BC Gildenhuys, 2019

Of the total waste generated, it is estimated that organic waste will still form the largest proportion. It is estimated that 65% of the total waste weight is made of organic material. 20% is expected to be plastic (although this may have reduced with the ban of plastic bags in the country), 10% as paper, 1% medical waste and 2% from metal.

By 2029, it is projected to have waste production as shown in table 8.6 below:

Table 8.6: Projected waste production by type (year 2029)

TYPE	PERCENTAGE	VOLUME PER DAY (KGS)
Organic	65%	18,768.76
Plastic	20%	5,775.00
Paper	10%	2,887.50
Medical	1%	288.75
Metal	2%	577.50
E-waste	2%	577.50
Total	100%	28,875.02

Source: ACAL and BC Gildenhuys, 2019

The Murang'a municipality waste management plan identifies several challenges with waste management as follows:

- 1) Availability, siting and management of community level waste management zones.
- 2) Funding: The municipality has allocated the resources for garbage management. However; the funds are not adequate especially in the garbage transport system.
- 3) There is lack of waste segregation at source leading to mixed wastes which are collectively disposed of in the dumpsites. Where sorting is done, the problem is compounded by the lack of bins and chambers for hence all garbage is mixed during transportation.
- 4) Murang'a has no proper solid waste management facilities apart from the open dump sites in the CBD. Plate 8.5 below shows the dumpsite.
- 5) The current temporary storage infrastructure is prone to environmental problems as the waste spills over and as such negatively impacts the quality of the runoff. Plate 8.6 below shows accumulated waste in a temporary waste management site due to irregular waste collection and Informal waste accumulation in Makuyu area.
- 6) The main challenge is lack of refuse collection points that are not well distributed and lack of a landfill.

The county government has attempted to privatize waste collection as a possible waste management strategy.



Plate 8.5: Kirii Dumpsite in Murang'a

Source: Field Survey, 2019

Plate 8.6: Accumulated waste in a temporary waste management site in Makuyu area

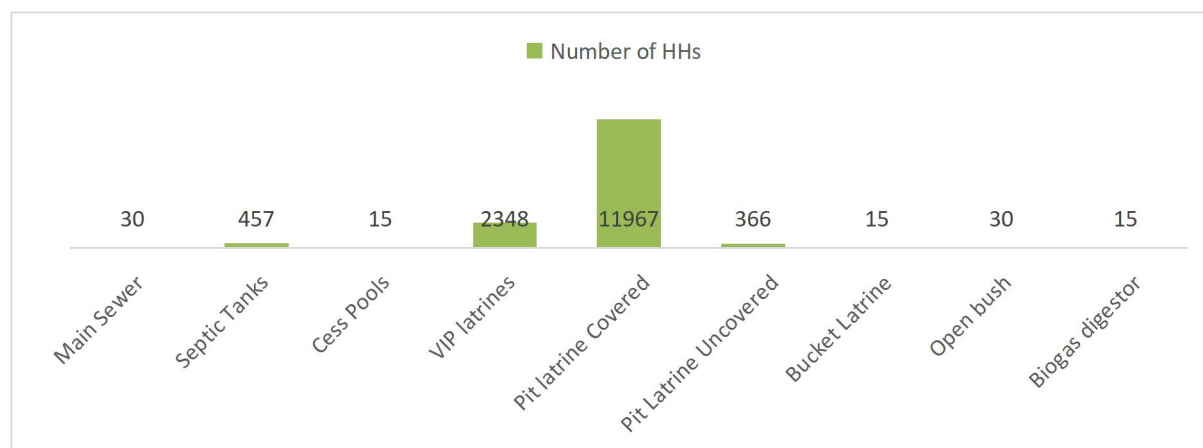


Source: Field Survey, 2019

8.3.2 LIQUID AND HUMAN WASTE MANAGEMENT

According to the KNBS data, the main means of human waste disposal in Murang'a County is pit latrines standing at 78.5% of the households in Murang'a town making these a total of 11,967 households as shown in figure 8.4 below. The use of sewer remains low at less than 1% of the households accounting for only 30 houses. This is despite the town having access to a sewer system. The chart below indicates the main means of human waste disposal.

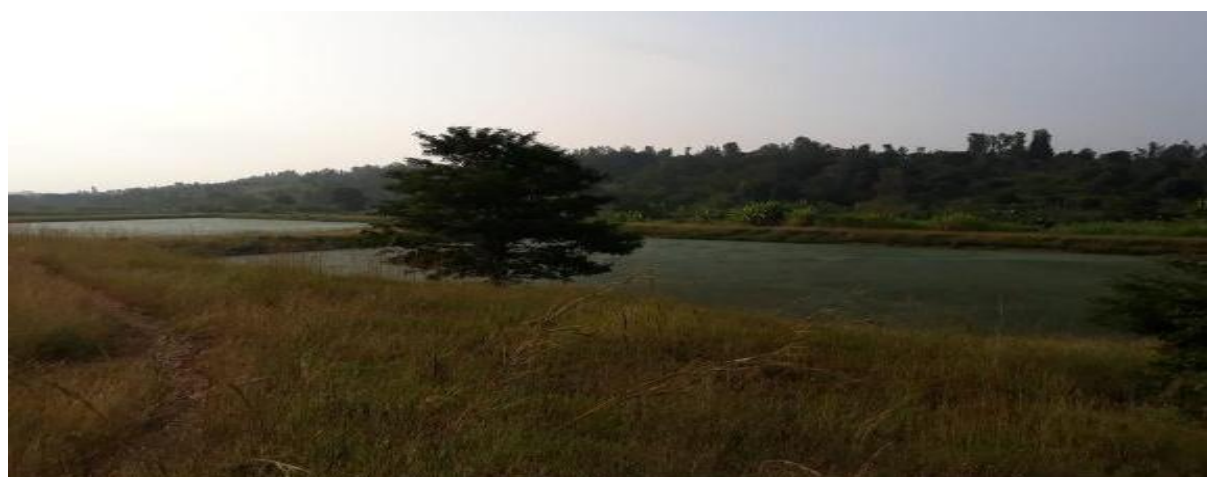
Figure 8.4: Methods of human waste disposal



Source: KNBS, 2019

Murang'a is connected by trunk sewer system under the management of Murang'a Water and Sewer Company. It is mandated to serve an area of 145 km² from 350 km² after Maragua reverted to Murang'a South Water and Sanitation Company. Karie Sewerage Treatment Plant is used for treatment of sewerage and shown in plate 8.7 below. The sewer management company boasts of 4,997² connections. This remains at below 15% coverage and is limited to a small area. There is room to expand the sewer connection to places like St. Mary's, Kandundu, Kongoini among others. The population not connected use septic tanks and pit latrines. The capacity of the treatment plant and land availability is adequate to serve the town with increased capacity.

Plate 8.7: Murang'a water treatment plant



² MUWASCCO audited accounts for 2018

Source: Field Survey 2019

8.3.3 STORM WATER DRAINAGE

Storm water is managed through civil drains and open drainage system. The terrain of the town helps in drainage as the town slopes towards the rivers. Most of the roads especially within the CBD have sub-standard storm water drainage systems. One of the key problems leading to poor drainage in the town is caused by poor solid waste management. Refuse is swept from the CBD and blocks the drains on the road thereby causing flooding on the road. There is need therefore to provide storm water drainage along the roads as well as ensure efficient collection of waste to minimize incidences of blocking of drains. Maintenance of drains should be carried out regularly.

Plate 8.8: Storm water drain in Murang'a



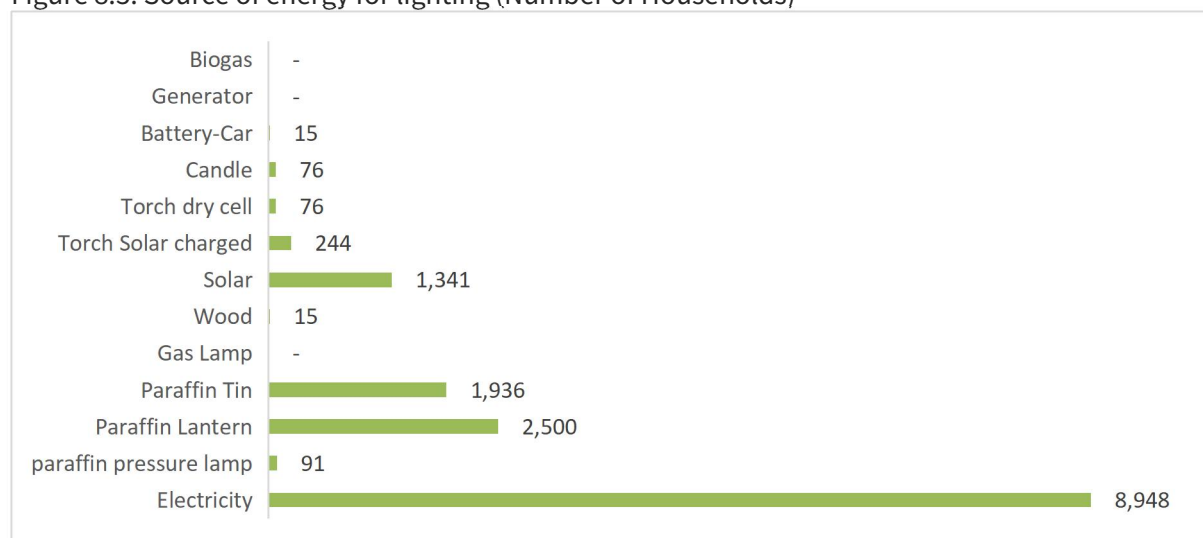
Source: Field survey, 2019

8.4 ENERGY RESOURCES

8.4.1 SOURCES OF ENERGY FOR COOKING AND LIGHTING

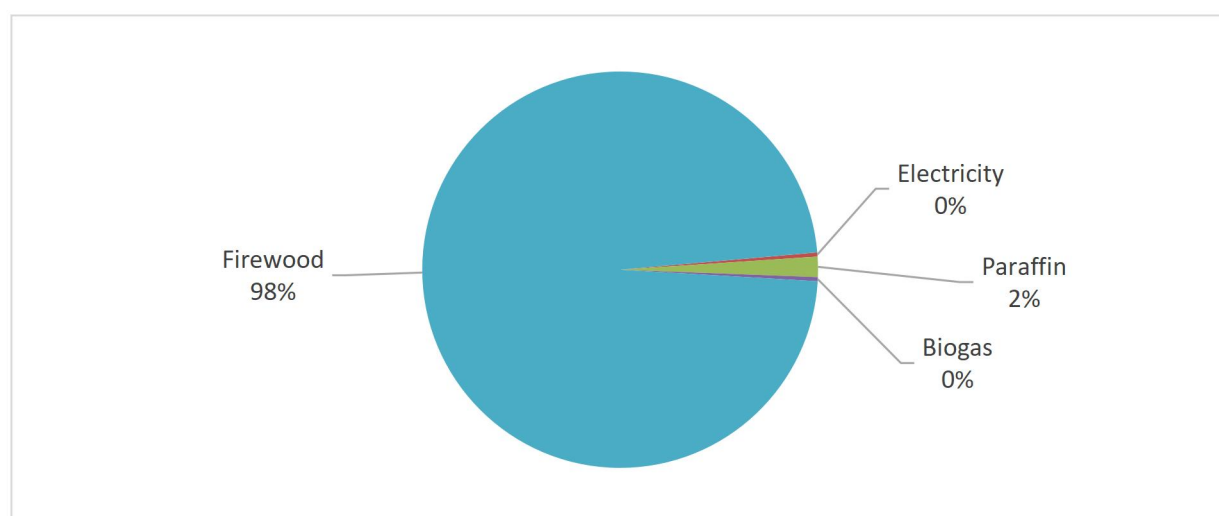
Kerosene/ paraffin tin lamps and lanterns are the main source of energy in Murang'a, being used by 84% of all households combined for lighting. Electricity is the main source of lighting with 58.4% of residents (see Figure 8.5). This is higher than the national average that stands at 42% in urban areas. The planning area is relatively well covered with electricity network. KPLC is the main supplier of electricity in Murang'a. However, the main challenge experienced is the high installation cost required for electricity connection and the vandalism of transformers, which explains the limited number of households using electricity.

Figure 8.5: Source of energy for lighting (Number of Households)



Firewood on the other hand is the predominant source of energy for cooking used by 82% of all residents. The demand for firewood is high considering it is a cheap source of energy. Its consistent supply has the potential to depreciate tree cover through cutting of trees. The second and third highest used energy sources for cooking are charcoal and paraffin, both of which are unfriendly to the environment (see Figure 8.6).

Figure 8.6: Source of energy for cooking



Source: KNBS, 2019

8.4.2 ENERGY DEMAND AND SUPPLY

The town has of late experienced fast population growth. With the growing population, there is more demand for energy supply which the government is in the process of connecting to all the households through the last mile connectivity. The area is served by Murang'a substation (33-11KV).

According to the Kenya Power & Lighting Company, there were 123,900 electricity connections in Murang'a County as of 2016. Murang'a is well provided with electricity connections. According to KPLC distribution master plan, the average household uses 30 kWh/month per household. Provided the anticipated household size of 23517, Murang'a will need approximately 705,514 KW per month by 2029. This is broken down in table 8.7 below.

Table 8.7: Energy demand in Murang'a by 2029

	AVERAGE DEMAND IN KW/HH/MONTH	NUMBER OF HH	DEMAND IN KW/MONTH
Energy demand 2019	30	15,244	457,320
Electricity demand 2029	30	23,517	705,514

Source: ACAL and BC Gildenhuys, 2019

Murang'a and its environs receives adequate solar insulation of about 4-6kWh/m² daily, hence the potential in exploitation of solar energy as another energy source reducing the dependency on electricity. Some of the barriers affecting the exploitation of solar energy resource include high initial capital costs, low awareness of the potential opportunities and economic benefits offered by solar technologies.

8.5 INFORMATION, COMMUNICATION AND TECHNOLOGY

8.5.1 MODES OF COMMUNICATION

The county has 800 landline telephone connections provided by Telkom Kenya. It has high mobile network coverage of 97 per cent of the area with the service providers being Safaricom, Airtel Kenya, and Telkom. There are one in the planning area. (CIDP, 2018). The Huduma Centres such as the one in Murang'a are emerging as hubs for access to information of government services and the internet. Fibre optic cables have also been laid to cover the major route connecting Kenol, Sabasaba, Maragua, Murang'a. The arrival of these fibre optic cables provides an opportunity for increased ICT connectivity that could stimulate additional investments in the County

The town is served by all national mainstream TV and Radio stations with more than 6 of the radio stations and 5 TV stations broadcasting in the local language. Two radio stations that have their studios in the county are Kangema FM (Ranet FM) in Kangema, and Radio Maria in Murang'a. There are courier services operating in the Murang'a town. The main service is provided by the Post Office, DHL and G4S Security firm.

There is great potential for ICT development among the youth in the area who have completed schools and need some vocational training. An ICT hub proposal would be of great value.

8.6 EMERGING PLANNING ISSUES

The table below presents a summary of issues relevant to this ISUDP as an output of the analysis above: -

Table 8.8: Opportunities and constraints analysis of the transportation, infrastructure and utilities

SECTOR	OPPORTUNITIES	CONSTRAINTS
Roads	<p>There is need to upgrade and maintain all roads within the planning area to gravel and tarmac status with recommended width and drainage systems.</p> <p>There is need to integrate the pedestrian sidewalks and designate bicycle/motorcycle</p>	<p>Some residential and agricultural zones are underserved by a road network</p> <p>Narrow access roads,</p> <p>Lack of parking bays</p> <p>Encroachment of road reserves in the town</p>

	<p>tracks into the road networks.</p> <p>There is need for traffic management in the CBD.</p>	streets
Railway	The underutilized Railway has potential to open up the town for such functions as” dormitory” functions, trade and commerce	Railway infrastructure is in poor condition and would need significant investment to make it operational.
Water	<p>Adequate raw water-this is key not only to the current situation but also for future expansion.</p> <p>Water treatment plant with permanent rivers to draw water. This has potential to create water security for the town even with an increase population over the plan period</p>	<p>The water reticulation system does not cover some parts of the municipality.</p> <p>Water supply and reticulation is hampered by terrain and rampant theft of equipment.</p> <p>Unmetered connections resulting to high Non-Revenue Water (NRW) levels.</p> <p>Ageing and dilapidated infrastructural assets (inherited from GoK/NWCPC)- adversely affecting our capacity to provide services</p>
Sewer	An existing sewer treatment plant that has capacity to cover the projected population over the plan period	The existing sewer connections are few and concentrated in a small area of the town.
Solid waste	<p>The municipality has made a solid waste management plan.</p> <p>The location of the current dumpsite is convenient to the siting of a transfer station for the long-haul transport of MSW out of the Murang'a City environs.</p>	<p>Without public awareness, efforts to privatize waste collection are not paying off.</p> <p>Funding: The municipality has allocated the resources for garbage management. However, the funds are not adequate especially in the garbage transport system.</p> <p>There is lack of waste segregation at source leading to mixed wastes which are collectively disposed of in the dumpsites.</p> <p>The current temporary storage infrastructure is prone to environmental problems as the waste spills over and as such negatively impacts the quality of the runoff</p>
Energy	Adoption of alternative energy sources e.g. solar energy and wind energy.	Overreliance on non-renewable energy sources

9 SOCIAL INFRASTRUCTURE

9.1 EDUCATION

Murang'a enjoys a reasonable coverage of educational institutions. They are also evenly distributed to ensure reasonable access (See Table 9.1 and Figure 9.1). The accessibility is demonstrated in Map 9.2.

To determine adequacy, the plan used standards as defined in the physical planning handbook. As detailed in the table below and offset the radius of the defined distance. A spatial display of this functionality is shown in map 9.2 below.

Table 9.1: Standards for locating education facilities

CATEGORY OF FACILITY	MINIMUM DISTANCE	CATCHMENT POPULATION
Pre-primary	300-500meters	0.15-0.25hectares. for 4000 people
Primary	500m-2km	3.9 Ha for every 4,500 population
Secondary	500m-3km	4.5 Ha for every 8,000 people
Tertiary	Not provided	50 Ha

Source: Physical Planning Handbook, 2007

9.1.1 PRE –PRIMARY SCHOOLS/ NURSERY SCHOOLS

There are nine ECD within the planning area. The area is well covered by elementary school which is a mandate of the county government. The pre-primary schools in Murang'a town are both privately owned and public. The coverage is within walking distance for the learners to access the facilities. Examples of ECDE centres in the town include Mjini ECDE Centre, Bishop Kiarie Nursery School and Mukuyu Nursery School.

9.1.2 PRIMARY SCHOOLS

There are 22 primary schools within the study area both private and public. The primary schools in Murang'a town are well covered and distributed some along the nucleated area and other along the corridor where population is dense. Examples of primary schools in the town include Mbiri Primary School, Bishop Kairo Primary School, Mjini Primary School, Bridge International Academy, Beneditto Highway Complex Primary School, St. Vincent's Maragi Mixed Primary School, Mumumbu Primary School, Konguini Primary School and Green Cottage Primary School.

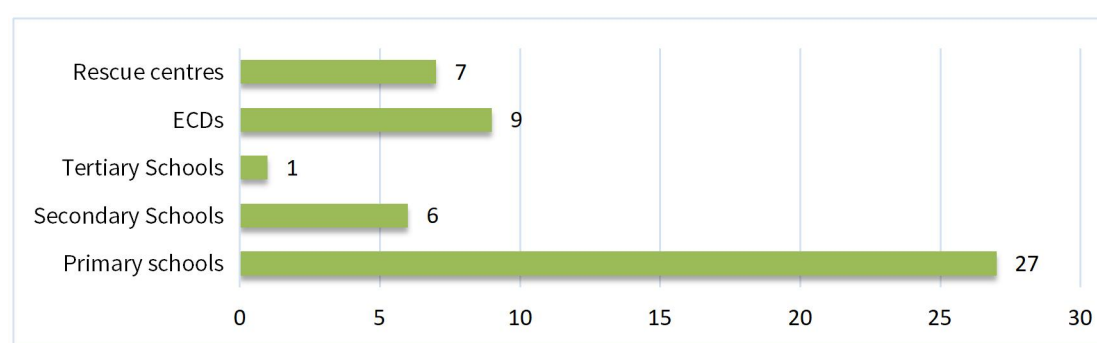
9.1.3 SECONDARY SCHOOLS

There are six secondary schools within the planning area. Examples of secondary schools in the town include Murang'a High School, Mumbi Girls Secondary School, Bishop Mahiaini High School and Philadelphia Christian High School, Konguini.

9.1.4 TERTIARY INSTITUTIONS

There are four tertiary institutions within the planning area, and they include KMTC, Murang'a University and TVET institutes. The distribution is shown in figure 9.1 below and map 9.1 respectively.

Figure 9.1: Distribution of learning facilities in Murang'a



Source: Field Survey, 2019

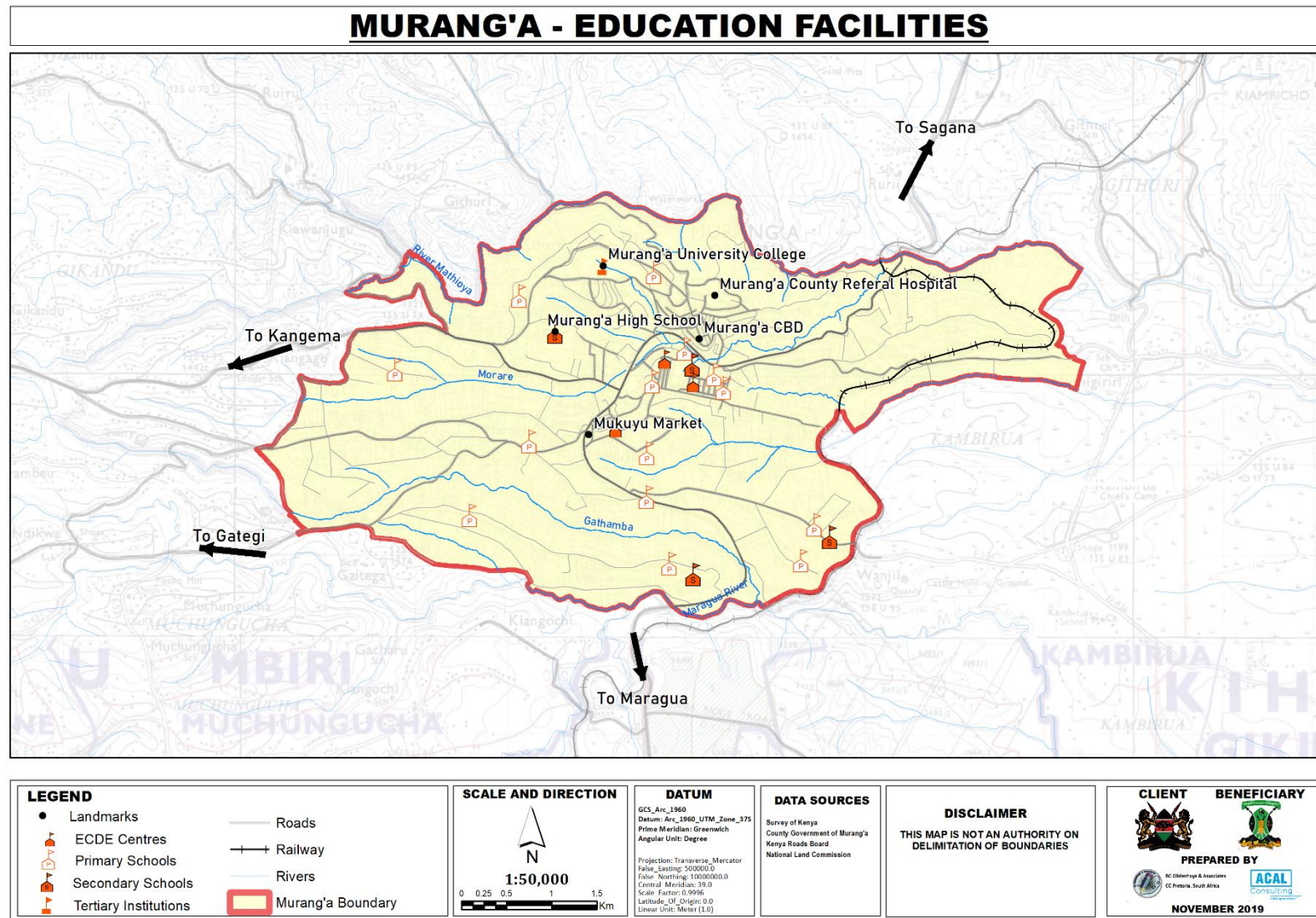
Other indicators of the quality of education are: enrolment (average school sizes); teacher-pupil ratio and the gender parity index that shows the ratio between male and female students. These statistics are shown in table 9.2.

Table 9.2: Enrolment, T-P ratio and gender parity index

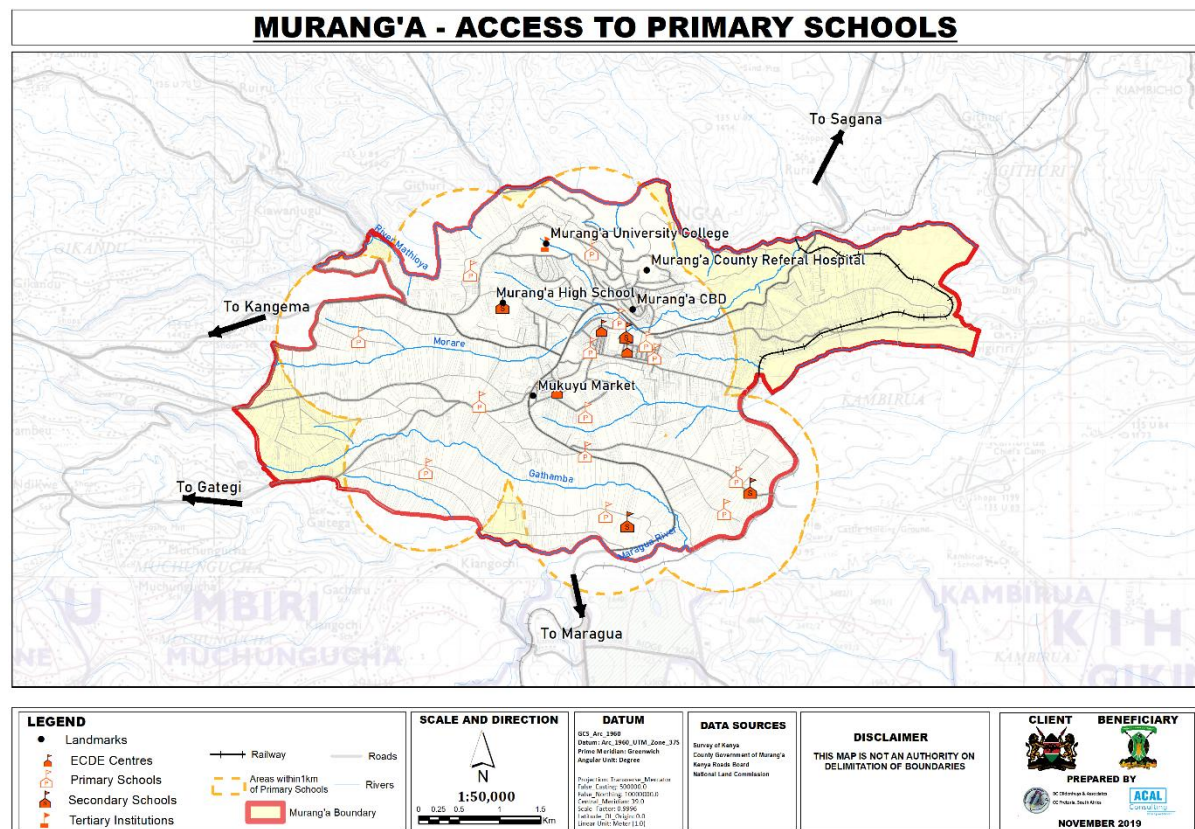
SCHOOL LEVEL	AVERAGE SCHOOL SIZE			TEACHER-PUPIL RATIO			GENDER PARITY INDEX		
	PUBLIC	PRIVATE	TOTAL	PUBLIC	PRIVATE	TOTAL	PUBLIC	PRIVATE	TOTAL
ECDE	39	10	25	25.4	6.8	16.1	1.01	1.03	1.01
PRIMARY	345	176	303	31	20	29	0.96	1.02	0.97
SECONDARY	374	210	359	25	12	24	0.97	1.35	0.99

Source: Ministry of Education, 2019

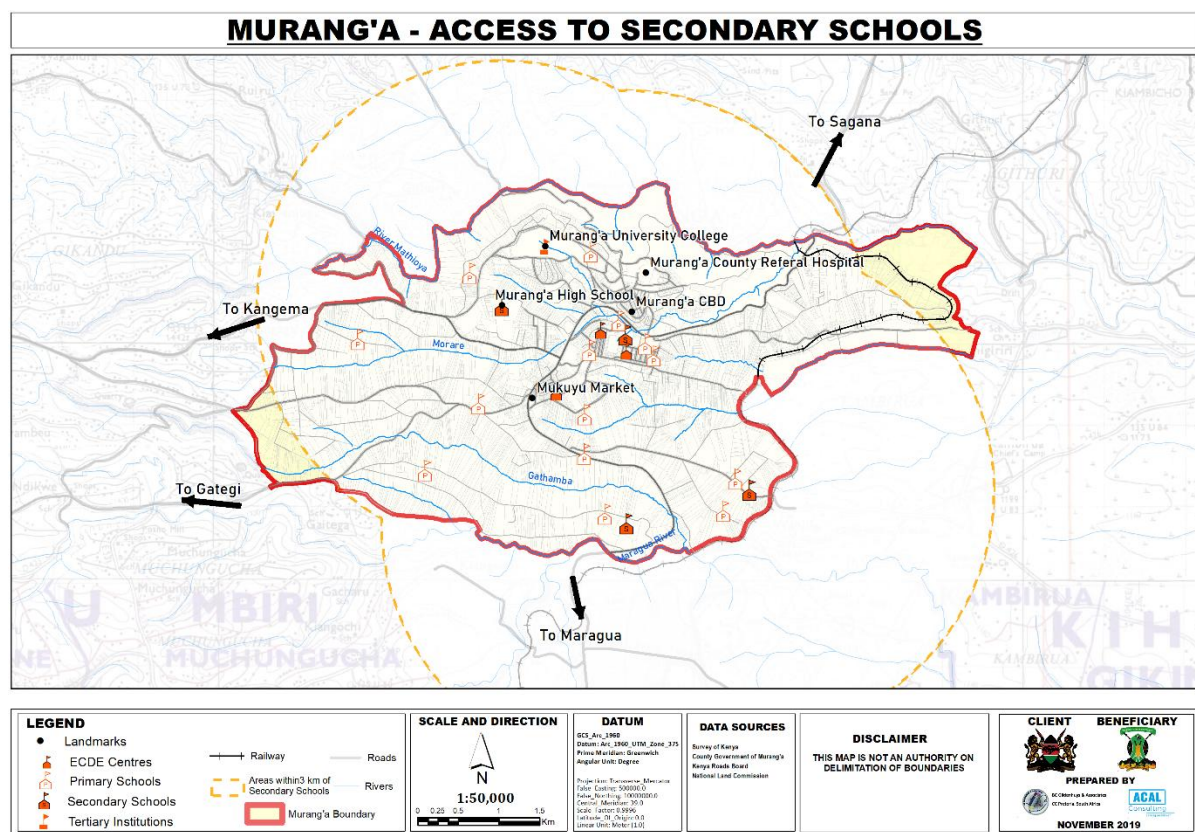
Map 9.1: Distribution of Educational Institutions in Murang'a



Map 9.2: Accessibility to Primary Schools



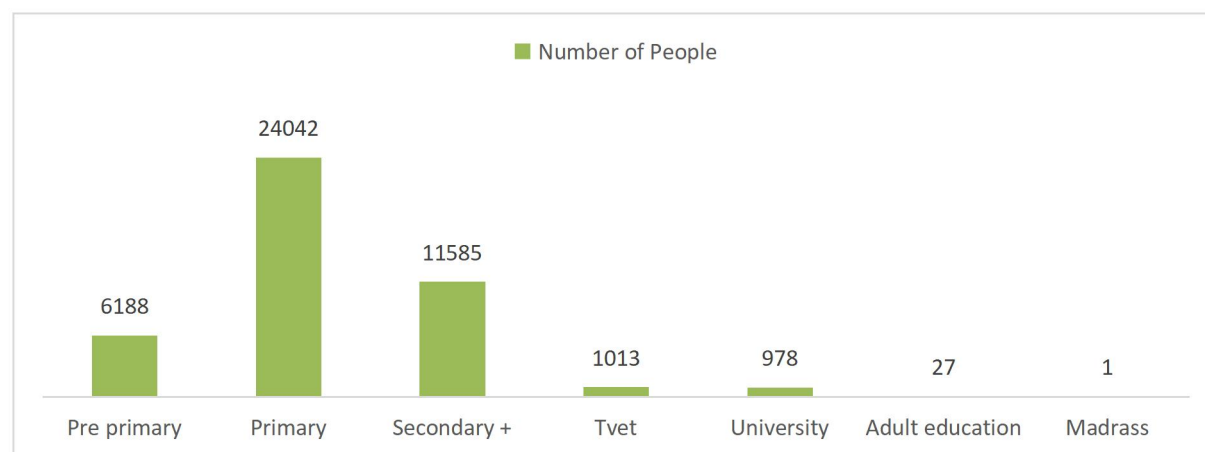
Map 9.3: Accessibility to Secondary Schools



9.1.5 EDUCATION INDICATORS

Majority of the population (50%) have attained primary level of education, followed by 30% who have attained secondary and post-secondary education. Figure 9.2 shows the highest levels of education attained by the residents in Murang'a town.

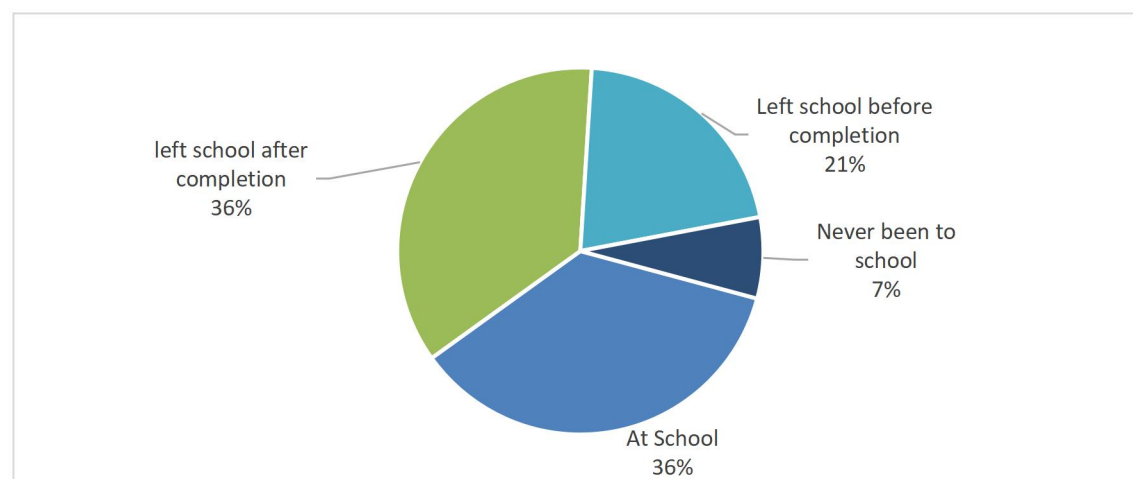
Figure 9.2: Highest Level of Education Attained



Source; KNBS, 2019

According to the 2019 population census, approximately 35% of the population is in school and a similar proportion left school after completion. Consequently, 7% have never been to school and 21% left school before completion. This is shown in figure 9.3 below.

Figure 9.3: School attendance status in Murang'a



Source: KNBS, 2019

9.1.6 EDUCATION FACILITIES PROJECTION

The physical planning handbook requires that there should be one pre-school/nursery school for every 3 000 persons, a primary school for every 5 000 persons, and one secondary school for every 25,000 persons. Based on these standards; and with the realisation of existing private schools to complement the public ones, it has been established that there will be no need for additional provision of education facilities within the planning area within the Plan period. There is, however need to have the existing facilities well equipped and maintained.

9.2 HEALTH FACILITIES

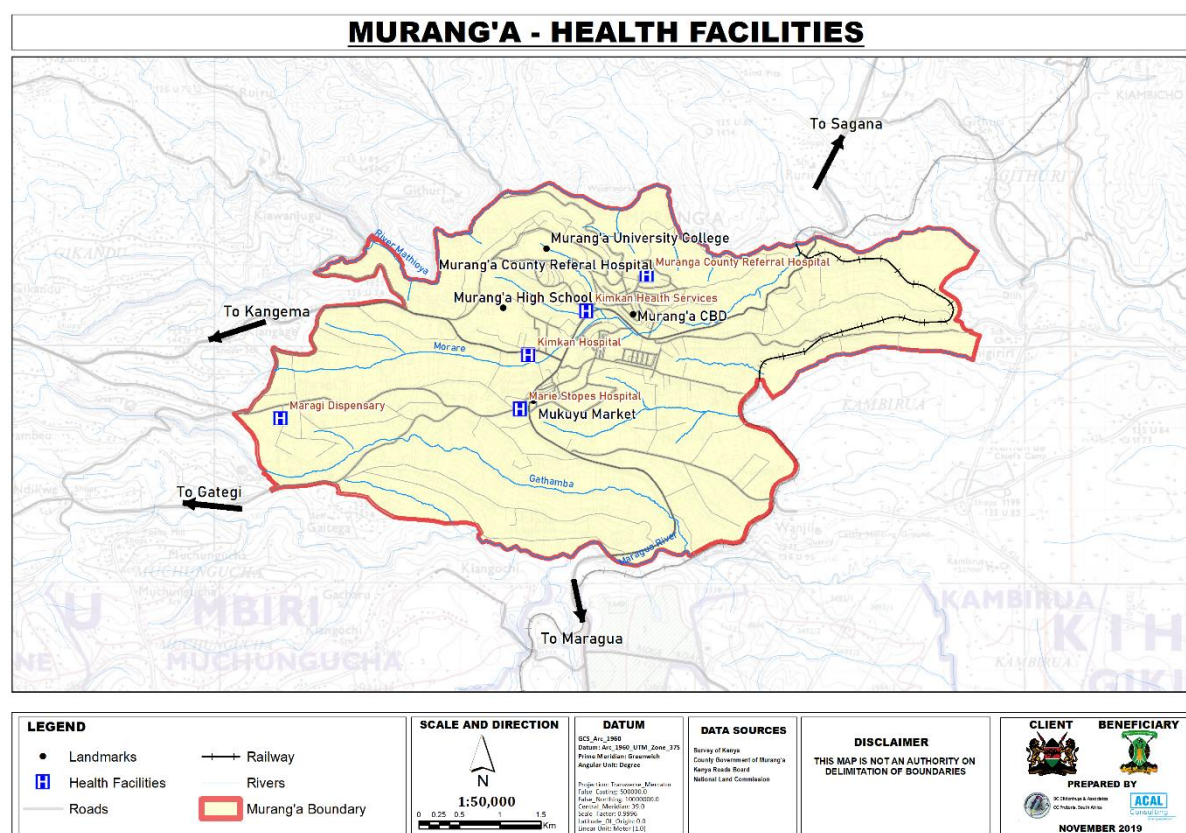
Health service delivery agencies include Public, FBO and Private which are distributed in various levels of service delivery. The Map below shows their distribution. Murang'a has five health facilities distributed within. The location of these facilities was meant to ease accessibility for the patients. The map below shows that four out of the five facilities are situated along the primary road. There are two public facilities, Murang'a Level 5 Hospital (see Table 9.3 and Map 9.4).

As per the physical planning handbook, a catchment population of 15,000 people requires a health centre with at least a maternal health unit and family planning services as a source of primary health. But given that Murang'a services as a county headquarters it is intended to host the county level facility. To this effect, the facilities within the planning area are adequate to serve the population.

Table 9.3: Inventory of health infrastructure

HEALTH FACILITY	OWNERSHIP	CAPACITY	STATUS
Murang'a District Hospital	Public	Out-patient and in-patient, Maternity	Operational
Marie Stopes Hospital	NGO	Out-patient and in-patient, Maternity	Operational
Kimkan Hospital	Private	Out-patient and in-patient, Maternity	Operational
Kimkan Health Centre	Private	Out-patient and in-patient	Operational
Maragi Dispensary	Public	Out-patient	Operational

Map 9.4: Health Facilities in Murang'a



9.3 RECREATION FACILITIES

Murang'a has three stadiums as listed below:

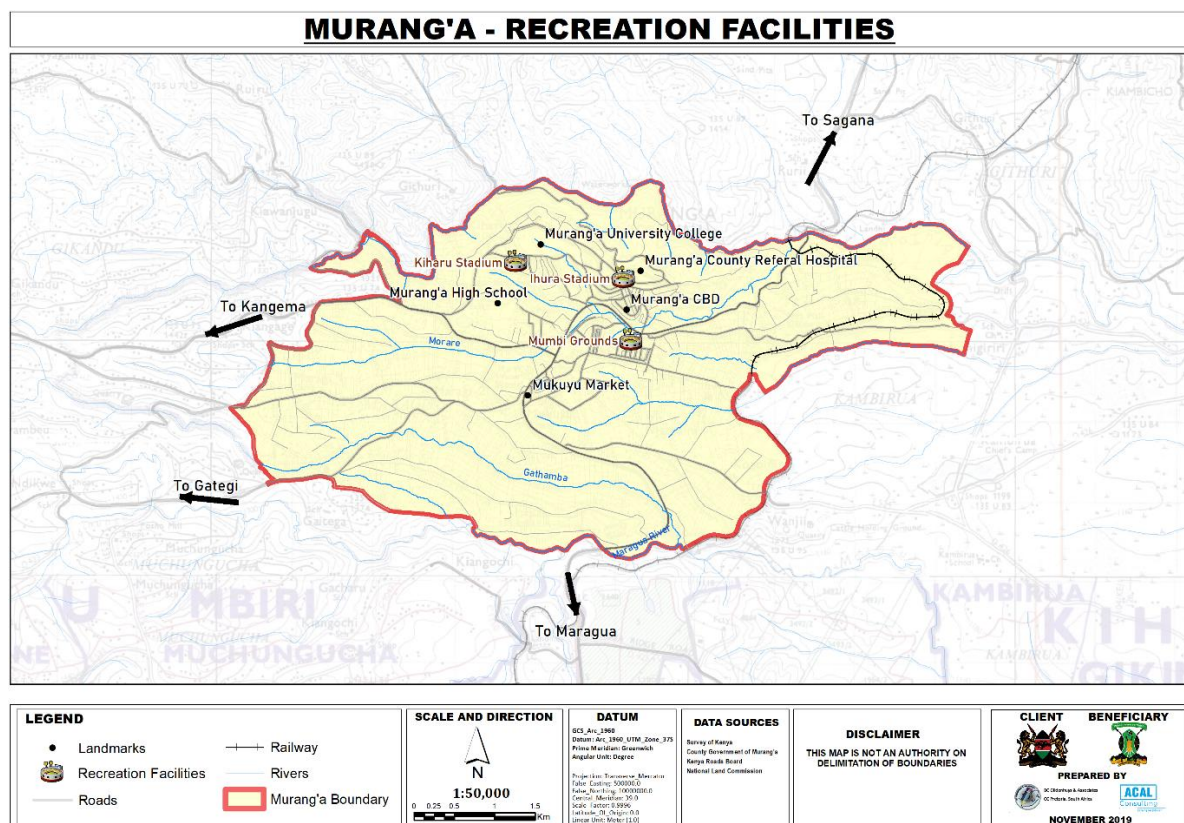
- 1) Mumbi Grounds - Murang'a Located Opposite Huhi Petrol Station. Murang'a youth sharpen their football skills on this Ground.
- 2) Kiharu Stadium - Murang'a Located at the heart of Murang'a Town, this stadium has a lot of history.
- 3) Ihura Stadium

Plate 9.1: Murang'a Sevens tournament at Mumbi stadium



Source: Star newspaper, 2019

Map 9.5: Recreation Facilities in Murang'a



9.4 REHABILITATION AND RESCUE CENTERS

There are two rescue centres and one rehabilitation centre within Murang'a (see table 9.2). Faith Based Rehabilitation Centre is located next to Murang'a County Referral Hospital and its main aim is restoring healthy or normal life through training and therapy after drug and alcohol addiction. The rescue centre is located on the eastern edge of the CBD and provides services to support orphans and vulnerable children.

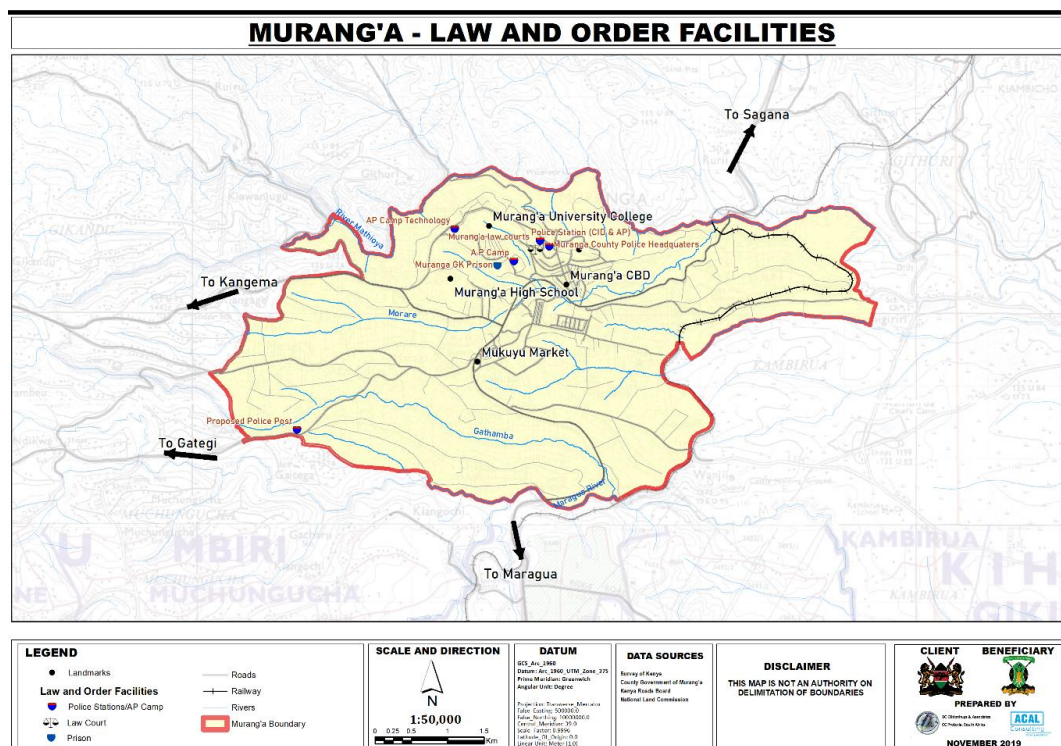
9.5 FIRE STATIONS

Murang'a town has one fire station that is required to serve the increased population and land use dynamics in the town. The physical planning handbook states that a small fire station is to cover a population of between 50,000-100,000 depending on degree of fire risk. Additionally, it is accessible to the major road network and close to the CBD. To this extent, the facility is sufficient for firefighting in the town. Map 9.7 shows the location of the fire station in Murang'a.

9.6 LAW AND ORDER

Law and order facilities in Murang'a are categorised as security facilities and law courts. Security facilities include two AP Camps, a prison and a police station. One AP Camp is located close to the prison while the other is located in Technology. The existing police station is located near the CBD close to Huduma Centre. The distribution of AP Camps and the police station provide adequate access to the residents in the urban parts of Murang'a. However, there are no security facilities in agricultural areas to the west of Murang'a. The prison is located close to the residential area near Murang'a high school. This is contrary to the physical planning handbook which states that prisons should be located on the urban fringes particularly in areas where urban expansion would not be unnecessarily curtailed. Murang'a GK Prison's capacity has been stretched to the limit, holding mostly remandees and some high-risk offenders. As of 2019, the prison had about 800 inmates against a capacity of 300, thus sanitation and other conditions have deteriorated. Murang'a Law Courts is located on the north-western edge of the CBD near residential areas. This central location allows adequate access to all residents. Map 9.6 shows the law and order facilities in Murang'a.

Map 9.6: Law and Order Facilities in Murang'a



9.7 LIBRARIES

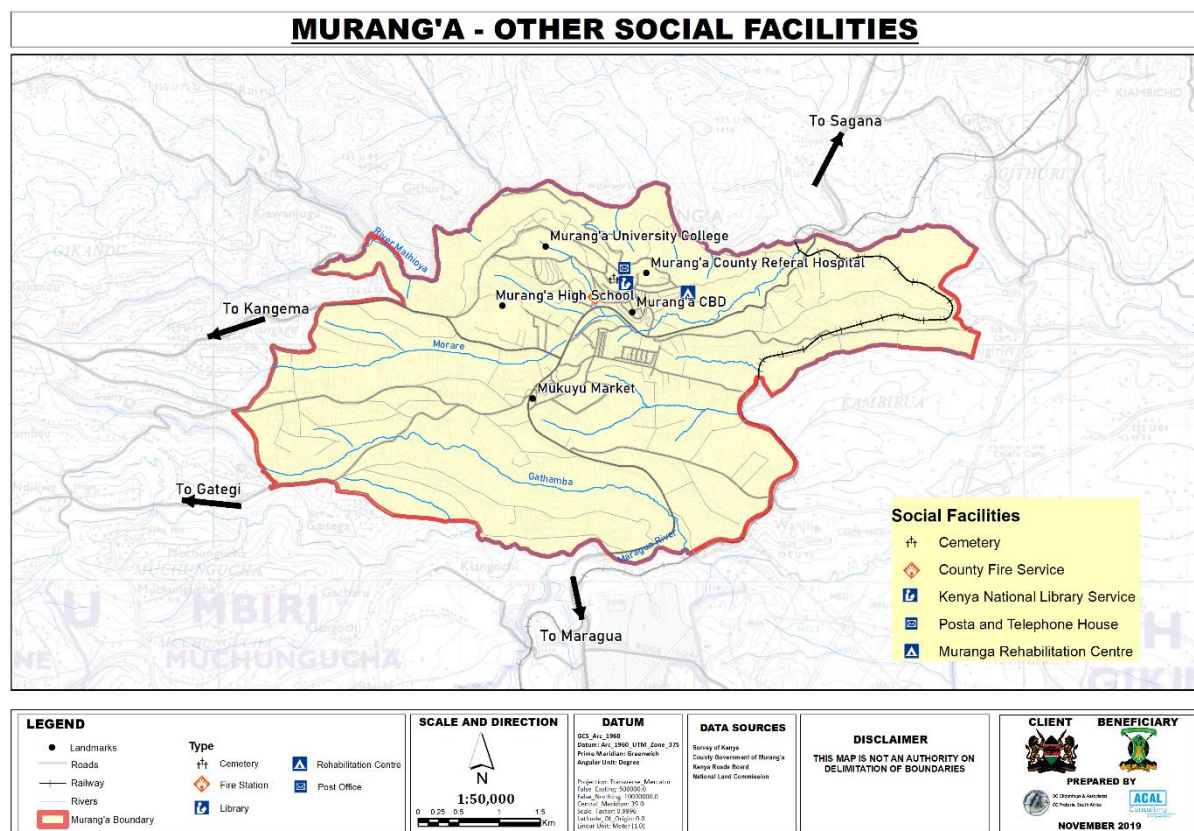
Murang'a has one Library which is located within the CBD next to Ihura Stadium. The physical planning handbook requires that the site for a library be chosen to give the maximum of quiet. At the same time, it should be conveniently situated in relation to the population it is to serve. Good light and ample surrounding air space are essential and consequently sites congested by surrounding buildings should be avoided if possible. To this extent, the library is conveniently located and accessible to users.

9.8 CEMETERIES AND CREMATORIUMS

Murang'a has one cemetery by KMTC and no crematoriums. As per the planning department, the capacity of the current cemetery is sufficient to serve the projected population for the plan period.

Other social facilities in Murang'a including rehabilitation and rescue centres, fire stations, law and order facilities, libraries, and cemeteries are shown in map 9.7.

Map 9.7: Other Social Facilities in Murang'a



9.9 RELIGIOUS FACILITIES AND SOCIAL HALLS

The planning area hosts numerous churches, predominant of which are parishes of the Presbyterian Church of East Africa (PCEA), the Anglican Church of Kenya (ACK) and the African Inland Church (AIC). There are also many evangelical churches that occupy small parcels of land all around the planning area. There is also one mosque within the planning area, located within Mjini Informal settlement. There is a social hall/ community centre adjacent to the government offices. Table 9.4 below shows a summary of social infrastructure in the town.

Map 9.8: Religious Facilities in Murang'a

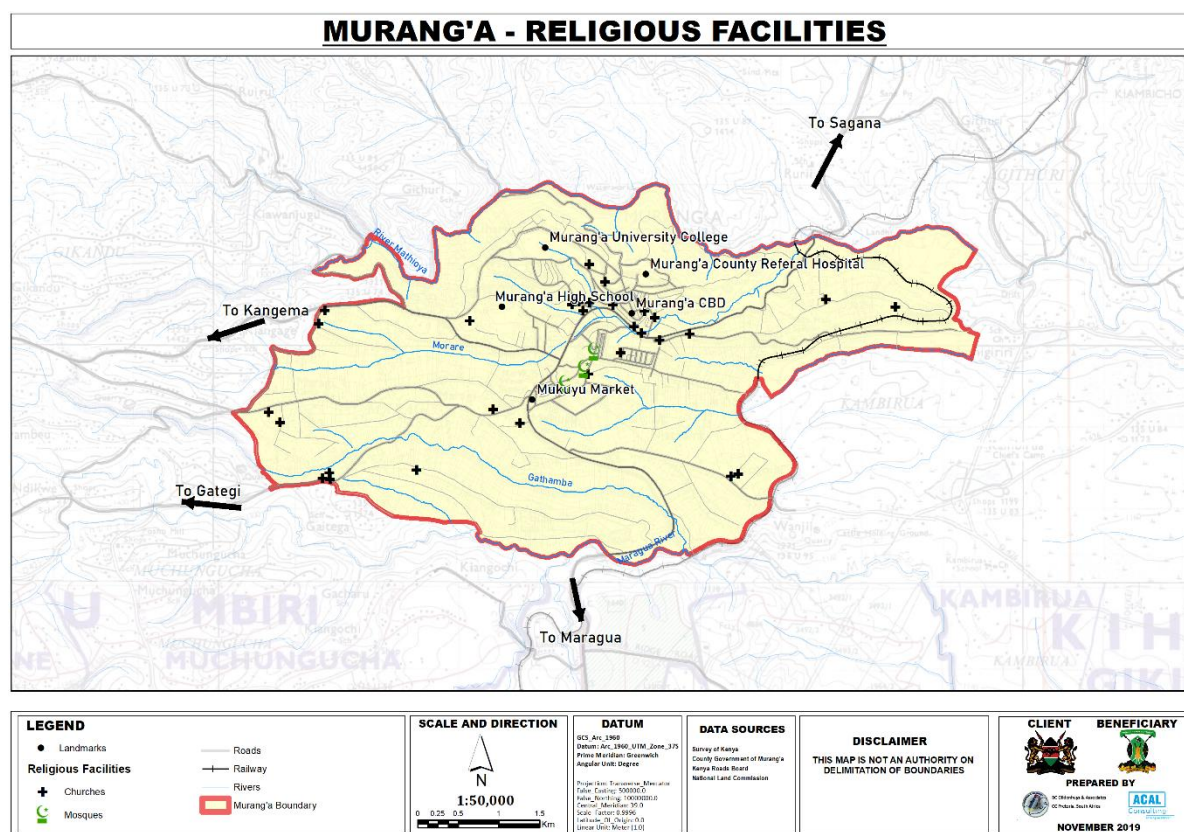


Table 9.4: List of Facilities in Murang'a

Facility:	Name/ Number:
Recreational Facilities	Present (3 in number)
Government Offices	Present (20 in number)
Hospitals	Present (5 in number)
Social Hall	Present
Public Library	Present
Post Office	Present
Fire Station	Present
Police Stations	Murang'a Police Station
Religious Institutions	Many
Slaughterhouses	Present
Cattle dip	None
Cemeteries	Present (Muslim)

9.10 EMERGING ISSUES

The table below presents a summary of emerging issues that will inform this ISUDP;

Table 9.5: Opportunities and constraints analysis of the social infrastructure

SECTOR	OPPORTUNITIES	CHALLENGES
Education	<p>Already Existing supporting infrastructure and resources</p> <p>Good performance by the county</p> <p>Moderate availability of capacity. Teacher student ratio 1:34 is at verses the standard of 1:20</p> <p>High Literacy level (90%)</p>	<p>Underdeveloped Education Infrastructure</p> <p>Poor role modelling –illegal groups (Mungiki)</p> <p>School Dropout and poor transition</p>
Health	<p>Presence of a number of health facilities</p>	<p>Need to upgrade the Murang’a County hospital to a level 5</p>
Social Facilities	<p>As a former district headquarters, it is serviced with a good number of facilities such as a post office, fire station, libraries/huduma centres and has adequate land bank for such services</p>	<p>There are no fire hydrants in the CBD.</p>

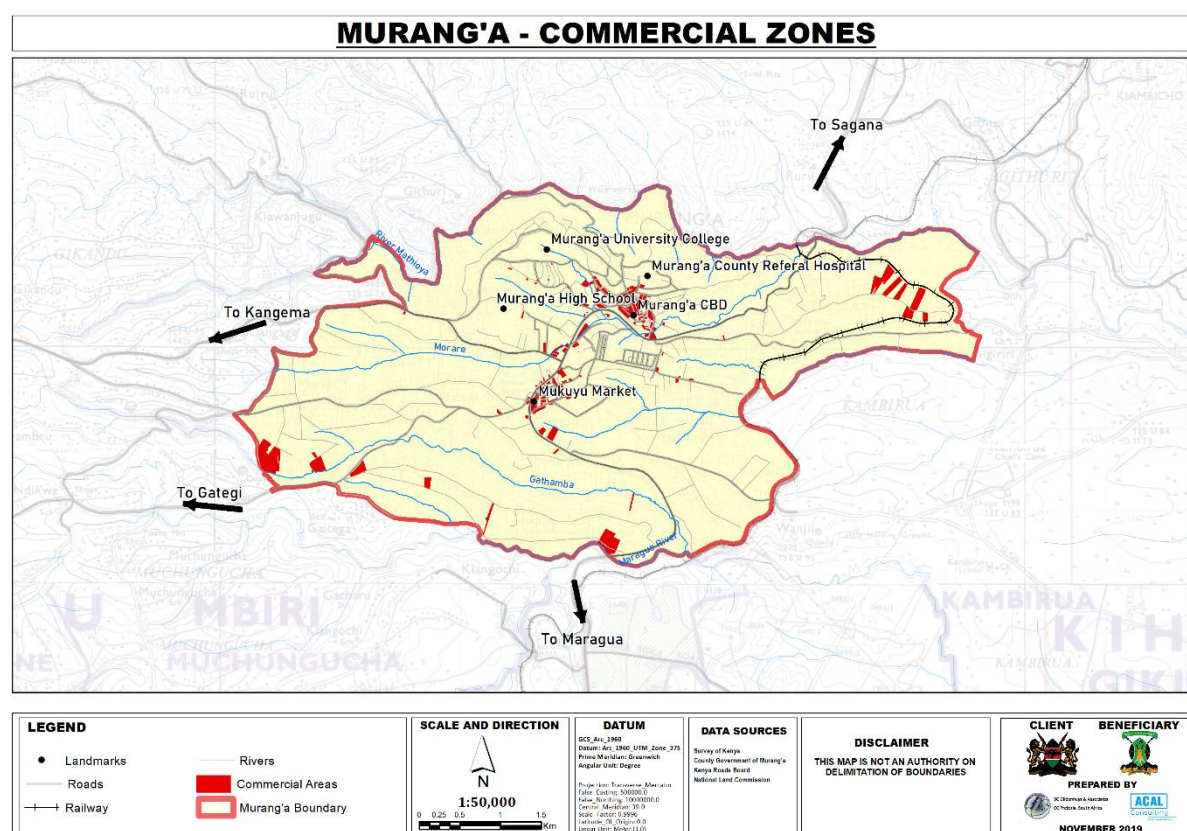
10 THE ECONOMY

10.1 ECONOMIC PROFILE OF MURANG'A TOWN

The Economic structure describes the distribution of economic activities in Murang'a. Economic analysis is important in development planning as it provides important indicators upon which the rate and level of growth and development of a town is assessed. For spatial planning to be sustainable, it must respond to the existing economic activities and try to order these activities in a sustainable manner.

Map 10.1 provides a breakdown of the urban economy by number and category of trade. The main economic activity is trade, urban agriculture/agribusiness transport and mining.

Map 10.1: Commercial Establishments in Murang'a

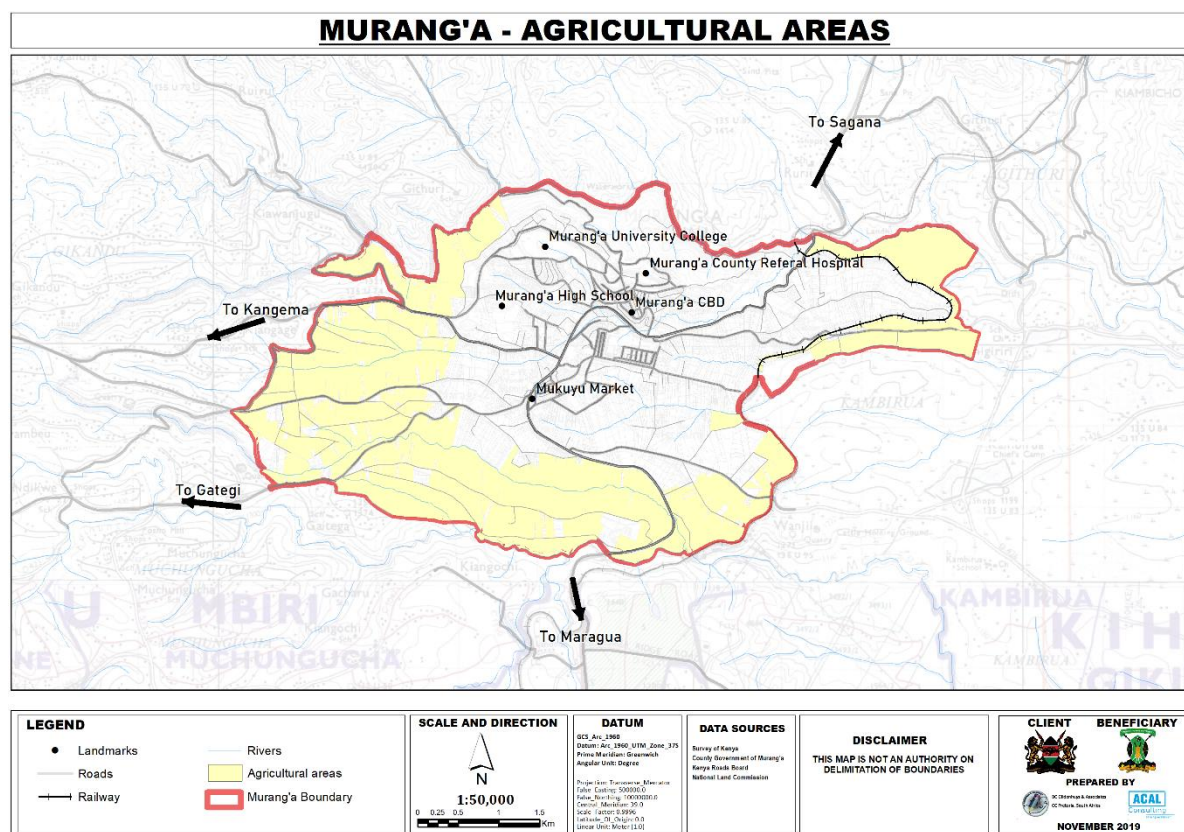


10.2 AGRICULTURE

Murang'a Municipality and indeed Murang'a County have the potential for agriculture. The farmers in the town hinterland practice both livestock keeping and crop farming. In the absence of large water masses fish farming is practiced in the farms at small scale.

According to the planning office, a number of traditionally farming communities within the urban- rural fringe have experienced change in land use from predominantly agricultural to high-density residential neighbourhoods. It is therefore imperative that this plan controls such development. The Map below shows the agricultural areas within Murang'a.

Map 10.2: Agricultural Areas in Murang'a



The breakdown of farming by crops grown is shown in the table 10.1 below:

Table 10.1: Distribution of Households Practicing Agriculture, Fish and Irrigation by Sub-county

MODE OF AGRICULTURE						
Sub- County - Kahuro	Farming	Crop production	Livestock Production	Aquaculture	Fishing	Irrigation households
Number of HH	23,127	22,332	18,940	44	103	789
Percentage	85.9%	82.9%	70.3%	0.2%	0.4%	2.9%

Source: KNBS, 2019

Maize beans and bananas are the most popular crops grown by residents of the town at 86.9%, 76.1% and 74.9% respectively. Of the crops grown, 90% are for subsistence farming while 9.8% is for commercial purposes. The breakdown is shown in table 10.2 below:

Table 10.2: Distribution of Crop Varieties by Households in the Sub County

CROP	AVERAGE OF %	SUM OF NUMBER OF HH
Maize	86.9%	20102
Beans	76.1%	17593
Bananas	74.9%	17333
Kales	47.4%	10963
Sweet Potatoes	32.2%	7455
Potatoes	28.7%	6643
Cassava	22.5%	5203
Cabbages	16.7%	3864
Onions	12.6%	2921
Sugarcane	8.9%	2047
Tomatoes	5.8%	1336
Sorghum	0.8%	188
Green grams	0.5%	123

Source: KNBS, 2019

The main livestock bred are cattle, pigs, goat, sheep, rabbits and chicken. The indigenous cattle breeds are found in the lower parts of Kiharu while dairy and indigenous goats and pigs are also bred in the hinterlands of Murang'a mostly in the agricultural areas. Rabbits and chicken are reared in response to demand for white meat. This is shown in the table below:

Table 10.3: Distribution of Households Rearing Livestock and Fish in the Sub-county

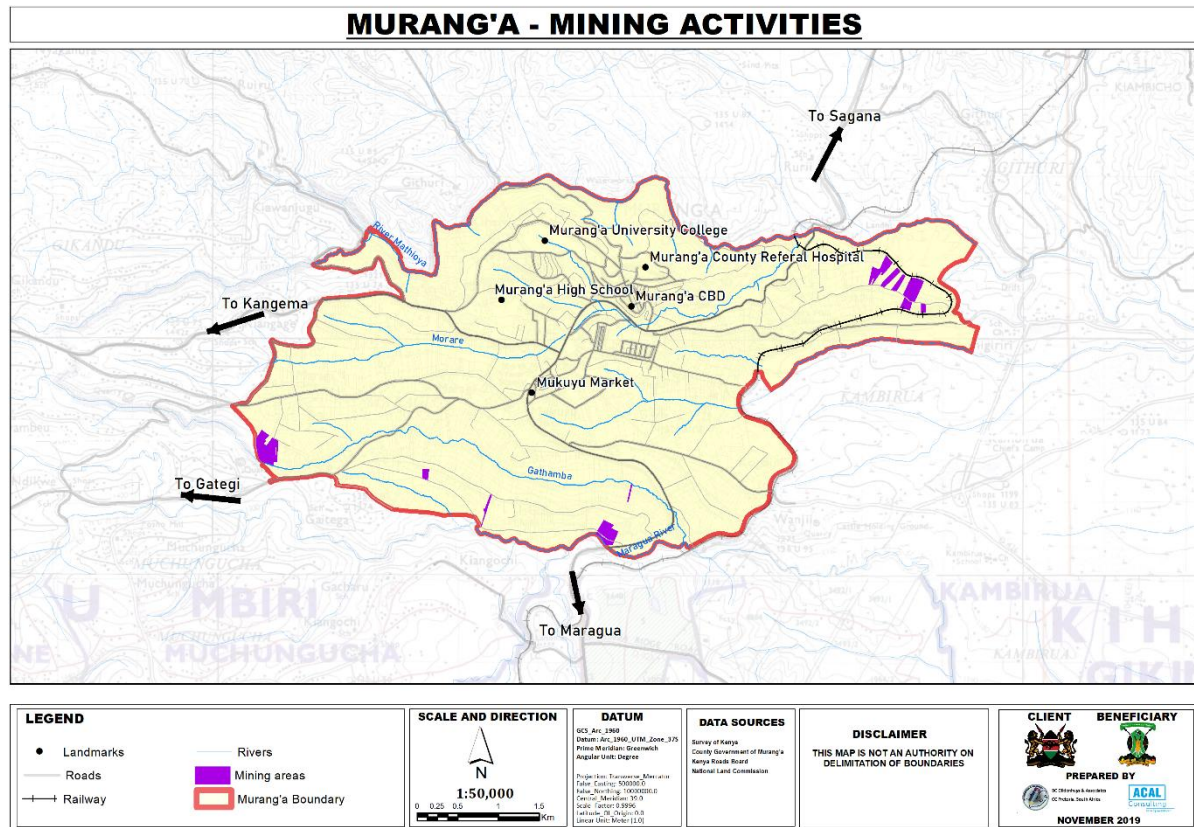
LIVESTOCK	PERCENTAGE OF HH	NUMBER OF HH
Exotic cattle-Dairy	5.2%	11,942
Exotic cattle-Beef	1.1%	2,645
Indigenous cattle	0.7%	1,691
Sheep	1.6%	3,638
Goats	3.0%	6,868
Pigs	0.1%	263
Indigenous chicken	5.5%	12,794
Exotic chicken Layers	0.5%	1,139
Beehives	0.1%	256
Rabbits	0.5%	1,267
Fish Ponds	0.0%	42

Source: KNBS, 2019

10.3 MINING ACTIVITIES

There are quarries in Murang'a which have led to environmental degradation and a health hazard since they are not controlled or decommissioned after the quarrying activities. Map 10.3 shows the main quarries in Murang'a.

Map 10.3: Mining activities in Murang'a



10.4 TOURISM AND HOSPITALITY-TOURISM

There are several hotels in Murang'a that would be ideal in the promotion of tourism. Murang'a is the gateway to Aberdare and indeed the greater Mt Kenya region that is endowed with tourist attraction sites. The main tourist attraction sites in the county are the *Aberdares* National Park and the cultural heritage sites that have a rich history on the origins of the *Agikuyu* people. Such sites are at *Mukurwe WA Nyagathanga* and *Karia Ka Mbari ya Ngware*. There are ideal natural sites for hiking and camping at *Rapids Camp*, *Aberdare* cottages and sport and leisure fishing sites at *Kimakia* fishing grounds and *Ndakaini* Dam.

10.5 INDUSTRIAL ACTIVITIES

There are industrial parks for coffee industries, tea industry and milk industry, mango, avocados, and macadamia processing. Most of the industries are agro based industries with coffee being the leading followed by tea. Most of the factories produce semi- finished products which are exported to other counties. Coffee and tea processing are the main industrial activities in the county while milk production is rapidly increasing. Informal industrial sector is also very prominent.

There are also light industries, mainly within the core urban area that include:

- Furniture making
- Metal welding
- Motorcycle repair
- Bakery
- Fuel stations
- Motor vehicle garage

10.6 TRADE AND COMMERCE

Murang'a has both formal and informal economic activities. The formal comprises of banking, self-help groups, shops and financial institutions while informal comprise of quarrying, hawking and juakali. 57%³ of the labour force in the town is through agricultural activities. The commercial activities are along the transportation corridors and the CBD area of Murang'a town. The map 10.1 above shows concentration of commerce and trading areas within the planning area.

Markets are a major driver of growth. The three markets: Kayole, Marikiti and Mumbi markets are in poor condition. There is congestion in all current markets which has led to several traders stocking wares by road reserves and pedestrian walkways. This calls for careful planning to check this situation. This is depicted in plate 10.1 below.

Majority of the commercial enterprises can be categorised as SMEs. They are spread across with a good percentage of them being sole proprietorships and family owned and run businesses. There were over 2,500 licensed SMEs in the town as at 2019. There are 7 commercial banks in the county (Barclays, Kenya Commercial Bank, Cooperative Bank, Equity Bank, Post Bank, Consolidated Bank and Family Bank), 6 Micro-finance institutions (SMEP DTM, Faulu Kenya, Kenya Women Finance Trust, Unaitas, Mentor Sacco and ECLOF) and 4 insurance companies (Britam, Invesco, APA, Kenya Orient and other small agencies)

Plate 10.1: Formal and informal business premises with the CBD



Source: Field Survey, 2019

³ Murang'a County annual development plan for the fy2018/2019

10.7 MUNICIPAL ENTERPRISES

The County relies on county revenue streams including fees from licenses, land rates, market fees, penalties, building material cess, bus park fees, parking fees, motor bikes, liquor license, plan approval, conservancy, sale of forms/tender forms, advertisements, morgue fees, house rent/stalls, slaughter fees, impounding, coffee cess, education and polytechnics, fire, self-help groups, land subdivision and transfer, hospitals, public health, livestock (A.I), meat inspection, veterinary clinical services, fisheries, weight and measures, water and among others. This boosts in raising funds for expenditure and running County Government affairs. Currently, the larger municipality covering Muranga and Maragua collects an average of Ksh 130 million per year. The revenue projection of the larger Municipality is expected to grow by an average of 15%⁴ in the next five years as indicated in the table 10.4.

Table 10.4: Projected Revenue growth for the next 10 years

YEAR	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Local revenue (Million Ksh)	130	150	172	198	227	261	301	346	398	457	526

Source: Murang'a Municipality Urban Integrated Development plan (IDeP), 2019

10.8 FORESTRY AND AGRO-FORESTRY

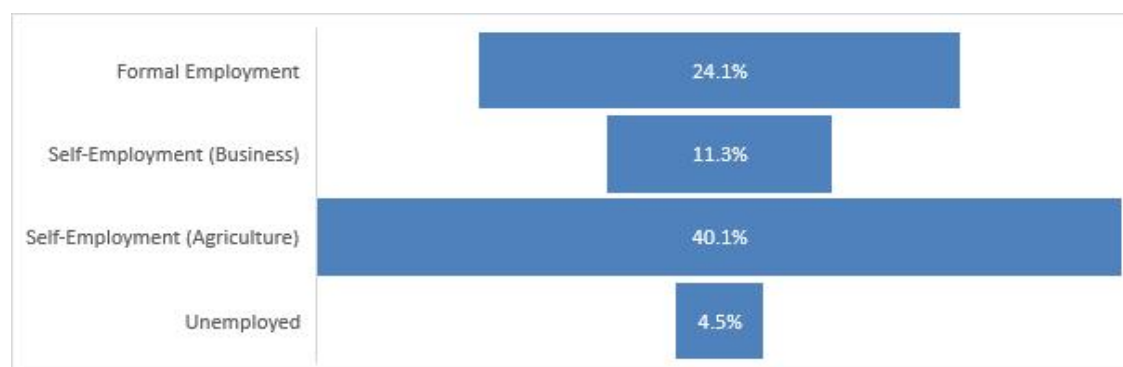
There are no gazetted forests in Murang'a municipality. However, there has been emphasis on tree cover through agro forestry. The county has 267,744 acres under farm forestry in 204,557 farms, a slight reduction due to increased farming of both cash crops and food crops. There are 282,774 people involved in farm forestry with an average of 105 trees per farm.

Forestry based Income generating activities that from tree nursery management activities to sale of forest products. The main types of forest products in the county are timber estimated at 63,994,066 running feet, firewood estimated at 531,025 stacks and production of seedlings estimated at 90,859,260 annually.

Employment status in the town:

Majority of the residents earn an income of between Ksh. 3800-7200 per month. Most of this income earning group are farmers engaged in subsistence farming with minimal produce for commercial purposes. The unemployment levels call for venturing into investments that create more jobs for the local people. Table 10.1 shows employment trends.

Figure 10.1: Employment Statistics



Source: KNBS, 2019

⁴ Murang'a Municipality Urban Integrated Development plan(IDeP), 2019

10.9 ECONOMIC CLUSTERS IN MURANG'A

From a spatial perspective, Murang'a displays four distinct economic zones:

- The administrative zone- This constitutes the zone with administrative headquarters with county/national government services
- The economic informality zone- This is the zone with markets, hawkers and the matatu zone.
- The formal business zone- this constitutes the current CBD having formal business either in traditional single-storey row shops or multi storey
- The peri-urban economic zone that creates employment for 57% of the municipality.

10.10 EMERGING ISSUES

Based on the foregoing analysis, table 10.5 below presents opportunities and constraints that will guide the proposals in this ISUDP.

Table 10.5: Opportunities and constraint analysis of the economy

OPPORTUNITIES	CONSTRAINTS
<p>Potential for creating a light-industrial zone and attracting investors for industrialization.</p> <p>Agriculture has potential for exploitation through investment and upgrading of agro industries with the region</p> <p>Presence of a number of markets within the town points to vibrancy. However, Inadequate utilization of existing spaces for instance Kayole Market and Marikiti market. Mumbi market is in poor condition.</p> <p>The repurposing of the slopes has potential to spur economic activities.</p>	<p>Lack of proper service and infrastructure in the central business district such as sewer, water and road network</p> <p>A significant proportion of the agriculture is for subsistence purposes</p> <p>The town lacks proper provision for commercial support infrastructure such as public parking, bus terminus, market space and light industrial parks.</p> <p>Lack of spatial justice for SME traders leading to rampant hawking in the town.</p>

11 STAKEHOLDERS PARTICIPATION

11.1 STAKEHOLDER CONCERNS

There were two stakeholder workshops held in the process of preparing this ISUDP. One was held on 4th April 2018 at the Nokras Hotel in Murang'a. The objective this stakeholder workshop was to elicit stakeholder concerns regarding their challenges and vision for the urban centre. (See annex 3 for detailed list of stakeholders). The second forum was held at A.C.K Mother's Union hall in Murang'a on 21st January 2020.

The main object of the first forum was to familiarise the stakeholders planning process, and for establishing a vision. The second workshop was intended to validate the situational analysis the plan proposals. The outcomes of the meeting were assessed in order to pick the relevant issues for the planning process. Some of the issues fall outside the scope of the project while other issues can only be partially addressed. Issues that cannot be addressed as part of this project will be forwarded to the County and Ministry for future action.

The major issues of concern raised during this study are summarized in the following thematic areas:

11.1.1 ENVIRONMENT ISSUES

A number of issues were discussed with regards to environmental concerns:

- With regards to pollution, the residents were concerned by the rampant plastic waste randomly pronounced within the town boundaries and recommended that the plan consider a recycling of solid waste but also proposes awareness creation on solid waste re-use
- With regards to solid waste management, the residents observed that waste collection n, storage and transportation is not coordinated. They proposed the use of market waste as manure, the plan to should encourage coordination in collection, storage, transportation and disposal of solid waste, demarcate and communicate the dumpsite, encouragement of public-private partnership in garbage collection and management of public toilets, and the plan should consider solid waste value addition chain and create jobs
- With regards to waste water management and sanitation, the residents observed that only 30% of Murang'a' residents have access to sewer management services proposed the enlargement of Karie sewer treatment plant. They recommended that the plan should provide for the expansion of sewer system for Murang'a and Home owners should be encouraged to explore bio-digestion as solution to current waste water management stalemate.
- With regards to storm water management, the residents observed that Murang'a's drain system is clogged at Mjini area and other place. They proposed that the plan should encourage designing and reconstruction of the road drainage system especially the malaria drains and a concerted effort to unclog the blocked drains.
- With regards to water, the stakeholders observed that House- owners have not invested in rain water harvesting technologies and that majority of water consumed in the planning area is from rivers. They recommended that the plan should encourage house owners to harvest rainwater from their roofs and it should make it mandatory to regularly undertake water quality assessment for chemical and microbial studies; this should be undertaken for river water, borehole water and dam waters.

11.1.2 GOVERNANCE ISSUES

With regards to governance, the following issues were discussed. There were concerns that there was no efficient method enforcing existing policies such as on road safety for boda boda, illegal brew etc. They recommended that the plan create a body that monitors enforcement of county policies and should be accountable to the county assembly, the plan should support jua-kali sector with land and they will manufacture farm tools and equipment and provide for the strengthening of local polytechnics and workshops to enhance skills.

The stakeholders also recommended an oversight Implementation Committee should be created in every sub county to ensure that the plan is implemented to completion. The people to be included in these should be the MCA, youth representative, woman representative, a representative for people with disabilities, a person from the planning department and an administrator.

11.1.3 ECONOMY AND LAND USE

With regards to land use, the stakeholders raised a number of issues and made recommendations as follows:

- It was observed that Land subdivision has resulted to uneconomical units. To this effect, stakeholders recommended that the plan ensures that the county government educates residents on sustainable farming/land use methods. They also recommended that residents should be educated on the need to avoid subdivision of agricultural land into plots so as to ensure they get the best out of the fertile land in Murang'a.
- A significant proportion of the residents felt that public land had been irregularly acquired by private investors. They recommended that this land be repossessed, and Public land should be well mapped to avoid irregular acquisition.
- With regards to agriculture development, the stakeholders observed that the proposed plan should take cognizance of the fact that Lower Murang'a is semi-arid and should be supported for irrigation to ensure food sufficiency. This can be achieved by the plan recommending construction of dams to provide irrigation water. The plan should support the need to revive the agricultural extension docket to serve more farmers and better and encourage use of certified seeds for higher production. The stakeholders also recommended the expansion of Kangari, Saba Saba, Murang'a and Mukuyu markets.
- The stakeholders acknowledged that hawking was rampant. They recommended that an inventory of hawkers should be done, registration and formalization of the hawking business and designation of areas for hawking including juakali sheds.

11.1.4 PHYSICAL AND SOCIAL INFRASTRUCTURE

With regards to social infrastructure, the stakeholders raised a number of issues and made recommendations as follows:

- The residents observed that there is increase in crime. They recommended that the proposed plan should encourage community policing and the Nyumba Kumi initiative by creating firm structures and motivating community policing leaders.
- Stakeholders observed that sports is increasingly becoming a career area and there is need to invest in sports at the sub county level. They recommended that the plan should recommend improvement of local available stadia and creation of a national standard stadium at the sub county headquarters. They also encouraged the plan to incorporate resident's participation both in planning and running at the Ndakaini marathon.
- With regards to education, stakeholders observed that there are Many primary schools have run-down infrastructure such as dilapidated classroom, toilets etc., Existing school infrastructure not friendly to

learners with disabilities e.g. are not paved to allow easy movement of a wheelchair, Lack of polytechnics at ward levels and there was a Lack of tertiary learning institutions at sub county level. They recommended that the proposed plan should make it mandatory for all schools to improve their classrooms by re-roofing, repainting or even branding products, upgrade learning infrastructure to accommodate learners with physical disabilities, the plan should include creation of government sponsored polytechnics at ward level and all sub counties should have a tertiary level learning institution.

- With regards with to ICT, the stakeholders observed that the area is not yet fully covered. They recommended that the plan Integrate ICT into learning programs and provide high speed internet
- Under transportation, the stakeholders recommended that the bus park should be expanded so as to avoid the congestion in Maragua during drop offs and pickups. Pedestrian pavements should be well demarcated. Open drainages should be closed as they pose health risks to residents. Street lighting should be done in Maragua to ease movement at night especially along hospital road. Motorbikes lack designated spaces to park which leads to chaos in town as they park on the road reserves, and that the plan should include the railway transport system and align the plan to include the railway.
- As for Water supply, they proposed the plan should prioritize provision of piped water for Murang'a and encourage roof top rainwater harvesting. And a need for a water treatment plant to serve both Murang'a' and Maragua. They observed that the price of water is very high (currently at 200-380 per 6 units.) and recommended blockages on water pipes and sewer systems should be checked regularly and unblocking done.

12 SYNTHESIS OF EMERGING ISSUES, OPPORTUNITIES AND CHALLENGES

The foregoing chapters have elaborately synthesized data regarding the urban area. This chapter acts as a bridge between the situational analysis and the plan proposals by providing a snapshot of the issues through an analysis of opportunities and challenges that set the tone for formulation of proposal that will guide urban interventions over the next 10 years. The table below provides this summary while map 12.1- 12.2 attempts to map the issues:

12.1 OPPORTUNITY AND CHALLENGES ANALYSIS OF MURANG'A

Table 12.1: Opportunities and Challenges in Murang'a

SECTOR	OPPORTUNITIES	CHALLENGES
Physiographic characteristics	<ul style="list-style-type: none"> The terrain guides urban growth, the steep slopes have scenic potentials and can be transformed into recreation zones with a variety of slope related economic activities. Abundance of ground water sources for gravitational water supply schemes. Opportunities for irrigation and fish-farming from River Mathioya, Gathamba, Morare and Maragwa rivers The rocks morphology is a potential source of construction materials used for road building and is also a suitable impervious fill material for embankment dams. Experiences high rainfalls favouring agricultural production The mean annual temperatures are suitable for tapping solar energy 	<ul style="list-style-type: none"> The steep terrain of the ridge constrains infrastructural expansion. The slope and terrain, with poor planning can result to urban Encroachment of the riparian reserves and wetlands Pollution of the rivers through human activities disaster. Poor farming methods resulting to soil erosion and hence infertility Areas around the rivers are prone to flooding due to the waterlogged soils. Climate change over the recent years has resulted in unpredictable weather patterns impacting agricultural practices negatively.
Population and demography	<ul style="list-style-type: none"> Murang'a County/ town have the highest literacy levels in the country. 	<ul style="list-style-type: none"> Available land is increasingly being fragmented into uneconomic units High poverty levels will impact ability to economic activities with a tendency to result to economic informality Population being linearly distributed makes tends to make infrastructure provision costly
Land use and land tenure	<ul style="list-style-type: none"> -With the institutionalization of the municipality board, the town has a vehicle for the rolling out a land management system. 	<ul style="list-style-type: none"> Land regulation in Murang'a town, as with most towns is still not up to date. Instances of double allocation are therefore prone to occurrence.

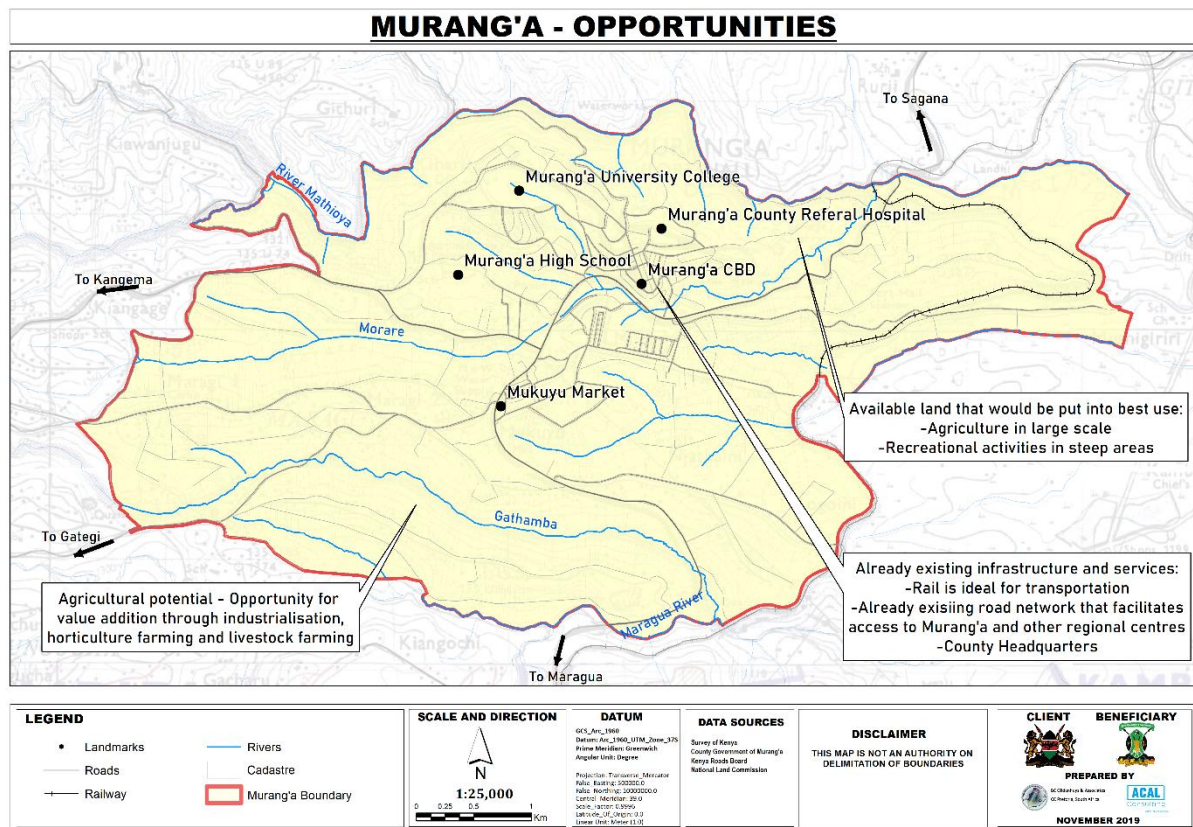
SECTOR	OPPORTUNITIES	CHALLENGES
	<ul style="list-style-type: none"> With adequate incentives and public awareness, allotment letters can be adjudicated to improve security of tenure 	<ul style="list-style-type: none"> Grabbing of public land for private use
Environment	<ul style="list-style-type: none"> Presence of a disaster reduction and climate mitigation department points to political will to combat climate change and promote environmental conservation. 	<ul style="list-style-type: none"> Lack of designated open spaces Poor solid waste disposal methods and mechanics Degradation of riparian reserve Due to the nature of the terrain, the town is prone to landslide
Housing and human settlements	<ul style="list-style-type: none"> Informal neighbourhoods such as Mjini are undergoing gentrification due to increased security of tenure. This are prime for rezoning and densification through specific zoning regulations 	<ul style="list-style-type: none"> Inadequate road infrastructure as there is limited North-South linkages. Increasing Informality within the town Inadequate Requisite services and Infrastructure (Roads, Sewer lines, solid waste)
Transport Infrastructure and services	<ul style="list-style-type: none"> There is need to upgrade and maintenance of all roads within the planning area to gravel and tarmac status with recommended width and drainage systems. There is need to integrate the pedestrian sidewalks and designate bicycle/motorcycle tracks into the road networks. There is need for traffic management in the CBD. There exists an underutilized water treatment plant with permanent rivers to draw water. This has potential to create water security for the town even with an increase population over the plan period An existing sewer treatment plant that has capacity to cover the projected population over the plan period The municipality has made a solid waste management plan for the town 	<ul style="list-style-type: none"> Some residential and agricultural zones are underserved by a road network Narrow access roads, Lack of parking bays Encroachment of road reserves in the town streets The water reticulation system does not cover some parts of the town The existing sewer connections are few and concentrated in a small area of the town Without public awareness, efforts to privatize waste collection are not paying
Social infrastructure	<ul style="list-style-type: none"> As a former district headquarters, it is serviced with a good number of facilities such as a post office, fire station, libraries/huduma centres and has adequate land bank for such services. The already existing supporting infrastructure and resources relieves pressure on public 	<ul style="list-style-type: none"> Underdeveloped Education Infrastructure Poor role modelling –illegal groups (Mungiki) School Dropout and poor transition The town lacks fire hydrants in the CBD.

SECTOR	OPPORTUNITIES	CHALLENGES
	<p>resources.</p> <ul style="list-style-type: none"> ▪ Teacher student ratio 1:34 against the standard of 1:20 ▪ High Literacy level (90%) ▪ Presence of a number of health facilities need to upgrade the Murang'a district hospital to a level 5 	
Economic Analysis	<ul style="list-style-type: none"> ▪ Potential for creating an agro-industrial zone and attracting investors for industrialization. ▪ Presence of a number of markets points to vibrancy. However, inadequate utilization of existing spaces for instance Kayole Market and Marikiti market. Mumbi market is in poor condition 	<ul style="list-style-type: none"> ▪ Lack of spatial justice for MSE traders. ▪ Lack of proper service and infrastructure in the central business district such as sewer, water and road network ▪

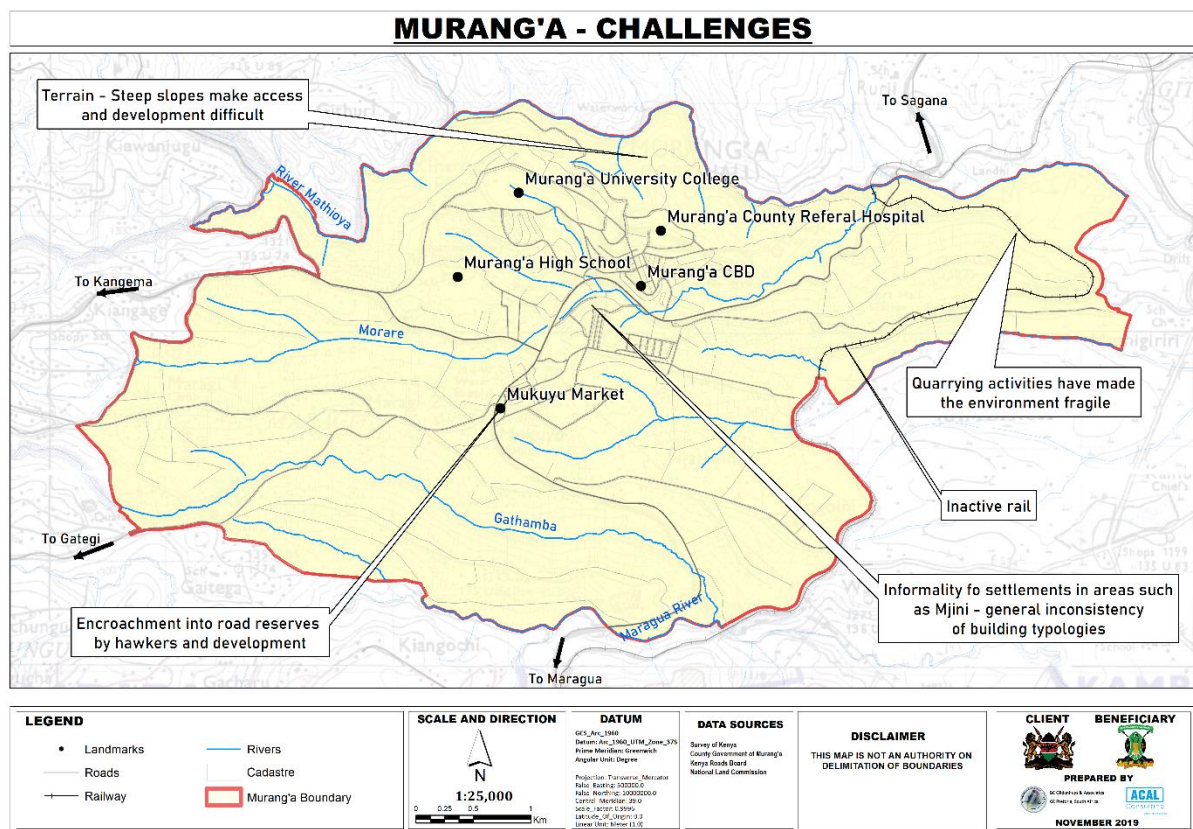
12.2 SYNTHESIS OF EMERGING ISSUES:

1. The terrain is an important defining feature that impacts the development of the town and will continue to define this growth going forward. The steep terrain of the ridge constrains infrastructural expansion. Where construction happens, environmental and ecological fragility occurs. The slope and terrain, with poor planning can result to urban Encroachment of the riparian reserves and wetlands. At the same time, the terrain provides a scenic potential and can be transformed into recreation zones with a variety of slope related economic activities. It is the objective of this plan to promote sustainable exploitation of the terrain while guiding development in a manner that is in coherence with the terrain.
2. Informal neighbourhoods such as Mjini are undergoing gentrification due to increased security of tenure. This are prime for rezoning and densification through specific zoning regulations.
3. Urban liability in the town is affected by a number of issues: economic informality and rampant hawking, lack of adequate public parking for private vehicles, lack of pedestrian walk ways, lack of urban furniture, lack of traffic segregation among other compounding factors. This plan will focus on promoting urban scape and urban liveability.

-Map 12.1: Murang'a Opportunities Map



Map 12.2: Murang'a Challenges Map



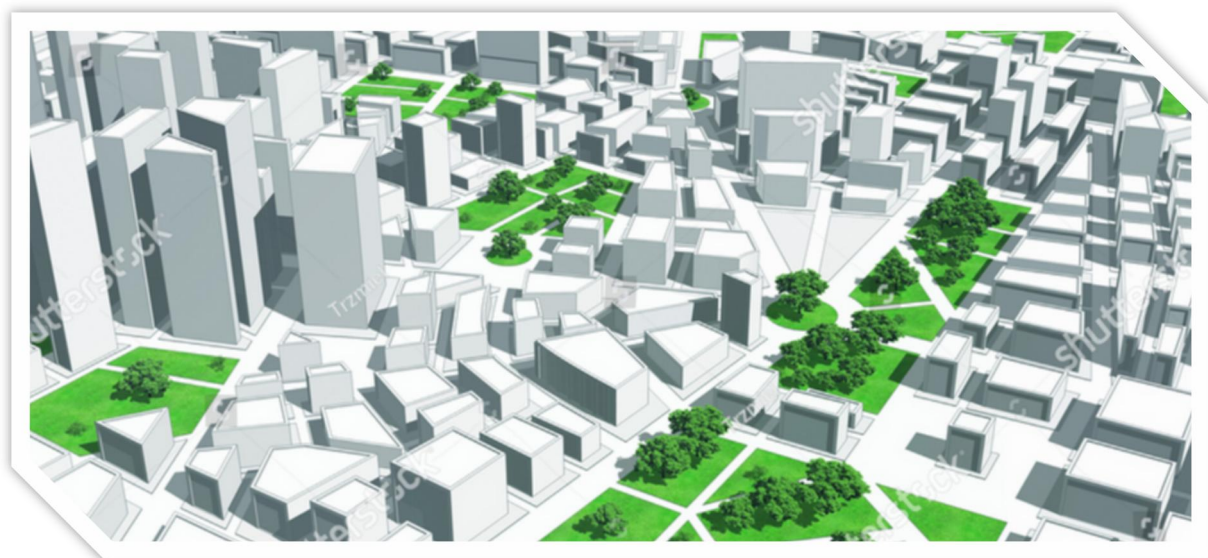


GOVERNMENT
OF KENYA



COUNTY GOVERNMENT
OF MURANG'A

PART III: PLAN FORMULATION



This part of the report provides a detailed analysis of the strategic structure plan of Murang'a. It also makes attempts to build scenarios that benefit Murang'a development. It majors on the projections for required land for development, analysis of development models and finally the preferred development model adopted by the Plan. Also detailed in this section is a pragmatic resource mobilisation and capital investment plan, and robust monitoring and evaluation frameworks to guide the sustainable implementation of this Integrated Strategic Urban Development Plan.

13 SCENARIO BUILDING AND CONCEPTUAL FRAMEWORK

13.1 PLANNING CONSIDERATION

In coming up with the various development scenarios that Murang'a can adopt, the following planning considerations have been taken into account.

13.1.1 THE DEVELOPMENT VISION FOR MURANG'A

The development vision is an important guide in evaluation of scenarios and development of the Plan. The consideration of the vision ensures that the proposals made respond to the identified vision for the town. The vision for the town is also weighed in tandem with the development vision for the whole county to ensure that the proposed developments do not just respond to local challenges but help achieve the overall development vision for Murang'a. Further the proposals for the town will be harmonised with the proposals in the county spatial plan.

The identified vision for Murang'a is to be: **"A well-planned modern County administrative and commercial capital"**.

13.1.2 THE COMPETITIVE EDGE OF MURANG'A IN THE COUNTY

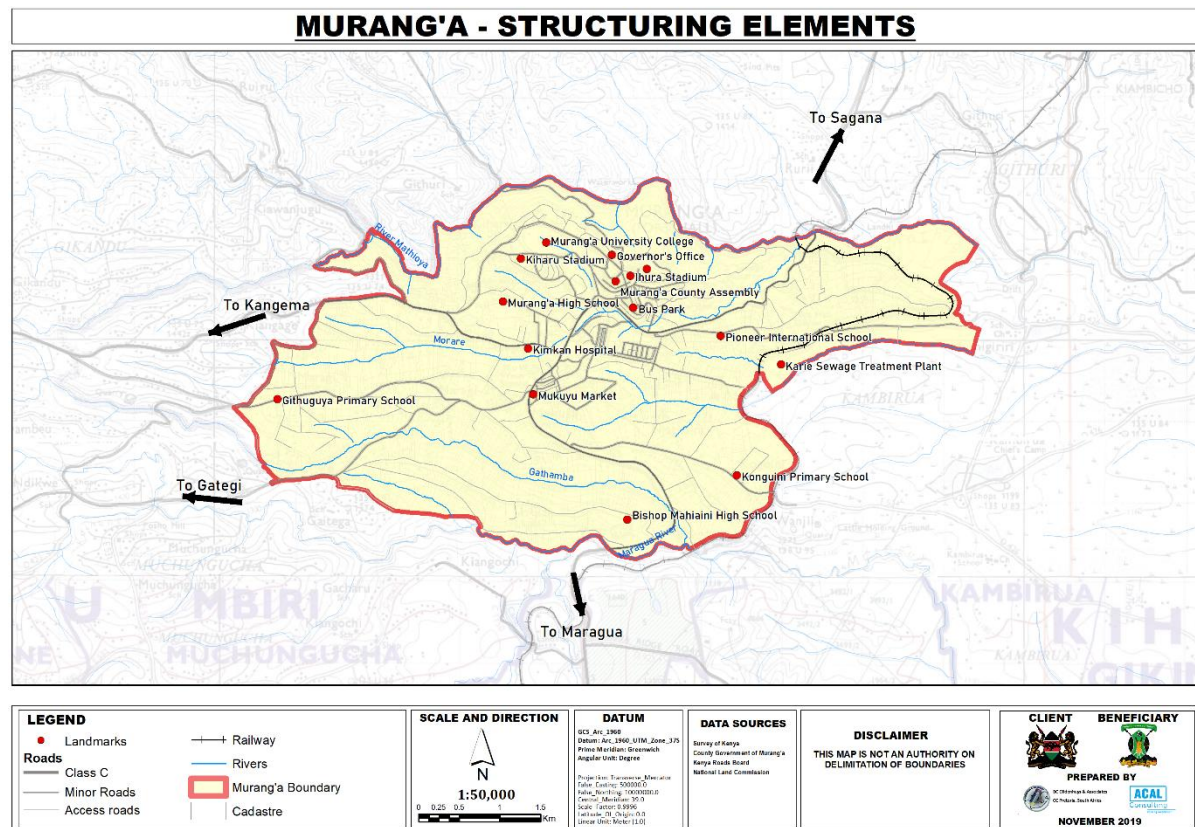
This plan will seek to identify and capitalise on its competitive advantage. It will seek to spur a dormant economic potential while taking advantage of spill over effects of the administrative capital. It will do this by making the town a liveable urban environment. As such the plan will seek to strengthen the economic base of the town by provision of a light industrial zone and development of appropriate infrastructure.

13.1.3 STRUCTURING ELEMENTS

The structuring elements are those that influence the nature and direction that developments can take. They are an important consideration in that they influence the extent, intensity, nature and direction that development can take. The major structuring elements in Murang'a as seen in Map 13.1 include:

- The terrain: The area is bound by steep terrain. There are hilly ridges that run east west direction. The CBD, Mukuyu and Kiharu area have relatively gentle slope that allow developments to thrive. The plan will have to design developments in the area to ensure that the risk of flooding posed by the terrain is avoided.
- Kenol- Murang'a road- the road is a major link to the A2 corridor. This road has also influenced linear developments thus necessitating proper zoning and development control along the highway.
- The Railway line: the railway line traversing the town is a major structuring element that has shaped the development direction.

Map 13.1: Structuring Elements in Murang'a



13.1.4 GUIDING PRINCIPLES

Development principles are important in informing the development of a plan. The principles are the fundamental norms, rules, or values that represent what is desirable and positive for the development of the planning area, and act as yardsticks for determining what is to be done and what is to be avoided. The principles that have been considered in the preparation of this Plan include:

Sustainability

Sustainability refers to the balancing between environmental resource uses and promoting economic and social development. A sustainable town reduces the impact of anthropocentric activities on the environment through proper management of resources and the production of waste while improving the liveability of the settlement. The Plan will aim at utilizing the natural resources in a manner that not only supports economic growth but which is also mindful of the limitations of the environment and the need to protect it.

Equity

A town that is equitable is one where all residents enjoy (i) fair access to livelihood, education, and resources, (ii) full participation in the political and cultural life of the community, and (iii) self-determination in meeting fundamental needs. The Plan provide a basis for the residents of Murang'a to access the necessary services and infrastructure within acceptable distances and air their views on the developments they desire.

Integration

Integration, whether spatial, sectoral or socio-economic, is fundamental to sustainable development. Spatial integration refers to the proximities and functional relationships between different functions and elements within a particular area, with the aim of creating the greatest degree of synergy.

Socio-economic integration refers to the proximity of different socio-economic groups so as to create a socially cohesive community. Sectoral integration refers to the vertical and horizontal integration among the various levels of government and agencies involved in spatial governance.

Development proposals need to ensure integration of all development issues including transport, planning, economic development etc. This plan takes an integrated approach to sectoral and spatial spheres so as to achieve synergy.

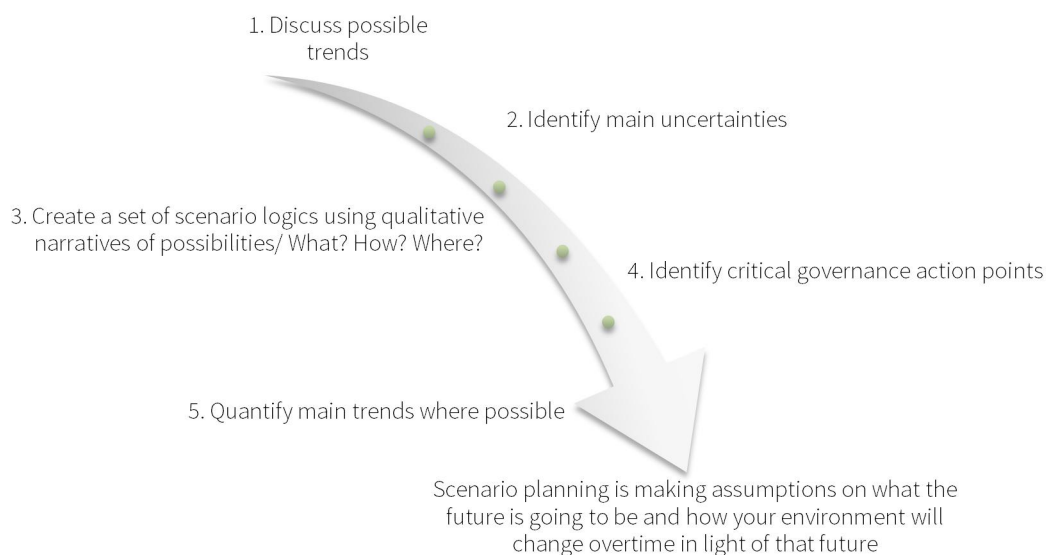
Accessibility

Accessibility can be defined as the ease with which a building, place, facility or service can be reached by people. An accessible town is one where there is equitable physical and functional access to services, facilities, employment, training and recreation, including a choice of safe and efficient transport modes (e.g. public transport, private vehicle, bicycle, walking and wheelchair). Accessibility also comprises convenient and dignified access to private and public spaces. The Plan will aim at ensuring that services are accessible to the residents within the required distances.

13.2 OVERVIEW OF SCENARIO BUILDING

Scenario building takes into consideration the countless emerging sectoral development challenges as identified in the situational analysis and stakeholder engagement. Scenario planning is making assumptions about what the future is going to be and how the current situation informs the future as demonstrated in Figure 13.1. It improves strategy development by making stakeholders more aware of risks and constraints, helps think about number of possible alternative developments, allows for systematic thinking through possible future situations and helps people to be prepared for these situations

Figure 13.1: The process of scenario building



The Murang'a ISUDP will explore the following scenarios:

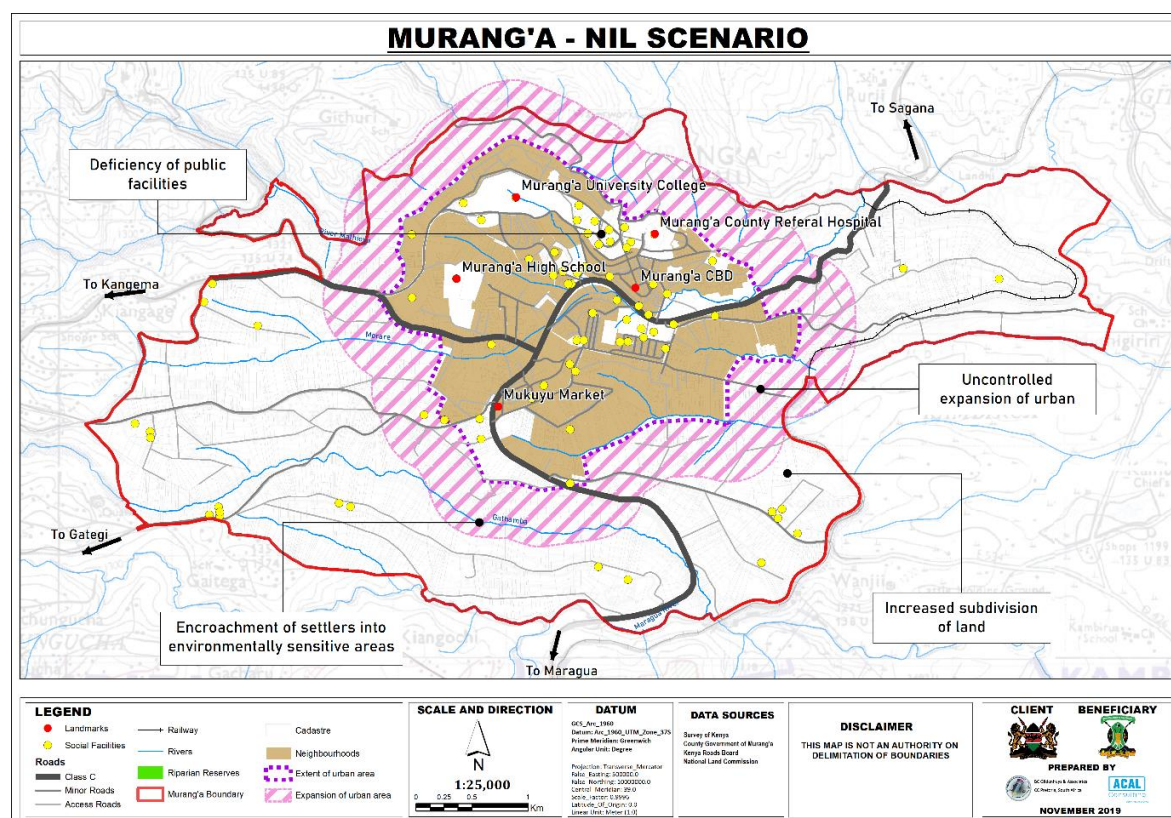
- a) Nil intervention scenario
- b) Urban regeneration scenario
- c) Green city scenario
- d) Integrated scenario

13.3 SCENARIO ONE: NIL INTERVENTION

This scenario assumes no planning intervention is conducted. It indicates that the current existing land use and trends continue having characteristics of urban sprawl, haphazard development and uncontrolled urbanization. This scenario enables stakeholders, policy and decision makers to visualize the impacts of such development trends in the region and continued lack of any planning interventions. The previous planning interventions have been overtaken by development thereby posing challenges on development control. Currently the town does not have a planning framework to guide growth, which is likely to pose unprecedented sustainability issues. Map 13.2 represents nil intervention scenario. Some of the impacts experienced include:

- Increased subdivision of land. With high urbanization, more land fragmentation and subdivisions are expected which would worsen if not controlled. This is likely to encroach on the agriculture land thereby compromising the food security and indeed the economy, which is largely supported by agriculture produce.
- Uncontrolled expansion of urban areas. Settlements will keep expanding at a very high rate with the current urbanization trends. Murang'a being the county headquarters is likely to grow exponentially since it is the most densely populated area. This population growth coupled by economic dynamics devoid of planning is also going to yield adverse effects.
- There will be a deficiency of public facilities. Population projections show a continued increase over the plan period. This implies that additional public facilities will be required and if not, there will be strain on existing infrastructure facilities and services such as schools, health centres among others.
- Encroachment of settlers in environmentally sensitive areas. These include; the current quarrying activities, cultivation and settlement on riparian river reserves. These areas will continue to experience increased pollution and destruction of the natural ecosystem.

Map 13.2: Nil Intervention Scenario



13.4 SCENARIO TWO: URBAN ECONOMIC REGENERATION SCENARIO

This model holds all factors constant and assumes the vision of building a vibrant economic hub for Murang'a County. It therefore deliberately puts in place measures to stimulate growth. It acknowledges economic informality and puts in place measures to promote as opposed to destruction of economic informality by:

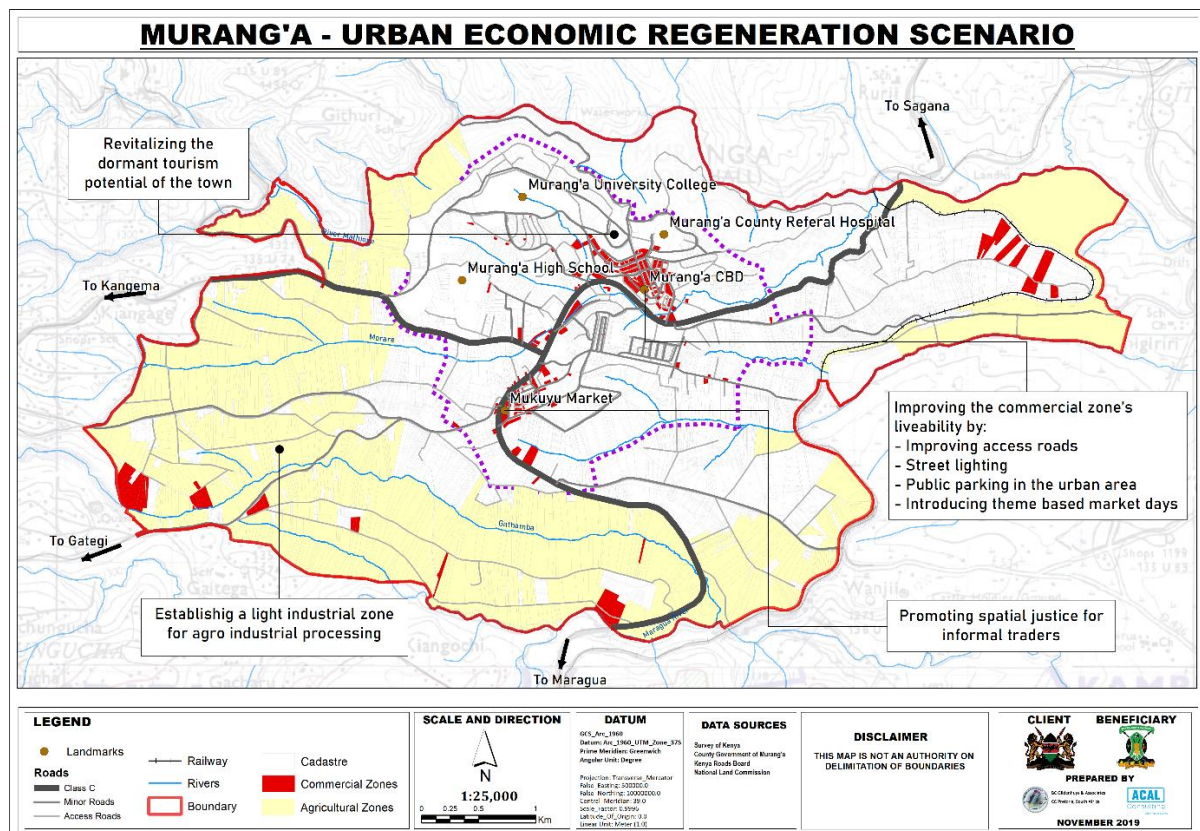
- Promoting spatial justice for informal traders
- Establishing a light industrial zone for agro industrial manufacturing
- Revitalizing the rather dormant tourism potential of the town
- Using deliberate measures to grow supportive services
- Putting in place 'growth-friendly' and "optimum competitor," tax measures
- State incentive PPPs
- Improving the commercial zone's liveability by improving access roads, street lighting, public parking in the urban area, introducing theme based market days

Potential constraints and assumptions:

- Economic informality remains a challenge in most African urban centres. Most urban plans have generally tended to result to markets a solution. This solution is always a partial solution as the challenge often persists. There a few successful stories that we can draw from, this calls for innovation of ideas.
- This model solely relies on a vibrant private sector to take up the potential and a creation of linkages with regional competitive markets. Fostering this in reality is often a complex and nuanced process.
- This scenario relies on an educational, cultural and entrepreneurial milieu. It assumes that public institutions will act in good faith to foster these milieus but also relies on a private sector to proactively take up measures herein.

Map 13.3 shows the graphic representation of the urban economic regeneration scenario.

Map 13.3: Urban Economic Regeneration Scenario



13.5 GREEN GROWTH SCENARIO

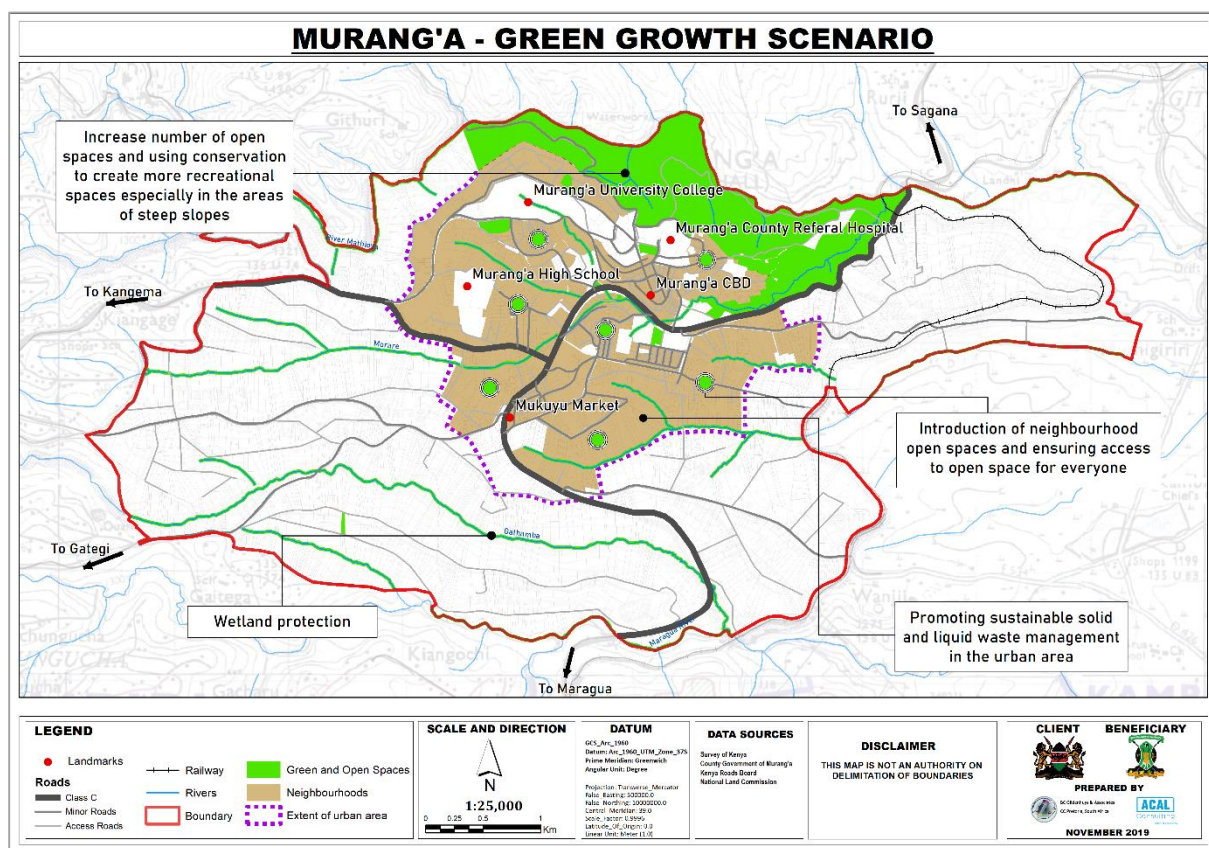
This scenario is based on the understanding that an inclusive and successful urban economy also recognizes the importance of balancing economic growth with environmental sustainability, by supporting innovation in the green economy. The UN Habitat defines a green economy as a low carbon, resource efficient and socially inclusive urban economy.

Under this scenario, Murang'a County can implement the following:

- Increase number of open spaces and using conservation to create more recreational spaces especially in the areas of steep slopes
- Introduction of Neighbourhood open spaces and ensuring access to open space for everyone
- Conservation of the ribbon formed by the conservation and riparian reserves forms a boundary that impacts on development to the CBD.
- Promoting sustainable solid and liquid waste management in the urban area.
- Wetland protection

Map 13.4 shows the graphic representation of the green growth scenario.

Map 13.4: Green Growth Scenario



13.6 PREFERRED MODEL

The preferred model acknowledges that sustainable urban growth resolves what is not working i.e. address the nil intervention and adopting the beneficial aspects of all other models.

The integrated model offers a holistic integrated solution to guide the growth. It shall include all sectors such as:

- a) Housing and human settlements that advocates for densification, provision of adequate, decent and affordable housing infrastructure and services, promotion of low-cost building materials and urban renewal.
- b) Infrastructure services such as improvement of transportation and roads with NMT, street lighting and storm water drainages, high water quality provision, health, education, social services such as recreational facilities, this will support the administrative function of the town.
- c) Improvement of the economy through support of informal activities such as jua kali and industrialization,
- d) Environmental conservation, protection of environmental fragile areas such as quarries, solid and liquid waste management.

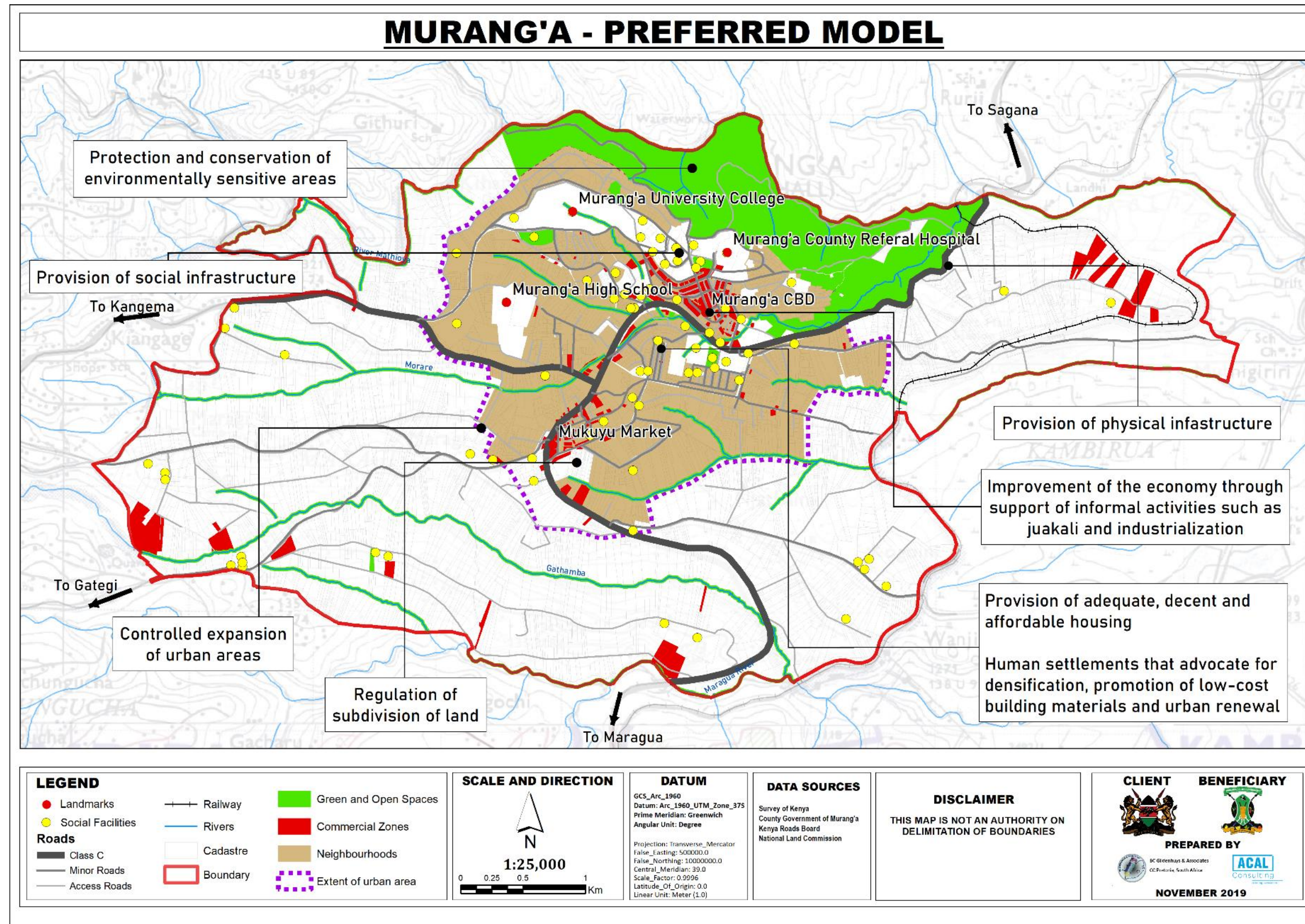
The Integrated model mainly focuses on compacting the town to control urban sprawl. It also promotes provision of a light industrial park and expansion of markets to spur the economic growth.

Some of these impacts include:

- a) Regulation of subdivision of land. This is done through zoning policies and regulation that provides the minimum land subdivisions.
- b) Controlled expansion of urban areas. Urban area growth is controlled through the zoning plans, land use plans and regulations which provide the urban limits and zones.
- c) Infrastructure provision. This is done through management of urban infrastructure and services through provision of such facilities and services that are commensurate to the population needs and demands.
- d) Protection and conservation of environmentally sensitive areas. These include; delineation of ecological and environmentally fragile areas, restriction of development to such areas and have policies that control and protect such areas.

Map 13.5 shows the graphic representation of the preferred model for development.

Map 13.5: Preferred Model



14 DEVELOPMENT STRATEGIES AND MEASURES

14.1 INTRODUCTION

A structure plan is a framework that sets out strategic planning policies on space. 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. This chapter provides a narrative of the structure plan.

14.2 TRANSPORTATION STRATEGY

Strategy 1: Improve Internal and external road connectivity.

Measures to support the Strategy include:

- a) Expanding the two bus parks (Mukuyu and Sagana stage) to avoid congestion to include adjacent land currently being used as car wash. This should separate both the entrance and exit to allow ease of traffic flow.
- b) Designate motorbikes sheds within the municipality. These will be done strategically within the town with a recommendation for a shed every three streets. A special task force to demarcate these should be set up with the involvement of the associations.
- c) Street rehabilitation in Murang'a;
 - i. Pave and maintain all roads within the town.
 - ii. Integrate drainage systems with road networks.
 - iii. Segregation of traffic within the CBD to accommodate pedestrians, NMT and vehicle traffic.
 - iv. Create pedestrian streets or walkways.
 - v. Provide Sufficient Parking spaces.
 - vi. Provision of street furniture in the town
 - vii. Provision of street lighting
- d) Safeguard against encroachment into road reserves by clearly marking building lines and enforcement of the same.
- e) Sensitize developers during building plan approval the need to observe adequate road reserves and building lines.
- f) Develop road networks in areas without links
- g) Expansion of the current bus park to accommodate more vehicles.
- h) Designation and provision for motorcycle parking
- i) Improve street naming and addressing.

Strategy 2: Improve Rail Access to the town

- a) Improve and rehabilitate the existing railway infrastructure including the station and line.

14.3 ENVIRONMENTAL PROTECTION AND CONSERVATION

Strategy 1: Sound use and conservation of environmentally sensitive areas

Measures to achieve this strategy include:

- a) Areas with a slope greater than 75% have been zoned for protection as fragile areas. The ridge forming the urban edge repurposed for recreation areas. Promoting walking and biking trails in this area is allowable. Using conservation to create more recreational spaces.
- b) Establishment of a leisure park in Migingo- opposite town management offices.
- c) Riparian land has been zoned for protection. Allowable activities such as arrow root cultivation in this zone.

Strategy 2: Improve Sanitation Standards in the Area.

This strategy provides mechanism to reduce/eliminate diseases caused by poor sanitation. Measures to support the Strategy:

- a) Establish public toilets within the commercial areas.
- b) Conduct regular public cleaning campaigns alongside promotion of waste minimization techniques such as recycling.

Strategy 3: Promote rehabilitation of degraded quarry sites.

Measures to support the Strategy

- a) Legislating contextual policies on quarry rehabilitation
- b) Rehabilitate limestone quarries by planting trees.
- c) Backfill open holes and abandoned quarries on the land.
- d) Discourage human settlement on flood prone and quarry sites.
- e) Determine and green the extent of the quarry

Strategy 4: Improve Solid Waste Management Measures to support the strategy

- a) Rehabilitate the Karii dumpsite to a Transfer station as identified in the integrated waste management plan for transfer to Mitumbiri.
- b) Encourage waste separation at source, reduce, recycling, and re-use
- c) Privatize waste collection in order to increase waste collection coverage and frequency.
- c) Create an autonomous waste management department to improve waste collection systems, supplying it with appropriate easy to service equipment and recruiting qualified personnel.
- d) Privatize aspects of the solid waste management process such as collection, transfer and billing among others.
- d) Install street bins in appropriate locations in town.
- e) Encourage Public Private Partnership in solid waste management. Specifically using registered youth groups for waste collection within the town.
- f) Designate neighbourhood solid waste transfer stations.
- g) Involve public in clean-up activities as an effective way in solid waste management.

Strategy 5: Liquid Waste Management Measures to support the strategy

- a) Construct storm water drains along all roads within the planning area.
- b) Develop and extend the sewer reticulation to cover the entire planning area.
- c) Fence around the shallow wells to protect them from pollution.

14.4 RESIDENTIAL HOUSING IMPROVEMENT STRATEGY

Strategy 1: Increase the affordable housing supply Measures to support the Strategy:

- a) Set apart adequate land in all areas for affordable housing delivery.
- b) Provide more affordable housing through public private partnership.
- c) Use locally available low-cost building materials such as lime, sand and limestone for cheap and affordable housing.
- d) Undertake speedy development approvals to attract developers and reduce cost of development.
- e) Provide titles to act as collaterals in raising funds for housing development and security of tenure.

Strategy 2: Provide and enhance infrastructure and services in residential zones Measures to support the Strategy:

- a) Provide coverage of sewer and electricity in all areas within the town.
- b) Provide piped water and construct storm water drainage system.
- c) Establish waste collection points in neighbourhoods.
- d) Open up and pave access roads within neighbourhoods.

Strategy 3: zoning and densification of the town

Measures to support the Strategy:

- a) Earmark areas for high density residential development with minimum plot sizes of 0.1045Ha.
- b) Earmark areas for medium density residential developments with minimum plot sizes of 0.1 Ha.
- c) Earmark areas for low density housing with minimum plot sizes of 0.2 Ha ensure that various housing needs of diverse socio-economic groups are met.
- d) Regulate subdivision of agricultural land within the sub-county to minimum plot size of 0.4Ha.
- e) Allow controlled commercial and light industrial developments within the residential neighbourhoods.

14.5 INFORMAL SETTLEMENT UPGRADING STRATEGY

Strategy 1: Upgrade settlements in Mjini to promote liveable places:

The strategy aims at improving the living conditions of those living in informal settlements. Measures to support the Strategy:

- a) Mjini is going through a natural gentrification, this plan will put in place policy measures to promote this via:
 - Encouraging densification via policy frameworks that allow for densification i.e. lower rates for those building up and higher rates for those building less densities
 - Faddism of the mud houses to more permanent structure maintaining the Swahili culture.
 - Provision of security of tenure allowing for multiple joint ownership.

- b) Redevelop the dilapidated and unconventional housing to permanent structures.
- c) Secure ownership rights through provision of ownership documents such as titles (Mapping, Planning, Surveying and Titling).
- d) Provide soft loans for improvement of housing units.
- e) Pave access and feeder roads in the settlements.
- f) Provide trunk infrastructure and social facilities to settlements.
- g) Encourage Public Private Partnership in Human Settlement Upgrading.

14.6 INFRASTRUCTURE STRATEGY

Access to basic services is critical for liveable cities and economic growth. Urban infrastructure and services; primarily transport, water supply and sanitation, electricity and solid waste management are key to successful cities that attract and retain satisfied and productive residents. In line with the vision of Murang'a, the essential infrastructure is important for sustainable urban growth. The following strategies and measure will aid the realization of the vision:

Water

Measure to support this strategy

- a) Expansion of the water reticulation system to cater for the 10000M3 water deficient in the town
- b) Promotion of the water treatment at Kayahwe treatment plant
- c) Promotion of water harvesting at the household and institutional level.
- d) Construction of drainage channels on all access roads.
- e) Regular unclogging of blockages of water pipes and sewer systems.

Health

Strategy: Enhance distribution and accessibility of health facilities and services. Measures to support the Strategy:

- a) Establish a health centre in the town occupying an area of 4.0 Ha.
- b) Provide adequate medical staff in every hospital to a recommended WHO doctor patient ratio of 1:600.
- c) Increase bed capacity that provides bed occupancy of not more than 100%.
- d) Supply medicine at cheaper cost to all health facilities
- e) Expand, upgrade, maintain and rehabilitate existing health facilities
- f) Encourage Public Private Partnerships in development of health facilities.

Education

Strategy: Improve Educational Standards. Measures to support the Strategy:

- a) Increasing the number of ECD centres in areas identified in Map having inadequate ECD centres.
- b) Redevelop the existing dilapidated educational facilities. This includes equipping with materials laboratories, teaching material.
- c) Provide support infrastructure such as water, energy, roads among others.
- d) Upgrade the existing polytechnic and technical training schools.
- e) Distribute schools evenly with a catchment radius of a maximum of 1Km.
- f) Deploy adequate staff in rural and peri-urban schools to a recommended teacher pupil ratio of 1:40.

- g) Encourage and facilitate participation of the private sector, religious institutions and other key stakeholders in the provision of education facilities and services.
- h) Intensify inspection and supervision to ensure proper registration of schools.

Social Services

Strategy: Integrate recreational and cultural services into the urban fabric

Measures:

- The construction of an Agikuyu Cultural and Heritage Centre (opposite Murang'a University) containing a library, exhibition hall for Kikuyu cultural artefacts, a hero's corner and a 2000-people seater hall.
- Zoning and developing Migingo area as an urban park
- Developing the 50 HA urban park designated.

14.7 LOCAL ECONOMIC DEVELOPMENT STRATEGY

There is need to unlock the potentials of the local economy of Murang'a in order to make it vibrant and promote employment opportunities and incomes to the local people and the region.

Strategy 1: Develop Markets to promote economic growth

Measures to support the Strategy:

- a) Improve the Mukuyu, market to accommodate more traders by contracting multi-storey markets.
- b) Upgrade the Marigiti and Kayole markets to modern markets
- c) Registration of hawkers, relocation to improved markets and enactment of trader friendly trade policies.
- d) Promote the concept of theme-based markets in specific streets over the weekends
- e) Pave and reorganize spaces and activities in open air markets.
- f) Provide support infrastructure and services such as public conveniences, solid waste management.
- g) Use appropriate modern agricultural technologies that are suitable for intensive farming.
- h) Improve access roads for accessibility to the market area. Including expanding roads leading to the market.

Strategy 2: Establishment of a Juakali Zone/Light industrial park

There's need to exploit fully and efficiently the industrial potential of the town and its hinterland in order to promote industrial development.

Measures to support the Strategy:

- a) Establish a light industrial zone in the zone set out in the plan
- b) Enact artisan favourable incentives to grow the zone
- c) Establish a favourable environment for industrial investors through public-private partnership and through improved financial support.

Strategy 3: Enhance Landscaping, Beautification and Greening

Measures to support the Strategy

- a) Integrate street furniture along the town streets.
- b) Sitting of outdoor advertisement billboards and signs boards to be approved and regulated by County's Physical Planning Department.
- c) Control illegal structures and building materials.
- d) Enhance greenery and town beautification.

Strategy 4: Promotion of hinterland/urban agriculture

Measures to support this strategy

- a) Establishment of horticultural grading sheds as part of the multi storey markets
- b) Upgrading the capacity of the existing milk coolers to accommodate the production capacity of the region
- c) Use appropriate modern agricultural technologies that are suitable for intensive farming.
- d) Setting of the minimum acreage allowable for sub-division within the agricultural zone at 1 acre (0.4 Ha).
- e) Promotion of the mechanization of agriculture.
- f) Promotion of terracing along steep slopes within the agricultural zone.
- g) Control of soil erosion to minimize the loss of fertile soils along steep slopes.
- h) Strengthen farmers' cooperatives through training and incentives.

14.8 INVESTMENT STRATEGY

Strategy: Source Funding for investment projects

Measures to support the Strategy:

- a) Source funding for the investment projects
- b) Develop public-private partnerships
- c) Involve the community in decision making
- d) Provide subsidies and incentives to attract investors
- e) Provide a good environment for doing business
- f) Promote political will in projects
- g) Enhance good governance through accountability and transparency in all activities and projects undertaken

14.9 REVENUE ENHANCEMENT STRATEGY

Capability of the County Government to implement plans greatly inclines on its financial capacity and stability which also depends on the County's revenue collection. This also determines the County's capability to provide services to the residents of its area of jurisdiction.

Measures to support the Strategy:

- a) Expand the range of products on cess collection
- b) Establish an effective and sustainable debt collection mechanisms
- c) Integrate planning and budgeting processes.
- d) Provide Single Business Permits and regularly conduct businesses surveys to up-date businesses register.
- e) Create public-private partnership policies on revenue generating activities e.g. building market stalls and public toilets.
- f) Develop *jua-kali* sheds to increase and formalize the *jua-kali* activities.
- g) Establish a livestock market and abattoirs.
- h) Establish markets within commercial and agricultural areas.
- i) Implement performance contracting and regular financial audits.
- j) Prepare a valuation roll to guide rating and property valuation.
- k) Link Tax Registers to Geographical Information System (GIS).

14.10 PUBLIC LAND PROTECTION STRATEGY

Measures and strategies

- a) Engagement of a task force to identify, map and gazette public land in Murang'a, currently ongoing with the national land commission.
- b) Establishing a tribunal to repossess grabbed public land.
- c) Issuing of tittle deeds for all public land
- d) Fencing and protection of public land
- e) Establishing land bank for future services.

15 MURANG'A STRUCTURE PLAN

15.1 INTRODUCTION

The detailed analysis and synthesis of the primary and secondary data identified various problems and opportunities inherent in Murang'a that if purposely addressed would ensure the County Capital is well planned and guarantees a high standard and quality of life to its residents. In order to bring sustainability, compatibility, equity and optimize the economies of scale in Murang'a among other desired aspects,

The table below presents the proposed land budget for Murang'a. This land budget was arrived at by projecting the population by 2030 and using a set criterion of land requirements to anticipate the required land uses budget. This was then translated to the structure plan. Table 15.1 depicts the proposed Murang'a Strategic Structure Plan land use details.

Table 15.1: Murang'a Structure Plan Land Use Budget

Code	Land Use	Existing		Required (2029 Projected)		Proposed additional land		Proposed Total coverage (translated to proposed land use plan)	
		Number of parcels	Average Size(ha)	Total area (Ha)	%	Area (Ha)	Area (Ha)	Area (Ha)	%
0	High Density Residential	793	0.0341	27.022	1%	299.76	78.5	105.52	4%
	Medium Density Residential	2358	0.1017	239.8	9%	149.88	-56.12	183.68	7%
	Low Density Residential	850	0.0072	613.79	23%	49.96	-149.8	463.99	18%
1	Industrial	50	0.6511	32.56	1%	10	2.09	34.65	1%
2	Educational	49	1.795	87.93	3%	127	0	87.93	3%
3	Recreational	14	15.036	210.5	8%	33.69	474.31	684.81	26%
4	Public Purpose	104	0.5853	60.88	2%	72.6765	0	60.88	2%
5	Commercial	357	0.0719	25.67	1%		47.96	73.63	3%
6	Public Utility	6	5.09	30.54	1%		0	30.54	1%
7	Transportation		4.398	290.24	11%		0	290.24	11%
8	Deferred	0	0	0	0%		0		0%
9	Agricultural	927	1.08	1001.01	38%		-396.94	604.07	23%
TOTAL				2,620	100		0	2,619.94	100%

Based on the land budget presented in table 15. 1 above, the land budget presents gainers and losers in line with the vision, strategic objective and to achieve the strategies laid out in chapter 14 above. Medium density and low-density housing are the losers at 56Ha and 149.8 Ha respectively. Alternatively, high density housing

gains from 1% to 4% of the land area. This is in line with objective to densify the town to control sprawl in the town. Zones under the medium density being targeted for densification will explore policy objectives that encourage densification.

The largest loser is agricultural land. Alternatively, recreational land increased by a similar margin. This was occasioned by the decision to convert land greater than 45% slope into recreational park. This is land forming the ridge forming the urban edge zoned for recreation areas. It is intended to promote walking and biking trails in this area is allowable. Using conservation to create more recreational spaces.

Land budgets that could not be achieved under this proposal are to be achieved through densification. Mid-term plan reviews are also recommended to review the demand Vis-vi the demand.

15.1.1 KEY ASSUMPTIONS MADE IN DEVELOPING THE LAND USE BUDGET

The following general assumptions were made to obtain the land use budget above:

- a) Murang'a population increased at an average rate of 2.2% as reported in the national census of 2019. The population at the end of the plan period is projected to 55,689 people.
- b) The ratio of land demand for residential stratus is constant as outlined in physical planning handbook; High(H): Medium(M): Low (L) densities= 6:3:1
- c) The average household size of the population is 4 persons as outlined in Kenya Household and Population Census report.
- d) All commercial and transportation land uses shall fit in within the others on the principles of demand and compatibility.
- e) Any land that is not agricultural or among the categories, is regarded as differed land.

Land use codes, as defined in the physical planning handbook are detailed below:

Code 0: Residential

The following key assumptions were made:

- a) A ratio of housing will follow the ratios of High(H): Medium(M): Low (L) densities= 6:3:1
- b) The two typologies being considered are:
 - ❖ Bungalow detached -assuming 35 units per Ha in High density, 16 units per Ha in Medium density assuming- 70 units per Ha in High density, 32 units per Ha in Medium density and 20 units per Ha in low density
- c) Semi-detached Multifamily - assuming 70 units per Ha in High density, 60 units per Ha in Medium density and 50 units in low density

The housing demand was an average of the land budgets and the three models.

Code 1: Industrial

The following assumption was made, that Murang'a required an average of 4Ha for 30,000people in a population as per the provisions of the physical planning handbook.

Code 2: Education

Assumed the following provisions per category of use:

- a) Primary Schools need 2Ha for every 3500 people
- b) Secondary schools needing
- c) Tertiary Schools at 4Ha for every 8000 people

- d) University requiring 50Ha of land

Code 3: Recreation

Assumes a standard of 2Ha for every 10,000 people for public parks. This category also proposed about 0.13Ha for a community park.

Code 4: Public Purpose

. This standard makes provision for the following subcategories of land uses:

- a) Health with a standard of 8Ha for a hospital
- b) Administration offices having a current provision for 20Ha
- c) Law and Order
 - Law Court 1 Ha
 - Police Station 8.46Ha
- d) Fire Station/ Disaster Management Centre having 0.4Ha
- e) Library having 0.4Ha

Code 6: Public Utility

According to the population projections, public utility land demand stands at 16.4 hectares by 2030. This is meant to cater for, Power supply, Health Facilities, Sewer, Garbage and a Cemetery.

15.2 PROPOSED LAND USE PLAN

The structure plan which is the broad spatial policy framework for addressing the immediate and future needs of Murang'a will only be realized if the right tools and instruments are put in place. These tools will be in the form of broad land use guidelines which will classify the zone and dictate the permissible land uses that are compatible, conditional land uses and the restricted land uses. This instrument is key towards ensuring an orderly city that has a philosophy and a character.

The structure plan is almost micro and the acknowledgement that development should align to it requires analysis of the infrastructure needs, services based on population, mixed use at acceptable levels to enhance urban sustainability and balanced growth. Parking requirements both in the CBD and the residential neighbourhood is a clear management policy that must be put in place to assist development control authority enforce compliance for the greater good of Murang'a County. The proposed land use and management policies are summarized in Table 15.2.

The proposed structure plan (see Map 15.1) presents the desired spatial framework for Murang'a for the next decade.

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15.3 SPATIAL PLAN PROPOSALS

15.3.1 HOUSING PROPOSALS

The existing residential area in Murang'a town covers 880 Hectares representing 33.6% of the total Murang'a town planning area against a projected population-based requirement of only 500 hectares (19%) giving an oversupply of 380 hectare (14.5%). The plan proposes a total area of 246 Hectares representing 9.4% of the planning area to cater for residential land use for housing. The plan boldly proposes release of residential land for agricultural use especially around Njathaini, Fort Hall Station, Maragi. The emphasis on residential development is largely driven by the need to promote compatibility and mixed-use development of high, medium, and low-density housing.

The densities-high, medium, and low have been allocated based on the existing organic growth. The intention retains and guides the existing organic structure of the town, and ensures future developments maintain this character, while compacting growth.

15.3.1.1 High Density Residential

The structure plan proposes high density residential development in Mjini, Mumbi Estate, Mukuyu and to the north of Murang'a Prison area covering a total area of 118.42 hectares which accounts for 48% of the proposed residential space. The plan is to allow development of flats, apartments, high rise residential buildings to a minimum of 4 levels on plots of minimum of 0.125 Acres. In Mjini area, the plan validates development of high-rise Swahili architecture style residential development up to a maximum of four levels to promote the culture and heritage of the local community. The plan proposes expansion of sewer and water reticulation, upgrading of the access roads, provision of street lighting and green spaces in these high-density residential areas so as to attract a majority of the Town's residents.

15.3.1.2 Medium Density Residential

The plan proposes a total of 107.28 Hectares for medium density residential development which represents 43.4% of the proposed residential space. This is mainly proposed in Kiharu, around Murang'a Prison, and around Pioneer International School. The minimum allowable land size in the medium density residential areas is 0.25 for the Parcels around Murang'a Prison, and around Pioneer International School and 0.125 Acres for the parcels in Kiharu Area. The recommended typologies for medium density residential development is flats, bungalows, row housing, maisonettes, and duplexes, with levels limited to 2 where there is no sewer provision.

15.3.1.3 Low Density Residential

The plan proposes at the Eastern end of Fort Hall and around the Murang'a juvenile home areas to be low density residential areas. This area covers 21.1 hectares which is 8.5% of the residential space. The proposed minimum land size for low residential is 0.5 Acres. The plan proposes plating of tress within the low density residential areas.

15.3.2 COMMERCE TRADE AND LIGHT INDUSTRIAL PARK DEVELOPMENT

The plan proposes a commercial development area of 47.96 hectares which accounts for 6.2% of the Murang'a Town planning area. The main commercial area in Murang'a Town is located North of Mjini and Mumbi area and anchored by the C71 primary road. The CBD is expected to have adequate access, elegant street scapes, with street lighting with well-defined on-street parking facilities. The plan proposes high-rise commercial buildings of minimum 4 levels having office space, adequate parking space, food courts and restaurants, retail shops and stalls, and entertainment spots.

The plan for Kayole Open market in the CBD has a 3 storey hawkers market having well-spaced stalls, adequate parking, public toilets, eateries, waste receptacles and collection point, street lighting, clean drinking water

points and public transport service stage. The proposed elevation of the Mukuyu Modern market as a fresh groceries market 4 storey segregated stalls, public toilets, having waste sorting bins and collection points, loading and off-loading areas, ample parking and street lighting. However, the plan allows the forces of demand and supply to guide the growth of commercial zones though proper standards must be met. A lot of commercial activities are also expected along C71 on both sides of the road reserve. Such commercial activities include curio shops and sale of daily newspapers, among others.

The plan proposed a light industrial zone. The plan is cognisant of the fact that Maragua has an organic industrial zone that this ISUDP felt complemented the need. As such an additional 2 Ha was allocated to the existing 32.5Ha and zoned for light industrial park.

15.3.3 URBAN LIMITS

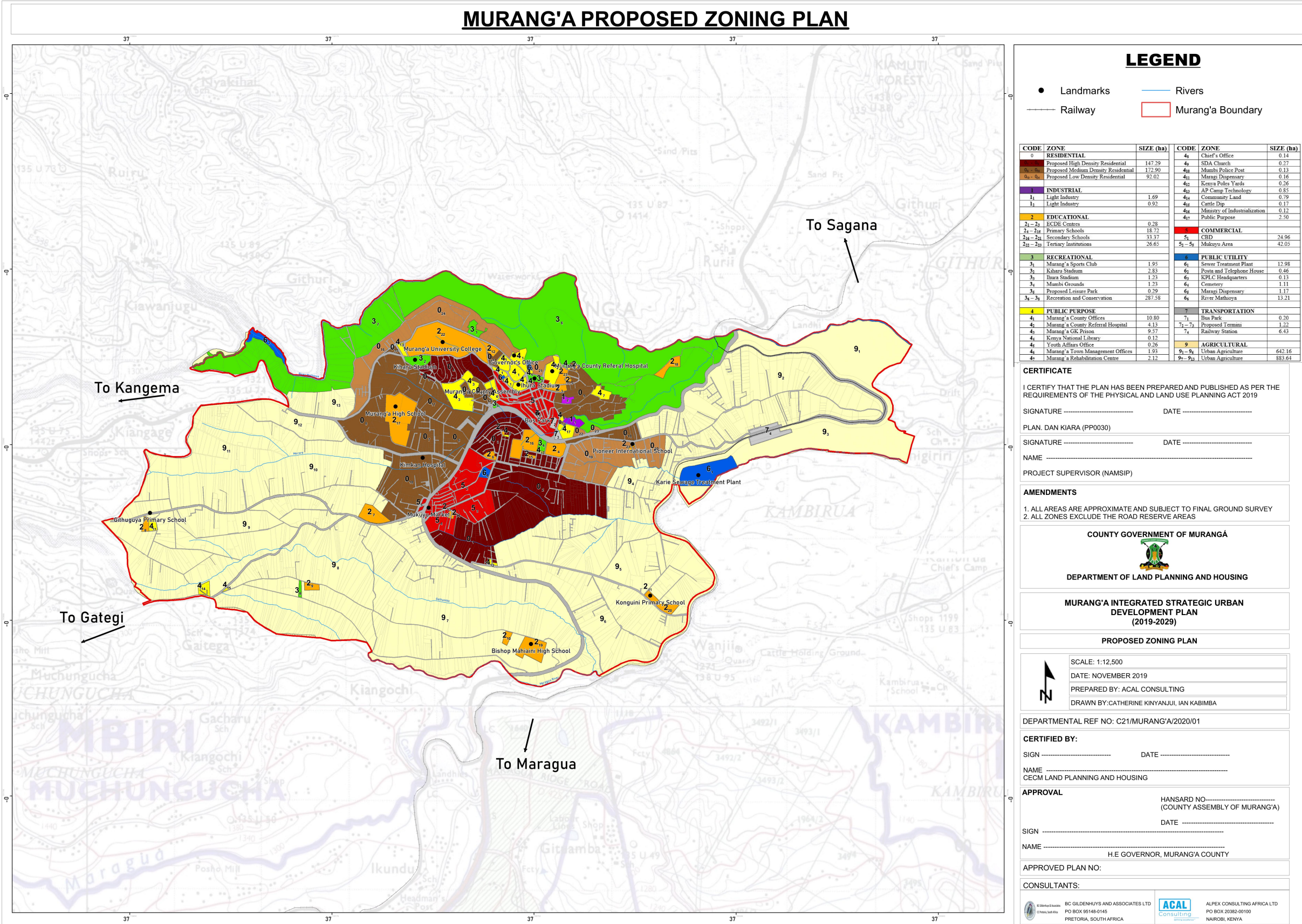
The plan proposes an urban limit measuring 26.2Km². The minimum allowable plot size in the agricultural zone is 2 Acres and should have at least 65% not developed but rather under agriculture, conservation and recreational use. The planning area encompasses few areas of rich agricultural land. The plan proposes the areas sub-divided land around Njathaini, Fort Hall Station, and Maragi to be reserved for agriculture because it is rich and fertile. This is also premised on the fact that the land earmarked for residential development is adequate to cater for the expected population without having to require further loss of agricultural land.

15.4 ZONING PLAN

The main purpose of zoning is to delineate residential, commercial, industrial, recreational, and agricultural; transport, public purpose and public utilities land uses in Murang'a. Zoning is usually done to control the physical development of the land and the types of uses that each individual space be put to use and thereby ensuring proper planning to achieve the desired built urban environment. The proposed structure plan is a vision for land use management for the next ten (10) years as summarized in Table 15.2.

Based on the above assumptions, the proposed zoning plan for Murang'a is detailed in Map 15.2 below.

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15.5 ZONING REGULATIONS

The main purpose of zoning is to delineate residential, commercial, industrial, recreational, and agricultural; transport, public purpose and public utilities land uses in Murang'a municipality. Zoning is usually done to control the physical development of the land and the types of uses that each individual space be put to use and thereby ensuring proper planning to achieve the desired built urban environment. It does this by creating zones that divide a particular region of land into districts or zones and specifying the types of land uses that are allowed and prohibited for each zone.

Table 15.2: Zoning regulations to be adopted in Murang'a

ZONE CODE	LOCATION	PERMITTED USE	STANDARDS	REGULATIONS	REMARKS
5 _{1.5} COMMERCIAL	CBD, Mukuyu Area,	<p>PRINCIPAL USE; COMMERCIAL</p> <p>Development type: mixed use development, multi storey developments, shopping complexes, office buildings,</p> <ul style="list-style-type: none"> Financial services Business support services Professional offices Retail and wholesale <p>NON-PRINCIPAL USE;</p> <p>Development type: hotels, eateries, accommodation</p> <ul style="list-style-type: none"> Hotels 	<ul style="list-style-type: none"> Plot coverage: 90% Plot ratio: 500% Minimum Setbacks <ul style="list-style-type: none"> Front 5m Sides 2m Rear 3m Skyline:30m Height 	<ul style="list-style-type: none"> Minimum land size 0.075 ha Building Height: minimum of 4 floors Allow rain harvesting Allow 3m wide space for semi-permanent fabricated business stalls on road reserve Allow a 2.5m wide space for moveable temporary business stalls on the segregated road reserve-safety? Building Line: minimum of 3m from Road reserve Allow a 3m wide space for pedestrian walkway & NMT access Onsite parking: 2.5m parking 	<ul style="list-style-type: none"> Promote mixed use development Promote compact, high –rise developments Promote public spaces in developments Promote NMT modes Promote small scale business enterprises Promote infrastructure services and utility provision No on road parking Promote recreation, sports, culture and talent development All applications must have Self-sustaining infrastructure for sanitation, wastewater treatment, etc.) with the clear design intent to connect the local system to or a private Infrastructure System

ZONE CODE	LOCATION	PERMITTED USE	STANDARDS	REGULATIONS	REMARKS
		<ul style="list-style-type: none"> restaurants 		<ul style="list-style-type: none"> space for each unit in the office buildings Off-street Parking: 1.5 m wide one-way parallel parking space on the road reserve 	
Zone 0 ₁ -0 ₅	Proposed Low Density Residential	PRINCIPAL USE; LOW DENSITY PRINCIPAL USE; LOW DENSITY RESIDENTIAL; Development type: mixed use development, single family dwelling units, multiple family dwellings, <ul style="list-style-type: none"> Mansion bungalows, row housing, 	<ul style="list-style-type: none"> Plot coverage: 35% Plot ratio: 100 Minimum Setbacks <ul style="list-style-type: none"> Front: 10m Sides: 10m Rear: 20m Skyline: 6m high 	<ul style="list-style-type: none"> Minimum land size: 0.2 Ha Maximum height: n/a Building line: minimum of 10m from road reserve Minimum of 10% tree cover: Allow rain water harvesting 	<ul style="list-style-type: none"> Discourage land subdivision to uneconomical land sizes Encourage storage of rain water Provision of a convectional sewer system All applications must have Self-sustaining infrastructure for sanitation, wastewater treatment, etc.) with the clear design intent to connect the local system to or a private Infrastructure System
Zone 0 ₆ -0 ₁₈	Proposed Medium Density Residential	PRINCIPAL USE; MEDIUM DENSITY RESIDENTIAL Development type: mixed use development, single family dwelling units, multiple family dwellings, <ul style="list-style-type: none"> bungalows, 	<ul style="list-style-type: none"> Plot coverage: 50% Plot ratio: 100% Minimum Setbacks <ul style="list-style-type: none"> Front: 3m 	<ul style="list-style-type: none"> Minimum land size: 0.1 Ha Maximum height: two storeys Building line: minimum of 3m from road reserve 10% land surrender 	<ul style="list-style-type: none"> Promote mixed use development Promote compact, high-rise residential developments Discourage land subdivision to uneconomical land sizes Encourage storage of rain water Promote small scale business enterprises Promote provision of infrastructure

ZONE CODE	LOCATION	PERMITTED USE	STANDARDS	REGULATIONS	REMARKS
		<ul style="list-style-type: none"> ▪ duplexes, ▪ row housing, ▪ Maisonettes, ▪ flats 	<ul style="list-style-type: none"> ○ Sides: 1.5m ○ Rear: 1.5m • Skyline: 6m high 	<ul style="list-style-type: none"> for large subdivision schemes, and not for individual parcels seeking for development permission • • 10% tree cover: • Allow rain water harvesting • Car parking: 2 parking spaces each 3m by 2m 	<ul style="list-style-type: none"> services ▪ All applications must have Self-sustaining infrastructure for sanitation, wastewater treatment, etc.) with the clear design intent to connect the local system to or a private Infrastructure System
Zone 0 ₁₉ - 0 ₂₄	Proposed High Density Residential	<p>PRINCIPAL USE; HIGH DENSITY RESIDENTIAL</p> <p>Development type: mixed use development, single family dwelling units, multiple family dwellings,</p> <ul style="list-style-type: none"> ▪ row housing, ▪ Maisonettes, ▪ flats 	<ul style="list-style-type: none"> • Plot coverage: 65% • Plot ratio: 100% • Minimum Setbacks ○ Front: 3m ○ Sides: 1.5m ○ Rear: 1.5m • Skyline: 6m high 	<ul style="list-style-type: none"> • Minimum land size: 0.05 Ha • Maximum height: three storeys • Building line: minimum of 3m from road reserve • 10% land surrender for large subdivision schemes, and not for individual parcels seeking for development 	<ul style="list-style-type: none"> ▪ Promote mixed use development ▪ Promote compact, high-rise residential developments ▪ Discourage land subdivision to uneconomical land sizes ▪ Encourage storage of rain water ▪ Promote small scale business enterprises ▪ Promote provision of a convectional sewer system ▪ Promote provision infrastructure services ▪ All applications must have Self-sustaining infrastructure for sanitation, wastewater treatment,

ZONE CODE	LOCATION	PERMITTED USE	STANDARDS	REGULATIONS	REMARKS
				permission. <ul style="list-style-type: none"> • Allow rain water harvesting • 1 Parking Space per 1-bedroom dwelling Unit • 1 Parking Space per 2-bedroom dwelling Unit • 1.5 parking Space per 3-bedroom dwelling Unit 	etc.) with the clear design intent to connect the local system to or a private Infrastructure System
Zone 4 ₁ -4 ₁₇	Public Purpose	PRINCIPAL USE; PUBLIC PURPOSE Development type: Kenya Rural Road offices	<ul style="list-style-type: none"> • Plot coverage: 75% • Plot ratio: 100% • Minimum Setbacks <ul style="list-style-type: none"> ○ Front: 3m ○ Sides: 1.5m ○ Rear: 1.5m • Skyline: 9m high 	<ul style="list-style-type: none"> • land size: 4 Ha • Car parking: 2 parking spaces each 3m by 2m 	<ul style="list-style-type: none"> ▪ Promote provision of security services
Zone 3 ₁ -3 ₈	Recreational	PRINCIPAL USE;	<ul style="list-style-type: none"> • 90% tree cover 	<ul style="list-style-type: none"> • Do not allow building developments 	<ul style="list-style-type: none"> ▪ Promote conservation of environment

ZONE CODE	LOCATION	PERMITTED USE	STANDARDS	REGULATIONS	REMARKS
	Use	RECREATIONAL Development type: <ul style="list-style-type: none"> ▪ Botanical gardens ▪ Arboretum ▪ parks 			<ul style="list-style-type: none"> ▪
Zone 1 ₁ .1 ₂	Proposed Light Industry and Macadamia Industry	PRINCIPAL USE INDUSTRIAL Development type: Light industries <ul style="list-style-type: none"> • Jua kali • artefacts • Fast foods processing 	<ul style="list-style-type: none"> • Plot coverage: 75% • Plot ratio: 100% • Minimum Setbacks <ul style="list-style-type: none"> ○ Front: 3m ○ Sides: 1.5m ○ Rear: 1.5m • Skyline: 9m height 	<ul style="list-style-type: none"> • Minimum land size: 0.045 Ha • Well defined buffer zone from the residential area. • Maximum Height: 4 storey building with minimum portions of 10 by 12 feet	<ul style="list-style-type: none"> ▪ Promote proper relations to residential, commercial and recreational areas ▪ Promote exercise of controls so as to protect surrounding areas ▪ Promote economic growth ▪ Create employment ▪ Promote accessibility to labour, communication routes, and ample supplies of power
Zone 2 ₁ . 2 ₂₃	EDUCATION	PRINCIPLE LAND USE: EDUCATION Development type: Primary School	<ul style="list-style-type: none"> • Plot coverage: 50% • Plot ratio: 1:3 	<ul style="list-style-type: none"> • For Low income housing, school should be within walking distance of 300-500 meters. • population ration of 1:8000 in urban areas • Land Area 3.25ha 	<ul style="list-style-type: none"> ▪ Provide education facilities ▪ Promote local research innovation ▪ Promote sports and talent development

ZONE CODE	LOCATION	PERMITTED USE	STANDARDS	REGULATIONS	REMARKS
Zone 6 _{1.6₆}	Sewer Treatment, KPLC Headquarters Posta & Telephone House Cemetery (Muslim property) River Mathioya	PRINCIPLE LAND USE: PUBLIC UTILITY Development Type: infrastructure and utilities services <ul style="list-style-type: none"> Water supply Sewer reticulation Solid waste management Drainage systems 	-	<ul style="list-style-type: none"> The land requirement for Buffer zones for sewerage areas is 75 m² whereas for unsewered areas are 110 m². Minimum Land size 2ha Way leave 10-60m for the KPLC lines 	<ul style="list-style-type: none"> Promote infrastructure services and utilities provision Promote proper liquid and solid management
Zone 7 _{1.7₄}	Railway Transport, Matatus terminus	PRINCIPAL USE; TRANSPORT Development Type: Old Railway line	-	<ul style="list-style-type: none"> Way leave 60m 	<ul style="list-style-type: none"> Improve lifestyle of the travellers Improve transportation within the town

15.6 ACTION AREA PLANS

15.6.1 STREET REHABILITATION ACTION AREA PLAN

This will be implemented in five key streets of: Manyeki (upper ring and lower ring), Market, Gichinga and Murang'a Street. It will aim to improving the commercial zone's liveability by improving NMT integration, street furniture; street width storm water drains, access roads, street lighting, public parking and relocating traders currently occupying pedestrian walk ways (see Map 15.3)

In turn, this action area plan hopes to boost the economy of the town through street-based market days.

Map 15.3: Street Rehabilitation Action Plan

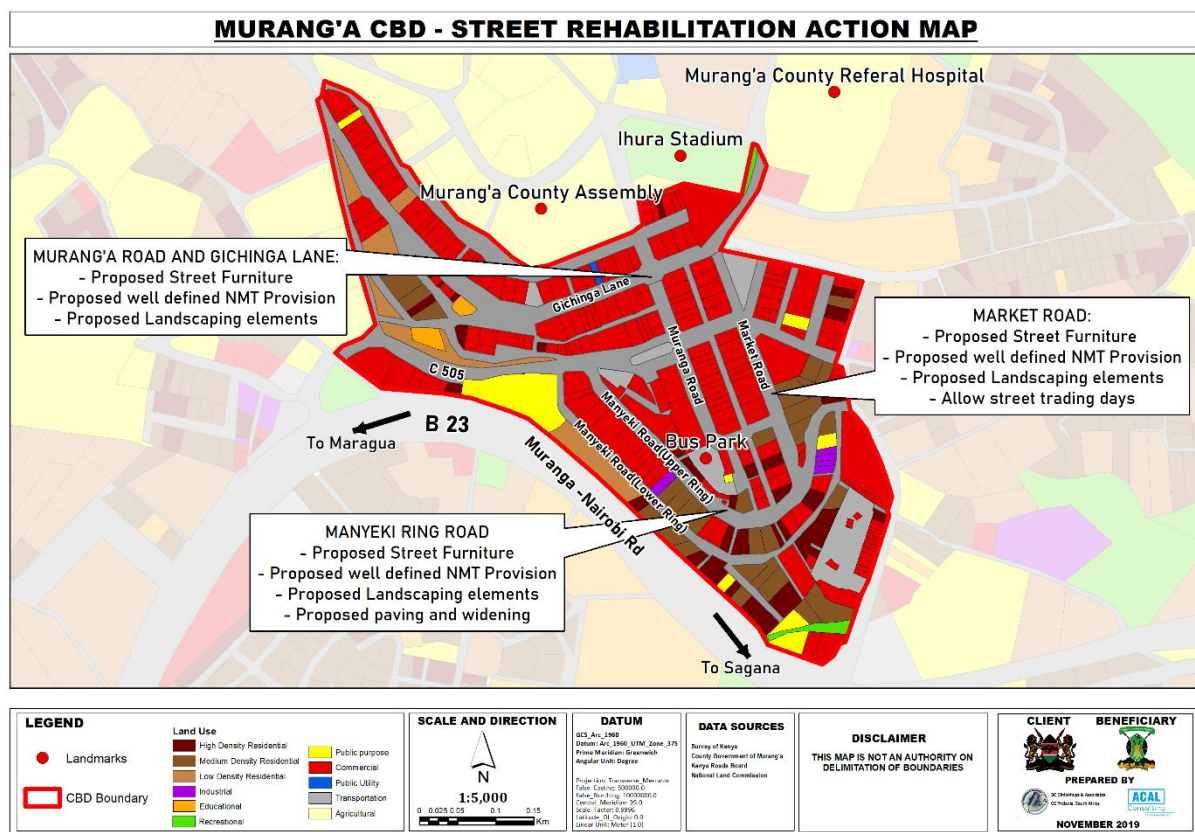


Plate 15.1: Example of a theme based market in a typical no-car street



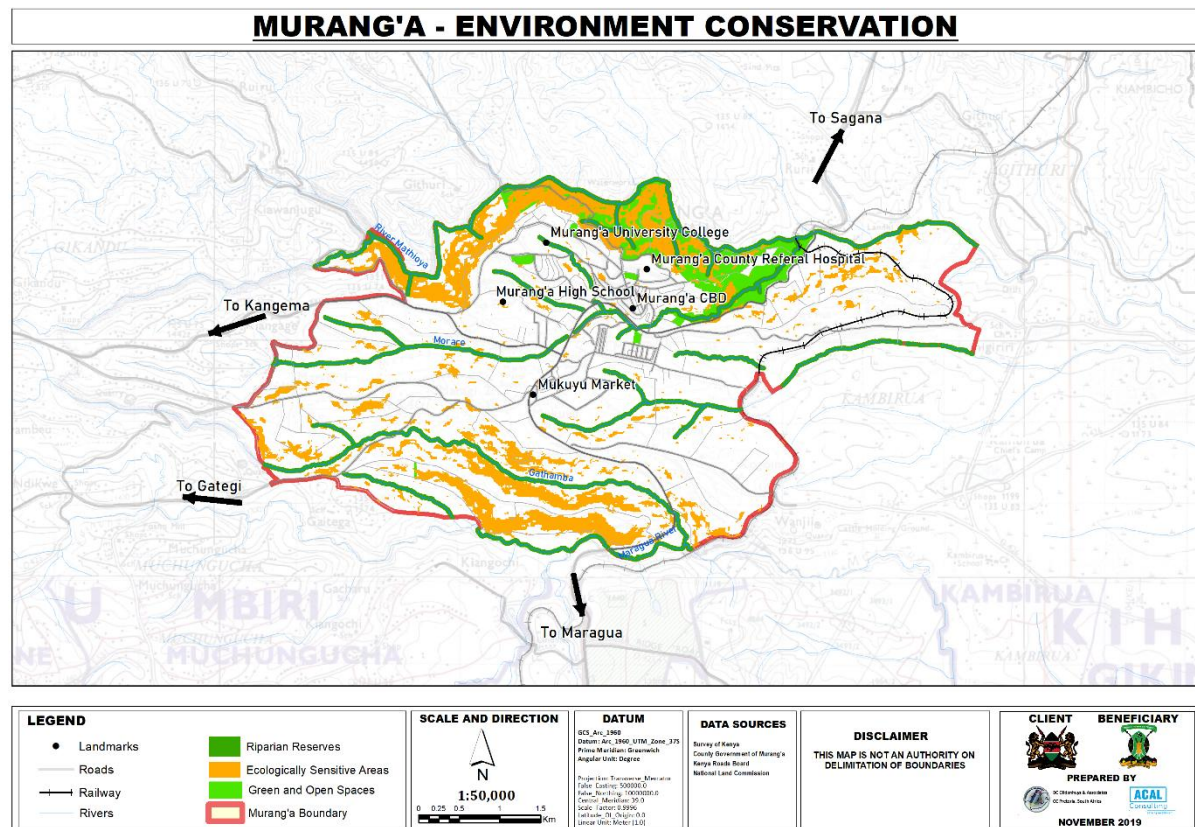
Plate 15.2: Muranga Road street profile



15.6.2 ENVIRONMENTAL CONSERVATION ACTION AREA PLAN

This action area plan will try to promote inclusive and successful urban economy by recognizes the importance of balancing economic growth with environmental sustainability. It will repurpose the slope for recreation and promote resultant economic activities.

Map 15.4: Environment Conservation Map



Source: ACAL and BC Gildenhuys, 2019

15.6.3 MJINI HOUSING ACTION AREA PLAN:

The area is located on the south western part of Murang'a town CBD. It is anchored to the recently upgraded class B23 road which is the primary access road. The primary access road forms a loop anchoring Mjini area.

The character of Mjini area is mainly mud houses of Swahili Architecture. Their coastal touch was influenced during the colonial period where the Muslim were able to settle in the area.

There is therefore need to rehabilitate the neighbourhood but also maintain the culture of Mjini residents. Promoting modernity with conservation would work well as a strategy to revamp Mjini area.

The area is served by social facilities such as Mjini Primary school, a chief's camp

Map 15.5: Mjini Action Area Plan

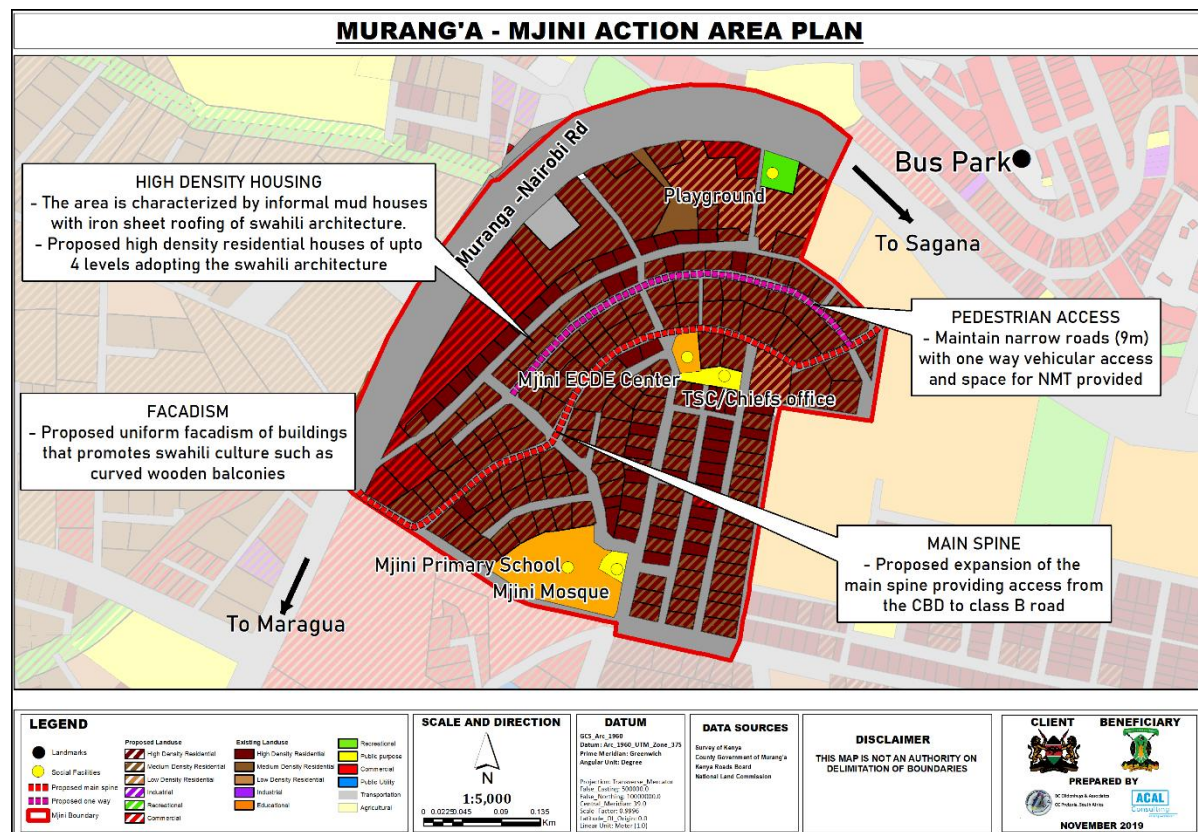


Plate 15.3: Perspective of Mjini 3D impression



Plate 15.4: Aerial View of Mjini 3D impression



Plate 15.5: Swahili wooden balcony architecture



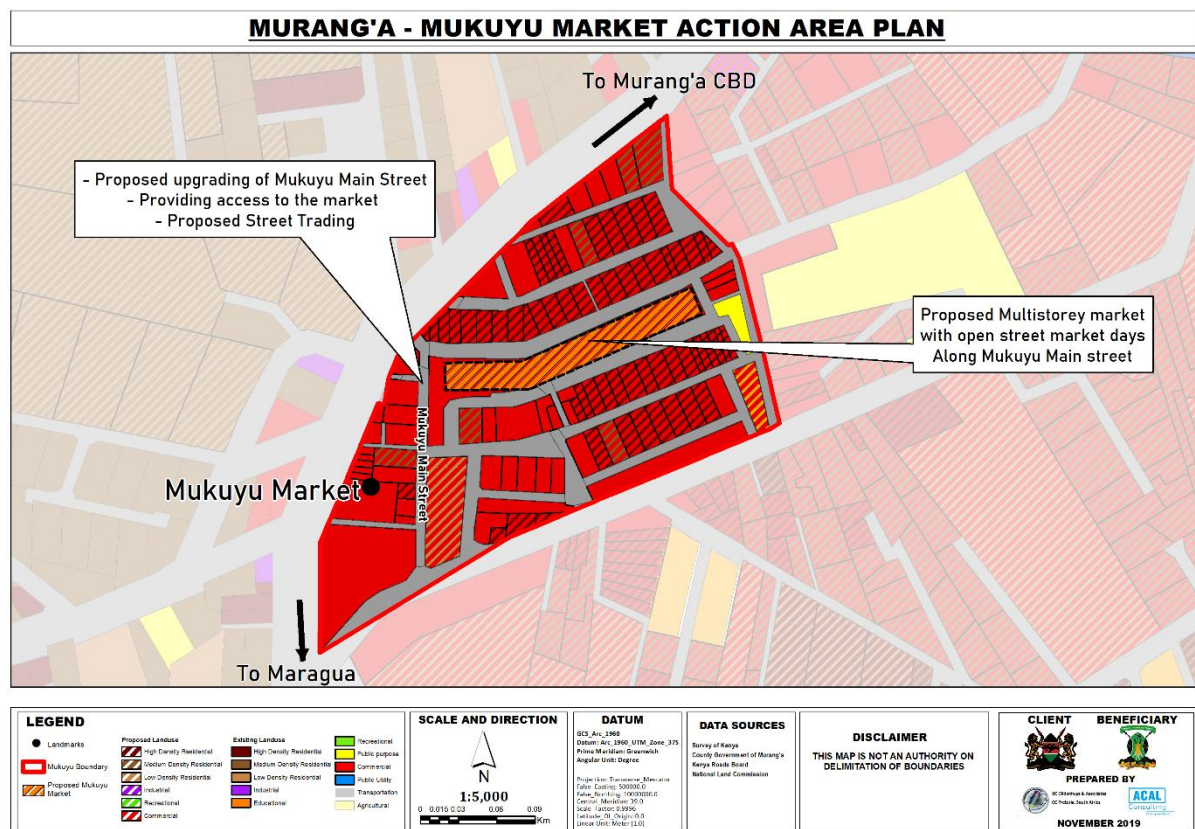
Plate 15.6: Street View of one way pedestrianized lane



15.6.4 MUKUYU MARKET ACTION AREA PLAN:

Mukuyu market is located along the B 23 class road within Mukuyu area and it is well known for selling fresh produce. The market is bound by residential zones within the town which is an advantage to its vibrancy. It has also experienced many challenges ranging from overcrowding to inadequate waste disposal mechanisms. Mukuyu market therefore needs to be revived since it has a great potential.

Map 15.6: Mukuyu Market Action Area Plan



15.7 LAND USE AND 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 the policies stated in Table 15.3.

Table 15.3: Proposed land use and management policies

SECTOR	PROPOSED POLICIES
ENVIRONMENT	<ul style="list-style-type: none"> ▪ Restriction of development around rivers and wetlands. ▪ Restriction of development to approved uses only along immediate boundaries of fragile site buffers ▪ Control of development on steep slopes to reduce soil erosion ▪ Increase in forest cover
TRANSPORTATION	<ul style="list-style-type: none"> ▪ Appropriate transportation networks provision per zone as per the structure plan. ▪ Non-approval of encroachment/ encroaching use on transportation way leaves.
INFRASTRUCTURE	<ul style="list-style-type: none"> ▪ Non-approval of encroachment/ encroaching use on infrastructure way leaves. ▪ Restriction of development to approved uses within the vicinity of social infrastructure facilities.
AGRICULTURE	<ul style="list-style-type: none"> ▪ Curbing land fragmentation through restrictions on uneconomical sub-division of agricultural land. ▪ Non-approval of encroachment/ encroaching urban settlements use of the highly capable agricultural land areas. ▪ Promotion of intensive agriculture in prime agricultural zones. ▪ Prevention of soil erosion
TRADE AND INDUSTRY	<ul style="list-style-type: none"> ▪ Development of a designated agro industrial zone ▪ Restrictions on location of industries near densely populated zones. ▪ Encouraging compact market development
TOURISM	<ul style="list-style-type: none"> ▪ Restriction of development around scenic sites to eco-tourism developments only.
URBANIZATION	<ul style="list-style-type: none"> ▪ Compacting of the urban core to prevent urban sprawl and town convergence. ▪ Enforcement of the urban fringe/ edge using agricultural belts.
PUBLIC LAND	<ul style="list-style-type: none"> ▪ Immediate inventory and periodical review of all public land in Murang'a Town. ▪ Retention of all public lands under the respective government ownership unless their disposal will serve an overarching County/ national interest.

16 PLAN IMPLEMENTATION PLAN

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 information is summarized in Table 16.1

16.1 IMPLEMENTATION PLAN

Table 16.1: Implementation Plan

OBJECTIVES:	STRATEGIES:	PROJECTS:	ACTORS:	TIME FRAME:		
				0-3 YRS	4-7 YRS	8-10 YRS
TRANSPORTATION SECTOR						
Objective: To create a sustainable, safe and efficient system of transportation within Murang’a	Improved transport efficiency	Completion of tarmacking of all roads within	KERRA, KENHA, MCG	*Ongoing		
		Expanding the two bus parks (Mukuyu and main stage) to avoid congestion	MCG			
		Designate several motorbikes sheds.	MCG			
		Paving of the roads within the CBD, Levelling and murraming the roads connecting the CBD to surrounding residential and agricultural areas.	KURA/ MCG			
		Improve urban hydrology through improving and installing appropriate storm water drains in the town	MCG			
		Segregating traffic in Murang’a to improve mobility and urban liveability	MCG			
		Increasing the capacity of the current bus park by expansion to available land.	MCG	*ongoing		

		Opening areas underserved by road network	KERRA, KURA, MCG			
	Enhanced transport safety	Upgrading of the junction at Mumbi	KERRA			
		Maintenance of road reserves along C71, C72 and all CBD streets	KENHA			
	Promotion of NMT transportation	Designation of routes for NMT infrastructure (pedestrian walkways and cycling lanes) within the CBD and the internal centre roads.	MCG			
		Designation of an area for construction of a boda boda terminus/ sheds.	MCG			
	Improving Railway Transport	Improve and rehabilitate the existing railway infrastructure including the station and line.	Kenya Railways			
ENVIRONMENTAL PROTECTION AND CONSERVATION SECTOR						
Objective: To create an environmentally sustainable Murang'a	Conservation of wetlands and riparian areas and repurposing zones for recreation services	Non-approval of development applications for physical constructions within wetlands. Coupled with a robust enforcement of wetland conservation	NEMA, MCG			
		Protection and repurposing of steep sloping areas for recreation purposes	MCG, NEMA			
		Establishment of a leisure park in Misingo- opposite urban management offices	MCG			
		Non-approval of development applications for physical construction within the riparian reserves.	NEMA, MCG			
		Promotion of the planting of appropriate tree species along the riparian reserves.	NEMA, MCG			
	Promote rehabilitation of	Rehabilitate limestone quarries by planting trees.	NEMA, MCG			

	degraded quarry sites.	Backfill open holes and abandoned quarries on the land.	NEMA, MCG			
		Legislating contextual policies on quarry rehabilitation	NEMA, MCG			
	Conservation of steep areas	Promotion of terracing along all steep sloping areas.	NEMA, MCG			
		Non-approval of development applications for constructions within steep sloping areas.	NEMA, MCG			
		Protection and repurposing of step sloping areas for recreation purposes	MCG			
		Enhance greenery and liveability through planting trees, street furniture	MCG			
	Control of pollution	Restrictions on the discharge of liquid waste into rivers.	NEMA, MCG			
	LOCAL ECONOMIC & INVESTMENT DEVELOPMENT STRATEGY					
Objective: To make Murang’a the destination of choice for investors	Promotion of agro-industrial development.	Repurposing a Jua Kali zone in the CBD	MCG			
		Improving the commercial zone’s liveability by improving access roads, street lighting, public parking in the urban area, introducing theme-based market days	MCG			
		Putting in place ‘growth-friendly" and "optimum competitor," tax measures	MCG			
		Development of incentives and subsidies to attract private sector investment	MCG			
	Develop Markets for	Improve the Mukuyu, Kayole and Marigiti markets to accommodate more traders by contracting multi-storey markets	MCG			

	economic growth	Promote the concept of theme-based markets in specific streets over the weekends	MCG			
		Registration of hawkers, allocation of space in the markets and enactment of informal trader tax policies	MCG			
		Pave and reorganize spaces and activities in open air markets.	MCG			
		Provide support infrastructure and services such as public conveniences, solid waste management.	MCG			
		Improve access roads for accessibility to the market area. Including expanding roads leading to the market.	MCG			
	Enhancement of agricultural activities and productivity	Setting of the minimum acreage allowable for sub-division within the agricultural zone at 1 acre (0.4 Ha).	MCG			
		Establishment of horticultural grading sheds as part of the multi storey markets.				
		Upgrading the capacity of the existing milk coolers to accommodate the production capacity of the region				
		Promotion of the mechanization of agriculture.	MCG			
		Promotion of terracing along steep slopes within the agricultural zone.	MCG			
		Control of soil erosion to minimize the loss of fertile soils along steep slopes.	MCG			
		Strengthen farmers' cooperatives through training and incentives.	MCG			
	Enhancement of trade and commerce	Development of incentives and subsidies to attract private sector investment in Murang'a.	MCG			
		Development of incentives and subsidies to attract small-scale traders to already existing market infrastructure.	MCG			

		Redevelopment and beautification of the CBD through zoning to create a well-planned and attractive centre for economic development.	MCG			
RESIDENTIAL HOUSING AND INFORMAL SETTLEMENT UPGRADING STRATEGY						
Objective: To make Murang’a the destination of choice for investors	Improving existing informal settlement to promote compacting Upgrading of Mjini informal settlement	Promotion of land tenure security for residents of Mjini	MCG			
		Redevelopment of Mjini to a high-density, serviced social housing neighbourhood.	MCG			
		Entrenching pro densification measures in the zoning plan. E.g. graduating rates based on densities.	MCG			
	Zoning of residential areas	Designation of zones for the development of high-density residential housing for low income earners (affordable housing).	MCG			
		Designation of zones for medium and low-density housing within the planning area.	MCG			
		Encourage PPP initiatives to promote investment in housing sector	MCG			
	Development control within residential zones	Enforcement of the zoning regulations (set out in Chapter 14 of this plan) on allowable building lines, setbacks, plot ratios and ground coverage.	MCG			
		Non-approval of incompatible land uses within residential zones such as heavy industrial use.	MCG			
PHYSICAL AND SOCIAL INFRASTRUCTURE DEVELOPMENT STRATEGY						
Objective: To make Murang’a	Improving sanitation	expansion for the existing sewerage and treatment works to cater for the increasing demand,	MCG			

a modern, well serviced municipality	services	Rehabilitating the current garbage site as a garbage collection and sorting centre/ site (for onward transmission to Mitubiri).	MCG			
		Construction of additional public toilets within the CBD	MCG			
	Improving access to safe water	Expansion of the water reticulation system to cater for the 10000M ³ water deficient in the town	MCG			
		Promotion of water harvesting at the household and institutional level.	MCG			
		Construction of drainage channels on all access roads.	MCG			
	Improving access to education to persons with special needs	Conversion of the deserted sisters' school into a school for children with special needs.	MCG			

16.2 CAPITAL INVESTMENT PLAN

A Capital Investment Plan provides a link between the town's strategic vision, its urban land use plan and its annual budget. The CIP is important as it ensures effective management of public capital assets, provides a road map for future long-term investments funding requirements; and creates an avenue for outsourcing funding sources to make up for any deficiencies. The Capital Investment Plan is based on the projects identified in the Integrated Strategic Urban Development Plan implementation matrix for Murang'a town with the aim of enhancing the economic and social development of the community.

A review of the Murang'a County total budget to the sector was Ksh, 119 million as broken as summarized in Table 16.2 and 16.3. As per the investment plan detailed in table 16.3, the county budget is insufficient to adequately implement this ISUDP. Areas for resource mobilization through grants and loans have been identified.

Table 16.2: Murang'a recurrent budget for the F/Y 2018/2019

BUDGET LINE	BUDGET AMOUNT
Markets and urban development	5,000,000.00
Road Development Programme	33,843,840.00
Water Development programme	57,396,766.00
Lands, Housing and Physical Planning	20,259,806.00
Tourism Development	2,500,000.00
	119,000,412.00

Source: Murang'a County, 2019

Table 16.3: Breakdown of the Murang'a Capital requirements

Project	Units/ frequency	Unit cost	Total Cost	Sources of Funds
Programme: Urban Mobility				
Tarmacking and improving roads within the town including provision for NMT	175.00 Km	47,000,000.00	8,225,000,000.00	KENHA, KURA, MCG
Integration of NMT in Murang'a: Bus park and Boda shed	4.00 Km	10,000,000.00	40,000,000.00	MCG
Storm water drainage provision	1.00	98,000,000.00	98,000,000.00	Grants and loans
Urban beatification	1.00	4,500,000.00	4,500,000.00	MCG
Programme: Environmental Conservation and Protection				
Wetland protection Programme: Tree planting, public awareness	3.00	12,500,000.00	37,500,000.00	MCG/NEM A
Urban parks along steep slopes	1.00	58,000,000.00	58,000,000.00	MCG

Programme: Physical Infrastructure improvement				
Construction of a drainage system	1.00	60,000,000.00	60,000,000.00	MCG
Expansion of the water reticulation system	1.00	150,000,000.00	150,000,000.00	Grants and loans
Construction of a designated garbage collection and sorting centre	1.00	10,000,000.00	10,000,000.00	Grants and loans
Expansion of a sewer system and a sewerage treatment plant	1.00	200,000,000.00	200,000,000.00	Grants and loans
Programme: Urban economic regeneration				
Establishment of an agro-processing zone	1.00	100,000,000.00	100,000,000.00	MCG
Provision of basic infrastructure within proposed agro-industrial zone: Paving, Water Networks, Waste management	1.00	275,000,000.00	275,000,000.00	MCG
Acquisition of land for markets and business sheds	1.00	3,000,000.00	3,000,000.00	MCG
Street lighting programmes	250.00	550,000.00	137,500,000.00	MCG
Theme based market	1.00	43,000,000.00	43,000,000.00	MCG
Investment attraction forums	1.00	10,000,000.00	10,000,000.00	MCG
Programme: Administration and Management				
Financing the enforcement unit	3.00	15,000,000.00	45,000,000.00	MCG
Municipal Management Board	3.00	28,000,000.00	84,000,000.00	Metropolitan grant
Development and adoption of an urban zoning policy	1.00	12,500,000.00	12,500,000.00	MCG
Vehicles and utilities	3.00	7,800,000.00	23,400,000.00	MCG
Total			9,616,400,000.00	

16.3 MONITORING, EVALUATION AND REPORTING

Monitoring and evaluation systems assess effectiveness of implementation of the ISUDP. Monitoring and evaluation will be used to assess the progress, challenges encountered during the implementation and also provide for any adjustments needed during the implementation. Monitoring and evaluation systems are used to ensure timely implementation of the project and also give indicators of the expected output. Table 16.4 gives the expected impacts and indicators during the monitoring and evaluation process.

Table 16.4: Expected impacts and indicators

SECTOR	EXPECTED OUTCOME	INDICATORS
Environment	Protection and conservation of the natural environment. Installation of waste transfer stations. Establishment of waste recycling plants.	Increased waste bins in urban areas and residential neighbourhoods. Establishment of riparian reserves and buffer zones. Construction of waste recycling plants Enforcement of NEMA conditions.
Physical Infrastructure	Affordable, reliable and accessible physical infrastructure.	Household water connections Household sewer connection. Installed solar panels and other form of green energy. Constructed and Improved drainage channels Constructed public sanitation facilities.
Social infrastructure	Provision of adequate and accessible social infrastructure.	Constructed of high-rise education facilities. Employed health facilities staff Equipped education and health facilities. Redevelopment of county housing estates in Murang'a like Mjini. Increased plot ratio. Presence of emergency ambulance in wards.
Transportation	Integrated and efficient transportation system.	Reduced traffic congestion Developed NMT's Tarmacked roads. Safe crossing zones Constructed modern bus park.
Local Economy	Increased revenue generation. Increased employment opportunities. Updated land parcel records.	Constructed modern market. Constructed jua kali sections. Increased revenues generated Increased number of investors Constructed industries.

ANNEXES

ANNEX 1: MINUTES OF THE SECOND VALIDATION WORKSHOP

DAY 2(21ST JAN) MURANG'A AND MARAGUA INTERGRATED STRATEGIC URBAN DEVELOPMENT PLAN

Images showing day 2 stakeholder's meeting at Muranga Town



The meeting took place in A.C.K Mother's Union in Murang'a town to discuss Murang'a and Maragua ISUDP, the presentation for the two towns was merged since there is a proposal for a Municipality at the CSP that covers both towns. Administrative leaders present were the C.E.C Lands and Physical Planning; Chief Officer Physical Planning and MCA of various wards within the county led by the area M.C.A was present. The co-ordinator of NAMSIP was also among the guests present.

PLANNING CONCERNS RAISED

CO, Land and Physical planning

He emphasized on the importance of stakeholder meetings as part of the planning process. He also urged the stakeholders to give the consultancy feedback after listening to presentation of the plans.

Planner Ann Mugo, NAMSIP.

- ❖ She mentioned that Murang'a will benefit the commuter railway system proposed within metropolitan region.
- ❖ She acknowledged that public participation is a requirement in the constitution.
- ❖ She also mentioned that Mitubiri is the first landfill in Kenya and people of Murang'a will benefit from it since it will serve both Murang'a and Nairobi.

Resident, Mjini (Murang'a).

He said that Mjini was planned by Francis Hor, ancient governor and the land parcels belong to their grandparents whom were allocated the hence ownership issues were blurred. He also mentioned that

densification would provide a solution of land ownership problems and Mjini should be included in the affordable housing project which is part of the Big 4 Agenda

Chief Mjini (Maragua)

He said that Mjini occupies 4 acres and has more than 3000 inhabitants and one household occupied almost 20 people which have led to construction of extension houses. He also recommended for gentrification of Mjini area through densification which would also help residents acquire land ownership documents.

(Resident Mjini)

She said that Mjini is characterized by mud houses and narrow roads and insisted that it should be included in the BIG 4 agenda (affordable housing). She also proposed that the industrial area in Murang'a should be revamped and public utility land reclaimed.

Chair Education Committee of the county assembly

She Congratulated planners for considering E.C.D.E facilities and proposed more open spaces and children playground for E.C.D.E.

GROUP WORK DISCUSSIONS

GROUP TOPIC	RESOLUTION
ECONOMY	<ul style="list-style-type: none"> Modern market stalls should be constructed in both Murang'a and Maragua (at Makuyu, Marigiti and Kayole). Establishment of a horticultural grading shed. There is need for upgrading of existing milk coolers. Traders in Murang'a and Maragua should be provided with incentives. Registration and formalization of the hawking business and designation of areas for hawking. An inventory of hawkers should be done. Establishment of Juakali sheds at Maragua industrial zone. Controlling of the dumping site at Gatugi. Reclamation of grabbed railway staff houses. Establishment of a leisure park in Misingo (opposite town management offices) with accompanying infrastructure. Establishment of lake leisure facility at Mariki dam in Maragua. Rehabilitation of Gakoigo showground. The county should invite investors to Murang'a and Maragua to further improve the economy. Provide for strategies and proposals that will integrate political goodwill and implementation functionality without conflict of interest e.g. Relocation of traders cannot get political goodwill The plan should go beyond proposal for agro industrial developments- what is behind the agro industries? The plan should provide integration with Nairobi to stir up developments in Murang'a Increase number of markets and distribute them evenly within the town
Land and	<ul style="list-style-type: none"> People should be educated on the need to avoid subdivision of agricultural land into plots so as to ensure they get the best out of the fertile land in Murang'a town.

Governance	<ul style="list-style-type: none"> ▪ The government should buy land in bulk and convert it to mass agricultural projects so as to grant the county food security. ▪ There should be laws and policies to restrict the sale of land so as residents have a minimum land size they have to own. ▪ Public land should be well mapped to avoid land grabbing and land that has already been grabbed should be reclaimed e.g. (20-acre market at Mukuyu, 4-acre land for government housing, 2-acre land community at Kamahuha) ▪ An oversight Implementation committee should be created in every sub county to ensure that the plan is implemented to completion. The people to be included in these should be the committee are the MCA, youth representative, woman representative, a representative for people with disabilities, a person from the planning department and an administrator. ▪ The land next to the mortuary at Mathioya should be repossessed by the county government and used for the expansion of cemetery and crematorium. ▪ Land budget for the proposals to come out clearly for all the plans ▪ The plan should prioritise on attaining a joint title ownership for the Mjini area to ease development during implementation stage
Transport	<ul style="list-style-type: none"> ▪ The bus park should be expanded so as to avoid the congestion in Maragua during drop offs and pickups. ▪ Pedestrian pavements should be well demarcated. ▪ Open drainages should be closed as they pose health risks to residents. ▪ Street lighting should be done in Maragua town to ease movement at night especially along hospital road. ▪ Motorbikes lack designated spaces to park which leads to chaos in town as they park on the road reserves ▪ The bus park in Murang'a is heavily congested and should be expanded. ▪ The bus park at Mukuyu should be opened to ease the congestion at Mukuyu. ▪ The Mumbi road is poorly done as it does not provide pedestrian walkways. ▪ The plan should include the railway transport system- align the plan to include the railway
Social infrastructure.	<ul style="list-style-type: none"> ▪ Police stations should be staffed and new ones set up to improve the security of the town. ▪ Public schools should be renovated as some are in very poor condition for students. ▪ Teaching materials should be provided in schools and laboratories equipped for learning. ▪ Police cells should be expanded and sanitation improved inside. ▪ The number of community health workers should be increased. ▪ The Maragua hospital should be expanded and more wards to prevent congestion and sharing of hospital beds. ▪ Improve education facilities to attract visitors/users
Water sanitation and	<ul style="list-style-type: none"> ▪ There should be measures against releasing of raw effluence into River Githanja. ▪ There is land at Igikuru that can be used for a sewerage treatment plant. ▪ There is also land at Nginda that can be used for a treatment plant. ▪ The price of water is very high (currently at 200-380 per 6 units.) ▪ Blockages on water pipes and sewer systems should be checked regularly and

	<p>unblocking done.</p> <ul style="list-style-type: none"> ▪ There is shortage of water supply in Gaturi. ▪ MUWASCO has the mandate to supply water to the municipality and therefore if the boundaries have been expanded then the company should supply water to Maragua. ▪ There should be regulations put in place to regulate painting of buildings in town. ▪ Waste receptacles should be places 100 meters apart and waste collected daily. ▪ Kambiti is an area that suitable for location of a sewerage treatment plant. ▪ Beautification of Maragua town should be done to make the town more liveable. ▪ The streets in town should be named and buildings named or numbered.
Environment	<ul style="list-style-type: none"> ▪ Policies should be put into place to a policy on forest conservation and penalties put for offenders. ▪ There is a project being undertaken by jiko koa for this will further help promote efficient use of firewood and charcoal. ▪ Laws should be enacted to help prevent encroachment of riparian land. ▪ The spilling of effluents to River Murathe should be stopped immediately. ▪ Indigenous trees should be planted along the rivers. ▪ The forest at Kamahuha that is a water catchment area should be conserved. ▪ The pubs near schools should be shut down by NEMA. ▪ There is need for research for a parasite that is growing on trees within town. ▪ People should be fined for blocking rivers in order to do irrigation (common along Thaara River). ▪ There should be establishment of a recycling plant for glass bottles that are disposed by bars and this would ease the dumping as well as create job opportunities for residents. ▪ The town slopes should be repurposed for recreational facilities including biking
General Comments	<ul style="list-style-type: none"> ▪ Outline the competitive advantage of each of the towns ▪ Compact businesses are effective in providing services hence the plan should discourage linear developments ▪ Provide prioritisation and phasing of projects and proposals ▪ People should own and interact with the plans ▪ Historical value of Mjini area has disappeared- consider conservation (Maragua) ▪ The provides allocation of spaces and distribution of functions rather than provision of workable action plans to aid socio economic sustainability ▪ The plan should provide development guidelines stating how high people can build

ANNEX 2: NOTICE OF INTENTION TO PLAN

REPUBLIC OF KENYA



**MINISTRY OF LAND, HOUSING AND URBAN DEVELOPMENT
DIRECTORATE OF URBAN AND METROPOLITAN DEVELOPMENT**

**PROJECT NAME: NAIROBI METROPOLITAN SERVICES IMPROVEMENT
PROGRAMME (NaMSIP)
CREDIT No: IDA 51020-KE**

NOTICE OF INTENTION TO PLAN

MURANG'A COUNTY GOVERNMENT

COMMENCEMENT OF PREPARATION OF INTEGRATED STRATEGIC COUNTY SPATIAL PLAN FOR MURANG'A, MARAGUA-2015-2030 AND INTEGRATED STRATEGIC URBAN DEVELOPMENT PLANS FOR MURANG'A, MARAGUA, KANGARI, KANDARA AND THIKA-KENOL-GAKUNGU TRANSPORT CORRIDOR (1 KM. EITHER SIDE)

Contract No: MoLH&UD/DoNMED/NaMSIP/TA-39/2013-2014

Pursuant to articles 6, 10 (2), 60, 66, 67, 184, 186 and the first and fourth schedules of the Constitution of Kenya, 2010; the National Land Commission Act, County Government Act, Urban Areas and Cities Act, Physical Planners Registration Act and other enabling legislations;

Notice is hereby given that the Murang'a County Government has commenced the preparation of Integrated Strategic County Spatial Plan for Murang'a County-2015-2030 and Integrated Strategic Urban Development Plans (ISUDP) for Murang'a, Maragua, Kangari, Kandara and Thika-Kenol-Gakungu Transport Corridor.

The integrated county spatial plan shall cover all areas covered by the county boundaries. The ISUDPs planning shall comprise the existing boundaries of the existing townships while the planning area for the transport corridor shall be a kilometer on either side of the highway.

The purpose of the ISUDP is to provide a framework for detailed development policies and proposals for towns, action areas for immediate development or redevelopment and provide a coordinated basis upon which various implementing agencies can develop their individual programs for work for which they have executive responsibility. For example housing, transportation, water supply, electricity supply, sewerage development among others. The plan preparation project is expected to be completed in October, 2016.

It is a constitutional and statutory requirement that stakeholders and members of the general public participate in the plan preparation process. Any person or institution that wishes to participate in or has comments on the planning project can reach or may forward any such comments to the County Director of Physical Planning at the address below:

**COUNTY SECRETARY
MURANG'A COUNTY GOVERNMENT
P. O. BOX 52-10200 MURANG'A.
TELEPHONE: 060-2030271.
Email: info@muranga.co.ke**

ANNEX 3: NOTICE OF COMPLETION OF DEVELOPMENT PLANS

Lamachem 0-21



**State Department for
Housing and Urban
Development**



**County Government of
Murang'a**

PHYSICAL AND LAND USE PLANNING ACT, 2019

NOTICE OF COMPLETION OF DEVELOPMENT PLANS

Names of Development Plans:

1. Murang'a County Spatial Plan No. C21/Murang'a County/2020/1
2. Murang'a Town Integrated Strategic Urban Development Plan No. C21/Murang'a/2020/1
3. Maragua Town Integrated Strategic Urban Development Plan No. C21/Maragua/2020/1
4. Kandara Town Integrated Strategic Urban Development Plan No. C21/Kandara/2020/1
5. Kangari Town Integrated Strategic Urban Development Plan No. C21/Kangari/2020/1
6. A2 Transport Corridor (Chania River-Gakungu) Integrated Strategic Urban Development Plan No. C21/A2 Corridor/2020/1

NOTICE is hereby given that preparation of the above Development Plans was completed on 24th February, 2020.

The Development Plans relate to the land situated in **Murang'a County**.

Copies of the Plans as prepared have been deposited for public inspection at the offices of **Murang'a County Executive Committee Member for Housing, Physical Planning and Urban Development, located in Murang'a Town, respective Physical Planners of Kandara, Maragua, Kigumo Sub Counties and, Murang'a Municipality.**

The copies so deposited are available for inspection free of charge by all persons interested at the above-mentioned address between **8.00a.m and 5.00p.m** Monday to Friday.

Any interested person(s) who wishes to make any representation in connection with or objection to the above Development Plans may send such representations in writing to be received by the **County Executive Committee Member for Housing, Physical Planning and Urban Development P.O. Box 52 - 10200 Murang'a** not later than 14 days from the date of this Notice and any such representation or objection shall state the grounds on which it is made.

Dated the 27th February 2020

Masaki S.T.
**COUNTY EXECUTIVE COMMITTEE MEMBER FOR HOUSING PHYSICAL PLANNING AND URBAN DEVELOPMENT
MURANG'A COUNTY**

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59

ANNEX 4: LIST OF STAKEHOLDERS WHO ATTENDED THE 1ST. MURANG'A CSP STAKEHOLDERS WORKSHOP

MURANG'A ISUDP WORKSHOP HELD ON 4TH APRIL 2018 AT THE NOKRAS HOTEL, MURANG'A

No	Name	Organisation	Designation	Contact
1.	Titus K. Chege	MoH	Health Officer	0722890375
2.	Robert Kariuki	Acal	Ass.Engineer	0722429707
3.	S.K Gichere	Acal	Chief Economist	0722880913
4.	Eng. G. Gatimi	Acal	Engineer	0722741181
5.	James Kitonga	Acal	Socio-Environmental	0721280284
6.	Kenneth Michire	MoH	Health Officer	0725202893
7.	Cynthia Mebur	OP	ACS Muranga'south	0714237524
8.	Charles Gitonga	MoH	Health Officer	0721792666
9.	Simon Wanaina	Mol	OCPD	0717290038
10.	John Mwaura	Public Works	Works Officer	0720368667
11.	James Kimotho	Business	Private	0722513941
12.	Geoffrey Ng'ethe	NLC	Coordinator	0722462348
13.	Moses M. Ndungu	NLC	Land Officer	0716513017
14.	Simon I Mungai	CGoM	Officer	0711598234
15.	Chris K Mwangi	MoH	Officer	0729484037
16.	Charles N. Gititi	Kahurusco	Officer	0722106791
17.	Robert Kang'ethe	CGoM	Kigumo Sub County	0725604810
18.	Faris J. Machui	CGoM	Gatanga Sub County	0721454120
19.	Margaret W. Kwangi	Community Policy	Chairman	0728793267
20.	Njane Beatrice	NLC	Land Officer	0722224940
21.	Nephath Maina	Community Policing	Officer	0725140220
22.	Wanaina Evans	Nyumba Kumi	Chairman	0723470556
23.	Stephen M. Kamiri	CGoM	Officer	0721566768
24.	Nancy Waiyepo	Community Policing	Leader	0725213893
25.	Samson Gitau Daniel	Community Policing	Chair Kiharu .	0726733321
26.	Ben Gachekwa	Community Policing	Officer	0722444037
27.	Samuel Karuru Maina	Physical Planning	Planner, Kiharu	0722803175
28.	Nancy Wanjiru Maina	Community Policing		0722671741
29.	Evan Mwangi Mbugua	CO , Maragua	Manager	0723160529
30.	Anthony Njuguna	CO Maragua	Officer	0728329726
31.	Benson Mungai	CO , Maragua	Officer	0702240433
32.	Abigael W.Njoroge	MoH	Public Health Officer	0724164629

33.	Zachary Ngatia	Mol	Police Officer	0721482300
34.	Gilbert Kiambi	Del Monte Ltd	Private	0706329880
35.	Hannah N. Mwangi	Public Works	Works Officer, Kiharu	0701582217
36.	Leonard M. Kinetera	H.L.C		0726162346
37.	Jacinta W. Irungu	C.H.V Mbiri		0702132095
38.	Faith Wanjiku Karuga	Chv Njoguini		0725843084
39.	Jane Muchiri	CGoM	Lands Officer	0723367203
40.	John Githaiga	Business	Private	0722227036
41.	Simon Silla	Kewa, Kiharu	Private	0722450590
42.	Joseph Ngatia	Keloza , Kiharu	Private	0721397826
43.	Phylis N. Muraya	Muranga' Women Sacco	Women Leader	0720381407
44.	Abijah Wanjiru	Muranga' Women Sacco	Women Leader	0726406439
45.	Peter Karitu	CGoM	Officer	0726114418
46.	George W. Ndungu	CGoM	Chief Officer, Lands	0708230019
47.	Josphat Nduati	MoP	Physical Planner,	0720691330
48.	Joyce Kaberu	Social Services, Maragua	CDO	0721313217
49.	Mary W Trungu	Business	Private	0712205337
50.	Hermert Kararia	Business, Juakali	Private	0727553482
51.	Abbar Said	Business, Jua Kali	Private	0721856903
52.	Godfrey Kidiga	CGoM	Officer	0716217544
53.	Stephen Kuria	MoH	Health Officer	0726425429
54.	Susan Kuria	Torapi		0726871550
55.	David N. Waruku	CGoM		0723421925
56.	Wallace Wanjohi	CGoM	Environment Officer	0722598760
57.	Eunice Wanjiku	Business	Private	0715470314
58.	Beatrice W. Ngingi	Ministry of Public Works	Works Officer,	0717690483
59.	Richard Ndegwa	CGoM	Officer	0720843830
60.	Ayob Maina	CGoM	Officer	0712127587
61.	Shem Kamiti	CGoM	Officer	0703551867
62.	Mary M. Gathiru	CGoM	Officer	0727618659
63.	Ephantus	Mps Office, Maragua	Pa To Mp	0715319687
64.	Wangechi Jane	CGoM	Assistant Planner	0706250100
65.	Hon Masaki S.T	CGoM	C.E.C Lands	0721317755
66.	Rebecca Njoki M	Kabwe Ladies	Leader	0706774538
67.	Francis Irungu	Kahuro Youth Group	Youth Leader	0701824257
68.	Antony Macharia	Bodaboda Association	Chairman	0726203302

69.	Simon K. Kamande	Business	Private	0723779459
70.	Hilary Muigai M	Business	Private	0729009320
71.	Elizabeth W. Chege	TSC	Teacher	0723468822
72.	Christopher Njoroge	Business	Private	0710518178
73.	Eunice Muthoni	Upendo Sisters Muranga'	Leader	0712084681
74.	Nduta Muthoni	Mbiri		0722332219
75.	Mary Karina	CGoM	Officer	0722334346
76.	Rahab Gachau	CGoM	Officer	0702551168
77.	Damaris Wanjiru	CGoM	Youth Officer	0719425058
78.	Francis R. Kariuki	CGoM	Youth Officer	0700315183
79.	Agnes Wamaitha	Chai Karikoini	Leader	0710456023
80.	Irene Njoki Rumunyu	Kiawanjugu Self Help Group	Treasurer	0716690309
81.	Joseph Irungu	Kiawanjugu Self Help Group	Chairman	0711893483
82.	Evanson Wambugu	CGoM	Officer	0729410244
83.	Beatrice Wambui	Upendo Sisters	Leader	0720951438
84.	Mary Waithira	Githui Women Group	Leader	0707091680
85.	Phylis Waithira	Kandubaka Women Group	Leader	0711758106
86.	Jackson Waweru	CGoM	Youth Leader	0704919047
87.	Abdul Rahman Ac.	MMC	Leader	0750486967
88.	Margaret N. Gatune	Widows Group	Leader	0721863657
89.	Eutychus N.Njogu	Royal	Private	0725775861
90.	Paul Wanaina	Maragua Group	Leader	0727118692
91.	Harrisson Kijuri	Business	Private	0725729955
92.	Judy Muthoni	Mbiri Romany Group	Leader	0720955799
93.	Emma Waithera	Mbiri Romany Group	Leader	0718969701
94.	Hellon M. Wachera	Business	Private	0721413500
95.	Mary N Kariuki	Business	Private	0723605450
96.	Caroline Wangari	Business	Private	0723508920
97.	Morrison Ngaru	Acal	Commercial Manager	0722332245
98.	Bonface Gikandi	CGoM		0722873614
99.	Jeremiah K. Mwirigi	CGoM		0721360504
100.	Grace Kang'ethe		Director	071672
101.	Moses Mwangi		Director	0720710752

102.	Geoffery Njoroge	Acal	Team Leader	0720645197
103.	Ann Mugo	Namsip	Project Supervisor	0720561665
104.	Lucy Wanjiku	Business	Private	0724389857
105.	Gidraf Ngatia	Business	Private	0733482795
106.	S. Karuri Mwangi	Explorer Media House	Journalist	0727639961
107.	Mutugu Josaya	Romana Media House	Journalist	0711963849
108.	David N Wambiri	CGoM	Officer	0720846891

ANNEX 5: LIST OF STAKEHOLDERS WHO ATTENDED THE 2ND MURANG'A TOWN STAKEHOLDERS WORKSHOP

REGISTRATION FORM







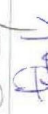







No	Name	Organization	Position	Phone Number	Signature
47	PETER WANJII	RESIDENT	DRIVER	0713 158 985	
48	ANTONY KIBUCHI	RESIDENT	DRIVER	0798 734 315	
49	PETER MWANGI	RESIDENT	HAWKER	0778 517 591	
50	MICHEKE SAMUEL	ACK	CADRE	0740 397 80	
51	GRACE WAKIRIMU	RESIDENT	RESIDENT	0768 058 285	
52	Beatrice Mwangi	NGO	Employee	0790 443 694	
53	Elizabeth Wanga	ACAL	Environmentalist	0704 707 633	
54	LEONARD KAHANGU	ACAL	CIVIL ENG.	0735 073 532	
55	James Mutunga	ACAL	Environmentalist	0721 282 284	
56	David Hallavi	ACAL	Social Economist	0728 086 623	
57	Dr. Samuel Gichero	ACAL	Project Director	0728 850 917	
58	Michelle Theumo Kutwo	ACAL	Environmentalist	0715 055 912	

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No	Name	Organization	Position	Phone Number	Signature
35	Barbara Bikula	NAMSIP	Urban designer	0703601117	
36	Meloy Kirema	NAMSIP	Environmental Planner	0708935909	
37	KEN WAMUGU	NAMSIP	Driver	0708709102	
38	ALEX OTUSUPE MUKO	NAMSIP	Env. Planner	0728816920	
39	Kevin Ojino	NAMSIP	Physical Planner	0705911855	
40	Michaeli Nyuma	NAMSIP	Urban designer	0702587735	
41	Kevin Gitau	NAMSIP	Urban Designer	0791402275	
42	Abdihakim Abdillahi	NAMSIP	Physical planner	0710646334	
43	EFHANNUS KAIRU	NAMSIP	DRIVER	0722879004	
44	JOHN MURATI	NAMSIP	DRIVER	0713158935	
45	JOHN MUCHOKI	NAMSIP	DRIVER	0722381762	
46	PHILIP GICHICIT	MUMBI	DRIVER	074344997	

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No	Name	Organization	Position	Phone Number	Signature
23	Philip Chanica	Interco	MCC	07311131631	
24	James Kinani	County Deputy Officer	County Government	0726669166	
25	Ann Mugo	SDHDS/Dormes	Project Supervisor	0720521665	
26	Sarah T. Masaki	Muramba County	CEE-Plan/Plan	0721317755	
27	Jeanette Ngoni	MCA Township	MCA	0720-919077	
28	Mutua Muchiya	Metropolitan	Deputy Director	0724365577	
29	Simon Githere	Resident	Resident	0722577114	
30	X KIRU MWANKI	M. County Assembly	MCA. Gatui	0722827479	
31	X Angeine Mwangi	Mwangi's County Govt.	Surveyor	0722162106	
32	James Kabuye Kabata	Mwange Assembly	MCA	0722906746	
33	JOHN TUMATH	K/POLICE	OC CRIME	0726012574	
34	JACOB MBUTHIA	MILWARCO	CAM	0715038398	

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No	Name	Organization	Position	Phone Number	Signature
11	BEN ABUNGU	Assembly	MCA	0721590943	B. Ail
12	Jackson K. Kamai	M.C.G	Director	0713509272	J. K.
13	Kaishumi Njeri-S	Resident	mukanyeki Shukle	0703341908	K.
14	Jacob mukuru	M.C.G	Planner	0722950087	J. M.
15	Damari muthoni	Resident	Special People	—	D. M.
16	Florence M. Maini	Muranga	0729937334	0729937334	F. M.
17	RUTH WAMBUI	MURANGA ASSEMBLY	MCA	0715422929	R. W.
18	Wycliff Kinyari	Meth	0724813227	22487325	W. K.
19	Mary N Kamukwa	Social MCA HQ	0723605050	20023278	M. N.
20	CHRISTOPHER GICHURU	MCA HQ	LIASON OFFICER	0718293127	C. G.
21	WALTER MURAGI	MCA HQ	LIASON OFFICER	0740740669	W. M.
22	Alex muthinda	Interim AC	AC	070291621	A. M.

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PROJECT	WASIP - MURANG'A / MARAGUA TOWN	DATE	21/01/2020
AGENDA	STAKEHOLDER IDENTIFICATION - 2ND WORKSHOP	VENUE	ACK HALL - MATHARE UNION










No	Name	Organization	Position	Phone Number	Signature
1	Duncan Mutua	ASSEMBLY	MCA MATHARE	072253499	<i>[Signature]</i>
2	Zainabu Wambui	Resident -	Resident	07290402108	<i>[Signature]</i>
3	Virginia Olege	Resident	Resident	0724214916	<i>[Signature]</i>
4	Esther Gituku	Resident	Resident	0720374498	<i>[Signature]</i>
5	Sarah Njeroge	Assembly	MCA	0726445762	<i>[Signature]</i>
6	Rachael Thongo	Resident	Resident	0724780156	<i>[Signature]</i>
7	Kennedy Kiim	Resident	Resident	0720969861	<i>[Signature]</i>
8	Phyllis Mwangi	Maragua Environmental office	Resident	0720990433	<i>[Signature]</i>
9	Lucy Njeri	KWFT	Member	0706353471	<i>[Signature]</i>
10	Alex Rutira	Fire department	Fire officer	0714781520	<i>[Signature]</i>

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No	Name	Organization	Position	Phone Number	Signature
143	LILIAN WANGARI	Transport	CHAIRLADY	0700072181	
144	Mary Wanjiru	Res County	C.O. Office Hgti	0707091680	
145	Daniel Wairiga	County	Resident	0725554887	
146	Benson Gidili	County	Resident	0726158544	
147	Francis Mwangi	Transport	Treasurer	0722402264	
148	Humphrey Mwangi	Resident	Resident	0710548013	
149	John Muriigi	Plumber	Resident	0721117562	
150	HANNAH WANJIKU	Transport	Resident	219576022	
149	Sarah Gichunga	ACAL Planner	Planner	0764151084	

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No	Name	Organization	Position	Phone Number	Signature
131	Anthony Chege	Resident	Resident	0726229235	
132	Eleneta Kariuki	Resident	Resident	0708415364	
133	Evan Mwangi	Resident	Resident	0723160529	
134	Elizabeth W. Chege	Resident	Resident	0723468822	
135	James G. Muli	Agri culture	CAO	0722782771	
136	Danben N. Chege	Resident	Chair Justice of Peace	0724639455	
137	KARUNKA PETER	NBIA WARS	WARA MATHAZA	0729242131	
138	JANE KANDUJA	Resident	MAGDELENE WARDEN	0722634059	
139	HELLEN WACHIRA	Physiotherapy	M.C.G	0721419505	
140	Leonard M. Ringera	NIC - MURANGI	Officer	07726162346	
141	PETER KARENJU	MURANGI	T.M.	0722664124	
142	STEPHEN MURAGE KIMANI	CDC MURANGI	CHURMAN	0720008286	

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No	Name	Organization	Position	Phone Number	Signature
119	Anastasia Wangechi	Resident	Resident	—	
120	BENJAMIN KADANGA	COCKEY	Resident	—	
121	MARWELL MUMONO	Resident	Resident	0716057900	
122	Isidore Ngundo	MCA	Muranga County	0726742406	
123	JANE WAGYIRU NDUNGE	Town Clerk	Town Management	0702955264	
124	GEORGETTE MURANGI	MURANGA-STARZEE	SEC.	0723319565	
125	GEORGETTE KADICA	MURANGA	MCA	0716217544	
126	JANE MUEHIRI	Muranga	Physical Planning	0723367203	
127	ANTHONY MACHARIA	MURANGA	C.S.O	0726203302	
128	Joseph Muranga	Muranga	Chairman	0703558168	
129	Elephant Kanihi	Muranga	Hansard	0715386786	
130	Hannah W. Muihiri	MCA's OFFICE	Secretary	0715267562	

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No	Name	Organization	Position	Phone Number	Signature
107	CAROLINE MUTHONI	Resident	Resident	0711714441	CMA
108	JALOME WANGICHU	Resident	Resident	0712078150	JB
109	Carolene Wembui	Resident	Resident	0729573171	Carolene
110	Eric Maina	Resident	Resident	0798827361	Eric
111	Anthony Atong'o	Resident	Resident	0710439983	Anthony
112	GRACE M. KIIRU	Resident	Business	0715743146	G.
113	KENNEDY KIMANI	Resident	Resident	0715315216	Kennedy
114	Francis Kibe	MCA	-	0721626196	Francis
115	Joel Muriu	MCA	-	0726626191	Joel
116	Michael Mwangi	Resident	Resident	0720892090	Michael
117	Mwangi Wambui	MCA	MCA	0721883034	Mwangi
118	James Mwangi	Resident	Resident	0702107332	James

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No	Name	Organization	Position	Phone Number	Signature
95	EMEST WATHAIKA	BUSINESS	RESIDENT	0722240788	
96	STANUEL WANJIRU	Business	RESIDENT	0729289847	
97	Nancy Muraya	Business	Resident	0722-340137	
98	Zawa Wilson	MURANGA COUNTY	Ass. Planner	0720019536	
99	Elizabeth Nguliri	Muranga County	Surveyor	0723900776	
100	Joel Mwangi	Muranga County	Planner	0704645795	
101	JOHAN KAMAU	CHIEF KARANJA	CHIEF	0723233351	
102	Kennedy Ntuvia	Resident	Resident	0720912291	
103	DIAMAH MWARICI	CHIEF NGINDA	CHIEF	0727563427	
104	Mohammed AKI	CHIEF ICHIMPAKU	CHIEF	0727430970	
105	Jacqueline Jambui	CHIEF ASS. CHIEF MURANGA	ASS. CHIEF	0723-67884	
106	Rose Wangeiri	Survivor	Survivor	0722853989	

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No	Name	Organization	Position	Phone Number	Signature
83	Mercy Wambui	C.S.Os	Chairperson	0728490713	
84	Jeffrey Hwang	Muranga	Residence	0733289020	
85	Peter Kiatu	Muranga	Resident	0720458015	
86	David Mwangi	Kenol market	Resident	0707182507	
87	Samuel Mugo	Kenol Market	Resident	0712617069	
88	Michael Mwangi	Muranga	Resident	0707752315	
89	STEVEN KISSA GUDZON	Muranga	FLN/Speed	0724621800	
90	EMVICE MBUGUA	MINISTRY OF INTERIOR	REGISTER OF BR 715	0723503766	
91	DAVID MBUGUA	INTERIOR	REGISTER OF BR 715	0719143435	
92	SIMON M. HIRAM	MINISTRY OF EDUCATION	SCA CEO - Murang'a South	0702892964	
93	Samuel Mwangi	Muranga	Resident	0719659837	
94	James Ngũgĩ	Muranga	Resident	0722385240	

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ANNEX 6: TERMS OF REFERENCE

The Terms of Reference (ToR) to this project give a background of the Nairobi Metropolitan Service Improvement Project (NaMSIP) as an initiative of the Kenya Government with the support of the World Bank under the Country Partnership Strategy (CPS). It notes that NaMSIP is intended to improve services in the metropolitan area which are critical for economic development, which include: solid waste management, transport systems, storm water management, water supply and sanitation, disaster management, security/street lighting etc. In addition, the implementation of the project will give the national Directorate of Nairobi Metropolitan Development an opportunity to build its human resource and technical capacity in carrying out metropolitan wide activities.

The ToRs describe the problem statement facing the Nairobi Metro region noting the main challenge in the region being rapid population growth, against a skewed rural urban development in favour of urban areas which are experiencing rapid growth, plus development that is unplanned, uncoordinated and uncontrolled. It highlights the purpose and objectives of preparing the Integrated Urban Strategic Development Plans (ISUDPs) as a means to addressing the identified urban challenges and gives the scope and tasks in preparing the ISUDPs.

The ToRs recommends key principles and strategies in developing relevant ISUDPs giving clear achievements and outputs expected from the planning process. It requires the presentation of a detailed work plan to be agreed upon by the client tasking the Consultant to submit relevant progress and planning reports within agreed timelines and while highlighting services to be provided by the client to ensure successful completion of the planning process. The terms of reference are Annex 1 of this report.

The plan was prepared under the following terms of reference:

- a) Preparation of Action Area plans for the towns and their immediate environs;
- b) To convene stakeholders' meetings and workshops to create awareness and sensitize them. This would ensure ownership of the plans and effective participation in plans preparation and implementation;
- c) Receiving public comments and presentations from stakeholders and Council, and reviewing the plans as appropriate;
- d) Secure acceptance of the plans from the County Government; and,
- e) Presentation of the plans for consideration and recommendation to the Minister responsible for Spatial Planning for approval and subsequent gazettment.

The planning exercise will involve the following tasks: -

- a) Carry out contextual analysis of the towns and their environs;
- b) Undertake a land-use and socio-economic study and survey of the towns, accommodating all the changes that have occurred over time and projecting future changes, and comparing how these changes compare in the metro region;
- c) Prepare an elaborate base map showing the existing spatial structure of the towns;
- d) Undertake an assessment of transport, infrastructure and utility needs, housing and community services. This will include mapping of the transport, infrastructure and utility network of the towns;
- e) Analyze administration and institutional requirements in planning and development;
- f) Prepare analysis reports indicating projected land use, infrastructure and services requirement over the plan period;
- g) Prepare a detailed short term, 10-year plan;
- h) Detailed study on the redevelopment of the CBDs;
- i) Detailed studies of the existing infrastructure and services including, drainage patterns, sewer, opening of new roads and widening of existing ones with a view to providing a strategy for upgrading;
- j) Identify suitable land for both public purpose and utilities and address security issues in the town;

- k) Prepare implementation plans and propose requisite resource and institutional framework; and,
- l) Prepare zoning plans with requisite development densities and guidelines.

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